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## Impact of globalization on national accounts

### Note by the secretariat

#### *Summary*

The document presents a draft Guide aiming to help users and producers of national accounts statistics to understand how globalization affects the measures of national accounts. It is intended for the use of both economic statisticians in the broadest sense (those concerned with national accounts and the balance of payments, but also with labour market and price statistics) and those who use the data for policy analysis and research. The Guide brings together a description of the effect of globalization on national measures, and highlights those areas that will increasingly need attention and resources to maintain the quality of national accounts.

The Guide was developed by the joint UNECE/Eurostat/OECD Group of Experts on the Impact of Globalization on National Accounts (GGNA) established in 2007. The aim of the work was "to review the main distortions in the compilation of national accounts and related source statistics, as caused by globalization". In February 2011, the CES Bureau reviewed the draft Guide and requested the UNECE secretariat to send the document to all members of the Conference of European Statisticians (CES) for electronic consultation.

Subject to the positive outcome of the consultation, the Guide will be submitted to the CES 2011 plenary session for endorsement.

**The deadline for comments is 29 April 2011.** Please send your comments using the attached comment form to [national.accounts@unece.org](mailto:national.accounts@unece.org) (with a copy to [tihomira.dimova@unece.org](mailto:tihomira.dimova@unece.org)).

The draft Guide and the comment form are also available at the GGNA website: <http://www.unece.org/stats/groups/wgna.e.htm>

# PREFACE

Globalization, as we understand it nowadays, is a centuries old phenomenon of growing interaction between national economies. During the last decades, this phenomenon got a new momentum, because of political changes and because of technological changes in the field of ICT and communication. The traditional interrelations, e.g the interconnectness of the the financial markets, grew considerably. On the other hand, one could also see a deepening of globalisation through, for example, international value added chains. More and more, production processes are spread over the whole world. These developments certainly had a positive impact on worldwide income and productivity. However, the banking crisis, started in the USA in 2008 and rapidly affecting other parts of the world, revealed the major risks associated with the growing interconnectness of national economies.

When looking at globalization from a statistical perspective, one is confronted with a number of challenges. These challenges can be grouped into four broad categories:

- The measurement of the phenomenon itself. How can we measure (the further development of) globalisation? Which indicators capture the further growth of the international interdependencies of national economies?
- The description of the behaviour of multinational enterprises (MNEs). The driving forces behind globalization are of course the MNEs. Question is how and why MNEs act and behave as they do? What are the reasons behind the division of activities and the subsequent allocation of these activities to countries? What are the comparative advantages of national economies?
- The impact of globalization on traditional indicators. Globalization can have a significant impact on all aspects of societal progress: economically, socially as well as environmentally. Especially in the domains of significant impact, it is important to have available more (detailed) information to support further analysis and research.
- The impact of globalization on the compilation of traditional indicators. The increasing share of enterprises running affairs on an international scale and the growing mobility of people, financial capital, goods and services pose specific problems when compiling national statistics.

In April 2007, the UNECE led Expert Group on the Impact of Globalization on National Accounts (GGNA) was established, following a decision of the Conference of European Statisticians (CES). The Group was organized jointly with the OECD and Eurostat. At that time, a framework of indicators for measuring the magnitude and pace of economic globalization was already agreed, as a result of the work of a number of international organizations. However, little was known about the impact on the compilation of existing national statistics. There was a need to examine how globalization affects the compilation of economic statistics in general and national accounts in particular, and to outline the areas where further efforts are needed in order to maintain the quality of the data. Under its terms of reference, the objective of the GGNA is “to review the main distortions in the compilation of national accounts and related source statistics, as caused by globalization”. In doing so, the Group should “put forward proposals on how to deal with these distortions in order to improve the quality of national accounts”.

The GGNA held three meetings, in April 2008, May 2009 and April 2010, to address the tasks mandated by the CES. It agreed on a list of globalization aspects with an impact on the compilation of national accounts, and commissioned and reviewed chapters describing each of these aspects. This Guide “The Impact of Globalization on National Accounts” is the outcome of the work of the GGNA. It focuses on the main aspects of globalization and recommends solutions and best practices on how to improve the design, processing and use of the data and how to achieve better international consistency with respect to the identified problem areas. It showed not to be possible to find solutions and to make clearcut recommendations for all problems related to the everchanging phenomenon of globalization. In these cases, proposals for future research are included in chapter 14.

Of course, the compilation of this guide was not possible without the contributions of many people. First and foremost, the principal authors of the various chapters have to be thanked for. Their commitment, their patience and their willingness to include suggestions made during several rounds of discussion are remarkable. Also the reviewers and other contributors to the chapters have to be acknowledged. Furthermore, all the other participants to the meetings of the GGNA have to be thanked for their active contributions to the discussion on the various chapters. All together, they have made it possible to achieve the very high quality of the final product. A full and hopefully complete list of the authors and main contributors has been included on the next page.

In the steering of the whole process, the organization and preparation of the publication, the reporting on the progress of work to the Conference and its Bureau, the so-called leadership group played a very important role. Apart from myself, the leadership group included: Art Ridgeway (Canada, vice-chair), Jan Heller (Czech Republic), Eeva Hamunen (Finland), Marc Vancauteran and Anne-Peter Alberda (Netherlands), Robin Lynch (United Kingdom), Steven Landefeld, Obie Whichard and Brent Moulton (United States), Francis Malherbe and Daniela Comini (Eurostat), Lucie Laliberte and Ralph Kozlow (IMF), Nadim Ahmad and Paul Schreyer (OECD), Tihomira Dimova and Lidia Bratanova (UNECE).

A vital role in the compilation of this guide was played by the UNECE Statistical Division: Lidia Bratanova for taking forward this initiative and for her support during the whole process, Tihomira Dimova and all her staff, particularly Rami Peltola and Katarina Dikic for their relentless and high quality work in organising meetings, bringing together all contributions, setting up and maintaining the website, finalising the guide, etc., etc. Their efforts and their commitment during the whole process were indispensable. In relation to the organisational work, also the contributions by Anne-Peter Alberda and Mark Vancauteran (Statistics Netherlands) have to be acknowledged. Last but certainly not least, Peter Bull (ECB) has to be mentioned as the editor of this publication. His enthusiasm and his engagement were much, much more than we could have hoped for.

Peter van de Ven  
Chair of the GGNA

## List of contributors to the various chapters

- Chapter 1      **The impact of globalization on national accounts****  
Principal authors: Robin Lynch and Peter Bull (UK)  
Lead reviewers: Peter van de Ven and Piet Verbiest (Statistics Netherlands)  
Other contributors: Tihomira Dimova, Rami Peltola (UNECE)
- Chapter 2      **MNEs and the Allocation of Output and Value Added to National Economies****  
Principal authors: Steve Landefeld, Brent Moulton and Obie Whichard (BEA, USA)  
Lead reviewer: Art Ridgeway (Statistics Canada)  
Other contributors: Robin Lynch (UK)  
Contributors to annexes: Michael Connolly (Statistics Ireland), Hen Pustjens, Marcel Wieser (Statistics Netherlands), Kristian Taskinen, Tarja Hatakka, Eeva Hamunen (Statistics Finland), Göran Svensson, Per Ericson (Statistics Sweden)
- Chapter 3      **MNEs, Foreign Investment and related Income Flows****  
Principal author: Ralph Kozlow (IMF)  
Lead reviewer: Eeva Hamunen (Statistics Finland)  
Contributors to annexes: Lidia Troshina (Bank of Russia)
- Chapter 4      **Special Purpose Entities****  
Principal author: Bob Groot (Statistics Netherlands)  
Lead reviewer: Marc Origer (STATEC, Luxembourg)  
Contributors to annexes: Michael Connolly (Statistics Ireland), Balint Murai (Statistics Hungary)
- Chapter 5      **Goods for Processing****  
Principal author: Michel Girard (Statistics Canada)  
Lead reviewer: Nadim Ahmad (OECD)  
Other contributors: Brent Moulton (BEA, USA), Ann Lisbet Brathaug (Statistics Norway)
- Chapter 6      **Merchanting****  
Principal author: Michael Connolly (Statistics Ireland)  
Lead reviewer: Francis Malherbe (Eurostat)  
Other contributors: Anne Harrison (SNA editor), David Hobbs (ONS, UK)  
Contributors to annexes: Leslie Tang (Census and Statistics Department, Hong Kong Special Administrative Region)
- Chapter 7      **Transactions in Intellectual Property****  
Principal author: Nadim Ahmad (OECD)  
Lead reviewers: Robin Lynch (UK) and Francis Malherbe (Eurostat)  
Other contributors: Michael Connolly (Statistics Ireland), Obie Whichard (BEA, USA), Soli Peleg (CBS, Israel)
- Chapter 8      **Global Manufacturing****  
Principal authors: Peter Bull (UK) and Mark de Haan (Statistics Netherlands)  
Lead reviewers: Tihomira Dimova (UNECE)  
Other contributors: Rob van der Holst (Statistics Netherlands), Nadim Ahmad (OECD)  
Contributors to annexes: Soli Peleg (CBS, Israel), US Office of Management and Budget
- Chapter 9      **Quasi Transit Trade****  
Principal authors: Daniela Comini (Eurostat) and Tjeerd Jellema (ECB)  
Lead reviewers: Piet Verbiest and Jeanet Exel (Statistics Netherlands), Ghislain Pouillet (National Bank of Belgium)  
Contributors to annexes: Sandor Csizmazia (Central Statistical Office Hungary)

- Chapter 10 International Labour Mobility**  
Principal author: Soli Peleg (CBS, Israel)  
Lead reviewer: Jan Heller (CSO of Czech Republic)  
Other contributors: Andreas Maurer and Joscelyn Magdeleine (WTO)  
Contributors to annexes: Jan Heller (CSO of Czech Republic), Wolfgang Eichmann (Statistisches Bundesamt, Germany), Ghenadie Cretu (IOM), National Bureau of Statistics of the Republic of Moldova, State Statistics Committee of Ukraine (SSCU) and the Ukrainian Centre for Social Research
- Chapter 11 Remittances**  
Principal author: Obie Whichard (US BEA)  
Lead reviewer: Daniela Comini (Eurostat)  
Other contributors: Anne Flatness (US BEA)  
Contributors to annexes: Jan Heller (CSO of Czech Republic), Bank of Russia, SSCU and the Ukrainian Centre for Social Research, Liliana El Haddad (Bulgarian National Bank), Henk Lub, Pim Claassen (De Nederlandsche Bank)
- Chapter 12 Second homes**  
Principal authors: Ann Lisbet Brathaug (Statistics Norway)  
Lead reviewer: Robin Lynch (UK)  
Contributors to annexes: Tore Halvorsen, Wenche I. Sterkeby (Statistics Norway), National Institute of Statistics Geography and Informatics of Mexico, Michael Connolly (Statistics Ireland), Brent Moulton (BEA, US), Antonio Massieu (UNWTO)
- Chapter 13 E-commerce**  
Principal author: Mark Vancauteran (Statistics Netherlands & Hasselt University)  
Lead reviewer: Marshall Reinsdorf (US BEA)  
Other contributors: Erik Veldhuizen, Eugene van der Pijll (Statistics Netherlands), Carsten Hansen (UNECE)
- Chapter 14 Concluding Remarks and Future Research**  
Principal author: Peter Bull (UK)  
Lead reviewer: Tihomira Dimova (UNECE)  
Other contributors: Robin Lynch (UK)
- Addendum Impact of the financial crisis**  
Principal author: Peter Bull, Jean-Marc Israël and Reimund Mink (ECB)  
Lead reviewer: Ralph Kozlow (IMF)

## List of abbreviations and acronyms

AEG	Advisory Expert Group
AMNE	activities of multinational enterprises
BIS	Bank for International Settlements
b.o.p.	balance of payments
BNB	Bulgarian National Bank
BPM5	Balance of Payments Manual, fifth edition
BPM6	Balance of Payments and International Investment Position Manual, sixth edition
CBFSAI	Central Bank and Financial Services Authority of Ireland
CBS	Central Bureau of Statistics (or Centraal Bureau voor de Statistiek)
CBSAXA	Center for Sociological Investigation and Marketing (Moldova)
CCC	centralized customs clearance
CDIS	Coordinated Direct Investment Survey
CDS	credit default swap
CESTUR	Center of Higher Studies in Tourism (Spanish acronym)
CIS	Commonwealth of Independent States
CLN	credit-linked note
CMFB	Committee on Monetary, Financial and Balance of Payments Statistics
CNB	Czech National Bank
COPC	current operating performance concept
CPI	consumer price index
CPIS	Coordinated Portfolio Investment Survey
CRM	customer relation management
CSDB	centralised securities database
CSI	complexity and statistical impact
CSO	Central Statistical (or Statistics) Office
DNB	De Nederlandsche Bank
EBOPS	Extended Balance of Payments Services Classification
ECB	European Central Bank
EDI	electronic data interchange
EGR	EuroGroups Register
EHS	English Housing Survey
EMEA	European, Middle Eastern and African
ESA	European System of Accounts
ESRB	European Systemic Risk Board
FDI	foreign direct investment
FGP	“factoryless” goods producer
FILOCOM	Fichier des Logements par Communes
FISIM	financial intermediation services indirectly measured
f.o.b.	free-on-board
FR	fiscal representative
FTS	foreign trade statistics
FTZ	free trade zone
FVC	financial vehicle corporation

G-8	Group of Eight
G-20	Group of Twenty
GATS	General Agreement on Trade in Services
GDP	gross domestic product
GFCF	gross fixed capital formation
GNI	gross national income
GRWG	Global Remittances Working Group
GVA	gross value added
HBS	Household Budget Survey
HCSO	Hungarian Central Statistical Office
IAG	Inter-Agency Group on Economic and Financial Statistics
IASB	International Accounting Standards Board
IC	intermediate consumption
ICPF	insurance corporations and pension funds
ICBS	Israeli Central Bureau of Statistics
ICT	information communication technology
IFRS	international financial reporting standards
ILO	International Labour Organization
IMF	International Monetary Fund
IMTS	International Merchandise Trade Statistics
INEGI	Instituto Nacional de Estadística y Geografía
INSEE	Institut National de la Statistique et des Etudes Economiques
IO	input-output
IOM	International Organization for Migration
IPP	intellectual property product
i.p.p.	international investment position
IRTS	International Recommendations for Tourism Statistics
ISIC	International Standard Industrial Classification
ISWGNA	Inter-Secretariat Working Group on National Accounts
ITRS	international transactions reporting system
LTCM	Long-Term Capital Management
MFI	monetary financial institution
MMF	money market fund
MNE	multinational enterprise
MSITS	Manual on Statistics of International Trade in Services
MSP	manufacturing service provider
MTO	money transfer operator
NAICS	North American Industry Classification System
NBH	National Bank of Hungary
NPISHs	non-profit institutions serving households
NTSA	Norwegian tourism satellite account system
OECD	Organization for Economic Cooperation and Development
OFBV	own funds at book value
OFIs	other (non-monetary) financial intermediary
OMB	(US) Office of Management and Budget
PGI	principal global indicators

PPI	producer price index
PSA	production-sharing agreement
R&D	research and development
SBS	structural business statistics
SCM	supply chain management
SDMX	Statistical Data and Metadata eXchange
SEEA	System of Environmental and Economic Accounting
SFGO	statistics of finances of large enterprises (Dutch acronym)
SNA	System of National Accounts
SPE	special purpose entity
SPV	special purpose vehicle
SSCU	State Statistics Committee of Ukraine
STEP	short-term European paper
STS	short-term statistics
SU	supply and use
TFFS	Task Force on Finance Statistics
TSA	tourism satellite account
TSG	(United Nations) Technical Sub-group on the Movement of Natural Persons
UAB	Autonomous Metropolitan University (Spanish acronym)
UBO	ultimate beneficial owner
UNCTAD	United Nations Conference for Trade and Development
UNECE	United Nations Economic Commission for Europe
UNSC	United Nations Statistical Commission
UNWTO	United Nations World Tourism Organization
US GAAP	US Generally Accepted Accounting Principles
VAT	value added tax
WEO	World Economic Outlook (IMF publication)
WTO	World Trade Organization



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# CHAPTER 1

## Introduction, overview and main conclusions

### Introduction

#### What is globalization?

**1.1** Businesses once confined their production activities to the national economy, apart from exporting part of their production and importing part of their intermediate inputs. People were employed locally. Investment was funded within the economy and financial transactions were also largely domestic. For the most part, the national accounts were a measure of a self-contained domestic economy, with a greater or lesser amount of foreign trade in goods and services.

**1.2** In national accounts terms, globalization is the process of replacing national economic structures and transactions by international ones. Corporations organize their production and marketing at a global level, with vertical production processes spanning several countries. Capital such as intellectual property can be used simultaneously across the world in a multinational enterprise (MNE). Labour is mobile, and income returned to the home country can be an important part of its national (disposable) income. Household and business spending becomes more international as the worldwide web expands spending opportunities. The increasingly global nature of economic transactions and arrangements presents a challenge to the application of national accounts concepts and the use of data collection and compilation systems for measuring developments in the domestic economy. Features of globalization which directly affect national accounts measures include the following:

- a. MNEs organizing their business across national boundaries to maximize production efficiency and minimize their global tax burden.
- b. Far more foreign direct investment (FDI) relationships, and the need to identify and allocate direct investment flows.
- c. Transfer pricing between affiliated corporations (pricing of imports and exports

between affiliated companies in the absence of a market transaction).

d. The use of offshore vehicles (special purpose entities (SPEs)) to arrange finance for global activities and for other purposes.

e. The increase in international trade in services, including the practice of sending goods abroad for processing with no change in ownership.

f. An increase in international merchanting, where the merchant arranges the export of goods from country A to country B, without the goods ever crossing the borders of the country where the merchant is resident.

g. The trade in and use of intellectual property products (IPPs) across the world.

h. The limitations of administrative data in capturing economic transactions in the context of complex enterprise groups and globally organized production processes.

i. International labour movement and the labour income arising from it, and remittances and other flows going to the country of origin of the non-resident workers.

j. An increase of household travel and investment abroad (including in residential property).

k. International trading via the internet by corporations and households.

#### How does globalization affect national accounts?

**1.3** Table 1.1 sets out a list of globalization factors and the main national accounts items (including financial accounts and the balance of payments and international investment position) which are most affected by them.

**1.4** Measuring a national economy in these circumstances requires coordinated and seamless international activities to be split up into those parts which occur within the borders of a country

**Table 1.1 Globalization factors and the most affected main national accounts items**

<i>Global phenomenon</i>	<i>National accounts items most affected</i>
Arrangements within MNEs, including transfer pricing	Allocation of GVA/GDP across countries; international trade in goods and services; investment income and financial flows
FDI relationships	Investment income and financial flows; i.i.p.
Special purpose entities (SPEs)	International trade in services; investment income and financial flows; i.i.p.
Goods sent abroad for processing	GVA/GDP; international trade in goods and services
Merchanting	International trade in goods (and possibly services)
IPPs	GVA/GDP; capital formation; international trade in assets and related services
Quasi-transit trade	GVA/GDP; international trade in goods
International labour movement and remittances	GNI, gross national disposable income, international transfers
Ownership of property abroad	International trade in services; investment income and financial flows; i.i.p.
Internet trading	International trade in goods and services; household consumption

and those parts which are to be allocated to the rest of the world. Furthermore, the relevant transactions between the domestic economy and the rest of the world need to be appropriately measured and recorded.

#### **Looking at the activity of multinational enterprises**

**1.5** Measuring the activities of MNEs is the most serious challenge faced by statisticians. Where firms organize activities on an international basis, national statistical compilers will see only parts of their global activities. For the whole picture the parts of the MNE need to be viewed in relation to each other in order to present a consistent view of how business inputs relate to outputs.

**1.6** The treatment of local entities in countries as individual enterprises can hide the real relationships between units in MNEs. Within countries there is concern to identify the real dimensions of enterprises, for competition regulation, to check on intra-firm transactions and transfer pricing and to understand structural market effects. These considerations lie behind the statistical definition of enterprise groups as associations of enterprises bound together by legal and/or financial links which imply control. While most national business registers identify membership of foreign-controlled enterprise groups and the country from which the control is exercised, few capture economic data on activities outside the domestic economy.

#### **Problems of assembling data for use at national level**

**1.7** Much of the activity of MNEs is difficult for national statisticians to capture and/or for users of the data to interpret for policy purposes. Capturing some of the activity (e.g. the business of SPEs) may pose practical difficulties, and the results may severely distort some parts of national statistics (in the case of SPEs, gross flows in the balance of payments, and the international investment position; trade in services; flows of property income; and GDP in relation to GNI). Other activities may be difficult to record accurately in conformity to international standards, at least if international trade statistics are used as a primary source. Examples of these are the practice of sending unfinished goods abroad for processing, and merchanting. Particular difficulties concern the use of intellectual property products within an MNE. R&D is just one example of the shared use of intellectual capital across multinationals. An even more difficult problem is posed by the use of shared software across global firms. For example a major software corporation probably assembles much of its own system software which will be attributed to investment in software capital. But attempts to assign software investment activity or payments for its use to reporting units by country will be difficult particularly if some of the software is written in other countries. In effect the MNE behaves as if it has a stock of intellectual capital - in software and other aspects of management



systems - which is freely shared across its enterprise activities.

**1.8** The implications for measurement of capital services of this effect are significant, and pose severe problems for statisticians. This extends beyond the software example quoted earlier. The need to measure software capital formation by an MNE accurately at national level is a significant challenge for national accounts.

### The purpose of this guide

**1.9** For a number of years national accountants were conscious of the impact of aspects of globalization such as those just described on the compilation and on the quality of statistical measures. The Joint UNECE/Eurostat/OECD meeting on national accounts, held in Geneva in 2006, devoted a full day seminar to discuss the topic. In view of the high level of interest, it was proposed to consider follow-up work to explore how national accounts are affected by globalization and propose operational guidelines to address these effects.

**1.10** Further a Rapporteur Report on Globalisation Statistics, prepared by Statistics Canada and Office for National Statistics, United Kingdom was discussed by the CES in June 2006. The CES decided to establish a body to review the main distortions in the compilation of national accounts and related source statistics, as caused by the growing globalization of economies. As a result the Group of Experts on the Impact of Globalization on National Accounts (GGNA) was established. This guide is the outcome of the work of the GGNA.

**1.11** The purpose of this guide is to help users and producers of national accounts statistics to understand how globalization affects the measures of national accounts. It is intended for the use of both economic statisticians in the broadest sense (those concerned with national accounts and the balance of payments, but also with labour market and price statistics) and those who use the data for policy analysis and research. The guide brings together in one place a description of the effect of globalization on national measures, and highlights those areas that will increasingly need attention and resources to maintain the quality of national accounts. It draws extensively on national experience, mostly in the form of case studies annexed to various chapters.

**1.12** Much of the work underlying this guide was undertaken to facilitate the adoption of the revised international standards for measuring economies: the *System of National Accounts 2008* (2008 SNA), the IMF's *Balance of Payments and International*

*Investment Position Manual, sixth edition* (BPM6) and the proposed European System of National Accounts 2010 (2010 ESA). The new international standards are consistent with each other. This is a great strength, and this report describes the effects of globalization as part of this consistent framework.

**1.13** In terms of globalization, the main changes in the international standards are:

- a. The application of the principle of change in ownership of goods has been made universal, resulting in changes to the recording of merchandising and of goods sent abroad for processing and then returned to the owner.
- b. In recognition of the changing structures of production and finance in many economies, guidance is now provided about when SPEs, which can be created by corporations or governments, should be recognized as institutional units, how they should be classified and how their operations should be treated.
- c. The treatment of remittances from the movement of persons abroad has been expanded, with coverage of the flows being closer to the economic reality.
- d. Research and development (R&D), like other types of intellectual property, is recognized as a capital asset, and the income generated by R&D is recorded as production of services.

## Overview

**1.14** The guide covers the main factors of globalization listed in table 1.1. Each chapter describes a particular aspect of globalization, and explains how it can affect estimates in national accounts. Guidance is given on how national estimates can be produced, or how statistical collection systems might be improved to maintain the quality of the accounts. Although common threads run through the whole guide, the chapters are arranged in three thematic sections. A summary by section and chapter is given below.

### I Multinational enterprises

#### Chapter 2: Multinational enterprises and the allocation of output and value added to national economies

**1.15** This chapter describes in general terms the measurement problems associated with the global nature of the production process as exercised by MNEs. MNEs can lower their global tax burden by a number of structural arrangements – affiliates overseas to act as income recipients, holders of

intellectual property rights, and units designed to raise loans for use by other units in the MNE. Transfer pricing can cause GDP to be misallocated between countries if the transfer prices are not true reflections of the market price.

**1.16** The chapter notes the considerable significance of MNEs in the United States. A case study of the position for Ireland gives some startling figures which show how the economy has been affected by the increase in MNE activity. In order to tackle the many issues introduced by the growing importance of MNEs in the Irish economy, the Central Statistics Office in Ireland has set up a consistency unit with responsibility for analysing all aspects of data received from MNEs. While it is evident that such units cannot prevent distortions to certain key statistics (the CSO notes that GDP in Ireland exceeds GNI by some 17 percent due in part to the sort of effects mentioned here), they can at least help to identify them and promote consistency across the accounts. Other annexes to Chapter 2 note similar initiatives in the Netherlands, Finland and Sweden.

### **Chapter 3: Multinational enterprises, foreign direct investment and related income flows**

**1.17** Chapter 3 describes why high quality data on FDI are needed for compiling international and national economic accounts. It also sets out how a coordinated international survey can play an important role in ensuring that the associated relationships can be measured on a consistent basis across different economies. The survey is the Coordinated Direct Investment Survey (the CDIS) organized by the IMF – a major statistical undertaking with the express purpose of improving the quality and availability of data on FDI used in international and national accounts. Chapter 3 also notes work under way in the European Union to make recording of MNEs' transactions more consistent across Member States. An annex notes work in Russia on the recording of FDI-related transactions.

### **Chapter 4: Special purpose entities**

**1.18** This chapter describes the main characteristics of SPEs. They are subsidiaries of parents in a different country (and therefore constitute separate institutional units), established to hold assets, incur liabilities, and receive and pay out income on behalf of the parent, often for tax reasons. The new standards make clear that they are to be classified as resident in the country in which they are incorporated or registered even in the absence of a physical presence there. How SPEs are treated in the national accounts is set out, in

the light of the 2008 SNA and BPM6, with examples in the annexes from the Netherlands, Ireland and Hungary, all countries with numerous entities of this kind.

## **II Some issues concerning trade in goods and services, and global manufacturing**

### **Chapter 5: Goods sent abroad for processing**

**1.19** Chapter 5 describes the situation where production chains across several countries involve the export and import of goods for processing without a change in ownership of the goods. The 2008 SNA and BPM6 no longer recommend imputing a change in ownership in these cases. The consequence is that, under the new standards, only a service fee for the processing work is to be recorded in the accounts, and not the import and export of goods on a gross basis. This recording complies with the principle of recording trade flows only where ownership of the goods changes, but will be at odds with the gross recording of goods shown in the International Merchandise Trade Statistics (IMTS). The chapter sets out the impact of the update of the standards from the 1993 SNA to the 2008 SNA on input-output (IO) models and other structural indicators. It recommends a series of changes in data collection and compilation methods to handle the changes, and thereby seeks to provide operational guidance for the implementation of the new treatment of goods for processing. The chapter also explains how the revised treatment affects the analytical use of IO tables.

### **Chapter 6: Merchanting**

**1.20** The IMF's *Balance of Payments Manual, fifth edition* (BPM5) defines merchanting as "the purchase of a good by a resident of the compiling economy from a non-resident and the subsequent resale of the good to another non-resident; during this process the good does not enter or leave the compiling economy." The concept is the same in the new standards, but the 2008 SNA and BPM6 introduce an important change in treatment. In accordance with the principle that a change of ownership (as where a merchant buys goods and later sells them) should be recorded as a transaction, merchanting will be recorded in the country of residence of the merchant as a negative export of goods when he acquires them, and as a positive export when they are sold on. The merchanting margin is the difference between the two entries. The treatment may be difficult to apply in practice, given that the goods concerned never cross the borders of the country of residence

of the merchant. Chapter 6 offers guidance on the identification of merchanting activities in the country of residence of the merchant, and notes the apparent underrecording of merchanting activity at global level (most countries record nothing for merchanting activity). The treatment of merchanting of services is also discussed, with a view to improving consistency of approach across the world. Annexes explain some detailed aspects of the treatment of merchanting, with examples for Ireland; an further annex on Hong Kong relates to both merchanting and processing (the subject of Chapter 5).

**1.21** Chapters 5 and 6 present forms of cross-border processing and merchanting operations of a kind long conducted by traditional producers and trading companies. MNEs however engage in operations with characteristics of both, in which for example a head office in country A arranges for goods produced by an affiliate in B to be shipped to C for further work to be done on them, and thence to a marketing unit in D which sells them to a customer – indeed, such practices are a feature of global manufacturing, as described more fully in Chapter 8.

#### **Chapter 7: International transactions in intellectual property products**

**1.22** The 2008 SNA recognizes that R&D is capital formation of assets, and should be recorded as such in the national accounts. These assets are termed intellectual property. Computer software and databases are also scored as assets. Measuring the value of these assets and the associated service payments (in the form of fees or royalties payable for their use) is difficult. The challenges are even more formidable when the owner is an MNE and the benefits of holding and using the assets are spread throughout affiliates across the world. The chapter describes the types of intellectual property assets, and the surveys and collection processes already available to capture the relevant asset value, and makes a case for further research on the issue of economic ownership of IPPs in MNEs. An annex presents extracts from the *OECD Handbook on Deriving Capital Measures of Intellectual Property Products*.

#### **Chapter 8: Global manufacturing**

**1.23** This chapter brings together much of the material in Chapters 5-7, presenting examples with varying degrees of complexity, including the example of a turnkey project, to illustrate the statistical treatment of global production and the consequences of adopting the new statistical standards in the 2008 SNA and BPM6. It contains

material on the classification and statistical treatment of manufacturing enterprises, from the “traditional” producer undertaking all stages of production, to the “factoryless” manufacturer who develops and owns the relevant intellectual property but outsources all production. Annexes describe the treatment of such enterprises in Israel, and some US work on classifying them.

#### **Chapter 9: Measurement issues associated with administrative trade data and globalization**

**1.24** Re-exports are goods which are exported in virtually the same condition as that in which they were imported, and are usually included in foreign trade statistics. A change of ownership takes place because they enter into the ownership of a resident of the country through which they pass. Transit trade concerns goods which are transported across the country with no change in ownership; they are accordingly generally excluded from that country’s foreign trade statistics. Quasi-transit trade, which is the main subject of this chapter, concerns goods imported into a country by an entity considered to be non-resident (so they are at no point owned by a resident of the country importing them), and then exported to a third country within the same economic union or customs area. At the first point of entry in the economic union, the goods are cleared for free circulation within the union – it is this point at which any import duty is applicable. There is often a significant difference in value between that declared at the point of entry to the economic union, and that observed on entry to a second country within the union. A unified approach is required across the union on how this increase in value should be recorded in the separate national accounts and in the accounts relating to the economic area as a whole. An annex shows how a similar phenomenon may arise in a single country (Hungary).

### **III Household-related issues**

#### **Chapter 10: International labour movements**

**1.25** The movement of people across country borders is not a new phenomenon – there has been international migration on a large scale since the nineteenth century. However, temporary cross-border movement of labour is on the increase, as seen in the European Union within which movement of labour is relatively free. Better income prospects and employment opportunities, lower international barriers, improved communication and cheaper transport have all contributed to growth. International labour movement however creates statistical challenges,

not least where some of the workers concerned may be unregistered or working illegally. The statistical conventions, which distinguish between workers with an employment contract and others who are deemed to be receiving payment for services rather than compensation of employees, and the different residence status of long- and short-term workers, add to the complexity. The chapter describes these issues and the associated challenges in capturing the relevant data in official statistics, and properly reflecting them in derived statistics such as labour productivity. Annexes describe country experiences and practices in dealing with various aspects of labour movement in the Czech Republic, Germany, Israel, Moldova and Ukraine.

#### **Chapter 11: Remittances**

**1.26** Cross-border remittances - household income from foreign economies arising from the migration of people to work there - have grown rapidly. As they have increased in size, remittances have become more important as part of national (disposable) income in many of the home economies. The distinctions mentioned above in connection with Chapter 10 affect the statistical treatment of the earnings of migrant workers and how flows back to their country of origin are recorded. Chapter 11 describes efforts to address the conceptual, definitional and measurement challenges arising from the growth in international remittances, and explains how a supplementary table introduced in the BPM6 brings together flows relating to migrant work and other forms of cross-border household-to-household transfers. Annexes describe country practices in Russia, Ukraine, the Czech Republic, Bulgaria and the Netherlands.

#### **Chapter 12: Second homes abroad**

**1.27** As people have increasingly moved across national borders, ownership of a house or apartment abroad has become more common, for work purposes or as a vacation home. International standards treat ownership of property abroad as a form of FDI – the non-resident owner is deemed to own, not the property directly, but a notional company which in turn owns the house or apartment. Like all residential properties, vacation homes are deemed to produce housing services which contribute to GDP and, where the owner is resident abroad, should be reflected in exports of services. The chapter explains these and associated flows and positions, with illustrations from experiences in a number of countries in capturing them (Norway, Ireland, Mexico, and also in France and Spain where, as in Ireland, much of the property is owned by UK residents).

#### **Chapter 13: E-commerce**

**1.28** Households and businesses are increasingly buying and selling over the internet or using other electronic means. The items concerned may be delivered physically or electronically. Statisticians must try to capture e-commerce transactions in national accounts and in the balance of payments when the transactions cross national borders. There are implications for consumer and producer price indices, and for the deflators used in estimating volume measures of GDP and its components. Chapter 13 and annexes explain these matters with particular reference to experience in the Netherlands.

#### **Chapter 14: The way ahead and a research agenda**

**1.29** This publication cannot be the last word on how globalization affects national accounts, and what steps are needed to maintain the quality of the estimates. It is likely that globalization of industrial processes, consumer and other spending and labour markets will continue, and that the share in world trade of MNEs will further increase. Meeting the statistical challenges presented to national accounts by these developments will require international solutions, and international institutions will have an important part to play in pursuing them. This role will include implementing the recommendations of the October 2009 report by the IMF and the Financial Stability Board to G-20 Finance Ministers and Central Bank Governors (*The Financial Crisis and Information Gaps*) (the G-20 report), and helping individual countries to continue to compile national measures of economic activity while contributing to a coherent picture of the world economy. Chapter 14 brings together the many suggestions for further work contained in earlier chapters.

#### **Addendum: Impact of the financial crisis**

**1.30** The financial crisis began in 2007 and spread across much of the world in the following year or so. It did not arise from globalization, but close economic and financial interrelationships undoubtedly contributed to its rapid dissemination and pervasive effects. Although statistical deficiencies were not the cause, the crisis has given a strong impetus to statistical work, taking it in new directions. Among these directions are:

- a. Identifying and measuring risk concentration and exposures.
- b. Obtaining better information on complex financial products.
- c. Obtaining group-consolidated data on large, especially financial, conglomerates.

**1.31** These three initiatives have little direct connection with national accounts. Others, however, do. Examples are:

- d. The increased emphasis on integrated economic and financial accounts by institutional sector.
- e. The associated balance sheets, including the international investment position and government debt.
- f. The enhanced interest in data on residential and commercial property, and related prices, which should make it easier to include estimates of real assets in sector balance sheets.
- g. The drive for better securities issues statistics, and data on holdings of securities.
- h. The emphasis on more comparable government finance data.
- i. The interest in distributional data such as information on groups within a sector, as obtained from surveys of households and small and medium-sized enterprises.

**1.32** The G-20 report also recommended more emphasis on communication, following which a database of Principal Global Indicators has been assembled, containing a wide variety of timely and comparable economic and financial statistics covering individual countries and wider aggregates.

**1.33** While some of these initiatives were already planned or in progress, the G-20 report has accelerated the work and led more to be undertaken. An appendix describes a variety of work under way at the European Central Bank, which is both a major user of statistics in performing its monetary policy and financial stability functions, and a source of data, including to a new body, the European Systemic Risk Board, established in January 2011.

## Main conclusions

**1.34** Globalization presents conceptual difficulties and measurement challenges for national accounts. The reasons for this were outlined in paragraphs 1.3 to 1.8 and are explained in the relevant chapters. The chapters suggest work to tackle the difficult issues, and these suggestions

are grouped and summarized in Chapter 14. Goods for processing, merchanting, offshore entities, the treatment of transactions in intellectual property, labour movement, ownership of property abroad and e-commerce all fall into this category. The growing role of MNEs in global manufacturing adds to the difficulties for national statisticians, in the areas of cross-border processing, merchanting and transactions in IPPs. MNEs conduct their business with little regard to national boundaries, instead following organizational convenience, cost advantage and tax minimisation. They often channel transactions through SPEs set up in jurisdictions where the MNE has little or no other business. The consequence is that statisticians find it difficult to identify the value added attributable to their national economy, and to record the appropriate entries throughout the national accounts, b.o.p. and related statistics. This is the biggest statistical challenge posed by globalization.

**1.35** A view of the operations of the MNE as a whole can help national statisticians to make appropriate estimates for that part of the business which should be recorded in their national accounts. The research agenda set out in annex 4 of the 2008 SNA suggests *“Given the close ties [between enterprises within an enterprise group] it may be sometimes desirable to consider an enterprise group as a single entity and to consolidate the accounts of its members”*. From the perspective of financial stability, the G-20 report seeks information on conglomerates, mentioning in particular their exposures through offshore subsidiaries. US statisticians already collect information on group activities of MNEs with a US parent. Other initiatives are the IMF’s new Coordinated Direct Investment Survey, the European Union’s FDI network and EuroGroups Register, and the consistency units set up in various national statistical offices to coordinate work on the recording of MNE activities. But obtaining a view of the activities of an MNE as a whole, and allocating its transactions across the countries in which it operates in a correct and consistent way requires closer cooperation among national statisticians and increases the role of international and regional organizations. These points are further developed in the first part of Chapter 14.



# Section I

## Multinational enterprises

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### Chapter 2

**Multinational enterprises and the allocation of output and value added to national economies**

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### Chapter 3

**Multinational enterprises, foreign direct investment and related income flows**

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### Chapter 4

**Special purpose entities**

## Multinational enterprises

An important function of national accounts is to measure income (value added) generated by factors of production employed by resident producers in the national economy. Similarly, the purpose of the balance of payments is to record cross-border transactions of residents of the national economy. These tasks are complicated by the growth in importance of multinational enterprises (MNEs).

There would be fewer problems if MNEs observed national boundaries in keeping their records; if transactions among affiliates under the umbrella of the MNE were recorded at market prices, or a good approximation to them; and if statisticians could consistently record economic rather than legal ownership, including looking through shell companies in which intellectual property or substantial financial assets and liabilities are vested.

These conditions are often not met. MNEs arrange their operations to achieve economic efficiency, for organizational convenience, and to minimize taxes. National boundaries are often not very important for their operational purposes. Thus what they record in national statistical surveys may not be best suited to meeting the purposes of national accounts and balance of payments statistics. Some intra-group transactions may be omitted, while others may be recorded at transfer prices very different from a market equivalent. MNEs commonly transfer patents, software licences, etc. developed in one country to a subsidiary set up in another, without charge or at an artificially low price. The effect is to understate GDP in the country in which the intellectual property was developed, and overstate it in the country in which the subsidiary which receives the fees from users of the intellectual property is established. There are inevitable consequences for derived statistics, such as estimates of labour productivity. (The distortion to gross national income (GNI), if any, will be much smaller, at least in principle, because the subsidiary will be deemed to distribute even retained profits to the parent. In practice, however, statisticians may find it difficult to establish what the profits of the overseas subsidiary are.)

The practice of many MNEs of establishing holding companies in offshore centres may greatly exaggerate the role of these centres in international financial transactions. Thus

Luxembourg appears from the data to be a major destination for foreign direct investment (FDI) and a major source of outward direct investment, an impression that arises largely from the presence there of many group holding companies. In 2007 44 per cent of the stock of US outward FDI was recorded as claims on tax havens.

Chapters 2 and 3 explain various statistical issues arising from the operations of MNEs, and initiatives to address at least some of them. Chapter 4 concerns the practice, often associated with MNEs if not confined to them, of setting up offshore entities to handle aspects of their business. All countries will want to capture transactions and positions of MNEs in an appropriate and consistent way across economic and financial accounts. Annex 2.1 to Chapter 2 describes the pioneering efforts of Ireland to do this through a consistency unit in the Central Statistics Office (CSO). The Netherlands is implementing a similar approach (annex 2.2). Finland and Sweden have set up similar units (annex 2.3), and Germany and Italy plan to do so. While it is evident that such units cannot prevent distortions to certain key statistics (the CSO of Ireland for example notes that GDP in Ireland exceeds GNI by some 17 per cent in part because of the sorts of effect mentioned here), they can at least help to quantify it and promote consistency across the accounts.

Consistency, not only across areas of statistics within a country but also across countries, is particularly important for a group of countries whose economic and financial accounts are totalled to give regional aggregates. The main text of Chapter 3 notes two projects in Europe to do this. The FDI network aims to achieve consistent and symmetric recording of FDI (much of which is accounted for by MNEs) across Europe. The EuroGroups Register (EGR) will be a business register of all major MNE groups in Europe, together with the legal entities (and country of residence) of their constituent parts. To support the EGR project, EU statisticians are devoting much effort to analysing the legal, operational and accounting structure of enterprise groups at national and world level, in order to establish the statistical units within the groups, their links, and the most efficient structures for the collection of statistical data.

Chapter 4 briefly describes special purpose entities (SPEs) (as Chapter 4 explains, there is at present no single definition) as foreign-owned entities



registered in a country, with no or practically no staff or premises in the territory, conducting business mainly with non-residents. Many are financial companies of some kind. Others engage in activities such as merchanting, operational leasing, and holding intellectual property. They are often set up by MNEs, for a variety of reasons.

In determining the residence of an entity, the 1993 SNA and BPM5 stress physical location and engagement in some productive activity in the territory. Although the Netherlands and Ireland (and a few other countries) have collected data on SPEs for some years, many such entities registered elsewhere must have escaped the statistical net.

The new statistical standards (the 2008 SNA, BPM6, and the proposed 2010 ESA) give some attention to SPEs. In particular, they clarify the definition of residence to include entities which, even in the absence of a physical presence in the country, are registered there. They also require SPEs to be allocated to institutional sector and activity categories according to their main activity. The importance of these changes has been heightened by the financial crisis: some SPEs, especially those engaged in financial intermediation or some kind of

“captive” financial activity may have very large balance sheets and financial transactions.

Collecting data from, or relating to, SPEs may be difficult. A consequence of making SPEs resident is that they may dominate some datasets and key individual economic and financial variables in the host economy. Which data will be most affected depends on the activities in which the SPEs engage. At least there are likely to be large effects on gross flows and positions in some or most categories of the balance of payments and international investment position (the distortive effects on FDI statistics noted in Chapter 3 in the context of Luxembourg being an example), feeding through to financial accounts. GDP may be affected, though GNI less so, if at all. To facilitate analysis of domestic economic and financial developments, Chapter 4, recommends two presentations of the relevant data, including and excluding SPEs. Annexes describe experience in the Netherlands, Ireland and Hungary.

Later in this guide, Chapters 5-9 in section II describe in more detail the statistical challenges presented by particular aspects of the activities of MNEs (or activities often associated with MNEs, if not confined to them).



## CHAPTER 2

# Multinational enterprises and the allocation of output and value added to national economies

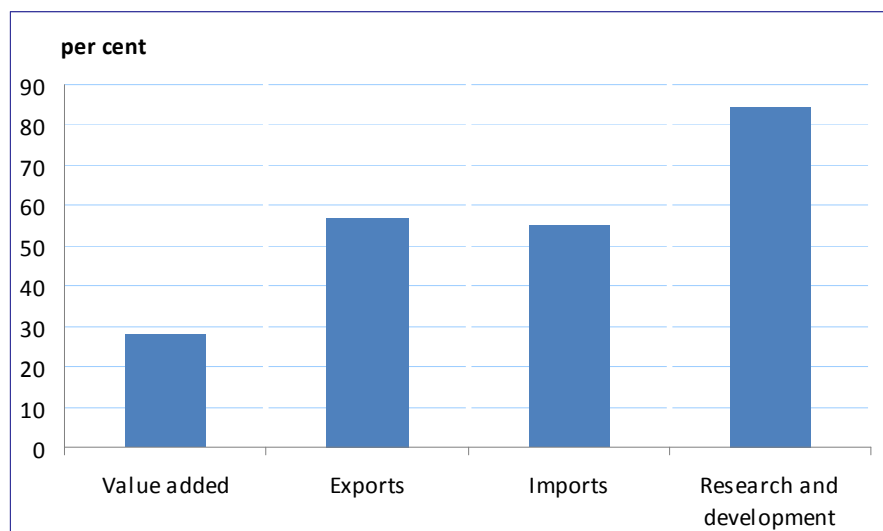
### Introduction and background

**2.1** Multinational enterprises (MNEs) present special measurement challenges for national accounts and the balance of payments. While nationality as determined by residence is central to economic accounts, it may be of little importance to MNEs, whose operations may extend seamlessly across national boundaries and whose objectives and decision-making tend to be global rather than national. MNEs are in the business of maximizing their company-wide global after-tax profits, not their profits in each of the countries in which they operate. Toward this end, they allocate resources, price intra-company transactions, and bill transactions in a manner that is designed to reduce their global tax burden. As a result, national accounts measures based on MNEs' business records may not accurately reflect the underlying economic behaviour of the real economy in the countries where they operate. This behaviour is a

significant problem because of the growing size and importance of MNE activities. In the United States, which provides the examples illustrating this chapter (experience of other countries is presented in annexes), firms that either own foreign affiliates or are majority-owned by foreign direct investors account for nearly 30 per cent of value added, 60 per cent of exports, and over 50 per cent of imports (Chart 2.1).

**2.2** As a result of these practices, such as incorrect transfer prices, estimates of gross domestic product (GDP) may be adversely affected. However, because the earnings of MNEs reflect income from foreign as well as domestic operations, gross national income (GNI, equal to GDP plus receipts of income from non-residents less payments of income to them) is less likely to be affected. For example, if a parent company in a high-tax country sets an artificially low price on its exports of intermediate goods to an affiliate in a

Chart 2.1 MNE shares in US production, trade, and research and development, 2008



lower-tax country and an artificially high price on its overseas affiliate's exports of final goods back to the parent, it will artificially lower exports, raise imports, and lower GDP in the higher-tax country (and artificially raise GDP in the low-tax country).<sup>1</sup> However, the domestic investor's share in the added earnings (including reinvested earnings) attributed to the foreign affiliate in the low tax country will be included in the GNI of the high-tax country, offsetting some or all of the reduction in GNI caused by the reduction in earnings attributable to the parent.

**2.3** Although the extent of this problem cannot be precisely measured, it may be expected to be related to several of the factors that give rise to it. One of these is simply the extent of foreign direct investment (FDI) and the volume of trade between the domestic and foreign units of MNEs. Another is the significance of intra-MNE transactions involving intellectual property. As will be explained later, one source of what could be viewed as a distortion is the transfer of intellectual property products (IPPs) to foreign affiliates at prices that do not reflect their economic value (generally equal to their market value, although observable market values for these products may not always exist). Sending countries often tend to be those with advanced technological capabilities and high taxes. Receiving countries tend to be those with low taxes and may include both technologically advanced countries (which can add value to the property) and countries with little technological infrastructure. (The statistical treatment of IPPs is discussed at length in Chapter 7.)

**2.4** Apart from any distortions due to transfer pricing, the fact that the earnings of foreign affiliates accrue partly or wholly to the benefit of the home (investing) country can result in the benefits from production being divided between the host country, where the production occurs, and the home country, which receives part or all of the profits. As a result, the use of GDP as an indicator of national economic well-being may prove misleading for countries that are large senders or recipients of direct investment. As in the case of transfer pricing, the solution may be to make greater use of GNI to supplement GDP as a key economic indicator (see the Irish case study in annex 2.1).

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<sup>1</sup> The legal status of the practices described in this chapter through which MNEs may reduce their global tax burden will depend on the details of the transactions and the laws of the countries involved. This chapter makes no judgements about legality, but is concerned only with the potential of the practices to distort economic measurement.

## The statistical treatment recommended in international standards

**2.5** Several statistical manuals provide guidelines for statistics pertaining to MNEs. Current recommendations on measuring flows of investment, the related income and the resulting investment positions are contained in BPM6. These recommendations are consistent with those in the 2008 SNA. Additional detail on recording FDI and on linkages between FDI statistics and statistics on the underlying operations of direct investment enterprises are available in the Organization for Economic Cooperation and Development's (OECD) *Benchmark Definition of Foreign Direct Investment, fourth edition* (BD4). Finally, suggestions for economic variables and analytical measures to be used in describing and analysing multinational companies and their effects are provided in the OECD's *Handbook on Economic Globalization Indicators*.

**2.6** Among the most significant features of existing international statistical guidelines as they relate to MNEs are those pertaining to the residence of enterprises. Foreign subsidiaries or other foreign affiliates of direct investors are regarded as resident in their respective countries of location rather than as resident in the countries of their parent direct investors. This treatment is designed to place production in the country in which it occurs. However, artificial transfer pricing, use of consolidated overseas billing locations, or other intra-firm accounting practices can result in a misalignment between the location where the firm records its financial transactions and the actual location of production.

**2.7** The recognition of certain types of intellectual property as produced assets in the 2008 SNA can also distort or cloud the meaning of the measures of GDP between economies where the property is developed and economies where the associated patents are registered. The 2008 SNA recommends that payments for use of intellectual property products (IPPs) should be recorded as service payments to the economy where the IPPs are recorded on balance sheets. All other things equal, the practice under which parent firms in high-tax countries transfer ownership of intellectual property to affiliates in low-tax countries is likely to lower service exports, raise service imports and lower GDP in the high-tax countries, while raising the low-tax countries' exports, lowering their imports, and raising their GDP. Although the use of the property is rightly

**Table 2.1 US parent enterprises' royalty and licence fee receipts from, and direct investment position in, foreign affiliates\***

	<i>\$ millions</i>			
	1977	1982	1989	2007
<b>Receipts of royalties and licence fees from foreign affiliates:</b>				
All foreign affiliates	2,173	3,585	10,082	54,726
Foreign affiliates in tax-haven countries	283	486	1,723	20,020
Tax-haven share (per cent)	13.0	13.6	17.1	36.6
<b>US direct investment position:</b>				
In all countries	145,990	207,752	381,781	3,162,021
In tax-haven countries	27,879	45,819	87,069	1,403,880
Tax-haven share (per cent)	19.1	22.1	22.8	44.4

\* Covers transactions and positions between US direct investors and their direct investment enterprises, using the standard international definition of direct investment based on ownership of 10 percent or more of voting equity. The countries designated as "tax havens" in constructing this table were obtained from a list appearing in Sullivan, 2004.

recorded as a part of production, the country to which the production should be attributed may not always be obvious, especially where the "owners" are only shell companies within the MNE that did not produce the intellectual property and are not the ultimate beneficiaries from its use. However, the relative GNIs - which capture direct investors' shares in the net earnings of their overseas affiliates, whether distributed or not - will provide a more meaningful reflection of the income generated by the factors of production supplied by each economy. (See Chapter 7 for further discussion of this and related points.)

## Measurement problems and proposals for operational treatment

**2.8** Two broad categories of measurement problems are discussed below. The first relates to MNEs and the global allocation of income, and the second to MNEs and gaps in the statistical system.

### Multinational enterprises and the global allocation of income

**2.9** A growing number of large MNEs are transferring intellectual property to foreign affiliates (which, when the affiliate is a special purpose entity (SPE – see Chapter 4), are called royalty and licence companies) (see for example Simpson, 2005). Often the transfer is to a country with lower tax rates than the country of the parent, which is important in high tax countries such as the United States. Between 1977 and 2007 the share of US parent companies' receipts for the sale or use of intangible assets and for royalties and licence fees from tax-haven countries (as defined in Sullivan,

2004) increased from 13 per cent to 37 per cent (table 2.1).

**2.10** US parent companies are able either to write off the expense of research and development (R&D) for tax purposes immediately or, in some cases, to take a direct tax credit. The parent can then sell the resulting IPPs to a subsidiary in a low-tax country at a relatively low price, or transfer them through a contract that charges the subsidiary a relatively low royalty. The parent is able to lower its global tax burden by:

- a. Reducing its US taxes during the development period by booking expenses in the United States.
- b. Subsequently shifting the income from the property to a low-tax country, where it can be shielded from US taxes and used as a source of financing for the overseas operations of the corporation. Since the stock price of a multinational reflects its global net earnings, such a reallocation of profits may benefit the MNE and its stockholders through asset appreciation as well as through increases in current earnings (in the United States, as in many countries, capital gains tax rates are lower than income tax rates). Alternatively, the MNE can defer taxes until the earnings are repatriated. Whether this repatriation occurs during a tax holiday or not, deferral of taxes normally raises the present discounted value of earnings and thus the stock price of an MNE.

**2.11** MNEs can also reduce their global taxes through a number of other devices, including interposing a finance or holding company affiliate in a low-tax country between themselves and their foreign operating affiliates; structuring transfer prices between the parent and its subsidiaries to shift net income to subsidiaries in lower-tax

countries; establishing offshore factoring corporations in low-tax countries that bill and collect for the parent's worldwide sales; and inverting the corporate ownership structure, with an overseas affiliate in a low-tax country becoming the parent that collects net income for the multinational's worldwide corporate structure.

**2.12** The effect of all these practices is to lower recorded GDP in high-tax countries and raise recorded GDP in lower-tax countries relative to the actual levels of economic activity occurring in those countries. Robert Lipsey, a noted analyst of MNEs, has noted that *"this ability of firms to shift the location of assets and profits by paper transactions internal to the firm . . . makes the location of the firms' production ambiguous"* (Lipsey, 2009).

**2.13** The challenges associated with these practices are highlighted in the second panel of table 2.1, which shows the increasing share of US direct investment in tax-haven countries. Between 1977 and 2007, the share of US direct investment in tax havens increased from 19 per cent to 44 per cent.

**2.14** The investment figures themselves have also been called into question. Thus Ricardo Hausmann and Federico Sturzenegger of the Harvard University Center for International Development have argued that estimates of direct investment derived from company accounting records fail to take into account the value of a variety of intangible assets that tend to be most abundant in multinational firms (Hausmann and Sturzenegger, 2006). Proceeding from the observation that the United States regularly runs a surplus on investment income notwithstanding a sizeable negative international investment position, they concluded that sources of value must exist that were not being fully captured in the estimates. The most important of these, in their view, was knowledge: *"the notion that foreign direct investments abroad are a vehicle for the dissemination of ideas, blueprints, knowledge and that they are the vehicle for unaccounted exports of services produced by headquarters and used by affiliates around the world."*

**2.15** Hausmann and Sturzenegger suggested that alternative investment estimates capturing such unmeasured "dark matter" might be constructed by capitalizing the earnings generated by the investments. However, there is little basis for selecting an appropriate rate of return to use in the calculation, inasmuch as returns on FDI are affected by a wide variety of factors and may differ markedly across countries and over time. These differences in returns are based on transactions

that are internal to MNEs and may not be observable—for example, the contribution of a particular asset to production within a particular country—rather than on observable market transactions. Consequently, returns to intellectual property will always be difficult to measure and some misallocation of GDP and value added is unavoidable.

**2.16** On the other hand, there are a number of ways in which statistical agencies can improve reporting by MNEs. These measures include stepping up outreach to respondents through visits to MNEs, communications, and clarification of instructions. In addition, statistical offices can undertake cognitive work with respondents on survey design to promote improved reporting. For example, such measures may partly address problems which many balance of payments compilers report in collecting statistics on reinvested earnings, which are part of a more general problem of obtaining data on activities located wholly outside the country (see further in Chapter 3). Some respondents fail to distinguish properly between the domestic and foreign parts of the firm, which results in such errors as counting as cross-border exports what are actually foreign affiliates' sales in their host countries. Such mistakes are understandable, since MNEs often view themselves from the perspective of their worldwide operations and place little importance on national boundaries. Nonetheless, they impair the accuracy of the allocation of output and income across countries and geographic regions.

**2.17** However, by educating survey respondents on the importance of correctly separating domestic and foreign activities, reporting by MNEs can be made more consistent with international guidelines. These efforts may also help to ensure consistency in reporting domestic and international activities on the various surveys that firms are required to file with statistical offices. Such improved reporting can help to better align national and international accounts with the underlying patterns of production within and across countries. (For examples of how countries have used "consistency units" to address issues arising from complex MNE structures and to conduct outreach to companies, see the case studies in annexes 2.1-2.3.)

**2.18** Difficulties in the attribution of investment and income also can occur when the immediate owners of the investments differ from the ultimate owners at the top of the ownership chain. To the extent that companies can and will report the information, there is significant value to reporting

investments in MNEs on an ultimate beneficial owner (UBO) basis, in addition to the immediate counterparty basis required for conventional balance of payments accounts. In some cases, the differences on the two bases are striking. For example, on an immediate counterparty basis, the book value of the direct investment position of Luxembourg in the United States was \$113 billion in 2008, but on a UBO basis it was much smaller - only \$11 billion. For the Middle East, by contrast, the position on an immediate counterparty basis was \$15 billion, but on a UBO basis it was considerably larger, \$51 billion. These divergent patterns reflect the fact that many investments whose ultimate origins are in other countries, such as those in the Middle East, are routed through countries such as Luxembourg. The BD4, released in 2008, has addressed the need to follow investments to their ultimate origins and destinations. It includes specific recommendations for identification of ultimate investing countries. However, following investments down ownership chains to ultimate host countries has been placed on the research agenda, due to a variety of conceptual and practical issues that could not be resolved in the time available. Included among them are issues related to the fungibility of money and to the fact that additional funding may be added to that provided by the direct investor at each link in the ownership chain.

### **Multinational enterprises and gaps in the statistical system**

#### **Multinational enterprises and the measurement of gross domestic product and gross national income at current prices**

##### *Offshoring of royalties and licences*

**2.19** The previous section (paragraphs 2.9-2.10) discussed the transfer of intellectual property to royalty and licence companies. Suppose that an IPP (for example, software) was developed in country A, which is also the location of the parent corporation, and that a wholly-owned subsidiary royalty and licence company is established in country B to book revenue from licence sales. The GDP of country A declines and the GDP of country B increases; however, because of the 2008 SNA's inclusion of reinvested as well as distributed earnings in income receipts and payments on FDI, the GNI of countries A and B should be unaffected by where the licence sales are booked. A case could be made that GDP should be unaffected as well, on the grounds that the transactions that change the legal ownership of intellectual property do not

necessarily change the economic ownership. If the parent corporation undertook the risks associated with the development of the IPP and is the final beneficiary of the rewards from its use, then it could be said to retain economic ownership of the property, notwithstanding the transactions that may have changed the way the property is recorded in the company's books. If the economic ownership conceptually belongs in country A, then the booking of the sales to the royalty and licence company in country B implies that GDP in country A is understated and GDP in country B is overstated (see also Chapter 7).

##### *Outsourcing and offshoring of intermediate services*

**2.20** The offshoring of intermediate services has also received considerable attention. There are two major measurement issues:

a. How well do the data on trade in services capture the imports of intermediate services? Traditional services categories and sampling frames may fall behind in their ability to capture fast-changing services, and to the extent that they are missed, imports may be understated, causing GDP to be overstated.

b. Many statistical offices use extrapolators based on fixed ratios—for example, base period ratios of value added to sales or gross output. Rapid movement from in-house production of services to domestic or foreign sources would cause these ratios to change, implying bias in the extrapolators of GDP. This problem can be addressed by regularly benchmarking the national accounts to comprehensive and reliable source data that, in particular, cover the domestic and foreign suppliers of intermediate services.

##### *Misleading transfer prices*

**2.21** As already noted, MNEs may have incentives to raise or lower transfer prices on exports and imports moving to or from affiliated entities, though tax authorities will attempt to enforce economically appropriate transfer prices. To the extent that MNEs are successful in booking transfer prices that overstate or understate the economic value of the transaction, GDP will be misstated. Assuming that the transfer prices are consistently reflected in the company's books, all three approaches to measuring GDP (the production, expenditure and income approaches) will be in error. However, because of the SNA's special treatment of reinvested earnings on FDI, GNI should be less affected by (or, in the case of wholly-owned foreign affiliates, invariant to) the use of incorrect or misleading transfer prices (because GNI reflects the offsetting overstatement of income

of the foreign subsidiaries). Unfortunately, statistical offices have very little ability to adjust for erroneous transfer prices. However, continuing efforts by tax authorities to audit and align transfer prices with market prices hold the potential for limiting and reducing the distortions due to transfer pricing.

### **Multinational enterprises, offshoring, and the misstatement of real gross domestic product and productivity**

#### *Supplier substitution*

**2.22** When a domestic parent firm switches from a domestic supplier of inputs to a foreign subsidiary supplying inputs, the difference in price between the suppliers generally does not appear in the deflators that are used for domestic and foreign prices in the final expenditure approach or in the deflators for intermediate consumption in the production approach. The reason that this difference in price may not be recorded is that in most countries prices are collected from sellers rather than purchasers, and the producer indices for domestic prices are compiled in a separate data collection from those for import prices. It can be argued (Mandel, 2007) that the failure to record the price declines that occur with the switch to foreign suppliers causes the growth of real GDP to be overstated during periods of increased outsourcing. Note that, although shifting of sources of supply often occurs within MNEs, the phenomenon is not limited to cases where the new supplier is a foreign affiliate of the purchaser.

**2.23** Mandel suggests that the solution to the problem would be to modify the procedure for compiling the import price index when new imports appear by directly comparing the price of the imported good to that of the domestic good that it replaces. However, it may be difficult to make a direct comparison of the prices of the domestic versus the foreign-made goods (imports). If, for example, a golf club company switches from a domestic supplier of driver heads to a foreign supplier, the change is likely to coincide with the end of the existing contract for the old model “driver” and the introduction of the new model. Whether due to differences in the characteristics and features of the two models or difficulties in recognizing them as the same product in indices that track prices of domestic production and imports separately, price statisticians may deem the older and newer models non-comparable and simply link the old index to a new index for the imported good at the same level and then extrapolate forward using period-to-period changes in the new imported good’s price. To the

extent that the imported goods on a quality-adjusted basis are cheaper, real imports will be understated, and real GDP and productivity will be overstated. In addition, import prices will be overstated and overall inflation (at least as measured by the GDP deflator) will be understated. (The same issue is discussed in Chapter 13, in the context of e-commerce.)

**2.24** Although this import price problem may be most apparent when calculating GDP volume based on the expenditure approach, the same problem can arise with the production approach, even when the calculations are based on double deflation in a constant price supply-use framework. Specifically, if the price index for intermediate goods is calculated as a weighted average of domestic prices and import prices, with type of price collected from the sellers, then the average price index does not allow for direct comparison of the two sources of supply. The production approach could avoid the problem, however, if the prices were collected from the buyers, who would be able to identify price changes arising from substitution from domestic to foreign-made sources. This import price problem is similar to the familiar “new goods” problem that occurs whenever new generations of goods and services replace earlier generations: how much of the price difference represents the improved quality or increased functionality of the new good, and how much is a genuine difference in price?

**2.25** One method used for computers is to observe the drop in the price of the previous generation computer that is required to keep it competitive with the newer generation computer. Presumably this difference is the value consumers place on the improved characteristics embodied in the new computer. Alternatively, where lots of data are available on prices, sales, and characteristics of the good – as they are with computers – the hedonic regressions can separate out the value consumers place on the next generation computers’ characteristics from the pure price difference between the models.

**2.26** Unfortunately, a large share of imports are intermediate products and there is little available data with which to run hedonic regressions or compare market prices of domestic and foreign inputs. Indeed, for both intermediate and final consumption expenditures, the switch to foreign suppliers can occur quite quickly. Within three years, most golf-club drivers in the United States went from being supplied domestically to being supplied from China.



**2.27** One indirect means of estimating the extent of the problem is suggested by a study by Feenstra and Reinsdorf (2008). In effect, they estimated the elasticity of demand for imports, then measured the change in the market share of imports, and used the two pieces of information to derive an estimate of the quality-adjusted price differential between imported and domestically supplied goods. For the United States, they found that real GDP growth was overstated by 0.1 percentage points and productivity growth by 0.2 percentage points. They also note that this problem of “new goods” extends to virtually all goods and services. In the United States, the switch to new goods and services is currently addressed via hedonic techniques for about 20 per cent of goods and services included in GDP. For the other 80 per cent, linking is often used, suggesting that the upward bias imparted to real GDP by the overstatement of import prices and understatement of real imports (imports are about 14 per cent of US GDP) is more than offset by the overstatement of domestic prices and the resulting understatement of GDP.

**2.28** There are two possible solutions to this import price bias. The first would use microdata research to estimate the price difference between domestic and foreign suppliers for similar goods in order to develop bias adjustments for import prices. The second, which is being explored by the US Bureau of Labor Statistics and the US Census Bureau, is to develop a cost-based survey of domestic producers to supplement the existing survey of importers and exporters. The survey, which would first be implemented on an experimental pilot basis, would collect information from purchasers on the cost of different types of intermediate inputs, irrespective of whether the source of supply was domestic or foreign.

## Recommendations for future work

**2.29** The problems that have been discussed in this chapter may vary in their responsiveness to additional work. Although some of them may result in part from national accounts conventions concerning the residence of enterprises, these conventions are well established, and changing them would probably result in even greater problems than those that have been identified above.

**2.30** Treatment of intellectual property transactions, by contrast, is likely to be an area where, as suggested also in Chapter 7, further study would be worthwhile. Even if it does not result in changes in the recommended treatment, it could result in a better understanding of the conditions under which an economic transfer of an IPP should be deemed to have occurred and of the values that should be ascribed to the transaction.

**2.31** Likewise, additional work is needed in tracking FDIs to their ultimate destinations, which would allow more meaningful linkages between the statistics on FDI recorded in balance of payments accounts and the statistics on production in the countries of ultimate destination (see further in Chapter 3). As noted, this is an area that has been placed on the OECD agenda of issues on which further research is to be done following the publication of the BD4.

**2.32** Finally, the issue of imports which are not fully comparable with the domestic products they replace, and associating the prices of inputs that had been purchased domestically with those of inputs that have begun to be imported, needs further work. The US Bureau of Labor Statistics is developing new indices and data sources that should at least partially address the issue.

## Annex 2.1

### Multinationals and their impact on national accounts and balance of payments statistics: the case of Ireland

**2.1.1** The Republic of Ireland is one of the most globalized economies in the world. The scale of openness is illustrated by table 2.1.1, showing the importance of international trade in the economy.

**Table 2.1.1 International trade 2008**

	Exports		Imports	
	€ billions	% of GDP	€ billions	% of GDP
Goods	81.3	44.2	55.0	30.0
Services	69.0	37.6	73.1	39.7
Total	150.3	81.8	128.1	69.7

**2.1.2** The significance of MNEs in the international trade of Ireland can be seen from the fact that the top ten foreign-owned MNEs in 2008 account for €51 billion of exports or 34 per cent of all exports of goods and services. These same enterprises accounted for imports of goods and services of €42 billion. Table 2.1.2 shows the overall trend in the activities of MNEs in Ireland relative to indigenous firms in industry from 1985 onwards. Their activities have been increasingly concentrated in pharmaceuticals, electronic engineering and software development. These industries are characterized by high levels of value added. The data used are reported in the Census of Industrial Production<sup>2</sup> for the various years.

counter the difficulties experienced in compiling the national accounts, the CSO needed to establish a unit dedicated solely to dealing with the activities of the MNEs operating in Ireland. This unit was called the consistency unit and was given responsibility for analysing all aspects of data submitted to the CSO by MNEs and ensuring the coherence and plausibility of the various statistical and administrative returns used by the CSO in compiling Ireland's national accounts and other related statistics. The consistency unit is in the national accounts division but interacts with a large network of statisticians working both in the survey areas and with administrative records. The administrative records which are particularly important in this connection are the corporation tax files.

**2.1.4** All the data submitted to the CSO by the 100 most significant MNEs are analysed and checked to see if they provide a coherent picture. Where this is not the case, the MNE concerned is contacted and visited if necessary to discuss its operations in some detail in order to identify the cause of the inconsistency. The staff of the consistency unit includes a chartered accountant who assists in these company visits and more generally advises on accountancy matters relating to the statistics being compiled.

**Table 2.1.2 Output and employment in industry by nationality of owner**

	1985	1990	1995	2000	2005
Total employment - Irish owned	111,010	105,884	116,714	132,666	110,473
Total employment - foreign owned	76,289	88,293	103,864	122,978	107,330
Total gross output (€ millions)	18,327	25,347	42,640	92,361	102,715
Percentage of gross output - Irish owned	50	45	35	22	18
Percentage of gross output - foreign owned	50	55	65	78	82

#### Consistency unit

**2.1.3** By the mid-1990s it was clear to the Central Statistics Office of Ireland (CSO) that in order to

<sup>2</sup> The Census of Industrial Production is an annual survey of industrial activities covering companies with three or more employees. The employment estimates for industry in table 2.1.2 accordingly exclude approximately 70,000 people who are self-employed or employed in small companies.

**2.1.5** Some important features in the Irish statistical system facilitate the consistency analysis:

- The CSO publishes the merchandise trade and balance of payments data (based on statistical surveys) which means that, when adjustments are required, they can be applied at the appropriate source.

- The CSO's access to company accounting records held by the Revenue Commissioners (tax authorities) allows a detailed comparison of the operating surplus calculations for large companies with their profits data from the balance of payments source. This allows for a reconciliation of operating surplus and primary income outflows at a very detailed level, so that GDP and GNI calculations for "consistency" companies can be balanced.
- The consistency unit brings together a wide range of data for the top individual exporters, including monthly turnover, annual turnover, purchases, stocks, imports, exports, value added, service imports and exports and balance of payments profit variables. A limited number of variables are compared each quarter but the more detailed examinations are only possible on an annual basis since the detailed Structural Business Survey results and tax accounts for each company are only available annually.
- The majority of MNEs export all of their output and import most of their raw materials. It is therefore possible to build up a coherent picture of each company, comparing turnover with exports and purchases with imports.

**2.1.6** When dealing with the inter-affiliate trade of MNEs, difficulties can arise in respect of estimating the market prices that apply to these transactions. However, in general, the approach followed by the CSO in achieving consistency is to focus on the overall impact of the MNE on the macroeconomic accounts of Ireland. In doing this the consistency unit does not in general adjust data to remove the impact of transfer pricing. Instead the objective is to ensure that the value added generated in the economy by an MNE is fully reflected in profits earned (which, following international statistical standards, are recorded as payable to the foreign parent whether distributed or not, with a matching entry in the financial account of the balance of payments to the extent that the profits are retained in Ireland). Therefore all that remains in the economy are the compensation of employees, tax paid and the value of other linkages between local service providers or suppliers of products to the MNEs.

**2.1.7** Adopting this approach reduces the possibility of creating international asymmetries, as it is difficult to coordinate the adjustments by national statistical offices in both exporting and importing economies to the value of goods and services that might be subject to transfer pricing.

**2.1.8** However, a major drawback to this approach is that productivity measures based on GDP can be distorted if the estimates of capital stock are underestimated, as may be the case for IPPs. This is due to the large share of GDP explained by profits (see table 2.1.3), which although generated in Ireland, accrue to the benefit of foreign parent corporations. These profits are included in Irish GDP but are excluded from its GNI. As such, in Ireland, GNI is afforded a higher policy relevance than GDP.

**Table 2.1.3 Transition from GDP to GNI**

<i>Period</i>	<i>GDP € millions</i>	<i>Net factor income from rest of the world € millions</i>	<i>GNI € millions</i>
2007	189,751	-28,507	161,244
2008	183,991	-27,231	156,760

### **Other activities of multinational enterprises**

**2.1.9** In addition to the enterprises covered by the consistency unit, the impact of MNEs on the Irish national accounts also extends to companies performing specific activities that would formerly have been carried out at corporate headquarters. These activities involve captive and agency insurance, treasury companies, special purpose vehicles, shared services, call centres, etc. Table 2.1.4 gives some idea of the scale of some of these activities in Ireland in 2008.

**2.1.10** These activities are generally ancillary to the main activity of the MNE. However, the scale of some of the activities is quite significant and poses a different challenge from that addressed by the consistency unit. In these cases the CSO uses primarily the balance of payments survey responses. These questionnaires have been customized for the various activities covered - thus there is a different form for insurance activities and for treasury activities, etc. A detailed consultation process with various industry groups took place when these questionnaires were being designed. Although the questionnaires differ, the objective is to obtain a full presentation of the quarterly or annual accounts with a full geographical breakdown for all items from both the current account (profit and loss) and the balance sheet, including stock/flow reconciliations. This approach meets both balance of payments and national accounts data requirements.

**2.1.11** The challenge when dealing with these types of entity is primarily one of identification. The CSO must identify a reporting entity for the firm - generally a service provider such as an accountancy firm, a financial services company or even a legal company is charged with meeting the reporting obligations of these companies, some of which have no separate physical presence in the economy.

**2.1.12** Regular register inquiries, stock exchange listings (for securitization companies) and help from industry associations have identified many such companies, but there is always the danger that some small entities engaged in large transactions are missed.

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**Table 2.1.4 Financial and other services enterprises related to multinationals**

<i>Type of activity</i>	<i>Number of companies</i>	<i>Balance sheet value* € millions</i>
Treasury companies (agency, captive, stand-alone, etc.)	148	256,567
Securitization vehicles (SPVs, SPEs, conduits, etc.)	237	243,088
Insurance enterprises (captive and agency)	92	14,251
Leasing enterprises	39	36,106
<b>Total</b>	<b>516</b>	<b>550,012</b>

\*The value of balance sheet assets is similar to that of liabilities because the financing (liabilities) originates from abroad and the investments (assets) are generally placed outside Ireland.

## Annex 2.2

### A consistency unit at Statistics Netherlands: reducing asymmetries in national accounts and related statistics

#### Introduction

**2.2.1** The Dutch economy is very dependent on international trade and investment. Almost all large Dutch companies have one or more establishments abroad, and many foreign MNEs operate in the Netherlands. Many Dutch companies have been bought by foreign enterprise groups. The outcome is a concentration of economic activity in large establishments as well as a movement of activity to countries where the wages are low(er). As a consequence the flows of goods and services between the domestic and foreign units of MNEs have been growing.

**2.2.2** Because physical borders within the European Union no longer have their former significance, imports for the whole of the European Union may enter the area through a single country (often the Netherlands, through the port of Rotterdam or Schiphol airport), and transit flows have much increased (see Chapter 9 for more on the phenomenon of quasi-transit trade). Tax considerations are important for MNEs and, as described in the main text of this chapter, may change the way multinationals organize their activities. Sometimes these changes are only administrative. Nevertheless, while physically nothing has changed in for example the production of goods, the way companies report statistically may change.

**2.2.3** For such reasons MNEs pose challenges to Statistics Netherlands in its attempts to measure developments in the national economy.

**2.2.4** The flows between the Netherlands and abroad are components of various statistics that contribute to national accounts, like international trade in goods and services, structural business statistics (SBS), short-term statistics (STS), and statistics of finances of large enterprises (SFGO). Comparison of these statistics sometimes reveals large discrepancies, due partly to inconsistent recording of the same transactions.

**2.2.5** This is not only a problem arising from globalization: different statistics may use different statistical units and definitions, and process data in different ways, making it difficult to achieve a consistent picture of the economy.

**2.2.6** The largest 300-350 enterprise groups in the Netherlands account for more than 50 per cent of total value added. Many of these enterprise groups operate multinationally. Inconsistencies in the data of these organizations have a major impact on the outcome of the different statistics, with consequences for the national accounts.

**2.2.7** In the past most of these inconsistencies showed up only at the compilation stage of the national accounts. Related statistics were often already published by the different areas of Statistics Netherlands, which tended to operate in isolation. Proposals of national accounts compilers to correct these inconsistencies had to be put through at a late stage.

**2.2.8** Statistics Netherlands has responded to these difficulties by initiating the so-called Congo project (“CONSistentie Grote Ondernemingen”, or “Consistency of Large Enterprise Groups”), which began to operate in July 2010.

**2.2.9** The purpose is to identify inconsistencies in the data of the most important enterprise groups in an early stage of statistical production, to resolve them and to prevent their recurrence. By tackling inconsistencies at the stage at which the data are collected from large enterprise groups, the expectation is that inconsistencies in the national accounts and related statistics will be reduced. Statistical production has been reorganized, as described below.

**2.2.10** The Congo project is in tune with wider initiatives to tackle statistical problems arising from globalization, such as the EuroGroups Register (EGR) and the FDI network projects mentioned in Chapter 3, both of them undertaken by Eurostat.

#### What is consistency?

**2.2.11** Congo operates at the micro level; the aim is to achieve consistency at that level such that the enterprise group data fit into the integrated framework of the national accounts.

**2.2.12** In order to achieve operational consistency inside Congo, a so-called consistency matrix is built. This matrix shows how variables provided for or taken from different statistical sources (SBS, STS, SFGO (annual and quarterly)),

Prodcum, R&D, investments and international trade) translate into national accounts concepts like production, intermediate consumption and net operating surplus.

**2.2.13** Congo provides bridges between the concepts of national accounts and related constituents of the different statistical sources.

**2.2.14** Congo looks at consistency at a point in time, while recognizing that the different statistical sources may have different institutional coverage. For instance the production of an enterprise group according to the annual SFGO report should not be larger than the aggregated SBS production of all enterprises in the group (the SFGO report measures production excluding deliveries between the enterprises in the group).

**2.2.15** Congo also looks at indicators over a period of years for “longitudinal” consistency. For instance indicators such as cost of labour per employee or production per employee may be examined. Consistency is evaluated at all frequencies; months should add up to quarters, and quarters to years. Every consistency rule has a plausibility margin within which deviation is acceptable.

**2.2.16** A consistency tool checks the different consistency rules.

**2.2.17** The ultimate goal of the consistency matrix and consistency rules is that the data for the Congo enterprise groups are internally consistent for a selection of variables important to national accounts. Once consistency has been achieved, the data for these enterprise groups can be entered into the national accounts without further adjustment.

### **Determining the entities to be covered**

**2.2.18** It is important to maintain the population of enterprise groups so that the different statistical processes have a set of information which is realistic and relevant for all purposes, and yet which remains reasonably stable in terms of coverage of enterprise groups.

**2.2.19** Congo enterprise groups are characterized by complex enterprise structures and many relations with the rest of the world. Statistics Netherlands identifies enterprise groups for inclusion in the Congo population by a so-called CSI (complexity and statistical impact) factor. Complexity is based on dimensions such as the number of legal units, enterprises and layers in the enterprise group structure. Statistical impact is based on characteristics such as the number of employees and balance sheet size. Apart from the

CSI factor, value added and intra-group imports and exports are important. About 300 enterprise groups were selected. The Congo population is reviewed monthly and annually.

### **Difficulties in checking consistency and possible solutions**

**2.2.20** Many difficulties for consistency arose from omission of some enterprise in an enterprise group from some survey(s); from definitional inconsistencies between surveys; and from insufficient communication among business areas in Statistics Netherlands.

**2.2.21** For the SBS 2009 and investment 2009 surveys, all enterprises in a Congo enterprise group received a survey. It remains to be seen whether this has a positive effect on consistency and whether the increase in the response burden causes problems for the Congo enterprise groups.

**2.2.22** Efforts will be made to make the surveys more consistent, but changing a questionnaire can take some time.

**2.2.23** Setting up a business unit to deal specifically with the largest enterprise groups should reduce compartmentalization and improve communication between those handling the different surveys.

### **The consistency business unit**

**2.2.24** Responsibility for large enterprise groups has now been centralized in the Congo business unit. The advantages are:

- a. Responsibilities are clear.
- b. Data from the different surveys are accessible at an early stage.
- c. Proposed changes in the data, once agreed, will be implemented.
- d. Communication is easier.

**2.2.25** The new Congo business unit starts with SBS, STS and annual and quarterly SFGO data. More statistics will be added later.

**2.2.26** Teams with responsibility for a portfolio of enterprise groups consist of a group coordinator, a group profiler, and experts on SBS, STS and SFGO returns.

## Annex 2.3

### Large enterprise statistics in Finland and Sweden

#### Statistics Finland's working group on large enterprises

**2.3.1** In Finland the 50 largest enterprises account for about 30 per cent of turnover, and the quality of economic statistics very much depends on the quality of the data provided by them.

**2.3.2** When developing the strategy for economic statistics in 2007, Statistics Finland identified the need to enable data suppliers to see Statistics Finland as a single entity. There was also a strong need to improve the coherence of different economic statistics, because statistics for specific domains were produced independently from each other.

**2.3.3** Work began in 2008 to ensure the quality and consistency of the data of large enterprises in source statistics and national accounts. The aims are to:

- Maintain focus on Finland's largest enterprises/groups.
- Promote good cooperation between Statistics Finland and the data providers in large enterprises.
- Identify units in the enterprise group which should provide data, and ensure the correct classification of their activities.
- Develop methods for ensuring the accuracy of data obtained from large enterprises.
- Identify promptly consistency problems between various items of data and standardize the processing of data on large enterprises in different statistical areas in Statistics Finland.
- Strengthen cooperation within Statistics Finland across the various areas of economic statistics.

**2.3.4** The work was allocated to a working group consisting of experts from the main statistical areas (business register, national accounts, short-term business statistics, structural business statistics and price statistics). In addition to the core team, contact persons from different statistical areas participate in the work. There is no separate administrative unit; only the leader of the working group is engaged full-time in the work. A steering group of senior staff responsible for the main areas

of economic statistics meets about every second month.

**2.3.5** Currently the focus is on about ten enterprise groups, each of which is handled by a large enterprise manager in the working group. The aim is to expand gradually to cover about 20 to 30 of the largest enterprise groups.

**2.3.6** The tasks of the large enterprise managers are to:

- Provide a single contact between the enterprise and Statistics Finland.
- Simplify data provision for the enterprise group.
- Keep others in Statistics Finland informed as necessary.
- Update the business register with changes in the composition of the enterprise group.
- Provide support when customized solutions are needed.
- Conduct coherence analysis to ensure data consistency.

**2.3.7** Achieving consistency involves comparing monthly, quarterly and annual data within and across areas of statistics. If inconsistencies are found, the enterprise manager in the working group usually contacts the enterprise to resolve them. Working methods of the group and the approach to consistency analysis continue to evolve.

**2.3.8** Where enterprise groups have their head office in Finland and are listed on the Helsinki stock exchange, confidentiality of the data is of high importance. One problem has been that production of economic statistics is to some extent decentralized in Finland and important economic statistics (foreign trade and part of balance of payments statistics) are produced in the Board of Customs and the Bank of Finland respectively. The new law on European statistics (European Parliament and Council Regulation (EC) No 223/2009) has improved the possibility of exchanging confidential data between authorities producing European statistics.

### **Statistics Sweden's large enterprises management unit**

**2.3.9** In March 2004 a new organizational unit was created at Statistics Sweden mainly to monitor the 50 largest enterprises in Sweden, good data on which are essential to economic statistics. The largest enterprises are identified by their contribution to main economic indicators (turnover, value added, exports, employment, etc.). The collection of data from MNEs that frequently reorganize their operations poses special challenges. The large enterprises management unit is essential for solving problems of this kind.

**2.3.10** Accordingly a group of contact persons now undertakes a broad range of tasks related to large enterprises. These include monitoring them and understanding the business, ensuring that the various entities in the enterprise group are promptly identified and properly classified in the Business Register, data collection and coherence analysis. The unit has all the statistical information from the enterprise and can put the right questions. Problems concerning a single large enterprise will affect at least five types of source statistics, but one person coordinates the investigation and undertakes all contacts with the enterprise. This single point of contact with

Statistics Sweden is advantageous to the large enterprise also: this is important, not least because it is recognized that the response burden on such enterprises is very large, and that their willingness to provide data may decrease as the demand for statistical information grows.

**2.3.11** In the long run, Statistics Sweden hopes that coherence analysis, promoting consistency through time and across datasets, will reduce the need for revisions. Working closely with the enterprises, and establishing if necessary specific solutions for each enterprise, will probably lead them to provide better data in their normal submissions, reducing the need for later corrections. Where data are revised, Statistics Sweden is likely to hear of it earlier. Errors and inconsistencies are likely to be uncovered when they occur and may then be corrected promptly, while the enterprises still have the necessary information. The starting point is a discussion between national accounts compilers, those working on the relevant surveys and the large enterprises management unit. After contact with the enterprise, a decision is taken about how to proceed. If this is done at an early stage, Statistics Sweden can avoid revisions two years later when the annual surveys become available for comparison.



## CHAPTER 3

# Multinational enterprises, foreign direct investment and related income flows

### Introduction

**3.1** The collection of high quality data on foreign direct investment (FDI) is a challenge in compiling both the international and the national economic accounts. This chapter explains why FDI poses such a challenge, and describes an international survey that aims to alleviate the measurement issues.

**3.2** FDI is an important category in the international accounts, and is one of the five functional categories used as the primary basis for classifying data on financial transactions, positions, and income. An FDI relationship occurs when an investor in one economy has an ownership interest giving a significant degree of influence or control over the management of an enterprise in another economy. By statistical convention, it is deemed that direct investment exists when an investor owns at least 10 per cent of voting power. FDI is associated with a longer-term commitment than other forms of cross-border investment, and often involves features such as the provision of new funds and technology transfers. In their very nature, relationships between entities within an MNE are FDI relationships, whose number and importance has grown with globalization.

**3.3** FDI is also important in the national economic accounts. Earnings on FDI are often a major component of property income from abroad in the distribution of income accounts. Net property income from abroad, including net FDI earnings whether distributed or not, is added to domestic production (GDP) to derive gross national income (GNI). (Undistributed FDI earnings are treated statistically as having been distributed, with a matching entry in the financial account of the balance of payments to reflect their immediate reinvestment.) In the financial accounts, which are based on instruments rather than functional categories, FDI transactions and positions are recorded separately as memorandum items in the relevant categories (debt securities, loans, equity, trade credit, other). Once an FDI relationship has been established, all financial flows and positions

between the enterprises concerned (unless they are certain types of financial intermediaries) are recorded as direct investment in the balance of payments and the international investment position.

**3.4** Experience has shown that the most effective way of assuring the availability of high quality and comprehensive data on FDI is to conduct a survey. No other method is as effective in identifying enterprises that are foreign owned or that have investments abroad, and surveys are important in obtaining data on such items as earnings and FDI positions. The International Monetary Fund's (IMF) 2009 *Coordinated Direct Investment Survey* (CDIS) is a major global statistical undertaking that is intended to improve the quality and availability of data on FDI used in the international and national economic accounts.<sup>3</sup> At its meeting in November 2009, the IMF Committee on Balance of Payments Statistics agreed with the IMF's proposal to convert the CDIS into an annual exercise, which will promote improvements in the quality and availability of data on FDI through future years. The chapter also notes initiatives in the European Union to identify FDI relationships and achieve comprehensive and consistent reporting of them.

### Background

**3.5** The conceptual framework of the balance of payments and international investment position (as found in BPM6) is entirely consistent with that of the 2008 SNA; the data however are organized differently. One of the major differences between the two frameworks is the use of functional categories in the balance of payments and international investment position accounts. The five functional categories are direct investment, portfolio investment, financial derivatives (other than those held as reserve assets) and employee stock options, reserve assets, and other

<sup>3</sup> The CDIS home page can be found at <http://www.imf.org/external/np/sta/cdis/index.htm>

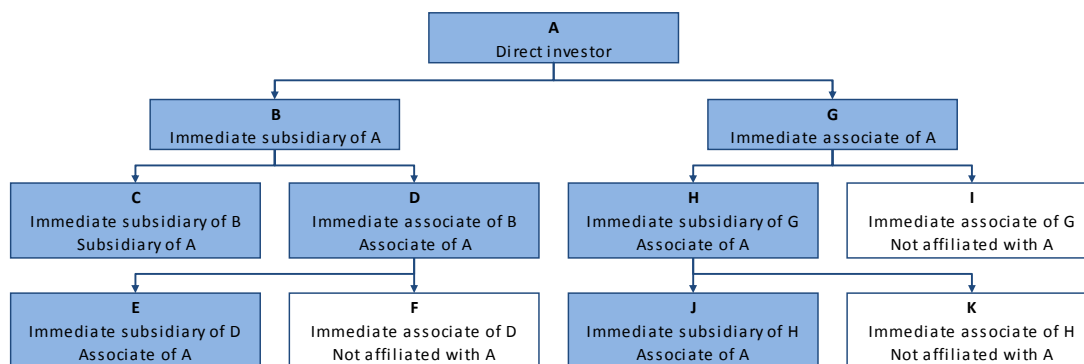
investment. These functional categories are essentially based on the motivations of the investor, as opposed to the instrument-based classification in the 2008 SNA.<sup>4</sup>

**3.6** FDI is a major category of cross-border investment. Unlike other categories of cross-border investment, it involves a significant degree of influence by the direct investor (and, more often, control) over the direct investment enterprise that receives equity investment. The relationship between the enterprises involved is established with the view to creating a long-term interest. FDI also has non-financial dimensions, such as management expertise, technology transfer, marketing and market access that are not usually associated with other forms of cross-border investment. Enterprises in a direct investment relationship are more likely to trade with each other. FDI tends to provide a stable source of funds during periods of market stress.

**3.7** An FDI relationship involves a direct investor, a direct investment enterprise, and

significant degree of influence by a direct investor, obtained through holding 10 per cent or more of voting power. Although control is not required to establish an FDI relationship, very often the ownership of the voting power by the direct investor is above 50 per cent. Fellow enterprises do not meet the threshold of equity investment in each other (in most cases they have no equity interest in each other and may be involved in intercompany debt transactions), but are in a direct investment relationship because they have a common investor, who is a direct investor in at least one of them (not necessarily in both of them, because the direct investment relationship is confined to cross-border affiliations, so an investor resident of the same economy as one of the fellow enterprises is not a direct investor in that enterprise). The structural arrangements are often complex, and a single entity may be, at the same time, a direct investor, a direct investment enterprise, and a fellow enterprise in its relationships with other enterprises (see box 3.1).

**Box 3.1. Examples of identification of direct investment relationships under the framework of direct investment relationships (FDIR)**



Each enterprise is resident in a different economy from the others. Shaded boxes are direct investment enterprises of the direct investor A (so all are affiliates of each other).

A subsidiary is a direct investment enterprise over which the direct investor is able to exercise control.

An associate is a direct investment enterprise over which the direct investor is able to exercise a significant degree of influence, but not control.

sometimes a fellow enterprise. A direct investor is an entity or group of related entities that is able to exercise control or a significant degree of influence over another entity (the direct investment enterprise) that is a resident of a different economy. A direct investment enterprise is an entity subject to control or a

**3.8** Under BPM6, data on direct investment are presented on an asset/liability basis (this basis is used for compiling the international economic accounts under BPM6) and can also be presented on a directional principle basis (this basis is usually preferred for analyses at sub-global levels, such as by individual country or industry). On the asset/liability basis, assets and liabilities are shown in the accounts on a gross basis: thus, a loan from a direct investment enterprise in country B to its direct investor in country A is recorded as the acquisition of an FDI asset by B on A. On a

<sup>4</sup> This is not to say that instrument classification is not used in the balance of payments/international investment position. The financial instruments used in BPM6 are the same as those used in the 2008 SNA. They are, however, at the secondary level of classification, below the functional categories.

directional principle basis, data at high levels of aggregation are netted: thus, a loan from a direct investment enterprise in country B to its direct investor in country A is recorded as disinvestment by A in B. On this basis, data are shown separately for inward and outward direct investment. Inward direct investment includes assets and liabilities between resident direct investment enterprises and their direct investors (thus, any claims by the direct investment enterprise on the direct investor are netted out in the aggregate although the gross values are recorded). In addition, it includes assets and liabilities between resident and non-resident fellow enterprises if the ultimate controlling parent is non-resident. Outward direct investment includes assets and liabilities between resident direct investors and their direct investment enterprises (thus, any liabilities by the direct investor to the direct investment enterprise are netted out in the aggregate although the gross values are recorded). In addition, it includes assets and liabilities between resident and non-resident fellow enterprises if the ultimate controlling parent is resident. If the residence of the ultimate controlling parent is unknown, assets are treated as

Between these dates, the value of the global reported inward direct investment positions rose from \$3,764 billion to \$19,977 billion, and the value of reported outward direct investment positions grew from \$4,647 billion to \$19,983 billion. These increases in value captured not only the increase in the number of economies reporting, but also improved coverage and actual increases in investment by those who were already reporting.

**3.10** With regard to the top ten recipients of direct investment (inward FDI), the value reported rose from \$3,010 billion for end-1998 to \$11,785 billion for end-2009, or to almost four times the end-1998 level (see table 3.1). The composition of the top ten changed substantially. Whereas the United States remained the top recipient throughout this time, with its inward direct investment almost tripling, Luxembourg and Mainland China gained prominence as recipients of direct investment, becoming second and sixth largest recipients of direct investment as at the end of 2009, with stocks of \$1,842 billion and \$997 billion respectively (neither of these economies produced estimates of their direct investment

**Table 3.1 Top ten recipients of inward direct investment - positions at end-1998 and end-2009, \$ billions**

<i>Economy</i>	<i>Value of inward direct investment, end-1998</i>	<i>Economy</i>	<i>Value of inward direct investment, end-2009</i>
United States	920	United States	2,672
France	548	Luxembourg	1,842
United Kingdom	355	France	1,132
Germany	252	United Kingdom	1,087
China, P.R.: Hong Kong	225	Germany	999
Belgium	180	China,P.R.: Mainland	997
Netherlands	164	China,P.R.:Hong Kong	912
Canada	143	Belgium	862
Spain	118	Netherlands	651
Australia	105	Spain	631
<b>Total of top ten</b>	<b>3,010</b>	<b>Total of top ten</b>	<b>11,785</b>

direct investment abroad and liabilities are treated as direct investment in the reporting economy. Several of the measurement challenges associated with direct investment exist only in connection with data that are on a directional principle basis. The terms “inward” and “outward” direct investment are often used when referring to this presentational basis.

**3.9** The number of economies reporting inward FDI positions to the IMF rose from 71 for end-1998 data to 101 for end-2009. The number reporting outward FDI positions also grew strongly, from 61 economies for end-1998 to 89 for end-2009.

positions for end-1998). Spain saw the stock of its inward direct investment increase to almost five and a half times its end-1998 level, while Belgium, Germany, China Hong Kong SAR, and the Netherlands each saw the stock of their inward direct investment rise to four or five times the end-1998 level. Canada and Australia dropped out of the top ten over that period.

**3.11** For direct investment abroad, the top ten direct investing economies (outward FDI) saw the value of their total investment more than triple, from \$4,065 billion at end-1998 to \$14,736 billion at end-2009 (see table 3.2). The United States

remained the top investing economy throughout this period. Its total direct investment abroad in 2009 was more than three times its 1998 level. As with inward direct investment, one of the more striking changes between 1998 and 2009 was the emergence of Luxembourg as a major outward direct investor. (In 1998 it did not produce estimates of direct investment abroad. It is notable that Luxembourg is the home economy for a large number of special purpose entities (SPEs) that are engaged in pass-through finance - see Chapter 4 for an extensive discussion of SPEs.) Switzerland and the Netherlands saw the stock of their outward direct investment increase to more than four times the end-1998 level, and China Hong Kong SAR, Germany, and the United Kingdom all more than tripled their stock of direct investment abroad. Canada and Italy dropped out of the top ten, replaced by Luxembourg and Belgium.

### The statistical treatment recommended in international standards

**3.12** As noted earlier, direct investment is a balance of payments concept (as a functional category) as well as a category or component involving several areas of the national accounts. In the 2008 SNA, these include the treatment of the retained earnings of direct investment enterprises in the income and financial accounts, and the recording of direct investment transactions as memorandum items in the financial account.

**3.13** Unlike most other institutional units, which retain all their saving, direct investment enterprises are deemed to retain only that portion of their saving that is not attributable to their direct investor(s). That is, direct investment enterprises are deemed to distribute their saving to their direct

investors in proportion to the equity share held by the latter on the grounds that, given its influence on the direct investment enterprise, the direct investor makes the saving decision, not the direct investment enterprise. The (imputed) income flow from the direct investment enterprise to the investor is referred to as reinvested earnings and the counterpart imputation in the financial account is referred to as the reinvestment of earnings in BPM6.

**3.14** There is a parallel treatment in the 2008 SNA. Reinvested earnings on FDI are identified as a separate category within the entrepreneurial income and allocation of other primary income account:

*“Retained earnings of a corporation or quasi-corporation are equal to the distributable income less the dividends payable or withdrawal of income from the corporation or quasi-corporation respectively. If the foreign direct investment enterprise is wholly owned by a single foreign direct investor (for example, a branch of a foreign enterprise), the whole of the retained earnings is deemed to be remitted to that investor and then reinvested, in which case the saving of the enterprise must be zero. When a foreign direct investor owns only part of the equity of the direct investment enterprise, the amount that is deemed to be remitted to, and reinvested by, the foreign investor is proportional to the share of the equity owned”* (2008 SNA, paragraph 7.139).

**3.15** As a consequence of treating reinvested earnings as an income flow and reinvestment of earnings as a financial account flow, reinvested earnings are included in the calculation of GNI of the investor economy (positive) and the economy of the direct investment enterprise (negative).

**3.16** Reinvestment of earnings is not identified

**Table 3.2 Top ten providers of outward direct investment - positions at end - 1998 and 2009, \$ billions**

<i>Economy</i>	<i>Value of outward direct investment, end-1998</i>	<i>Economy</i>	<i>Value of outward direct investment, end-2009</i>
United States	1,196	United States	4,051
France	747	Luxembourg	1,820
United Kingdom	515	France	1,719
Germany	365	United Kingdom	1,659
Japan	270	Germany	1,357
Netherlands	229	Netherlands	951
China, P.R.: Hong Kong	223	Switzerland	841
Switzerland	184	China, P.R.: Hong Kong	834
Canada	171	Belgium	764
Italy	165	Japan	740
<b>Total of top ten</b>	<b>4,065</b>	<b>Total of top ten</b>	<b>14,736</b>

separately within the main body of the financial account in the 2008 SNA; it is included indistinguishably with equity (there are separate subcategories for listed shares, unlisted shares, and other equity in the 2008 SNA financial account). However, the 2008 SNA recommends that all financial account transactions in FDI be recorded as memorandum items to the account. Thus:

*“Transactions in financial assets and liabilities arising from the provision of, or receipt of, foreign direct investment are to be recorded under the appropriate categories: debt securities, loans, equity, trade credit or other. However, the amounts of foreign direct investment included within each of those categories should also be recorded separately as memorandum items”* (2008 SNA, paragraph 11.129).

**3.17** In addition, although not explicitly identified, direct investment positions (assets and liabilities) will be recorded within the instrument detail in the (national and sector) balance sheet accounts. Often, because of limitations in data sources, and the difficulty in obtaining a market value in the absence of an observable price (much direct investment is 100 per cent owned by the direct investor), the value of direct investment equity is initially obtained at book value.

## Measurement problems

**3.18** There are a number of difficulties associated with measuring FDI. These include:

- a. Identifying the units that meet the definition of direct investor, direct investment enterprise, and fellow enterprise.<sup>5</sup>
- b. Differences in the level of consolidation between business registers, particularly where different registers are used for international and national accounts purposes.
- c. Conducting a survey in such a way that the respondents provide data according to the concepts used in direct investment.
- d. Ensuring that the direct investment equity position data reported by the direct investor are based on information from the books of the direct investment enterprise abroad.
- e. Estimating reinvested earnings of direct investment enterprises, especially on a timely quarterly basis.

<sup>5</sup> For further detail, see the discussion of the framework for direct investment relationships in Chapter 6, Section B in BPM6, and Annex 4 of the OECD Benchmark Definition of Foreign Direct Investment, fourth edition.

**3.19** The development of a business register that identifies whether or not an entity is in a direct investment relationship is an important step toward comprehensively identifying key units in direct investment relationships. Most business surveys that collect information feeding into the national accounts do not routinely collect information on whether an entity is in a direct investment relationship. To build a register that includes that information may require considerable effort. In addition, because much of the information (both financial and on equity holders) may not be routinely produced for any internal company purpose, it often takes persistence on the part of the statistical agency to obtain the information from the respondent. This is true even where data collection is supported by statutory provisions protecting the confidentiality of the data reported with substantial penalties for non-response.

**3.20** A further complication may occur with regard to consolidation of statistical units, particularly where separate agencies have responsibility for compiling data for the international and national economic and financial accounts. This issue can even arise where a single agency has such responsibility but uses different registers for compiling data for the international and national accounts. In particular, for national accounts, countries often include each individual enterprise on their national registers. In contrast, for international economic accounts purposes (such as for measuring FDI flows and positions), countries often consolidate domestic units that are under common control for statistical purposes, in much the same fashion that a business consolidates business units for reporting to stockholders. As a consequence of these differences in consolidation, there may be inconsistencies between the international and national economic accounts in classification by industry, domestic sector, etc. of direct investors, direct investment enterprises and fellow enterprises. Consistency units as described in the annexes to Chapter 2 may help here.

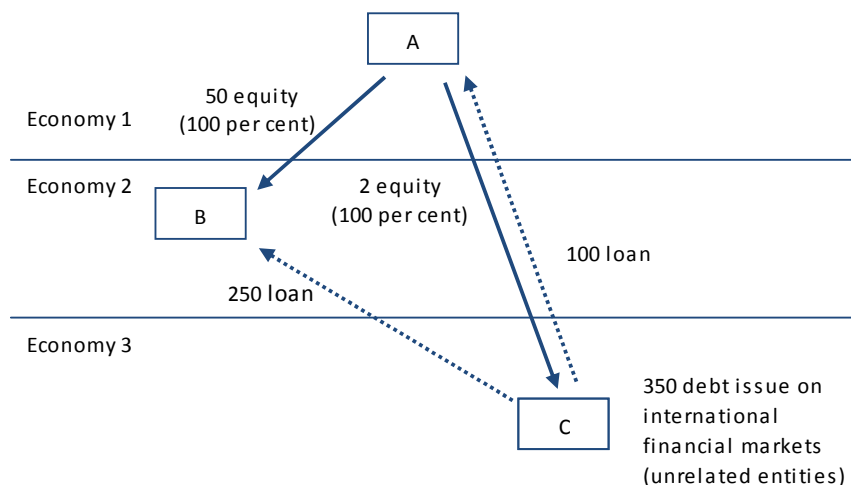
**3.21** It is also noteworthy that, even within the international economic and financial accounts, the degree of consolidation can affect whether a given statistical unit is recorded in inward or outward FDI.<sup>6</sup> This is because consolidation may affect whether or not a given unit is a fellow enterprise.

<sup>6</sup> Presentations of data on direct investment are on an asset/liability basis in compiling the international economic and financial accounts under BPM6, and these data can also be presented on a directional principle basis for further analytical purposes.

This is significant because, under the new international statistical standards, a fellow enterprise is recorded in inward (or outward) FDI stocks or flows of the country in which it is resident, depending upon the location of its ultimate controlling parent. Specifically, under the new standards, a given resident fellow enterprise's stocks and flows vis-à-vis its non-resident fellow enterprises are recorded in outward FDI if the resident enterprise's ultimate controlling parent is a resident, and are included in inward FDI if the resident enterprise's ultimate controlling parent is a non-resident. (As noted earlier, if the residence of the ultimate controlling parent is unknown, assets are classified as direct investment abroad and liabilities are classified as direct investment in the reporting economy.) By contrast, a resident direct

approaches enterprise C to collect data on FDI, it has to be explained that the loan by enterprise C to enterprise B should be recorded in FDI, even though enterprise C owns no equity in enterprise B. Similarly, the compiler in economy 2 has to be very careful to explain that the lending to enterprise B should be recorded in FDI.<sup>7</sup> Indeed, enterprise C's lending to enterprise A is also FDI (referred to as "reverse investment"), because all equity and debt positions between related entities are recorded in FDI (except where both parties are certain types of financial intermediaries). These aspects of the definition of FDI are not straightforward, and it can be difficult to convert the definition into survey report questionnaires, or to collect and compile data that are fully consistent with the definition.

**Chart 3.1 Direct investor (enterprise A) and its two direct investment enterprises (enterprises B and C)**



investor's stocks and flows vis-à-vis its direct investment enterprises abroad are always recorded in outward FDI, and a resident direct investment enterprise's stocks and flows vis-à-vis its non-resident direct investor are always recorded in inward FDI.

**3.22** Identifying fellow enterprises is particularly difficult, because the concept is not based on an equity holding of one fellow enterprise in another.

**3.23** A common situation involves the following. In chart 3.1, enterprise A (in economy 1) holds all the equity in enterprise B (in economy 2) and in enterprise C (in economy 3). Thus, enterprise A is a direct investor in direct investment enterprises B and C. Enterprise C raises funds on international financial markets and then lends the funds to enterprises A and B. If the compiler in economy 3

<sup>7</sup> Positions between enterprises B and C are recorded in FDI because both of these enterprises are under the control or influence of the same direct investor (enterprise A).

**3.24** Another statistical challenge is that information on equity holdings is often not recorded on the same basis by the direct investor as it is by its direct investment enterprise. There are several reasons for this, of which the following are important. First, while the direct investment enterprise will record its accumulated retained earnings as part of owners' equity, it is not uncommon for the direct investor to record its investment in the direct investment enterprise at acquisition price, with no further adjustment. A second reason is that, whereas the direct investment enterprise may adjust its assets and liabilities to reflect current market prices or exchange rates, with the concomitant adjustment to owners' equity, these adjustments may not be included in the books of the direct investor. Data from the books of the direct investment enterprise are preferred in compiling estimates of international investment positions or national balance sheets in the international and national economic accounts, because these books reflect values that are more consistent with the market value principle that is preferred in compiling both sets of accounts.

**3.25** For many enterprises, information on reinvested earnings is available only after a very long delay, and then sometimes only for annual data. As a result, early estimates are subject to considerable change when more complete data become available. This is particularly true for quarterly estimates. Some countries may divide by four the reinvested earnings for the most recent year for which data are reasonably comprehensive, and carry this forward for several quarters. In some cases, this had led to the same estimate for up to seven quarters. Because of the link between reinvested earnings and GNI, the long lag and potentially large revisions to reinvested earnings can lead to substantial revisions to GNI.

### Proposals for operational treatment in the accounts

**3.26** Much work is being done to help address some of the problems in identifying direct investment entities and the collection of the data on a consistent basis. For example, a number of barriers to the exchange of confidential data within Europe have been removed, and major efforts are under way worldwide to improve the compilation of data on FDI that are consistent with the revised standards. In particular, the IMF, in conjunction with its inter-agency partners – the European Central Bank (ECB), Eurostat, the OECD, the United Nations Conference for Trade and Development

(UNCTAD), and the World Bank – has launched the 2009 Coordinated Direct Investment Survey (CDIS).

**3.27** The CDIS has attracted considerable support.<sup>8</sup> Seventy-two jurisdictions provided preliminary results for the first CDIS, as of end-2009 (see annex 3.1). The purpose of the CDIS is to improve the quality of direct investment position statistics in the international investment position, with a breakdown by immediate counterpart economy. Specifically, the objectives of the CDIS are to collect, with a measurement date of end-December 2009, and annually thereafter

*“comprehensive and harmonized data on direct investment positions, broken down between equity and debt, with debt further broken down between claims and liabilities, by economy of direct investor (for inward direct investment), or of direct investment enterprise (for outward direct investment).”*

**3.28** The CDIS requests data for both inward and outward FDI positions. The valuation principles employed are in line with BPM6. For debt positions (except for debt securities), nominal value is recommended. For debt securities, the market price is recommended. For equity for listed enterprises, the quoted market price is recommended. For unlisted enterprises, it is recommended that direct investment equity position data be reported on an “own funds at book value” (OFBV) basis. OFBV reflects the value of the enterprise as recorded in the books of the direct investment enterprise, which is the sum of (i) paid-up capital (excluding any shares in issue that the enterprise holds itself, and including share premium accounts); (ii) all types of reserves identified as equity in the enterprise's balance sheet (including investment grants when accounting guidelines consider them company reserves); and (iii) cumulated reinvested earnings (which may be negative), which would take into account charges for consumption of fixed capital. In BPM6, OFBV is an acceptable proxy for market value. In this manner, the value of the investment as reported by the direct investor will be on the same basis as that reported by the direct investment enterprise.

**3.29** A number of tools and guides have been developed to address the measurement problems noted earlier. In particular, the *CDIS Guide* contains information on how to build an FDI survey mailing list, how to conduct a survey, how to ensure that data are reported consistently based on the books of the direct investment enterprise, etc. The IMF

<sup>8</sup> A *Guide* on the CDIS may be found on the CDIS website.

has also developed model survey forms covering inward and outward FDI which countries can adapt for their own individual data collections.

**3.30** Preliminary data for end-2009 were requested by the IMF by the end of September 2010 and were released in December 2010. (This initial release of results included some data that arrived in December 2010.) Revised end-2009 data were requested by the IMF by the end of March 2011 for publication in mid-2011.

**3.31** In addition to the data, participants were asked to provide metadata and indicate what improvements have been introduced as a result of conducting the CDIS. Sixty-three jurisdictions responded to the metadata questionnaire.<sup>9</sup>

**3.32** In regard to challenges associated with estimating reinvested earnings on a current basis, some useful techniques are expected to be provided in a new *Balance of Payments Compilation Guide*. For example, one useful estimation technique is to construct ratios of period-to-period change using data from enterprises that can report timely quarterly data, and to use these ratios to estimate data for enterprises that are unable to report these data on as timely a basis. More specifically, data on total direct investment earnings, or on direct investment distributed earnings (and, through subtraction, data on direct investment reinvested earnings) for the universe of all direct investment enterprises can be generated by constructing ratios of the period-to-period change in earnings (and of the period-to-period change in distributed earnings) for enterprises that are able to report these data and applying them to data for enterprises which cannot report these data. Similarly, ratios can be used to produce quarterly estimates from annual data. More specifically, quarterly estimates for enterprises that are able to report only annual data can be developed with reference to the quarterly pattern reflected in the data of those enterprises that are able to report this information. Different ratios can be constructed for different geographical regions or industrial sectors, so that the ratios applied fit the population that is being estimated.

### **European initiatives to improve data quality on direct investment**

**3.33** Many of the problems indicated above are clearly evident in bilateral data (in particular for transactions) within the European Union. To

address these problems, member states, the ECB and Eurostat have initiated two significant projects.

**3.34** The first is the FDI network. The EU member states have agreed to exchanges of confidential microdata on transactions exceeding €2 billion (and for a few below that threshold). In this way, data are reconciled and reported consistently by both parties, rather than on an ad hoc basis as had been the former practice. An improvement in data on FDI can be expected as the bilateral asymmetries should be reduced.

**3.35** The second initiative is the creation of the EuroGroups Register (EGR). The purpose of the EGR is to create a business register of all the major MNE groups in Europe (including in any member of the European Free Trade Association that may wish to participate), together with the legal entities (and country of residence) of the constituent parts of those groups. The current fragmented picture has increasingly led to harmonization problems for statistics, including direct investment. The EGR is intended to be a unique frame and to form the basic tool for improving statistics. The EGR's first production cycle produced results for 6,350 MNEs in early 2010.<sup>10</sup> Its full implementation is expected in 2013.

**3.36** The aim of both of these initiatives is comprehensive and consistent reporting to national authorities. These initiatives are in their early stages and are still evolving but progress to date has been positive.

### **Recommended future work on the issue**

**3.37** With continued strong international support for the CDIS and related initiatives, the quality of data on FDI used in both the international and national economic and financial accounts will be substantially improved. For example, improved data collection by a country, as well as the availability of bilateral counterpart data (mirror data) from other countries participating in the CDIS, will improve coverage and consistency of balance sheet information for both equity and debt (assets and liabilities), and there will be benefits to the flow accounts as well. Indeed, the CDIS Guide identifies a number of income and financial account items that countries may choose to collect as part of the CDIS (these additional items will not be reported to the IMF). These include data on all aspects of direct investment income (interest, dividends, and reinvested earnings) and financial

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<sup>9</sup> The CDIS data and metadata can be found at <http://cdis.imf.org/>

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<sup>10</sup> The EGR will also serve to identify the ultimate controlling investor.



account transactions by instrument. The availability of mirror data can help a country to target areas where its own data may be weak.

**3.38** A further benefit from CDIS participation may be improvement in the quality of data on foreign controlled enterprises—such as statistics on the activities of multinational enterprises (AMNE statistics), and the closely related foreign affiliates statistics (FATS) and data on the foreign controlled sector in the national accounts.<sup>11</sup>

**3.39** The work under way in various task forces and statistical committees should also further improve the quality of FDI data used in the macroeconomic accounts. The consolidation issue that was described above will be taken forward to and examined by these groups. In

particular, work has been conducted in European task forces and statistical committees where FDI issues have been studied, and the IMF is looking at direct investment issues as part of its work programme on the BPM6 *Compilation Guide*. Also, as noted above, under a joint ECB/Eurostat initiative and in close cooperation with FDI compilers in EU member states, the FDI network has improved FDI data by facilitating a secure exchange of information on large transactions between national compilers.

**3.40** The CDIS and these other international efforts have received strong support, and further progress is expected in the months ahead. As the CDIS will be conducted annually, the 2009 CDIS will be the first in a series of annual surveys that will sharpen understanding of cross-border investment and substantially improve the data used in the economic accounts.

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<sup>11</sup> AMNE statistics cover a range of variables on the overall activities of direct investors and their foreign controlled enterprises, such as gross output, value added, and number of people employed. They exclude data that are classified in direct investment, portfolio investment, or elsewhere in the international financial accounts, as well as data on associates. Foreign Affiliates Statistics are also statistics describing the overall activities of foreign controlled enterprises; they exclude data on direct investors and on associates. AMNE and FATS provide data on the overall activities of indirectly owned direct investment enterprises that may not be fully reflected in FDI statistics.

**Annex 3.1****List of countries contributing to the December 2010 release of CDIS results**

Armenia	Latvia
Australia	Lithuania
Austria	Luxembourg
Bahrain, Kingdom of	Malaysia
Bangladesh	Malta
Barbados	Mexico
Belarus	Mongolia
Belgium	Morocco
Bolivia	Mozambique
Bosnia and Herzegovina	Nepal
Botswana	Netherlands
Bulgaria	New Zealand
Canada	Nigeria
Chile	Norway
China, P.R.: Hong Kong	Pakistan
China, P.R.: Macao	Panama
Costa Rica	Peru
Croatia	Philippines
Cyprus	Poland
Czech Republic	Portugal
Denmark	Romania
El Salvador	Serbia, Republic of
Estonia	Singapore
Finland	Slovak Republic
France	Slovenia
Germany	South Africa
Greece	Spain
Hungary	Sweden
Iceland	Switzerland
Indonesia	Thailand
Ireland	Turkey
Italy	Uganda
Japan	Ukraine
Kazakhstan	United Kingdom
Korea, Republic of	United States
Kyrgyz Republic	Zambia

## Annex 3.2 Enterprise groups and foreign direct investment in the Russian Federation

### Methodological principles used in the Russian Federation for estimating reinvested earnings from direct investment in non-banking corporations

#### Methodology

**3.2.1** Reinvested earnings of direct investment enterprises cover earnings on equity accruing to direct investors less distributed earnings. Reinvested earnings are calculated on a consolidated basis. Calculations take into account net operating income as defined under the current operating performance concept (COPC), excluding (among other things) revaluations, write-offs, and provisions.

#### Coverage

**3.2.2** Reinvested earnings are compiled for enterprises in which a non-resident investor has voting equity participation of 10 per cent or more. There may be indirect ownership through a chain of direct investment enterprises. (Income of banks may contribute to reinvested earnings if a resident

non-banking enterprise in which a non-resident holds a direct investment interest is among their owners.)

#### Calculation and estimation

**3.2.3** Reinvested earnings are computed using financial statements prepared in accordance with International Financial Reporting Standards (IFRS) or the US Generally Accepted Accounting Principles (US GAAP). Since IFRS and US GAAP reports are published only after 3-6 months, indicators for the reporting period are calculated on the basis of previous periods.

**3.2.4** A number of macroeconomic indicators are used to estimate reinvested earnings. The units are broken down by their own industry classification or that of their subsidiaries and associated companies. Table 3.2.1 provides more detailed information on the indicators used.

**3.2.5** These factors are used if they are found to be correlated with trends in enterprises' financial results. Otherwise the indicator is calculated by means of other statistical methods (trend analysis,

**Table 3.2.1** Macroeconomic indicators used to estimate reinvested earnings

<i>Industry</i>	<i>Factors</i>	<i>Data source</i>
oil production	oil price index	Ministry of Economic Development, Federal Customs Service
	oil output index	Ministry of Economic Development, Petroleum Argus agency, Reuters
natural gas	gas price index	Ministry of Economic Development, Federal Customs Service
ferrous metallurgy	metal price index	Federal State Statistics Service, MEPS (International) Ltd. global steel price forecast (all products composite)
non-ferrous metallurgy	metal price index based on the company's core activity	Federal Customs Service, IMF WEO Economic Indicators and Main Assumptions, London Metal Exchange quotations
machine-building	rate of growth in the output of machinery and equipment	Federal Customs Service, IMF WEO Economic Indicators and Main Assumptions
communications	rate of growth in paid services to households	Ministry of Economic Development, Federal State Statistics Service
financial intermediation	rate of growth in main indices covering the banking sector	Credit institutions' financial statements submitted to the Bank of Russia, SKRIN, SPARK databases
other	GDP growth rate	Ministry of Economic Development, Federal State Statistics Service

for example).

**3.2.6** Once corporate financial statements have been published, the actual data are used.

### **Methodological principles for estimating the effects of production-sharing agreement projects on Russia's external sector statistics**

**3.2.7** In the balance of payments framework, an institutional unit is a resident of the economic territory in which it engages in economic activities and transactions on a significant scale. Specific types of enterprises are established by non-resident companies with the purpose of implementing production-sharing agreements (PSAs) in accordance with Federal Law No 225 of 30 December 1995. A PSA is an arrangement between government and one or more investors which governs mineral resources exploration and production rights. The investors implement all specified works on their own account and at their own risk. The procedure for allocating production between contracting parties is also set out in each PSA. The Law treats PSAs as non-resident units. However, since they serve as a channel for FDI in the oil and gas sector, for statistical purposes these enterprises are treated as residents of the Russian Federation.

**3.2.8** In the absence of timely statistical reports by participants in PSA projects, the Bank of Russia has developed a methodology for estimating transactions under PSAs,<sup>12</sup> based on the principles described in the OECD's BD4 (paragraph 328) as well as in the US GAAP (Accounting standards No. 2010-03, Extractive activities (*Oil and Gas*) (Topic 932): *Oil and Gas Reserve Estimation and Disclosures*<sup>13</sup>).

**3.2.9** For the international investment position, the Bank of Russia determines stocks by discounting future cash flows at a standardized rate taking into account estimated changes in production costs on the basis of the latest approved budget, market prices, taxes, delivery contracts and proven oil and gas reserves. Calculations are conducted on a quarterly basis which allows market fluctuations to be taken into

account. The fixed discount rate of 15 per cent<sup>14</sup> a year is the estimated internal rate of return on the contract date, based on forecasts of future gross revenue and costs of acquiring property, development and production costs and tax expenses, taking into account the timing of future flows. Oil and gas price forecasts are projections by the Ministry of Economy and Development of Russia; for the fourth year onwards the average actual price for the previous 12 months is used.

**3.2.10** Quarterly information on the volume of production, the expenses of investors and prices is regularly available for balance of payments purposes. The model used to estimate the end-quarter position and the fixed discount rate is applied to compute the accrued income, which is split into income paid out and reinvested earnings. Income and earnings are recorded as accruing continuously. Earnings after deducting amounts payable to the government and royalties are divided into income paid and an element considered to represent withdrawal of investment. Investor's quarterly expenses are treated as additional investment. Stocks at the end of the period are calculated by cumulating flows. The margin between stocks calculated this way and stock computed by discounting future net cash flows is considered to be "other price changes" in the international investment position.

**3.2.11** Estimates for the previous period are adjusted in the light of a report by the Ministry of Energy of Russia on the results of PSA operations.

<sup>12</sup> The detailed report of the Ministry of Energy of Russia providing useful information on the PSAs' transactions in the previous year becomes available in the following August at the earliest.

<sup>13</sup> These standards are used for financial statements of Russian oil and gas producing enterprises (for example, LUKOIL).

<sup>14</sup> The US GAAP discounts future capital flows relating to US enterprises' oil and gas production at a 10 per cent fixed rate. In Russia, the average profitability of oil and gas projects is 15 per cent (see Lavinskiy).

## CHAPTER 4

# Special purpose entities

### Introduction

**4.1** Special purpose entities (SPEs) are companies that are usually part of a foreign multinational enterprise (MNE). They are set up in a specific country, often for fiscal reasons. Most of their financial and related income transactions are large and take place with companies in foreign countries. The economic relevance of SPEs in terms of their contribution to GDP is generally small, but they may have large income flows and large financial stocks and flows. In the Netherlands, for example, their balance sheets at end 2007 exceeded €1.6 trillion, equivalent to almost three times Dutch GDP. With limited exceptions (see paragraph 4.19(e) below on securitization vehicles in the Netherlands), the (ultimate) parent of an SPE is located abroad.

**4.2** This chapter deals with the statistical treatment of SPEs. The first sections are about the definition of SPEs in various statistical manuals, followed by a description of the problems in the recording and measurement of this special group of companies. Earlier manuals did not mention SPEs. The new manuals pay some attention to them, but the guidelines still leave room for discretion. The chapter accordingly refers to the experiences of several countries (presented in annexes) and describes their treatment of SPEs, the choices they made and the problems they face. The countries are the Netherlands, Ireland and Hungary, each of them host to a large number of SPEs. The practices the countries use are not always the same. This is because the statistical manuals leave some room for interpretation, and because the availability of data may not be the same in every country. These practices can, however, provide useful insights into how to deal with practical difficulties when compiling the national accounts. This may help other countries choose how to treat SPEs.

### Background

**4.3** Increasing globalization goes hand-in-hand with an increase of the use of SPEs as part of MNEs.

Their activities have grown, and so has the need for adequate statistical treatment of SPEs. This is reflected in the new manuals. The *2008 System of National Accounts* (2008 SNA), the *OECD Benchmark Definition of Foreign Direct Investment, 4th edition* (BD4) and the *Balance of Payments and International Investment Position Manual, sixth edition* (BPM6) all give attention to SPEs.

**4.4** SPEs are also known as special purpose vehicles, shell companies, special financial institutions, brass plate companies, mailbox companies or international business companies (and sometimes by yet other names). The 2008 SNA calls them special purpose entities, and this is the term used here.

**4.5** Generally, SPEs are legal entities created to fulfil narrow, specific or temporary objectives and/or to gain fiscal advantages. Enterprises often use SPEs to protect them from financial risk. A company will transfer assets to the SPE for management, or use the SPE to finance a large project, thereby achieving a narrow set of goals without putting the entire firm at risk. SPEs are also used in complex financings to separate different layers of equity infusion. In addition, they are commonly used to own a single asset and associated permits and contract rights, such as an apartment building or a business property, so that the asset can be transferred more easily.

**4.6** An SPE may be owned by one or more other entities. Sometimes it is important that the SPE is not owned by the entity on whose behalf it is set up (the sponsor). For example, in the context of a loan securitization, if the securitization vehicle were owned or controlled by the bank whose loans were to be securitized, the SPE would be consolidated with the rest of the banking group for regulatory, accounting, and bankruptcy purposes, defeating the point of the securitization. Therefore some SPEs are set up as “orphan” companies with their shares settled on a charitable trust and with professional directors provided by an administration company to ensure that there is no connection with the sponsor.

**4.7** Reasons for creating SPEs include:

a. Securitization: SPEs are commonly used to securitize loans or other receivables. For example, a bank may wish to issue a mortgage-backed security whose payments come from a pool of loans. However, to ensure that the holders of the mortgage-backed securities have the first priority right to receive payments on the loans, these loans need to be legally separated from the other assets of the bank. This is done by creating an SPE and transferring the loans from the bank to the SPE.

b. Risk sharing: companies may use SPEs to legally isolate a high risk project/asset from the parent company and to allow other investors to take a share of the risk.

c. Asset transfer: many permits required to operate certain assets (such as power plants) are either non-transferable or are difficult to transfer. An SPE set up to own the asset and all the permits can be sold as a self-contained package; this may be much simpler than attempting to sign over numerous permits.

d. Financial engineering: SPEs are often used in complex financial schemes with the aim of avoiding tax or presenting financial statements in a desired way.

e. Regulatory reasons: an SPE may be set up within an orphan structure to circumvent regulations, such as restrictions on the nationality of owners of specific assets.

f. Property investing: some countries have different tax rates for capital gains and gains from property sales. There may be a tax advantage in vesting properties in separate companies which can be sold and bought instead of the actual properties, effectively converting gains from property sales into capital gains for tax purposes.

**4.8** In addition to a description of SPEs of this kind, a clear definition is desirable for statistical purposes as there is still room for interpretation. The 2008 SNA does include a paragraph on “special cases” like SPEs, but it is important to understand that the criteria for identifying them are not always strictly applied and other entities may be classified as SPEs in practice, as will become clear later in the chapter. Chapter 4 of the 2008 SNA on institutional units and sectors includes some paragraphs on SPEs. Thus:

*“A number of institutional units may be described as special purpose entities (SPEs) or special purpose vehicles. There is no common definition of an SPE but some of the following characteristics may apply.*

*Such units often have no employees and no non-financial assets. They may have little physical presence beyond a “brass plate” confirming their place of registration. They are always related to another corporation, often as a subsidiary, and SPEs in particular are often resident in a territory other than the territory of residence of related corporations. In the absence of any physical dimension to an enterprise, its residence is determined according to the economic territory under whose laws the enterprise is incorporated or registered.*

*Entities of this type are commonly managed by employees of another corporation which may or may not be a related one. The unit pays fees for services rendered to it and in turn charges its parent or other related corporation a fee to cover these costs. This is the only production the unit is involved in though it will often incur liabilities on behalf of its owner and will usually receive investment income and holding gains on the assets it holds” (paragraphs 4.55 - 4.57).*

**4.9** The BD4 also provides guidelines on how to recognise SPEs. The criteria are:

*“a. The enterprise is a legal entity, which is*

*i. formally registered with a national authority; and*

*ii. subject to fiscal and other legal obligations of the economy in which it is resident.*

*b. The enterprise is ultimately controlled by a non-resident parent, direct or indirectly.*

*c. The enterprise has no or few employees, little or no production in the host economy and little or no physical presence.*

*d. Almost all assets and liabilities of the enterprise represent investments in or from other countries.*

*e. The core business of the enterprise consists of group financing or holding activities, that is – viewed from the perspective of the compiler in a given country – the channelling of funds from non-residents to other non-residents. However, in its daily activities, managing and directing plays only a minor role” (Annex 7).*

**4.10** In 2010 the Eurostat Balance of Payments Working Group published its recommendations on the implementation of the extended directional principle (in the context of foreign direct investment, FDI) in the European Union. The document includes a definition of SPEs in line with the BD4 guidelines.

## The statistical treatment in international standards

**4.11** The guidance on SPEs in previous international manuals was very limited. The new manuals pay more attention to them, but the guidelines do not go into detail. The 2008 SNA, BD4 and BPM6 are consistent, but all leave room for countries to choose their own treatment. This section covers some important issues regarding the treatment of SPEs, the SNA guidelines on the different kinds of SPEs, and the research and results of other working groups regarding SPEs.

### Residence issues

**4.12** In the case of SPEs the question of residency is not straightforward: can the SPE be considered as an institutional unit as defined in 2008 SNA, and if so, what criteria can be used to determine its residency?

**4.13** Paragraph 4.2 of the 2008 SNA states that *“An institutional unit is an economic entity that is capable, in its own right, of owning assets, incurring liabilities and engaging in economic activities and in transactions with other entities.”* Many SPEs as described above might not seem to meet this criterion; rather, they might be regarded as part of the parent and be consolidated with it for statistical purposes. However, such consolidation is not carried out across national borders: if an entity is resident in a different country from the parent it is a separate institutional unit. Paragraph 4.61 makes this clear: *“An entity of this type that cannot act independently of its parent and is simply a passive holder of assets and liabilities...is not treated as a separate institutional unit unless it is resident in an economy different from that of its parent...”* The residence of an SPE is therefore of critical importance to its statistical treatment. Here paragraph 4.56 is decisive *“[SPEs] often have no employees and no non-financial assets. They may have little physical presence beyond a ‘brass plate’ confirming their place of registration...In the absence of any physical dimension to an enterprise, its residence is determined according to the economic territory under whose laws the enterprise is incorporated or registered...”*.

**4.14** This criterion overrides the usual criteria determining residency of institutional units, as set out elsewhere in the 2008 SNA. Thus: *“The concept of residence used here is not based on nationality or legal criteria.... An institutional unit is... said to be a resident unit when it has a centre of economic interest in the economic territory of the country in question”* (paragraph 1.48).

*“An institutional unit has a centre of predominant economic interest in an economic territory when there exists, within the economic territory, some location, dwelling, place of production, or other premises on which or from which the unit engages and intends to continue engaging, either indefinitely or over a finite but long period of time, in economic activities and transactions on a significant scale”* (paragraph. 4.14).

**4.15** This is much the same as in the 1993 SNA. Thus: *“Corporations and quasi-corporations are said to have a centre of economic interest and to be resident units of a country (economic territory) when they are engaged in a significant amount of production of goods and services there, or own land or buildings located there. They must maintain at least one production establishment there which they plan to operate indefinitely or over a long period of time”* (1993 SNA, paragraph 14.22).

**4.16** The criteria for a “production establishment” are not clear in the SNA: *“The establishment combines both the kind-of-activity dimension and the locality dimension. An establishment is an enterprise, or part of an enterprise, that is situated in a single location and in which only a single productive activity is carried out or in which the principal productive activity accounts for most of the value added”* (paragraph 5.14).

**4.17** So there are no limits to the size of production at the location, nor is there an absolute requirement to have employees on the payroll. It can be said that SPEs have production. SPEs may produce services by intermediating financial flows, or by holding intellectual property which gives rise to receipts of fees or royalties. Some may engage in merchanting. Their production is apparent in the export of services, and they may incur costs in the host country.

**4.18** Thus it is clear that SPEs are institutional units if they are resident in a different country from the parent; that their residence is determined by where they are incorporated or registered, even in the absence of a physical presence there; and that they may be deemed to engage in productive activity, even if they have no production establishment or staff.

### Types of special purpose entities

**4.19** Enterprises can create SPEs for different reasons, resulting in a set of different types of SPEs. The major types are listed below, including a brief description of their most important activities:

a. The first category consists of financing and holding companies. Financing and holding companies channel funds within a worldwide group on behalf of a non-resident parent company. Large cross-border financial transactions are typical for this type of SPE. The asset side of the balance sheet consists almost completely of financial assets and accounts receivable relating to foreign entities. Holding companies are also known to own claims on notional units abroad (e.g. buildings, natural resources – where the non-resident owner is deemed to own, not the property directly, but rather a resident quasi-corporation whose only asset is the property). In the Netherlands financing and holding companies form by far the largest group of SPEs.

b. Royalty and licence companies make up a second category of SPEs. These businesses have been assigned ownership of intellectual property rights by their parent companies, and collect income in the form of royalties as fees on licences or other types of intellectual property and act as a cashier of their parent company in the invoicing of royalty and licence fees (in which case the SPE usually owns only sublicences). The receipts of the royalty and licence companies are recorded as exports of services (though, as Chapter 7 explains, the correct recording may often not be applied). The revenues are passed on to the parent company.

c. A third group of SPEs comprises factoring companies, invoicing the sales of the worldwide company on behalf of the (non-resident) parent. Although the sales are not related to the domestic company, the payments are accounted for as revenue of the SPE.

d. A fourth type is the leasing company, where a distinction between operational leasing companies and (captive) financial leasing companies can be made. SPEs which are operational leasing companies are companies with a foreign parent that lease out fixed assets to foreign customers through operational leasing contracts. Captive financial leasing companies legally own the assets and lease them back to the parent or other foreign affiliates of the group who are in fact the economic owners of the assets, and are treated as such for statistical purposes, the financial lease being recorded as a loan against collateral in the form of the asset leased.

e. In the Netherlands, entities created to securitize large quantities of bank assets are known as special purpose vehicles (SPVs), and are classified as SPEs. SPVs with a foreign originator (the originator is the bank whose loans or other

receivables have been securitized) form a relatively large and homogeneous group, and, although in most cases a Dutch legal entity is the immediate parent of the SPE, the foreign originator usually still has a lot of influence in the SPV. (It might be noted that in ECB legislation securitization vehicles are called financial vehicle corporations (FVCs).)

**4.20** The 2008 SNA follows the paragraphs quoted above (paragraphs 4.55-4.57) with further guidance concerning the classification of SPEs by sector and activity. Thus: *“Whether a unit has all or none of these characteristics, and whether it is described as an SPE or some similar designation or not, it is treated in the SNA in the same way as any other institutional unit by being allocated to a sector and industry according to its principal activity...”* (paragraph 4.58). In this respect, SPEs are to be treated like any other resident entity; indeed, once an entity is identified as a resident institutional unit, for purposes of classification by sector and activity it does not matter whether it is deemed to be an SPE or not. That is, however – as paragraph 4.58 goes on to explain - *“...unless it falls into one of the three following categories:*

*(a) captive financial institutions,*

*(b) artificial subsidiaries of corporations,*

*(c) special purpose units of general government.”*

**4.21** Paragraphs 4.59-4.67 of the 2008 SNA describe these entities as follows:

*“Captive financial institutions*

*A holding company that simply owns the assets of subsidiaries is one example of a captive financial institution. Other units that are also treated as captive financial institutions are units with the characteristics of SPEs as described above including investment and pension funds and units used for holding and managing wealth for individuals or families, holding assets for securitization, issuing debt securities on behalf of related companies (such a company may be called a conduit), securitization vehicles and to carry out other financial functions (paragraph 4.59).*

*The degree of independence from its parent may be demonstrated by exercising some substantive control over its assets and liabilities to the extent of carrying the risks and reaping the rewards associated with the assets and liabilities. Such units are classified in the financial corporations sector (paragraph 4.60).*

*An entity of this type that cannot act independently of its parent and is simply a passive holder of assets and liabilities (sometimes described as being on*



*auto-pilot) is not treated as a separate institutional unit unless it is resident in an economy different from that of its parent. If it is resident in the same economy as its parent, it is treated as an “artificial subsidiary” as described immediately below” (paragraph 4.61).*

**4.22** Since *artificial subsidiaries of corporations* are resident in the same country as the parent, and are treated statistically as part of the parent, paragraphs 4.62-4.66 are omitted here.

*“Special purpose units of general government*

*General government may also set up special units, with characteristics and functions similar to the captive financial institutions [and artificial subsidiaries of corporations] just described. Such units do not have the power to act independently and are restricted in the range of transactions they can engage in. They do not carry the risks and rewards associated with the assets and liabilities they hold. Such units, if they are resident, are treated as an integral part of general government and not as separate units. If they are non-resident they are treated as separate units. Any transactions carried out by them abroad are reflected in corresponding transactions with government. So a unit that borrows abroad is then regarded as lending the same amount to general government, and on the same terms as the original borrowing” (paragraph 4.67).*

### **Production by special purpose entities**

**4.23** The 2008 SNA states that SPEs in most cases have only one form of production (although there are important exceptions – where for example SPEs hold intellectual property or engage in operational leasing or merchanting or similar activities):

*“Entities of this type are commonly managed by employees of another corporation which may or may not be a related one. The unit pays fees for services rendered to it and in turn charges its parent or other related corporation a fee to cover these costs. This is the only production the unit is involved in though it will often incur liabilities on behalf of its owner and will usually receive investment income and holding gains on the assets it holds” (paragraph 4.57).*

**4.24** In practice, SPEs often pay fees (intermediate consumption) but do not necessarily charge a fee to the parent company or other affiliates of the group. Their revenues are interest and dividends or holding gains. In this case a fee equal to cost could be imputed.

**4.25** In addition to this form of revenues, there is the production of royalties and licence fees. As

described earlier in this section, one SPE category comprises licensing and royalty companies. These hold or manage intellectual property rights (non-financial assets) and collect income in the form of royalty and licence fees.

**4.26** The production of operational leasing companies should equal the leasing fee (for financial leasing companies, production should be valued at cost – which may be minimal in the host country - as it is assumed that these companies do not produce financial intermediation services indirectly measured (FISIM)).

### **Other research on the subject and open issues**

**4.27** As noted earlier, paragraph 4.55 of the 2008 SNA states that there is no common definition of an SPE. The definition and examples in this chapter may go some way to filling this gap. Further clarifications were discussed in a Eurostat Task Force on the recording of certain activities of multinationals (TF MUNA) in national accounts. The Task Force report (2009) contains recommendations concerning SPEs:

a. Entities with little or no physical presence are to be classified as institutional units when they are not resident in the same country as the parent. Consolidation within the parent company occurs only when they are resident in the same economy, when they do not meet the criteria for institutional units.

b. The Task Force recommends that some elements of the treatment of SPEs contained in Chapters 4 and 26 of the 2008 SNA should be clarified for their application in the European Union. This concerns in particular:

i. The criterion of registration for identifying an institutional unit. Value added tax (VAT) registration is not a sufficient condition in the European Union for an entity to be classified as a resident institutional unit. (This point relates to the question discussed in Chapter 9, in the context of quasi-transit trade, of non-resident entities registered for VAT but which are nevertheless not treated statistically as resident in the European Union.)

ii. The treatment of truncated groups containing both SPEs and normal units.

c. The Task Force recommends that the production of SPEs should be allocated to sector and industry according to their principal activity. In determining the production activity of SPEs, the underlying economic nature rather than the legal

appearance should be the reference for national accounts.

d. For valuation of SPE output, the Task Force recommends that when the SPE has transactions only with its foreign parent or with other units of the same group a market valuation cannot be identified and output should be valued at cost.

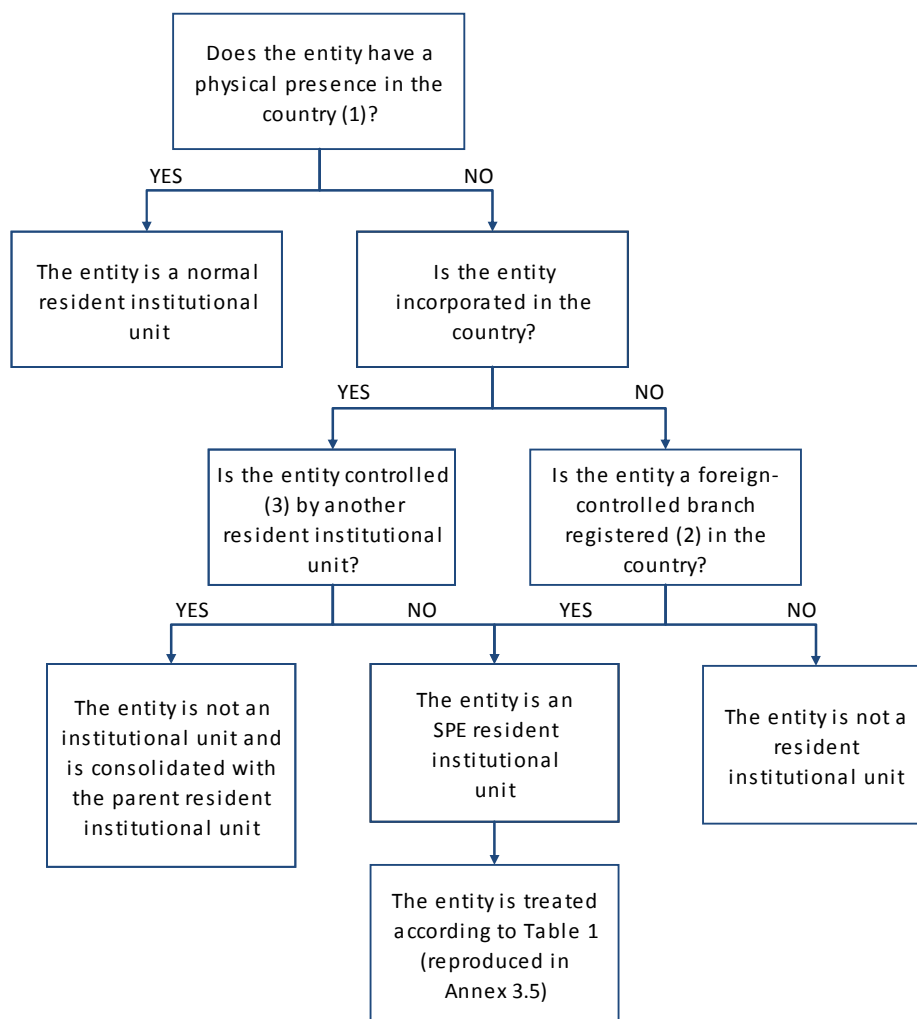
e. The Task Force recommends that the treatment of SPEs in EU member states should conform to the classification table reproduced in

annex 4.5 to this chapter. The decision tree shown in chart 4.1 may be a useful operational tool for national compilers.

f. The Task Force recommends fostering cooperation and exchange of information on SPEs among national producers of statistics in the European Union in order to avoid omissions, double counting and inconsistent recording of SPEs' operations which may lead to asymmetries.

**4.28** An internationally agreed definition of SPEs

**Chart 4.1 Decision tree for the identification of SPEs - Eurostat Task Force on the recording of certain activities of multinationals in national accounts**



(1) The main indicator of physical presence is a sufficient level of employment compared to balance sheet value and/or transaction values. If the SPE employs staff, typical ratios can be derived by type of activity for the country. Additional indicators may be developed at national level (for the approach of Statistics Netherlands, see Zwijnenburg, 2006 in annex 4.1).

(2) Mainly registration of branches of banks and insurance companies by the supervisory authority. In the European Union VAT registration is not sufficient for an entity to be classified as a resident institutional unit.

(3) More than 50 per cent of equity capital held by the other institutional unit.

would help countries with resident SPEs to identify and treat them in a consistent way (including across national statistical domains), making it easier to compare national data excluding SPEs and (for national statisticians who wish to do so) to consolidate data relating to domestic enterprises with data covering SPEs which they have set up abroad. In Europe, the EuroGroups Register mentioned in Chapter 3 may be helpful in this respect.

**4.29** The Dutch approach to SPEs is described in more detail in annex 4.1. As the Netherlands is not the only country that has developed its own treatment of SPEs, the practices of other countries are also annexed to this chapter. In particular, annex 4.3 explains how SPEs are treated in Hungarian balance of payments (and other) statistics.

### Measurement problems

**4.30** The general guidelines in the new statistical manuals leave countries some discretion in measuring the activities of SPEs, which will no doubt reduce the incidence of measurement problems which they face. The annexes explain how countries deal with certain issues in compiling statistics on SPEs.

**4.31** This section describes some general problems when dealing with SPEs, arising from their characteristics. Although their financial balance sheets and transactions may be large, the physical presence of these companies is usually very small. The few employees make it easy for the company group of which the SPE is part to move the SPE abroad. As a result the turnover of SPEs is high. The transactions through these SPEs can vary substantially year by year. The absence of local employees makes it difficult to obtain relevant and timely data from SPEs.

### SPEs and foreign direct investment

**4.32** The analysis of FDI statistics can be complicated by SPEs. The OECD *Benchmark Definition on Foreign Direct Investment, fourth edition* (BD4), in accordance with the BPM6, gives guidelines on how to deal with and report different FDI flows. As explained in Chapter 3, SPEs may complicate FDI reporting because many FDI transactions pass through them. Because an SPE is resident in a given country, FDI flows through the SPE should be recorded in the host country's FDI statistics. It may be better to segregate SPEs and non-SPEs in FDI presentations, because the inclusion of SPEs used only as a channel for FDI flows will inflate the numbers.

**4.33** As noted in Chapter 3, SPEs present a major problem in creating an economically significant picture of the geographical breakdown of FDI. Looking through SPEs until a non-SPE is reached involves a great deal of work: an MNE may create many SPEs in different countries and channel funds through a succession of them to a non-SPE counterpart. It is very difficult for an FDI compiler to look through these SPEs resident in different countries and allocate this FDI correctly. Fortunately, in practice most companies will not channel funds through a long chain of SPEs. Preparing origin and destination matrices showing SPEs' positions with different countries, and so the geographical breakdown of their financial flows, is a step towards meeting the aim of a more correct allocation of FDI and the better view of the activities of SPEs sought by the BD4.

**4.34** Indeed, looking through SPEs until a non-SPE entity is reached (ultimate destination) would in effect remove SPEs from the statistical accounts. In the Netherlands, the balance of payments and the rest of the world accounts (the latter being part of the integrated economic and financial accounts) are presented with and without SPEs. The accounts including SPEs use the direct linkages between the Netherlands and the first non-resident counterpart company. Although it might be interesting and useful to know and register the ultimate destination of the transactions flowing through SPEs, statistics on this basis seem more suitable for satellite accounts. Direct flows should be reported in the core statistics. Providing statistics including and excluding SPEs promotes comparable and useful data.

### Proposals for operational treatment in the accounts

**4.35** The differences in treatment of SPEs in different countries make it hard to identify the best treatment. The different types of SPEs, registration obligations and data availability mean that countries should find their own best way to treat SPEs, within the framework set by the new international standards, and use the annexes describing country practices for information and as guidelines.

**4.36** The report of the Eurostat Task Force on the recording of certain activities of MNEs in national accounts included a decision tree to help statisticians to identify SPEs (chart 4.1).

## Recommended future work on special purpose entities

**4.37** This chapter describes different types of SPEs and shows how they can be treated statistically in national accounts. Because there were no clear guidelines in the previous international manuals, countries had to devise their own criteria on the definition and treatment of SPEs. Recent international manuals pay more attention to SPEs, providing guidelines on how to identify them. Nevertheless, a common agreed definition is still lacking and highly desirable. In practice, countries have slightly different definitions, ways of registering SPEs and presentations in their balance of payments or national accounts. Annex 4.3 describing the experience of Hungary suggests that a common definition (together with more detailed information on the residence of owners of SPEs) would enable a country whose resident entities own SPEs abroad to consolidate them if desired – much as is envisaged in recommendation 13 of the G-20 report. Compiling statistics both including and excluding SPEs is strongly recommended, because

SPEs can seriously distort a country's national accounts and balance of payments.

**4.38** Countries are encouraged to seek to maximize data availability on SPEs (including on their links with the domestic economy – an information gap in the Netherlands noted in annex 4.1) and to take note of how other countries treat them, as described in the annexes to this chapter. Nevertheless, because of limitations in the source information, bold assumptions may have to be made in the compilation of the relevant national accounts data in most countries.

**4.39** National statistical agencies, European institutions and international organizations should prepare to handle (receive, store, and publish) two datasets, with and without SPEs, in order to give users access to data on both bases. It is important that country data excluding SPEs should be available on the websites of the European and international institutions since users often access them there. Commentaries on national economic developments and policy analysis at country level should state clearly which basis is being used (and the definition excluding SPEs may often be more appropriate for these purposes)

## Annex 4.1

### Treatment of special purpose entities in the Netherlands

**4.1.1** At the end of 2008 over 12,000 SPEs were recorded as resident in the Netherlands. As the main text noted, at end 2007 their balance sheets totalled the equivalent of nearly three times annual GDP. Table 4.1.1 shows some key figures relating to SPEs in the Dutch national accounts.

**4.1.2** Statistics Netherlands started including SPEs in Dutch national accounts with the major benchmark revision of 2001. Introducing this specific group of companies to national accounts made it necessary to address several conceptual questions about the treatment of SPEs. A project group from Statistics Netherlands and De Nederlandsche Bank (DNB) developed a decision tree to detect SPEs according to agreed criteria.

#### The Dutch definition of SPEs

**4.1.3** At the time of the introduction of SPEs in the Dutch national accounts, international guidelines provided no definitions of or details on how to deal with such institutions. This omission is remedied in the 2008 SNA.

**4.1.4** The decision tree mentioned in paragraph 4.1.2 distinguished between different SPE types (see chart 4.1.1). The criteria established then are quite similar to the new international guidelines. The criteria for classification as an SPE are described below.

#### The institutional unit is a resident entity

**4.1.5** A resident SPE should be an institutional entity registered at a Dutch Chamber of Commerce and subject to tax in the Netherlands. The Chamber of Commerce records all corporations with economic activity in the Netherlands and these entities should be included in Dutch national accounts. The fiscal criterion ensures that a company will only be recorded in one country, assuming that an entity will normally be liable to tax in only one country (or at least pay taxes for a certain transaction in only one country).

#### The institutional unit is (directly or indirectly) more than 50 per cent foreign controlled

**4.1.6** When an entity complies with the first two criteria, it is benchmarked against criteria relating to five different types of SPEs. For each group a different criterion can be used:

- For financing and holding companies: do more than 90 percent of total assets (excluding trade

credits) and more than 90 percent of liabilities relate to non-resident entities?

- For royalty and licence companies: do more than 90 percent of total revenues consist of royalty and licence fees received from non-residents?
- For factoring companies: do more than 90 percent of revenues and costs arise from factoring business with non-residents?
- For operational leasing companies: is more than 90 percent of turnover accounted for by business outside the Netherlands, and does more than 90 percent of liabilities relate to non-residents?
- For the special purpose vehicles (SPVs) controlled by a resident entity, but set up to hold loans or other assets originally on the balance sheet of a foreign financial institution, the foreign control criterion mentioned above need not be met, because there is no direct or indirect foreign control of the SPV itself. If an SPV with foreign originator is identified, the criterion for it to qualify as an SPE is almost the same as that applied to financing and holding companies: do more than 90 percent of the assets and more than 90 percent of the liabilities relate to non-resident entities?

#### Domestic turnover of the institutional unit does not exceed €25 million

**4.1.7** If an entity meets the above criteria, it is classified as an SPE unless its domestic turnover (sales in the Netherlands of services produced in the Netherlands) exceeds €25 million.

**4.1.8** The decision tree can be used in most cases. However, a foreign company may set up more than one company in the Netherlands. It can build a whole cluster of companies, with a Dutch resident parent (itself controlled by the foreign company) as the major shareholder in them. This might lead to incorrect definition of SPEs.

**4.1.9** To come to a correct definition of individual companies within clusters like this, DNB and Statistics Netherlands decided that, when a company cluster is found in the Netherlands, the definition of each individual subsidiary will start at the bottom of the cluster, with the entities that do not have domestic subsidiaries themselves. The holding companies directly above these entities are then examined; the process continues until the

ultimate parent in the Netherlands can be assessed against the criteria set out in the decision tree. If some entities in the cluster have clear SPE characteristics and others do not, a problem can occur when defining the status of the parent in the Netherlands. A parent can be an SPE if some of its subsidiaries are not, but this depends on the relative size of the transactions conducted abroad and with the non-SPE subsidiary or subsidiaries.

**4.1.10** More complicated cases are decided individually by the project group. For example, a (directly or indirectly) foreign-controlled domestic entity may place funds with SPE subsidiaries in the Netherlands which they disburse. International guidelines suggest looking through such entities.

### **Compilation of data relating to special purpose entities in Dutch national accounts**

**4.1.11** The previous section described how SPEs are identified and registered. This section will consider how relevant transactions by SPEs are compiled and recorded.

**4.1.12** Statistics Netherlands tries to record SPE activities in as detailed a way as possible, compiling a complete set of national accounts for them, including the financial account and balance sheet and a reconciliation account. Assumptions are necessary in the absence of, for example, data on transactions with resident entities.

**4.1.13** DNB collects survey data on SPEs and compiles a balance of payments, including and excluding SPEs. New Dutch SPEs must report themselves to DNB. The largest SPEs report monthly on their financial and non-financial transactions with non-residents. Once a year they report a balance sheet. Data from large SPEs are grossed up. Every two years a benchmarking exercise ensures that the grossing up factor is appropriate.

**4.1.14** Zwijnenburg, 2006 - see below – explains this in more detail.

**4.1.15** One of the assumptions made relates to the domestic output of royalties and licence fees (part of production of services). These are royalty and licence fees deemed to be produced by the Dutch SPE itself, not revenues channelled through it by other affiliates in the MNE, and re-exported by the Dutch SPE. To estimate such re-exports, it is assumed that all imported fees (that is, fees not related to intellectual property assets held by the Dutch SPE) are directly exported to a parent company abroad in the form of fees, not as dividends or other forms of property income.

Output by the SPE then consists of domestic sales (fees relating to assets held by the Dutch SPE, not imported) plus total exports adjusted for "re-exports". Any fluctuation in reported exports will normally also be reflected in reported imports, on the assumption that domestic sales do not show big fluctuations. The assumption is that incidental fluctuations in the gap between imports and exports are the result of acquisitions (or disposals) of royalties or (sub) licences. These amounts will be recorded as gross capital formation. Whether this method is still appropriate is currently under investigation. The original purpose was to limit fluctuations in production in the form of royalty and licence fees, and thus in value added by SPEs.

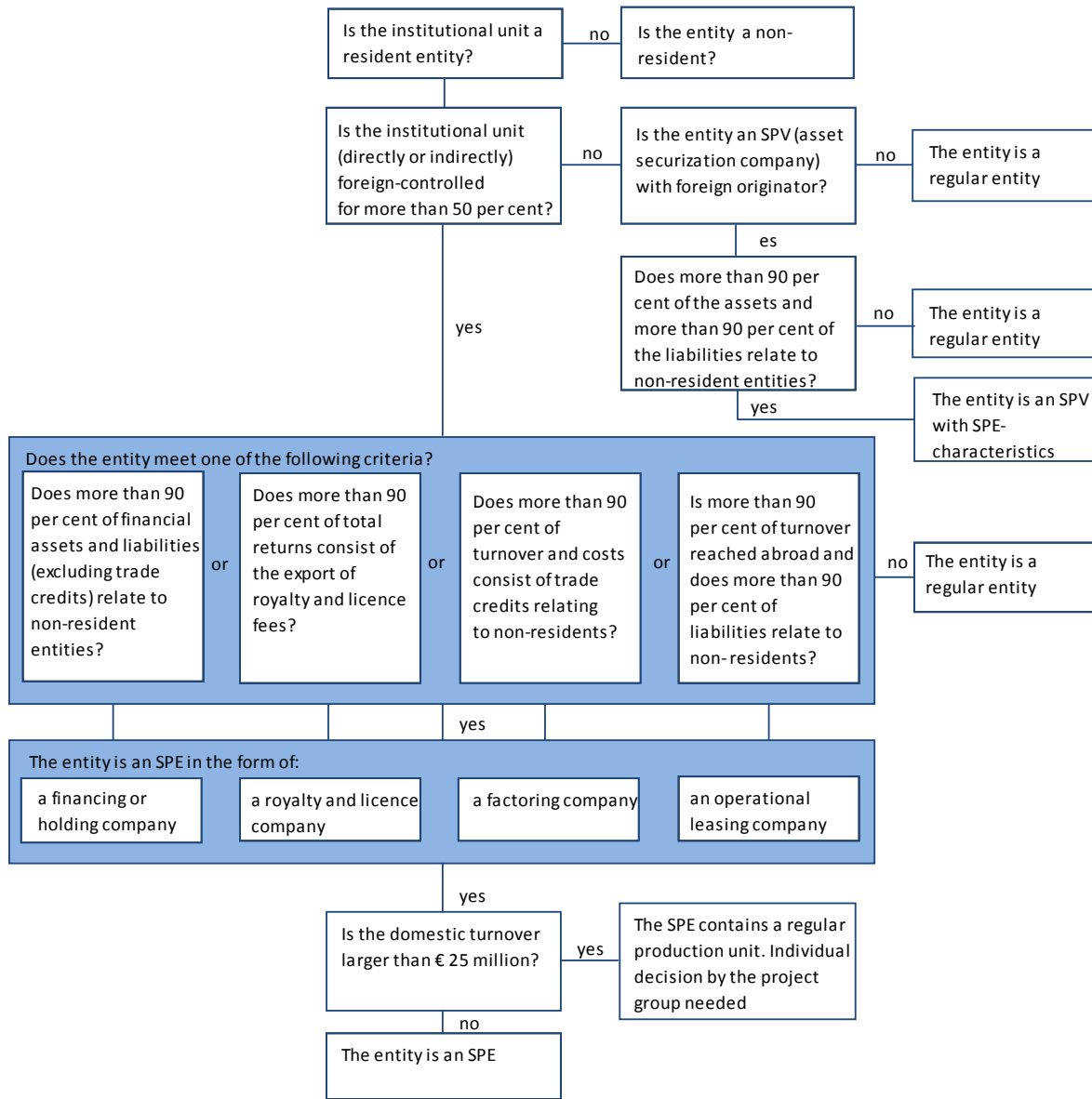
**4.1.16** No actual data on SPEs' domestic transactions are available (domestic costs, including compensation of employees, transactions in the primary income account and in the financial account). Only balance sheet data, distinguishing between resident and non-resident counterpart sectors and so giving an indication of domestic financial transactions, are available, though with some delay. Although presumably much smaller than transactions with foreign counterparts, the lack of these data makes the estimation and interpretation of the economic behaviour of the SPEs in the Netherlands much more difficult. Statistics Netherlands estimates domestic transactions, using foreign transactions as a guide.

**4.1.17** To get a better idea of how big transactions with domestic counterparts are, the SPE project group in the Netherlands has developed an enlarged questionnaire requesting a complete profit and loss account including domestic as well as foreign transactions. The questionnaire was introduced in December 2009 and results became available in the second half of 2010.

**4.1.18** Another problem the project group has faced relates to the delineation of the SPE population. At present SPEs report to DNB only. Non-financial corporations which are not SPEs report to Statistics Netherlands. An exercise in 2008 revealed discrepancies; the population registers of DNB and Statistics Netherlands are now consistent.

**4.1.19** Given the importance of SPEs, DNB and Statistics Netherlands report statistics both including and excluding them (balance of payments, and the rest of world account in the integrated economic and financial accounts). As Chapter 4 noted, it is strongly recommended to do so because SPEs may otherwise distort parts of the accounts.

Chart 4.1.1 Decision tree used in the Netherlands to identify special purpose entities



**Table 4.1.1 Transactions of special purpose entities in the Netherlands**

		<i>€ millions</i>					
		<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008*</i>	<i>2009*</i>
<b>1. Production account</b>							
R	Output (basic prices)	5,320	6,138	5,902	6,678	8,003	8,495
U	Intermediate consumption (excl. deductible VAT)	6,074	6,974	6,525	6,581	8,189	10,057
	Value added (gross)	-754	-836	-623	97	-186	-1,562
<b>2.1 Income account (generation of income)</b>							
R	Value added (gross)	-754	-836	-623	97	-186	-1,562
U	Compensation of employees	343	372	364	383	430	460
	Wages and salaries	262	287	284	300	340	364
	Employers' social contributions	81	85	80	83	90	96
	Consumption of fixed capital	930	888	885	840	788	732
	Operating surplus (net)	-2,027	-2,096	-1,872	-1,126	-1,404	-2,754
<b>2.2 Income account (primary distribution)</b>							
R	Operating surplus (net)	-2,027	-2,096	-1,872	-1,126	-1,404	-2,754
	Property income	60,768	65,717	76,764	113,815	118,532	96,354
	Interest	19,520	17,133	20,032	28,044	36,559	35,967
	Dividends	32,823	41,025	63,421	83,934	65,825	62,380
	Reinvested earnings on FDI	8,425	7,559	-6,689	1,837	16,148	-1,993
U	Property income	58,532	63,192	73,870	110,808	114,902	92,031
	Interest	19,671	17,264	24,996	29,614	36,319	29,372
	Dividends	21,043	54,041	30,376	53,340	53,099	44,905
	Reinvested earnings on FDI	17,818	-8,113	18,498	27,854	25,484	17,754
	Primary income (net)	209	429	1,022	1,881	2,226	1,569
<b>2.3 Income account (secondary distribution)</b>							
R	Primary income (net)	209	429	1,022	1,881	2,226	1,569
	Social contributions	2	2	2	2	2	2
U	Current taxes on income and wealth	1,139	1,317	1,907	2,721	2,504	2,201
	Social benefits (in cash)	2	2	2	2		3
	Disposable income (net)	-930	-888	-885	-840	-278	-632
<b>2.4 INCOME ACCOUNT (USE OF INCOME)</b>							
R	Disposable income (net)	-930	-888	-885	-840	-278	-632
U	Net saving and capital transfers	-930	-888	-885	-840	-278	-632

\* Provisional



Table 4.1.1 Transactions of special purpose entities in the Netherlands (continued)

	<i>€ millions</i>					
	2004	2005	2006	2007	2008*	2009*
<b>3.1 Capital account (capital transfers)</b>						
R Saving (net)	-930	-888	-885	-840	-278	-632
U Net saving and capital transfers	-930	-888	-885	-840	-788	-732
<b>3.2 Capital account (capital accumulation)</b>						
R Net saving and capital transfers	-930	-888	-885	-840	-788	-732
Consumption of fixed capital	930	888	885	840	788	732
U Capital formation (gross)	545	624	1,152	42	593	89
Net lending / net borrowing	-545	-624	-1,152	-42	-593	-89
<b>4. Financial balance sheet</b>						
<b>4.1. Opening balance sheet</b>						
A Other deposits	25,535	27,448	32,622	35,747	55,140	54,155
Long-term bonds	24,322	25,136	28,053	20,825	30,592	26,369
Financial derivatives	660	1,210	2,201	7,306	29,500	11,498
Short-term loans	180,379	148,445	146,048	196,518	213,683	219,382
Long-term loans	132,075	151,334	186,729	175,954	312,549	328,012
Shares and other equity	570,620	600,348	689,956	848,852	902,764	1,036,489
Other accounts receivable/payable	23,843	22,725	21,226	25,850	22,645	27,859
Total assets	1,084,471	1,097,971	1,205,189	1,434,304	1,752,799	1,883,180
L Long-term bonds	311,227	303,986	300,144	318,707	358,043	360,382
Short-term loans	107,433	96,089	116,491	147,245	212,982	213,112
Long-term loans	132,075	151,334	186,729	175,954	312,549	328,012
Shares and other equity	523,515	498,440	568,729	732,924	821,309	954,932
Other accounts receivable/payable	19,188	16,924	15,918	22,344	10,933	11,636
Total liabilities	1,092,778	1,066,773	1,188,011	1,397,174	1,715,816	1,868,074
Total net worth	-8,307	31,198	17,178	37,130	36,983	15,106
<b>4.2 Financial account</b>						
A Other deposits	1,115	4,389	5,431	21,322	-2,796	-4,052
Long-term bonds	1,511	2,223	-6,366	9,692	455	-139
Financial derivatives	-51	559	426	19,952	-13,304	-7,478
Short-term loans	-28,716	-6,816	52,394	14,853	3,118	16,488
Long term loans	15,594	8,913	23,561	210,574	28,415	-87,524
Shares and other equity	14,433	35,881	182,718	60,160	87,723	28,965
Other accounts receivable/payable	-1,086	-1,649	3,987	-2,085	5,277	2,517
Change in assets	2,800	43,500	262,151	334,468	108,888	-51,223
L Long-term bonds	-5,662	-9,952	25,694	48,539	17,991	29,776
Short-term loans	-11,848	18,060	35,490	63,195	12,174	7,504
Long-term loans	23,452	30,932	-7,226	149,843	-1,049	-106,495
Shares and other equity	-589	6,168	203,163	77,772	78,585	12,678
Other accounts receivable/payable	-2,008	-1,084	6,162	-4,839	1,780	5,403
Change in liabilities	3,345	44,124	263,303	334,510	109,481	-51,134
Changes in financial net worth	-545	-624	-1,152	-42	-593	-89
Net lending / net borrowing	-545	-624	-1,152	-42	-593	-89
Statistical discrepancy	-	-	-	-	-	-

\* Provisional

Table 4.1.1 Transactions of special purpose entities in the Netherlands (continued)

	<i>€ millions</i>					
	2004	2005	2006	2007	2008*	2009*
<b>4.3 Other changes**</b>						
A Other deposits	798	785	-2,306	-1,929	1,811	1,795
Long-term bonds	-697	694	-862	75	-4,678	-59
Financial derivatives	601	432	4,679	2,242	-4,698	3,041
Short-term loans	-3,218	4,419	-1,924	2,312	2,581	-1,201
Long-term loans	-2,707	3,511	-9,438	-11,305	-19,462	-2,439
Shares and other equity	15,295	53,727	-23,822	-6,248	46,002	44,687
Other accounts receivable/payable	-32	150	637	-1,120	-63	-788
Total assets other changes	10,040	63,718	-33,036	-15,973	21,493	45,036
L Long-term bonds	-1,579	6,110	-7,131	-9,203	-15,652	-827
Short-term loans	504	2,342	-4,736	2,542	-12,044	-1,144
Long-term loans	-4,193	4,463	-3,549	-13,248	16,512	-1,449
Shares and other equity	-24,486	64,121	-38,968	10,613	55,038	40,985
Other accounts receivable/payable	-256	78	244	-6,572	-1,077	-174
Total liabilities other changes	-30,010	77,114	-54,140	-15,868	42,777	37,391
Total other changes in net worth	40,050	-13,396	21,104	-105	-21,284	7,645
<b>4.4 Closing balance sheet</b>						
A Other deposits	27,448	32,622	35,747	55,140	54,155	51,898
Long-term bonds	25,136	28,053	20,825	30,592	26,369	26,171
Financial derivatives	1,210	2,201	7,306	29,500	11,498	7,061
Short-term loans	148,445	146,048	196,518	213,683	219,382	234,669
Long-term loans	151,334	186,729	175,954	312,549	328,012	417,465
Shares and other equity	600,348	689,956	848,852	902,764	1,036,489	1,110,141
Other accounts receivable/payable	22,725	21,226	25,850	22,645	27,859	29,588
Total assets	1,097,971	1,205,189	1,434,304	1,752,799	1,883,180	1,876,993
L Long-term bonds	303,986	300,144	318,707	358,043	360,382	389,331
Short-term loans	96,089	116,491	147,245	212,982	213,112	219,472
Long-term loans	151,334	186,729	175,954	312,549	328,012	220,068
Shares and other equity	498,440	568,729	732,924	821,309	954,932	1,008,595
Other accounts receivable/payable	16,924	15,918	22,344	10,933	11,636	16,865
Total liabilities	1,066,773	1,188,011	1,397,174	1,715,816	1,868,074	1,854,331
Total net worth	31,198	17,178	37,130	36,983	15,106	22,662

\* Provisional

\*\*Valuation changes, reclassifications and any other non-transactional effects on the balance sheet.

## Estimation of SPEs' transactions in national accounts

(Extract from *Recording of Special Purpose Entities in the Dutch National Accounts*, Jorrit Zwijnenburg, Statistics Netherlands, 2006. Note that this text was written before the information on SPEs' domestic transactions mentioned in paragraph 4.1.17 became available. It explains how the transactions of SPEs have been incorporated in the national accounts thus far.)

### SPEs in the production account

**4.1.20** There is not much information on domestic transactions of SPEs available, only data from the balance of payments on trade in goods and services of SPEs for the production account. There is no information on domestic production or intermediate consumption of SPEs. The estimation of these variables is further complicated by the fact that most SPEs provide financial services to the company group for which no clear commission is paid. This implies that the production value for this type of SPEs should be compiled indirectly.

**4.1.21** SPEs are engaged in two types of production. The SPEs that hold non-financial assets provide services on the basis of their royalties and licences. And the SPEs that act as a financial vehicle or holding company on behalf of their foreign parent company provide financial services.

**4.1.22** The production value of royalty and licence fees is determined as the domestic revenues from royalty and licences and the exports of these services for the account of the SPEs. Not all exports are regarded as production of the SPE, because part of the export originates from imports. For this type of flows, the SPE is merely a link in the transit of royalty and licence fees on behalf of their parent company. The parent company provides services on the basis of royalties and licences to the SPE, whereas the SPE (on the basis of sublicences) passes these services on to the end-customers/users. This part of the imports and exports is regarded as re-exports in the Dutch national accounts. Table 4.1.2 presents the figures

for re-exports of SPEs for 2001- 2005.

**4.1.23** These re-exports are not part of the production or intermediate consumption of SPEs. In addition, part of the imports and exports consist of domestic production and domestic sales. The domestic sales are compiled on the basis of the gap between the exports and imports of services. This gap can be seen as an indicator for the services that are provided by the SPE itself rather than originating from importing services. Therefore, it can be used to estimate the domestic production of the SPEs.

**4.1.24** Under the assumption that domestic sales will develop in line with the imports and exports, the gap between imports and exports cannot show too much fluctuation. For the part of the transit trade, the gap between imports and exports will be quite stable over time. This is the part of services provided by the SPE that is not transferred to the parent company in the form of imports of royalty and licence fees, but is paid out to the parent company in the form of dividends. Any fluctuation in exports will normally also be reflected in import fluctuations. The assumption is that incidental fluctuations in the gap between imports and exports are the result of acquisitions (or disposals) of royalties or (sub) licences. When the gap between imports and exports showed a sharp rise in one period, it was assumed that this was caused by an acquisition of non-financial assets. Instead of recording these amounts as imports or exports of services, these amounts will be recorded as gross capital formation.

**4.1.25** The calculation of the production value of the financial services provided by the SPE is somewhat more difficult. According to the European System of Accounts (1995 ESA, paragraph 3.63) the production value of financial intermediaries should be measured as total property income received minus total interest paid, excluding the value of any income received from the investment of their own funds. However, the introduction of a new compilation method for financial intermediation services indirectly measured (FISIM) changed the measurement of production of financial services. This is not applicable to SPEs though. The Dutch national accounts excluded SPEs from FISIM because the international forums concluded that FISIM should not be applied to investment funds and financial holding companies. They only provide services to the worldwide company, so they are comparable to holding companies. They are not market producers of these services and therefore FISIM is not

**Table 4.1.2**  
Re-export of royalties and licence fees

€ millions				
2001	2002	2003	2004	2005
4,901	4,624	4,418	4,485	3,615

**Table 4.1.3 Output of SPEs**

	<i>€ millions</i>				
	2001	2002	2003	2004	2005
Domestic production of royalties and licence fees	534	503	555	594	615
Income from hiring services	80	92	96	101	106
Export of royalties and licence fees	645	652	778	871	1,069
Export of financial services	3,545	3,412	3,022	3,559	4,547
Total production	4,804	4,659	4,451	5,125	6,337

**Table 4.1.4 Intermediate consumption of SPEs**

	<i>€ millions</i>				
	2001	2002	2003	2004	2005
Domestic intermediate consumption	446	414	442	664	1,164
Imports of financial services	5,236	4,650	4,093	4,374	5,674
Imports of other services	832	792	1,223	1,031	703
Total intermediate consumption	6,514	5,856	5,758	6,069	7,541

applicable to SPEs. And because they are not market producers, it is difficult to make an accurate estimate of the market value of their production. As is the case with other non-market producers, such as investment funds and holding companies, it was decided to use the sum of cost approach.

**4.1.26** A third production category is rent. DNB data for 1985-1992 showed that SPEs gain revenues from hiring services. For the years following 1992 a growth rate per year was established for estimating the output of the hiring services.

**4.1.27** Table 4.1.3 shows the calculation of output of SPEs.

**4.1.28** Information about the costs of SPEs is available from balance of payments data on imports. In addition, domestic costs have to be estimated. Information on domestic costs is available from source data of DNB for the period 1989-1992. On the basis of this information it was calculated that domestic costs equal 46 per cent of the average amount of imports and exports of "other services" according to the balance of payments. This percentage was confirmed by recent DNB data on some types of costs (such as office and management costs) and these were used in the calculation of domestic costs for all years.

**4.1.29** Table 4.1.4 shows the calculation of intermediate consumption of SPEs.

#### **SPEs in the primary income account**

**4.1.30** Most data for the primary income account is derived from the balance of payments. Because SPEs have large cross-border assets and because they are foreign controlled, there are large cross-

border property income flows in the primary income account. Property income flows related to FDI in particular are substantial. These are interest income, dividends and reinvested earnings. Because data on domestic flows are lacking, domestic property income flows have to be estimated on the basis of domestic stock information.

**4.1.31** In addition to property income flows, compensation of employees also has to be taken into account on the primary income account of SPEs. Because SPEs employ some staff (although usually very few) the wages and social contributions paid by SPEs must be estimated. Under the assumption that 9,000 SPEs have on average 0.75 employees (who earned €50,000 on average in 2002) the total compensation of employees in 2002 was an estimated €338 million. An annual growth rate of 7 per cent is used in calculating the time series, based on the average growth rate of compensation of employees for the sectors S.11, S.12 and S.123/124 in the Dutch national accounts in the same period. The item of reinvested earnings on FDI was corrected in the estimation method for primary incomes of SPEs. Under the assumption that all SPEs are fully owned by non-resident parent companies, all earnings or losses from the SPE by definition have to be attributed to the rest of the world account. Part of the earnings or losses will be distributed to the parent company in the form of dividends, and the remaining part will be attributed to the parent company in the form of reinvested earnings. This implies that the reinvested earnings on the uses side are used as a residual.

**4.1.32** The reinvested earnings on FDI on the uses side of the SPEs is calculated as follows. First,

**Table 4.1.5 Calculation of reinvested earnings**

<i>Reinvested earnings on direct foreign investment (use)</i>	
Value added	
- Compensation of employees	
+ Balance of interest received and interest paid	
+ Distributed income received	
+ Reinvested earnings received	
- Taxes on income	
- Dividends declared (domestic and abroad)	

the profit/loss after taxes of the SPE has to be calculated. This is done by adding up value added (+), compensation of employees (-), property income received (+), interest income paid (-) and taxes on income (-). Under the assumption that all profits/losses after taxes of the SPE are attributed to the foreign parent company (apart from a very small part of domestic dividend payments), this total profit/loss of the SPE should be equal to the sum of dividends declared (domestic and abroad) and reinvested earnings abroad. As the figure from the balance of payments on dividends declared is assumed to be more robust than reinvested earnings, and as the estimate for domestic dividend payments is so small, the reinvested earnings paid are determined as a residual. Table 4.1.5 shows the calculation of reinvested earnings on the uses side of the primary income account of the SPE.

**4.1.33** Table 4.1.6 presents the results for the transactions on the primary income account derived from the information from the balance of payments and the estimations made for domestic transactions.

### Other non-financial transactions of special purpose entities

**4.1.34** In addition to the transactions already mentioned, SPEs engage in two other types of non-financial transactions: taxes on income and gross capital formation.

**4.1.35** First of all SPEs, like all other enterprises, pay taxes on the basis of their income. There are no recent data from SPEs on the payments of taxes. The tax payments for recent years were estimated on the basis of information up to 1999.

**4.1.36** Acquisitions less disposals of intangible fixed assets are the result of incidental gaps between imports and exports of royalties and licences, as was explained in the section on calculating transactions on the production account of SPEs.

**4.1.37** Table 4.1.7 shows the estimates of taxes on income and gross capital formation.

### Net lending/net borrowing of SPEs

**4.1.38** As all profits/losses of the SPE are attributed to the foreign parent company, the net lending/net borrowing of the SPE will, apart from its gross capital formation, equal zero. Under the assumption that all gross capital formation is financed by the foreign parent company via financial transactions, and is not covered by current receipts and expenditures, net lending/net borrowing equals gross capital formation. In table 4.1.8 the most important balancing items are presented for SPEs.

### Financial accounts and balance sheets

**4.1.39** The main data source for the financial accounts is the balance of payments, which contains much data on cross-border transactions of

**Table 4.1.6 Primary income account for SPEs**

	<i>€ millions</i>				
	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>
<b>Resources</b>					
Interest	19,645	20,634	18,171	19,685	18,621
Distributed income of corporations	33,044	22,617	28,179	32,877	39,885
Reinvested earnings on FDI	28,673	9,589	-1,094	7,949	-1,726
<b>Uses</b>					
Compensation of employees	311	344	315	338	338
Interest	18,335	20,557	18,887	19,720	19,471
Distributed income of corporations	17,698	9,682	20,275	19,841	53,559
Reinvested earnings on FDI	42,021	19,970	3,501	18,526	-19,069

**Table 4.1.7 Estimates of other non-financial transactions of SPEs**

	<i>€ millions</i>				
	2001	2002	2003	2004	2005
Uses					
Taxes on income	1,287	1,090	971	1,142	1,277
Gross capital formation	0	700	785	520	1,123

SPEs. However, as with the non-financial transactions, the information is not as extensive as on regular corporations. This implies that not all data from the balance of payments can be directly linked to corresponding 1995 ESA transactions. For some items it was not quite clear what they consisted of, while more information was needed for others to make a clear breakdown into corresponding 1995 ESA items. For instance both short-term and long-term loans are recorded under the item intercompany loans. For national accounts requirements this item has to be broken down into the two categories mentioned. The same goes for securities other than shares.

**4.1.40** Table 4.1.9 shows the link between the source data from the balance of payments and the corresponding 1995 ESA items.

**4.1.41** For the financial accounts of SPEs the data from the balance of payments and the international investment position are converted to ESA categories in accordance with table 4.1.9. Then, the information on domestic positions is added and all items are linked with a counterpart sector. Subsequently, the domestic participation and loans are partly consolidated, as some SPEs

participate in other domestic SPEs. Because these positions are reported by one as a liability and by the other as an asset, they have to be consolidated in compiling the sector results for the SPEs. Approximately 95 per cent of the total domestic positions of SPEs are related to other domestic SPEs and are therefore corrected. Because it is known that a large part of the domestic loans are also interconcern positions, these also have to be consolidated in the system of national accounts. Taking into account the reported domestic positions of SPEs on the asset and liability side, it was determined that approximately 75 per cent of the reported loans are interconcern and should be consolidated.

**4.1.42** Lastly, as only stock data are available on domestic positions of SPEs, the change in domestic positions has to be broken down into financial transactions and other changes. First, the other changes for the domestic items are estimated. This is done largely on the basis of the other changes with respect to cross-border positions. When these have been corrected for exchange rate changes, the other changes in domestic positions result. The transactions are then derived as a residual.

**Table 4.1.8 Balancing items for SPEs****€millions**

	2001	2002	2003	2004	2005
Value added (gross)	-1,710	-1,197	-1,307	-944	-1,204
Balance of primary incomes	2,997	2,287	2,278	2,086	2,481
Balance of other non-financial transactions	-1,287	-1,090	-971	-1,142	-1,277
Net lending/net borrowing	0	-700	-785	-520	-1,123

**Table 4.1.9 Linkages between balance of payments data on SPEs and 1995 ESA categories**

<i>Source description</i>	<i>1995 ESA category</i>
Deposits and bank balances	AF.2 Currency and deposits
Bank loans (liability)	AF.2 Currency and deposits
Bonds (notes and commercial paper)	AF.332 Long-term securities other than shares, excluding financial derivatives
Intercompany loans	AF.41 and AF.42 Short-term and long-term loans
Intercompany short-term deposits	AF.41 Short-term loans
Other loans	AF.42 Long-term loans
Participations	AF.51 Shares and other equity, excluding mutual fund shares
Other	AF.7 Other accounts receivable/payable
Accounts payable/receivable - banks	AF.2 Currency and deposits
Real estate	AF.51 Shares and other equity, excluding mutual funds shares

## Annex 4.2

### Special purpose entities in Ireland

**4.2.1** A financial services centre has existed in Dublin since the mid-1980s; it developed considerably in scale during the late 1990s.

**4.2.2** In Ireland, SPEs are incorporated into the standard statistical collection and compilation systems to the extent that this is possible. To achieve this, the legal basis for the collection of data (the Statutory Instrument for Balance of Payments and Financial Accounts Order under the Statistics Act (1993)) was modified. The effect of the modification was that persons or enterprises operating on behalf of other enterprises or persons are obliged to complete statistical surveys, i.e. service providers acting on behalf of SPEs are required to complete survey forms on their behalf. In practice the survey is normally completed by accountants or legal secretaries.

**4.2.3** There are relatively few holding companies or companies created to hold patents or royalties.<sup>15</sup> Additionally, there are also thousands of collective investment schemes (mutual funds) which the Central Statistics Office (CSO) does not consider to be SPEs as their liabilities are classified under portfolio investment rather than direct investment. Nevertheless statistics relating to collective investment schemes are collected by a joint survey by the CSO and the Central Bank and Financial Services Authority of Ireland (CBFSAI) for inclusion in the balance of payments and national accounts of Ireland compiled by the CSO and in investment funds statistics compiled by the CBFSAI.

**Table 4.2.1 Main types of SPE- activity**

<i>Activity</i>	<i>Description</i>
Insurance	Life and general insurance, both agency and captive
Treasury	Agency and captive and standalone activities
SPVs	Securitization vehicles
Asset financing	Including leasing activities

**4.2.4** The data on SPE activities are collected as part of the general balance of payments data collection survey system. These surveys have been customized following detailed consultation with respondents to ensure a greater understanding by reporters of the statistical requirements and to facilitate or accommodate the reporting for a number of different types of activities. For example, the current account data section on the survey form BoP42/43 for insurance companies is quite different from the BoP44 form for treasury companies, reflecting the very different statutory profit and loss account formats for these activities.

**4.2.5** In general SPEs are surveyed in the same way as any other enterprise. However, for smaller SPEs the frequency of reporting is annual rather than quarterly. This is particularly the case for special purpose vehicles (SPVs) because of the nature of securitization, i.e. a transfer of assets from an MNE's (frequently a bank's) balance sheet to an arm's-length entity unconnected with the originating enterprise. A regulation recently introduced by the ECB requires financial vehicle corporations (another term for SPVs) to provide quarterly data to the CBFSAI relating to their securitization activities, at least to the extent that they concern the securitization of bank (MFI) loans. These data also contribute to balance of payments and national accounts statistics.

<sup>15</sup> See [http://www.cso.ie/releasespublications/pr\\_bop.htm](http://www.cso.ie/releasespublications/pr_bop.htm) for details of royalty receipts in the balance of payments statistics for Ireland

**Table 4.2.2 Classification of SPEs in Ireland**

***J Financial intermediation***

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J65	Financial intermediation, except insurance and pension funding
J651	Monetary intermediation
J6511	Central banking
J6512	Other monetary intermediation
J652	Other financial intermediation
J6521	Financial leasing
J6522	Other credit granting
65221	Consumer credit granting
65222	Treasuries (agency and captive)
65223	Other credit granting services
65224	Standalone treasuries (BoP 44)
65225	Securitisation vehicles (SPVs, SPEs, conduits etc.)
J6523	Other financial intermediation n.e.c.
65231	Money market mutual funds
65232	BoP30 client account reports mainly on behalf of mutual funds
65233	Other mutual funds and SPICs
65234	Own account security trading
65235	BoP30 client account reports mainly on behalf of households and non-financial corporations
65236	BoP30 client account reports not elsewhere specified
65237	Other financial intermediation n.e.c.

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J660	Insurance and pension funding, except compulsory social security
J6601	Life insurance
66011	Life insurance (excl. BoP 30 client account )
66012	Life reinsurance
66013	BoP30 client account reports mainly on behalf of life insurance companies
J6602	Pension funding
66021	Pension fund (excl. BoP 30 client account )
66022	BoP30 client account reports mainly on behalf of pension funds
J6603	Non-life insurance
66031	Captive/agency non-life insurance companies (excl. BoP 30 client account )
66032	Other non-life insurance companies (excl. BoP 30 client account )
66033	Non-life reinsurance
66034	BoP30 client account reports mainly on behalf of non-life insurance companies

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J67	Activities auxiliary to financial intermediation
J671	Activities auxiliary to financial intermediation, except insurance and pension funding
J6711	Administration of financial markets
J6712	Security broking and fund management
67121	Stockbrokers
67122	Other security broking and fund management
J6713	Activities auxiliary to financial intermediation n.e.c.
J672	Activities auxiliary to insurance and pension funding
67131	Authorized money brokers
67132	Other activities auxiliary to financial intermediation (e.g. trustees, custodians, mortgage brokers, bureaux de change, investment advisers)

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## Annex 4.3

### The treatment of special purpose entities in Hungary

#### Characteristics and definition of special purpose entities

**4.3.1** As noted in Chapter 4, there is no internationally common definition of SPEs. The new international standards (the 2008 SNA, BD4 and BPM6) include general criteria which may help statisticians to identify them.

**4.3.2** Thus BPM6 states: *“Although there is no internationally standard definition of SPEs, in economies in which they are important they may be identified separately, according to either a national company law definition, or in terms of a functional definition, possibly referring to their limited physical presence and ownership by non-residents”* (paragraph 4.87).

**4.3.3** The criteria listed in BD4 for an enterprise to be considered as an SPE are set out in paragraph 4.9 of the main text.

**4.3.4** SPEs registered in Hungary are regarded as resident enterprises. According to the 1995 ESA and the Decree No. 13/2008 (XI.18.) of the Governor of the National Bank of Hungary (NBH) *“...all units having the centre of economic interest in the economic area of the Republic of Hungary are treated as residents:*

*(a) any natural person who, irrespective of nationality, has been normally residing or intends to reside in the territory of the Republic of Hungary for at least one year, excluding the non-Hungarian members and employees of foreign diplomatic and consular representations operating in Hungary and their family members, as well as persons staying in the country for education purposes or medical treatment;*

*(b) Hungarian diplomatic and consular representations operating in foreign countries, the Hungarian members or employees of these organizations, and their family members;*

*(c) any legal entity and organizations with no legal entity having a registered office or business premises or conducting economic activity in the territory of the Republic of Hungary, including free zones and transit areas.”*

**4.3.5** In Hungary, the NBH has been compiling and publishing balance of payments and related statistics on the stock of financial assets both with

and without SPEs since January 2006.<sup>16</sup> The annual financial accounts statistics published by the NBH are also available with and without SPEs.<sup>17</sup>

**4.3.6** An amendment to corporate taxation in November 2002 ended offshore status for tax purposes, and companies which had benefited from that status were required to become normal businesses for tax purposes. At that time two types of offshore companies existed in Hungary. The first consisted of Hungarian subsidiaries engaged in financial intermediation, with negligible transactions with Hungarian residents. These units were classified as SPEs if they did not change their profile after their change of tax status. The second type were former offshore companies

**4.3.7** On the basis of information from the VAT and corporate tax records and other sources, the relations of SPEs with the Hungarian economy are limited to administrative costs (office rental and materials, legal and accountancy and financial services), domestic acquisition or imports of goods for representation purposes, staff costs and taxes.

**4.3.8** For the delimitation of the scope of SPEs, the NBH has cooperated throughout with the Hungarian Central Statistical Office (HCSO). To set up a register of SPEs, indicators are used which capture the main characteristics of these companies, namely that they perform their activities mainly abroad and their connection with the national economy is very limited. The following criteria/indicators are applied:

- Non-financial assets are very small compared to financial assets. The latter are mainly shares, long-term loans and securities.
- Sales comprise primarily exports and do not exceed HUF 500 million (approximately €2 million).
- The number of employees does not exceed three persons.
- Their subscribed capital is high; it is used immediately for extending loans or acquiring shares (including creating subsidiaries) abroad.

<sup>16</sup> For further information on the Hungarian practice, see ECB, 2007. The section on Hungary starts on page 349.

<sup>17</sup> On the treatment of SPEs in Hungarian financial accounts, see *Financial Accounts of Hungary 2008*. Chapter 2.3 concerns SPEs.

- The company does not have Hungarian subsidiaries.
- Its material costs are negligible.
- The name of the company indicates an offshore-type activity.

**4.3.9** Where some but not all the criteria are met, a case-by-case assessment is made. The typical cases are:

- The company has no relation with the domestic economy and behaves like an SPE but has more than three employees.
- The profile of the company is mixed: it may both provide services abroad and engage in group financing, and at the same time employ more than three people.
- According to the administrative records, the company provides services, but in fact its activity covers only bookkeeping and preparation of tax returns for other units.
- The company trades exclusively in licence fees with non-residents.
- The company has a subsidiary abroad which provides services, but all the activities are recorded in the books of the resident company.

**4.3.10** In Hungary in 2006 there were around 750 active enterprises which met the criteria for classification as SPEs. By the end of 2008 the number had decreased to just over 600.

**4.3.11** However in the meantime their activities and characteristics have changed. The typical pattern early on was an FDI equity inflow and a direct loan extension abroad. Later, the resident entities often set up a non-resident branch and allocated business to it. More recently, resident entities have often acquired direct equity stakes in non-resident affiliates.

**4.3.12** Experience suggests a need to reconsider the criteria developed in 2005.

**4.3.13** The NBH and the HCSO have therefore set up a joint task force to address the need for a broader definition of SPEs. The outcome may be that some entities are reclassified retroactively.

**4.3.14** The task force will take into account the international criteria for identifying SPEs in the BD4, BPM6, and 2008 SNA, the experiences of other countries, and the work of Eurostat's Task Force on multinationals, especially the conclusions relevant to SPEs in the national accounts.

## The treatment of special purpose entities in balance of payments statistics

### Questions of recording SPEs, assumptions

**4.3.15** By definition, SPEs perform their activities mainly abroad (often in a passive role as intermediaries in transactions), have little relation with the host economy, and negligible income from transactions with residents.

**4.3.16** Their activities have no significant effect on the balance of the current account measured on an accruals basis, only on the gross flows. Nevertheless, recording their activities raises difficulties in a number of respects:

- In the balance of payments statistics corporate income of SPEs is estimated until the accounts of the companies become available. It is difficult to estimate the profitability of SPEs, as they have little relation with the host economy, which means that – as noted above – the net flows on current account will be close to zero. Nevertheless, since significant elements (for example, interest receivable and payable) are reported quarterly, the balance on income account may be distorted.
- Disaggregating the current account into goods and services, income (itself broken down into interest, dividends and reinvested earnings) and transfers is important for economic analysis; these items may be distorted by SPE transactions, even if the overall balance is not.
- SPEs may have large financial transactions, substantially affecting gross figures in the financial account. The roles that debt and non-debt instruments play in the current account balance are of special importance in terms of financing it. Policymakers, investors and rating agencies pay close attention to these, especially to the split between debt and equity which is relevant to the vulnerability of the Hungarian forint and the sustainability of external equilibrium. A problem arises when the assets and liabilities of an SPE are not in the same instrument category: they may distort the percentage shares accounted for by debt and equity financing.

**4.3.17** On the basis of the definition for SPEs, assumptions are made when compiling the balance of payments:

- SPEs do not have real economic activities: transactions in goods and services are not affected by them.

- As there is a little relationship between these companies and the domestic economy, their effect on the current account balance is close to zero.
  - As a result of these two assumptions, the balance of all income flows (income from FDI and other investment) is close to zero. The balance of revenues and expenditures within a given period equals zero (in order to avoid generating errors and omissions by this calculation).
  - SPEs are assumed to have no trade credits (as assets or liabilities), because these are related to real economic transactions.
  - Similarly, SPEs' net stock of receivables at the end of the year is assumed to be close to zero; any amounts payable and receivable will be in relation with the rest of the world.
- 4.3.18** These assumptions are needed also from a technical point of view in order to compile a consistent balance of payments following the agreed definition of SPEs.
- 4.3.19** Any change in the content of the collected data or in the definition of SPEs would have implications for the assumptions used in these calculations. In Hungary, currently SPEs are not grouped by types as in the Netherlands, but the NBH-HCSO Joint Task Force on SPEs may add characteristics to the criteria used to define SPEs in the future.
- 4.3.20** Tables 4.3.1-4.3.2 show selected external positions and FDI transactions excluding SPEs and for SPEs separately (see further below), as published by the NBH. FDI stocks excluding and including SPEs behave differently according to the direction of the investment (inward or outward).

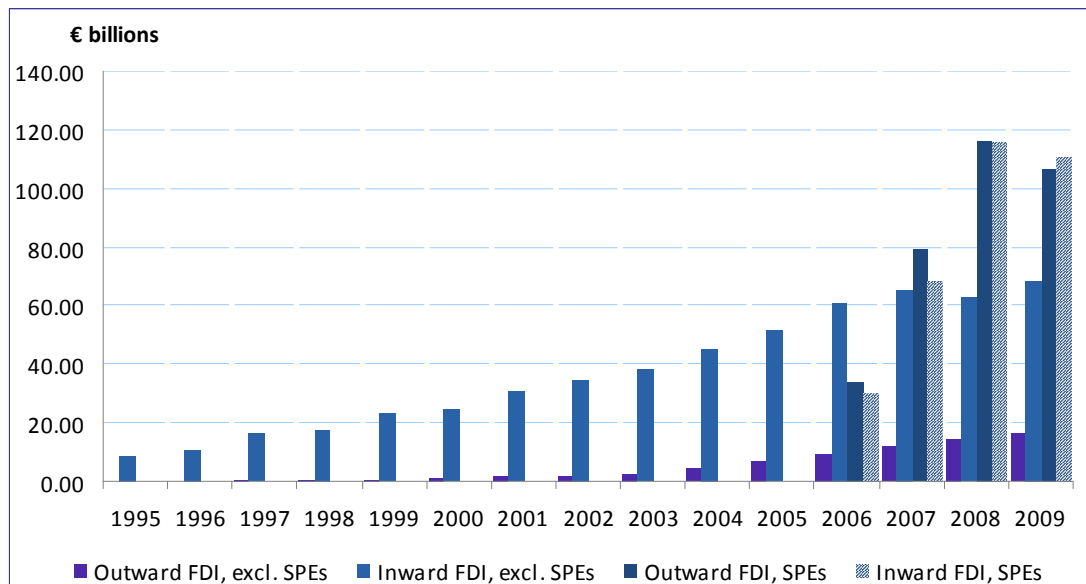
**Table 4.3.1 Selected external position data**

	<i>€ billions</i>					
	<i>SPEs excluded</i>			<i>SPEs</i>		
	2006	2007	2008	2006	2007	2008
FDI in Hungary (net liability)	62.4	67.8	60.8	29.5	67.6	116.8
Equity* (net liability)	54.7	59.3	56.0	57.4	86.9	107.3
Other capital (net liability)	7.7	8.5	4.8	-27.9	-19.3	9.5
Assets	6.8	10.3	17.9	40.8	35.0	20.7
Liabilities	14.5	18.8	22.7	12.9	15.7	30.2
FDI abroad (net asset)	9.4	11.8	11.1	33.9	78.9	117.3
Equity* (net liability)	9.1	11.1	9.1	32.7	76.8	116.6
Other capital (net liability)	0.3	0.7	1.9	1.2	2.1	0.7
Assets	0.6	1.0	2.5	1.3	2.1	1.1
Liabilities	0.3	0.3	0.6	0.0	0.0	0.4
Net external liabilities (net IIP)	95.1	103.4	106.6	-4.9	-13.5	0.0
Net external debt	38.2	49.1	57.2	-29.6	-23.4	9.1
Net external debt (excl. FDI other capital)	30.8	41.3	54.4	-0.5	-2.1	0.2

**Table 4.3.2 FDI transactions in the balance of payments**

	<i>€ billions</i>					
	<i>SPEs excluded</i>			<i>SPEs</i>		
	2006	2007	2008	2006	2007	2008
FDI	2.8	1.6	2.5	-1.9	1.8	-1.3
Abroad	-3.1	-2.6	-0.6	-11.8	-46.1	-40.6
Equity* (net liability)	-2.9	-2.5	-0.6	-11.0	-45.2	-41.0
Other capital (net liability)	-0.2	-0.1	0.0	-0.9	-0.9	0.4
Assets	-0.2	-0.1	-0.1	-0.9	-0.9	0.5
Liabilities	0.0	0.0	0.2	0.0	0.0	-0.2
Abroad	5.9	4.2	3.1	10.0	47.9	39.3
Equity* (net liability)	3.1	3.3	3.4	7.2	40.0	19.9
Other capital (net liability)	2.8	0.8	-0.3	2.8	7.9	19.4
Assets	-0.5	-3.7	-2.2	1.2	4.2	1.8
Liabilities	3.2	4.6	1.9	1.5	3.8	17.7

\*Equity includes reinvested earnings.

**Chart 4.3.1 Stock of foreign direct investment: inward – outward asymmetries**

### A list of topical, high priority open issues

**4.3.21** There is a need for harmonization of the definition and statistical treatment of SPEs. At present there is no internationally agreed definition of SPEs. In practice, SPEs are defined by national considerations, which can be different country by country. This makes it difficult for NBH and HCSO statisticians to identify SPEs abroad owned by Hungarian entities in case of a need to do so. The lack of an internationally agreed definition may lead to inconsistency between the economically interpretable data (i.e. excluding SPEs) of different countries. Internationally agreed definition and treatment of SPEs would reduce asymmetries, since any institutional unit considered to be an SPE in one country would be treated accordingly by others, too.

**4.3.22** Moreover, the same concept of SPEs should be applied across the different statistical domains, which would promote harmonized national accounts and balance of payments/international investment position statistics. At present, the SPE criteria defined by the Eurostat Task Force on the recording of certain activities of multinationals, in national accounts on one hand, and the ECB's and Eurostat's requirements for balance of payments statistics on the other hand, are not the same. The most problematic issue is the interpretation of the linkages to the domestic economy.

**4.3.23** National data excluding SPEs are necessary because the activities of SPEs may seriously distort key statistical variables, even if the net impact on the national economy is very slight. Since many users access the databases of the European and international institutions, it would be very helpful if these included national data (where available) both with and without SPEs. Data without SPEs should have priority in analytical work; in any case, the basis of the data should be explicitly noted.

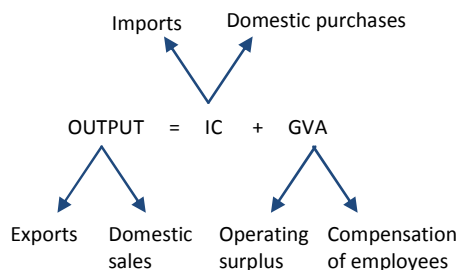
### Special purpose entities and GDP in Hungary

**4.3.24** In Hungary the main data source on the non-financial corporations sector (S.11) for the purpose of compiling GDP is the corporate tax database.

**4.3.25** However the corporate tax database is not a reliable source for the contribution of SPEs to GDP. The per capita data for turnover, output, and gross value added do not match the average values of the corresponding industries. In some cases the companies record the sales of their subsidiaries in the Hungarian corporate tax statement. The high turnover data usually do not match the small amount of cost data (material costs, costs of other service activities, the value of goods or services for resale).

**4.3.26** Accordingly the contribution of SPEs to GDP is estimated in a different way from that of other enterprises. The approach for SPEs, which has been refined in the last couple of years, is illustrated in chart 4.3.2.

**Chart 4.3.2 The GDP compilation scheme for SPEs**



**4.3.27** By definition, SPEs have negligible transactions with the domestic economy. Their large financial transactions are with non-resident

companies, and they are set up mainly for fiscal reasons in Hungary. Some have only a mailbox in Hungary. At most, SPEs have an office in Hungary with very few employees.

When compiling the production accounts, it is assumed that these companies may have some exports and/or domestic sales. The data for domestic sales and purchases (including the maintenance cost of the office) of SPEs come from the VAT database, where the sales and purchases subject to VAT are listed according to VAT rates.

**4.3.28** The export and import data come from the external trade statistics. Data on the compensation of employees are derived from the corporate tax database. The operating surplus, though not significant, is calculated as a residual.

**4.3.29** As the SPEs are mainly involved in international financial transactions, which do not constitute production, estimated gross value added of SPEs was less than 0.1% of total gross value added of the non-financial corporations sector (S.11) in 2007 (see table 4.3.3)

**Table 4.3.3 Contributions of SPEs to output and gross value added, € and per cent**

<i>SPEs</i>	<i>Non-financial corporations</i>	<i>%</i>	<i>National economy, total</i>	<i>%</i>
<i>Output</i>				
68	158,860	0.04	214,079	0.03
<i>Intermediate consumption</i>				
31	107,905	0.03	127,509	0.02
<i>Gross value added</i>				
37	50,955	0.07	86,570	0.04

## Annex 4.4

### Special purpose entities: classification table by Eurostat

	Type	Institutional sector	Activity		Purpose	Valuation of production
			NACE Rev 1.1	NACE Rev 2		
<i>Ownership of financial assets (Captive financial institutions)</i>						
1a	Holding companies	Other financial intermediaries, except insurance corporations and pension funds (S.123)	65.23 Other financial intermediaries n.e.c.	64.20 Activities of holding companies	Owning subsidiaries, concentration of group profits in favourable countries/jurisdictions, group financing	Sum of costs
1b	Holding companies owning claims on notional units abroad (buildings, natural resources)	Other financial intermediaries, except insurance corporations and pension funds (S.123)	65.23 Other financial intermediaries n.e.c.	64.20 Activities of holding companies	Owning subsidiaries, concentration of group profits in favourable countries/jurisdictions, group financing	Sum of costs
2a	Trusts, funds and similar financial entities	Other monetary financial institutions (S.122)	65.23 Other financial intermediaries n.e.c.	64.30 Trusts, funds and similar financial entities	Return on financial investment with fiscal advantages	Sum of costs
2b	Trusts, funds and similar financial entities	Other financial intermediaries (S.123)	65.23 Other financial intermediaries n.e.c.	64.30 Trusts, funds and similar financial entities	Return on financial investment with fiscal advantages	Sum of costs
3	Securization companies	Other financial intermediaries (S.123)	65.23 Other financial intermediaries n.e.c.	64.99 Other financial service activities, except insurance and pension funding n.e.c.	Assets securisation for fund raising	Sum of costs
4	Captive financial leasing companies (usually, for aircrafts and vessels)	Other financial intermediaries (S.123)	65.21 Financial leasing	64.91 Financial leasing	Financial leasing within a group (the SPE is not considered the economic owner of the equipment)	Sum of costs
5	Captive insurance and re-insurance companies	Insurance corporations and pension funds (S.125)	66.03 Non-life insurance	65.12 Non-life insurance 65.20 Reinsurance	Insurance and re-insurance within a group	Sum of costs
6	Invoicing companies	Other financial intermediaries (S.123)	65.23 Other financial intermediaries n.e.c.	64.99 Other financial service activities, except insurance and pension funding n.e.c.	Invoicing sales of the group worldwide	Sum of costs

### Special purpose entities: classification table by Eurostat (continued)

	Type	Institutional sector	Activity		Purpose	Valuation of production
			NACE Rev 1.1	NACE Rev 2		
<i>Ownership of non-financial tangible assets</i>						
7	Renting of mobile equipment	Non-financial corporations (S.11)	71.00 Renting of machinery and equipment without operator (excl. 71.40)	77.00 Renting of machinery and equipment without operator (excl. 77.20)	Register the ownership of the asset and the rents in low tax jurisdictions	These cases are treated as financial leasing if the SPE is not the economic owner of the asset and they are valued at cost (row 4) If conditions for such treatment are not satisfied, the unit is treated as operational leasing producer and output valued with rentals received
8	Merchanting companies	Non-financial corporations (S.11)	51.00 Wholesale trade and commission trade	46.00 Wholesale trade	Distribution company for a group without goods going through the territory of the SPE	Margin
9	Trading companies	Non-financial corporations (S.11)	51.00 Wholesale trade and commission trade	46.00 Wholesale trade	Distribution company for a group	Margin
<i>Ownership of non-financial intangible assets</i>						
10	Licensing and royalty companies	Non-financial corporations (S.11)	74.8 Miscellaneous business activities n.e.c.	74.90 Other professional, scientific and technical activities	Concentration of group receipts concerning royalties and similar flows received from intellectual property rights and trademarks	Margin
<i>Others</i>						
11	Offices of airline in airport hubs abroad	Non-financial corporations (S.11) if a branch is identified	62.10 Scheduled air transport	51.10 Passenger air transport	Transfer locus used by airline carriers to get passengers to their intended destination	Prorata of airline output if no branch is identified





# **Section II**

## **Some issues concerning trade in goods and services, and global manufacturing**

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**Chapter 5**  
**Goods sent abroad for processing**

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**Chapter 6**  
**Merchanting**

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**Chapter 7**  
**International transactions in intellectual property products**

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**Chapter 8**  
**Global manufacturing**

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**Chapter 9**  
**Measurement issues associated with administrative trade data and globalization**

## Some issues concerning trade in goods and services, and global manufacturing

This group of chapters examines aspects of globalized activities and transactions in more detail.

Sending materials or partly-finished goods to another enterprise for processing is an age-old practice which has become more common with low transport costs, specialization among enterprises and the emergence of new production sources. The enterprise processing the items may be resident in the same country as its client, or it may be abroad. In line with the globalization theme, Chapter 5 focuses on the international aspect of goods for processing.

Unlike processing, merchanting – the purchase of items in one country for resale in another, the merchant being resident in neither – is by definition cross-border. The traditional case of merchanting involving the purchase and sale of goods, and a proposal to extend the treatment to certain types of services, are reviewed in Chapter 6. As in cross-border processing, MNEs may engage in merchanting where (for example) a head office or marketing establishment in one country buys goods or services produced by a subsidiary or affiliate in another and sells them in a third.

The distinction between these activities is in principle straightforward. When goods go abroad for processing, an enterprise sends materials or semi-finished goods which it owns to another enterprise for working up; the latter subsequently returns the goods having processed them. In merchanting, an enterprise in one country buys items abroad and sells them abroad; it thus owns them for a period, but the goods do not enter the territory in which the merchant is resident.

The recommended treatment of both goods for processing and merchanting changes in the 2008 SNA and BPM6. Put briefly, the outgoing standards impute a change in ownership (though in fact there is none) when goods cross borders for processing, and, at high levels of aggregation, tend to ignore the change in ownership which does occur when goods are bought in one country for resale in another by a merchant resident in a third. In accordance with the ownership principle, the new standards require only the value of the processing

service to be recorded, not the export/import and then return of the goods being processed. In the merchanting case, the new standards require the country in which the merchant is resident to record a negative export of the goods when the merchant acquires them, followed by a positive export when they are sold on, the difference being “net exports of goods under merchanting”, in principle equivalent to the export of merchanting services recorded under the 1993 SNA and BPM5.

The example of Hong Kong shows that the effect on trade in goods and services may be sizeable when the new standards are implemented. In principle, the change should not affect GDP, but there are implications for input-output/supply and use tables, the import intensity of GDP, and the statistical footprint of major processing industries such as oil refining. There is also the practical problem of excluding goods entering the country for processing, or being returned, from other trade flows, just as it may be difficult for the country in which the merchant is resident to pick up flows of goods which never cross its border.

Sending goods abroad for processing and merchanting are long-established aspects of globalization. Chapters 5 and 6 mostly concern these familiar activities, and the consequences of the changes in statistical treatment introduced in the 2008 SNA and BPM6. A more recent feature, however, is the involvement (perhaps even dominance) of MNEs in these activities.

This is important, and potentially confusing, for two main reasons. The first concerns transfer pricing and its possible distortive effects on measuring economic flows and activity, and perhaps even the difficulty of obtaining data at all on intracompany business which may impact on national economic and financial accounts and the balance of payments. The second is that the involvement of MNEs may blur the distinction between goods for processing and merchanting as conventionally conceived. There may be a series of transactions among affiliates, some of which have elements of both processing and merchanting. It may not be clear which unit owns the goods at any particular stage. There may also be difficulties in establishing some approximation to market prices for the goods themselves, the processes which they undergo at the various stages, and the group services involved in the operation (management, marketing, etc.). Units of MNEs may often be in the position of holding substantial inventories abroad of unfinished goods and raw materials. It may be

difficult for national statisticians to identify these amounts, and record and treat correctly holding gains and losses on them.

These questions affect recorded productive activity, trade flows and GDP (but perhaps not, or to a lesser extent, GNI) in the countries involved. Because they do not belong exclusively to either Chapter 5 or Chapter 6, the annexes following Chapter 6 concerning issues raised by the involvement of MNEs in these activities relate to both chapters.

Chapter 7 is devoted to the issue of cross-border transactions in intellectual property products (IPPs), in particular within MNEs where the problem of capturing all transactions, classifying them correctly and valuing them at an approximation to market price is most apparent. The new statistical standards may reduce the possible confusion by treating research and development (R&D) work as giving rise to a produced non-financial asset, in line with the statistical treatment of other intellectual property – or they may widen the gap between statistical standards and what is actually recorded. The point is that a produced non-financial asset is deemed to produce a service, and payment for its use is a form of rental. Payment for the use of a non-produced asset on the other hand is treated statistically as a payment of property income.

In practice, it seems that not insignificant payments for use of IPPs are recorded as property income, not as payment for services, and may in addition (particularly where the transactions occur within an MNE) be incorrectly recorded because of the familiar transfer pricing problem, or missed entirely, with implications for GDP and its allocation across countries, and for trade in services and property income flows.

Chapter 7 raises a basic question concerning the identification of the economic, as opposed to the legal, owner of IPPs in a multinational group where the MNE behaves as if it has a stock of intellectual capital in software and other aspects of management systems which is freely shared across its enterprise activities. The chapter argues for more information and further thought on the best practicable statistical treatment of this increasingly important issue.

Chapter 8 draws together threads from the previous three chapters in examining the general issue of global manufacturing – the practice of outsourcing much or even all production, often but

not necessarily by an MNE, which conducts R&D, designs products and oversees their manufacture, while not itself engaging in all or even any of the physical production. Examples illustrate such cases of varying degrees of complexity.

Global manufacturers which do not engage in any production themselves are sometimes called “factoryless” producers, and Chapter 8 and its annexes include material on their classification and the statistical treatment of their activities (or how their activities may be treated under the new international standards, where BPM6 in particular contains guidance). Chapter 8 also contains material on turnkey projects, often managed by an entity resident outside the country in which the project is being undertaken, drawing the goods and services needed to carry out the project from a range of sources.

Chapter 9 provides insights into the challenges that statisticians face when using administrative data to estimate economic activities in the context of the complex enterprise structures and multi-stage production and distribution processes that are typical under globalization. The chapter uses examples of trade in goods which enter a customs union, and apparently acquire more value while passing through one or more countries in the customs area en route to a customer in another country in the area, without being owned by a resident of the area on the way.

Quasi-transit trade is the term used to describe such movement of goods across countries in a customs union without internal customs borders. What is puzzling – and the chapter describes the difficulties that this phenomenon causes – is the substantial increase in value, much more than could be explained by transport, etc. costs, which is often observed between the time the goods enter the area and their crossing into the country of final destination. The limitations of the administrative sources used make it difficult to identify the addition to the value of the goods and to attribute it correctly, as the statistician must make assumptions about the entity engaging in the transaction and where it is resident. Hungarian experience described in an annex to Chapter 9 indicates that there may be a similar phenomenon in a single country.



## CHAPTER 5

# Goods sent abroad for processing

### Introduction

**5.1** The international organization of production has grown considerably in recent years, reflecting improved and cheaper communication and transport, trade liberalization, freer movement of capital and the presence of economies capable of offering reliable production infrastructure at low cost.

**5.2** It used to be the case that a movement of goods from one country to another almost always involved a change of ownership, and this underlying reality was reflected in the position of the *System of National Accounts, 1993* (1993 SNA). Increasingly, however, with the internationalization of production, this is no longer the case, and in response the 2008 SNA recommends a change in treatment.

**5.3** The 1993 SNA took the position (in most cases) that there was a change of ownership when goods were sent abroad for further processing, even if the related financial transactions covered only processing fees, and so required national accounts compilers to impute transactions for the value of the goods when they were exported and subsequently returned to the legal owner. However, the growing practice of sending material abroad for further processing has raised many concerns about this treatment, which, as the size of the imputed transactions grows, has the effect of inflating international trade statistics and separating them from the related financial transactions.

**5.4** These concerns have led to the recommendation in the 2008 SNA and BPM6 that imputations for changes in ownership are no longer to be made when goods are sent abroad for processing.

**5.5** Other concerns also argued for a change. The 1993 SNA does not treat all flows of goods for processing in the same way: while the concept requires an imputed change of ownership when transactions take place between two affiliated establishments, whether the goods are sent abroad or not, no imputation is required when the

transactions involve non-affiliated domestic establishments. Moreover, if the goods are sent abroad and then sold on without returning to the economy of the owner, no imputation is recorded. The need to harmonize the treatment related to goods sent for processing was central to the decision to change the 1993 SNA treatment. The new position was also influenced by the fact that the value imputed may not always be reliable. Though customs data attempt to capture the value of the goods for administrative reasons, that value may not reflect their market price, notably when goods are returned to their owner. Even if the imputed value is accurate, identifying the goods that have been processed presents a challenge since they are likely to be missed in production surveys, making it difficult to identify the flows in the production accounts.

**5.6** The difficulty is not confined to the production accounts. Where processing is unfinished at the end of a period, it is necessary to record a change in inventories held by the processor (not the owner) in the capital account and the balance sheet; any related holding gains or losses, as well as risk associated with holding inventories, are attributed to the processor, whereas in reality they should be associated with the owner.

**5.7** Moreover the 1993 SNA imputes gross flows only where processing is substantial, while BPM5 requires gross flows always to be imputed. The recommendation in the new standards means that the treatment of goods sent for processing will be consistent in the national accounts and balance of payments.

**5.8** The new recommendation also removes an anomaly in the 1993 SNA related to the treatment of goods sent abroad for processing and goods sent for processing within the same economy. The 1993 SNA imputes a change of ownership in respect of goods sent for processing in the same economy only if the establishment is part of the enterprise that supplied the goods. Under the 2008 SNA, this difference in treatment is eliminated since no transactions are imputed.

**5.9** The decision to stop imputing transactions for goods sent for processing also implies a change in how the accounts should be viewed. The production account, notably the input-output account, where the relationship between material inputs and production is central, will be less about physical technology and more about the contribution of each entity to the production process (or economic process). If the accounts are to reflect the economic process, it is important to distinguish between goods acquired for processing and goods bought at arm's length to be used in a production process the output of which will ultimately be sold at arm's length. This will help the behaviour of economic agents and the structuring of economic activity to be better understood. For example, goods crossing the border for processing only reflect the price of a service produced by the domestic economy, and the service producer plays no role in setting the price and marketing the final product. Increasing globalization makes it more important to focus on economic process for a fuller and more coherent picture of the production and flows of goods and services.

**5.10** The new standard also affects the compilation and the interpretation of trade in goods and services statistics, as illustrated in the case of Hong Kong (see annex 6.4) (the annex is placed after Chapter 6 because it relates to merchanting as well as processing). Implementation of the new standard on goods sent for processing will change Hong Kong's balance of trade in goods from deficit to surplus, while the balance of trade in services will go from surplus to deficit. Even though the external balance on current account is unaffected by adoption of the new standard, recording only the processing fees rather than the full value of the goods processed gives a better sense of the extent to which domestic financial resources are required to fund imports or are augmented by export receipts.

**5.11** This chapter outlines the impact of the 1993 SNA and 2008 SNA treatments on input-output (IO) statistics and how they affect the measures derived from them, such as IO models, multifactor productivity indices, and other structural indicators. It then summarizes the necessary changes in data collection and statistical estimation. The chapter also suggests some of the benefits and drawbacks that can be expected for supply and use (SU) tables. Finally, the chapter outlines how the 2008 SNA treatment affects the interpretation of IO tables.

## Background

**5.12** In conducting their business, firms liaise with suppliers to eliminate bottlenecks; outsource to strike a balance between the lowest material and processing costs and transport costs; implement just-in-time techniques to optimize manufacturing flow; locate factories and warehouses to best serve their markets, etc.

**5.13** As a result, it is becoming common practice for firms to send their material to an affiliate or non-affiliate for processing. Sometimes the material (raw materials or semi-processed goods) is sent to firms within the domestic economy; sometimes the material is sent abroad. The process of sending material for processing is called "goods sent for processing". This practice is very common in industries such as chemicals and manufacturing of electronic and metal goods. The process is often referred to as toll manufacturing, toll processing or custom manufacturing.

**5.14** One variant of particular interest for the national accounts and b.o.p. is goods sent abroad for processing, where a unit in country A (the principal) makes a contract with a unit in country B (the contractor) under which B transforms in a substantive way raw materials or semi-processed goods sent by A. The principal maintains legal ownership of the raw materials and semi-processed goods throughout, as well as of the processed goods. The principal pays the contractor a fee for the processing or assembly.

**5.15** Similar arrangements also pose issues for the national accounts, but do not fall under the definition of goods sent abroad for processing and are not discussed in detail here. For instance, a unit in country A may have its goods processed by a unit in country B, but then sells the goods to another unit in the same country (B) without bringing them back to A. Here the treatment is not that of goods sent abroad for processing, as BPM6 makes clear in paragraphs 10.17(g) and 10.22(f): a first transaction will show a processing fee flowing from country A to country B, and a second the export of the processed goods from A to B, because ownership has changed. Similarly, if the processed goods are sold to another unit in a third country, C, without returning to country A, the recording does not fall under goods sent abroad for processing: rather, a processing fee (part of trade in services) is paid by country A to country B, while an export of the processed goods will be recorded from A to C.

**5.16** In the 1993 SNA a transaction may or may not be recorded between two firms, depending on the situation (paragraphs 14.61-14.64 provide

details on how to deal with goods sent for processing).

**5.17** The fact that not all processing is treated the same way in the 1993 SNA and in BPM5 presents a challenge for IO compilers. Domestic processing is recorded without imputing a change of ownership to the processing establishment unless the processor is part of the same enterprise as that supplying the goods. Equally, in international processing where the goods remain in the processing country or go to a third country, a change of ownership is imputed if the establishment is part of the same enterprise that supplied the goods or if it is a direct investment enterprise of the supplier of the goods. So imputations are made when goods are sent for processing between affiliates, but when goods are sent for processing between non-affiliated establishments, imputations are made only if the goods cross borders and are then returned to the owner, and not if the goods remain abroad. It is unlikely that analysts are aware of these fine distinctions and can see what changes are taking place in industries subject to growth in outsourcing without close investigation of how many goods are subject to each recording treatment. Nor does the different treatment assist the IO compilers.

**5.18** According to the 1993 SNA a transaction should only be imputed when the amount of processing is significant - in practice when the goods sent abroad are classified after processing to a different group (3-digit level) of the Central Product Classification. Minor operations on goods such as repair and packaging are not regarded as processing. The BPM5 assumes that all processing is substantial and therefore to be recorded on a gross basis, as if a change of ownership has occurred.

**5.19** A review of the concept of imputation concluded that the current treatment is not consistent with one of the basic principles of the balance of payments, that a transaction should involve a change of ownership. Accordingly under the 2008 SNA and BPM6 the value of goods for processing ceases to be recorded in the goods account: under the new standard, the payment of processing fees by the owner of the goods will be recorded as an import of services. This recommendation extends to goods sent for processing domestically. The new standard has the advantage of being more in line with company accounts, while meeting a desire to avoid imputations; it also better accords with financial transactions.

**5.20** It is however difficult to measure the size of goods sent abroad for processing. In many

countries merchandise trade statistics record goods when they cross the border, not when they change ownership. Consequently, goods sent abroad for processing are included in the merchandise trade statistics, as if there had been a change in ownership.

**5.21** A special study prepared by the Hong Kong Census and Statistics Department shows that Hong Kong sends a significant amount of goods for processing to Mainland China. The new standard will reduce Hong Kong's exports of goods by (US) \$53 billion and its imports of goods by \$99 billion, turning a deficit of \$14 billion into a surplus of \$32 billion. Conversely imports of services would rise by \$46 billion, turning a surplus of \$36 billion into a deficit of \$10 billion.

## International standards

### The 1993 SNA and 2008 SNA treatments

**5.22** The 1993 SNA treatment of goods sent abroad for processing affects the current, production and accumulation accounts.

#### Current account

**5.23** Under the 1993 SNA, a value is imputed for raw materials or semi-processed goods entering a country for processing, as an import of goods. The processed goods are then returned to the supplying country and a value is again imputed and recorded as an export of goods. The difference between the two values is assumed to be equal to the processing fee paid. In practice, it is likely that the difference will not be equal to the processing fee: this may be because prices have changed over the processing period, or because part of the increase in the value of the processed goods reflects the embodiment of intellectual property or trademarks (brand) owned by the principal.

**5.24** Under the 2008 SNA, the imports and the exports of goods sent for processing are no longer recorded. Processing fees are recorded, as a service. In principle, the overall current account balance is not affected. However, trade in goods diminishes while trade in services increases by the same amount.

#### Production account of the SNA

**5.25** Under the 1993 SNA, the value of goods sent for processing entering the country of the contractor is allocated to intermediate inputs of the receiving industry. The value of gross output of that industry is equal to the value of the material and the processing fee. In the 2008 SNA, the value of the goods to be processed is not included in

intermediate consumption. Value added in the processing economy should be unaffected.

#### Accumulation accounts in the national accounts and balance of payments

**5.26** The 1993 SNA imputation of a change of ownership in favour of the processor implies a need to record a change in inventories in the capital account and balance sheet of the processor if processing is unfinished at the end of the accounting period. Since the capital account and the balance sheet of the country providing the material will also be adjusted for inventories, imputations will be necessary in the financial account of both countries to prevent errors and omissions in the b.o.p. equal to the value of the goods sent for processing. Under the 2008 SNA, no imputations will be necessary.

**5.27** The following sections deal with the various implications of the changes related to goods for processing in the 2008 SNA on the industry and commodity accounts of the IO framework, viewed from the perspective of the client (the principal) and the processor (the contractor).

### Measurement and analytical problems

#### Measurement problems

##### Goods for processing and the input-output framework

**5.28** The IO accounting framework contains two sets of accounts, the industry account and the commodity account. The industry account reflects the entries of columns in the SU framework. The commodity account reflects the entries of the rows in the framework. The former provides details about the output of industries and the cost structures of production. The latter details the supply and use of individual commodities. The impacts are described in the context of the 1993 SNA and the 2008 SNA.

**5.29** In the example, a principal unit in country A sends semi-processed goods for further processing to a contractor unit in country B. The contractor does not pay for the material received from the principal unit. The value of the goods sent for processing is 100. The value of the goods after processing, assumed to be finished goods requiring no further processing, is estimated at 160. Processing fees in this example are for simplicity set at 60 (but in practice, as described above, such equivalence between the value of goods before and after processing and the processing fee is unlikely).

#### Industry account

**5.30** Under the 1993 SNA treatment (table 5.1), when the goods sent for processing enter country B, a change of ownership is assumed and a transaction is imputed between the principal and the contractor, resulting in an international transaction. In the balance of payments, country B is shown as importing 100. The contractor is shown as buying 100 of semi-processed goods and this amount is recorded under intermediate inputs like all other purchases of goods and services. Gross output is equal to intermediate inputs and the value added by the contractor, 160 in this case. The nature of the goods produced is different from that of the goods supplied by the principal. Gross output is classified as a good.

**5.31** In country A, the principal unit is currently shown as having manufactured 100 of semi-

**Table 5.1 Industry account under the 1993 SNA**

	<i>Contractor (Country B)</i>	<i>Principal (Country A)</i>
<b>Gross output</b>		
Goods (manufacturing)	160	100
Services (wholesaling)		20
<b>Intermediate inputs</b>		
<b>Goods for processing</b>	100	
All other goods	20	50
Processing fees (services)		
All other services	10	20
<b>Value added</b>	<b>30</b>	<b>50</b>

processed goods using its own intermediate inputs, labour and capital. Processed goods return from country B, and (because they are assumed to be finished goods) are treated as goods purchased for resale, with the principal adding margins of 20 in the example above (if the processed goods required further processing by the principal, an additional entry of 160 in the intermediate consumption column of the principal would be necessary). The production of semi-processed goods and wholesaling activities remain secondary activities for the principal unit. Even though it does not appear in the production account, the main activity of the principal unit remains the production of a



specific type of processed goods. If only part of the production process is outsourced, the principal is classified according to the activity representing the complete production process, i.e., it is classified as if it was carrying out the complete process, including the contracted work, itself. As a result, the unit is classified in the industry that mainly produces that type of processed good.

**5.32** Under the 1993 SNA, an incoherence will occur in preparing the production account of country A if processing fees embedded in imports of goods processed abroad are not removed from the operating expenses reported (in a survey) by the principal in country A.

**5.33** Under the 2008 SNA (table 5.2), the industry structure in country B will change significantly. In the processing country, gross output will reflect only the value of the processing (60) since no imputation will be made to value the semi-processed goods received from country A. Moreover, production will be classified as a service, not a good. Value added will remain the same, 30. However, the relationship between GDP and gross output will change: in this case the GDP to gross output ratio rises from 19 per cent under the 1993 SNA to 50 per cent under the 2008 SNA, even though the amount of labour and capital provided by country B remains the same.

**Table 5.2 Industry account under the 2008 SNA**

	<i>Contractor (Country B)</i>	<i>Principal (Country A)</i>
<b>Gross output</b>		
Goods		180
Services	60	
<b>Intermediate inputs</b>		
<b>Goods for processing</b>		
All other goods	20	50
Processing fees (services)		60
All other services	10	20
<b>Value added</b>	<b>30</b>	<b>50</b>

**5.34** Under the 2008 SNA, the link between the production (gross output) of domestic goods and domestic employment, as well as the link between gross output and the use of fixed capital, will change for both the contractor and the principal. For the contractor, value added to output ratios will

be higher. For the principal, the ratios of value added to gross output in the 2008 SNA will lie between the ratios obtained under the 1993 SNA - with the lower bound ratio of the 1993 SNA being the ratio that would be observed if the goods processed by B required further processing by A, and the higher bound ratio being the ratio that would be observed if no further processing was required. The relationships between value added and employment and fixed capital are the same in the 1993 SNA and the 2008 SNA. Relationships involving production will however differ.

**5.35** Production in country A under the 2008 SNA records 180 under goods, comprising the value of the semi-processed goods (100), the processing costs (60) and a return on sales (20). Both the contractor and the principal will be classified in the industry related to the processed goods (assuming that the processed goods are not subject to further processing by the principal). Under the 2008 SNA, the principal will show a smaller amount of capital and labour in relation to production. For the principal, the relationship between capital and labour and gross output will be different from that of other units in the industry, since it was the labour and the capital of the unit in country B that was used to produce part of the goods now recorded as the output of the principal.

#### *Commodity account*

**5.36** Implementation of the 2008 SNA, which emphasizes recording transactions and not the production process as such, will also affect the commodity account.

**5.37** Under the 1993 SNA, when goods sent for processing enter the processing country, a value is imputed under imports on the supply side of SU tables. The SU tables are balanced by imputing a similar amount under intermediate inputs on the use side. The processed goods are recorded under production on the supply side and exports on the use side. Processing fees are not separately recorded since their value is embedded in the value of the processed goods (table 5.3). However, a statistical problem could occur if processing fees paid by the principal were captured in exports of services (trade in services).

**5.38** Under the 2008 SNA, the commodity account will be quite different in the processing country. Semi-processed goods and processed goods will no longer appear in the commodity account. Processing fees will appear under production of services and exports of services. This may create some difficulties when it comes to interpreting the accounts. For example, for a

country receiving crude oil for processing which is then exported back to the country of origin, analysts may have some difficulty establishing relationships between the volume of production of refined petroleum products and exports, as only exports of services (related to petroleum) will be recorded under the 2008 SNA.

**5.39** In the country of the principal (country A), the commodity account will also be affected significantly under the 2008 SNA (table 5.4). Under the 1993 SNA, in the country of the principal, in order to balance the SU tables, it was necessary to make the semi-processed goods disappear as

exports (100) and reappear statistically as imports of another good at a higher value (160). In the example in table 5.4, some of the goods returning to country A after processing are consumed as intermediate inputs, some are exported or consumed by other final users, while some go into inventories.

**5.40** Under the 2008 SNA, production of semi-processed goods (goods for processing) disappears and processed goods will appear as being produced in the country (A). Only processing fees will appear in international trade, under services.

**Table 5.3 Commodity accounts under the 1993 SNA and 2008 SNA: country of the contractor**

Country B	Supply		Use			
	Production	Imports	Intermediate inputs	Exports	Inventories	Other final demand
<b>1993 SNA</b>						
Goods for processing		100	100			
Goods processed	160			160		
Processing fees	NA			NA		
<b>2008 SNA</b>						
Goods for processing						
Goods processed						
Processing fees	60			60		

**Table 5.4 Commodity accounts under the 1993 SNA and 2008 SNA: country of the principal**

Country A	Supply			Use			
	Production	Imports	Trade margin	Intermediate inputs	Exports	Inventories	Other final demand
<b>1993 SNA</b>							
Goods for processing	100				100		
Goods processed		160	20	W	X	Y	Z
Processing fees							
<b>2008 SNA</b>							
Goods for processing							
Goods processed	180			W	X	Y	Z
Processing fees		60		60			

W, X, Y and Z are potential values necessary to balance the supply-use table

**5.41** The processing may not be completed within the period. Under the 2008 SNA - unlike under the 1993 SNA, which assumes that the inventories are the property of the contractor, requiring an imputation - the material to be processed remains the property of the principal and should be recorded as part of the principal's inventories. The 2008 SNA may require some modifications to surveys to ensure that they do not incorrectly include inventories owned by the principal in the balance sheet of the contractor.

**Measurement problems in compiling input-output accounts in the presence of goods sent for processing**

**5.42** The implementation of the 2008 SNA will affect the compilation of the industry and commodity accounts and the way in which these relationships are interpreted. The next two sections focus on compilation issues related to the two accounts.

*Industry account*

**5.43** In principle, the 1993 SNA and 2008 SNA treatments of goods sent for processing lead to exactly the same GDP for the industries and economies of all countries.

**5.44** In practice however differences may arise for many reasons, including:

- Inconsistent reporting between the gross flows obtained from customs sources and the service flows obtained from production-related surveys.
- Data gaps about international transactions in commercial services.

**5.45** There is however a further practical consideration. Compilers usually attempt to preserve some stability in IO coefficients (such as value added to output ratios) as a way of dealing with volatile data, focusing on production technology coefficients in compiling IO tables. The 2008 SNA will cause problems for this approach, since the emphasis is on the transactions and not the technologies. If for example a conventional manufacturer begins to operate also as a processor, in addition to its normal output, its value added to output ratio will change in the 2008 SNA, whereas in the 1993 SNA its ratio would be broadly unaffected. It is important however to put this into perspective. In the 1993 SNA, such a change already occurs if the goods are sent for processing to a domestic processor. Moreover, IO ratios change for a number of reasons, for example improvements in productivity, or changes in the type of goods produced by the main industry, in the shares of output produced by companies in a particular

industry classification, or from outsourcing of services. The 2008 SNA merely adds goods sent for processing abroad to the many reasons why IO coefficients may change.

**5.46** However, that is not to say that improvements for IO compilers are not worth pursuing. Compilers focus on IO coefficients because within a particular industry the value added to output ratios of all companies tend to be similar. In the 2008 SNA it is evident that this is not so for enterprises which process goods sent from abroad and producers in the same industry which own the goods they use in production. But if the IO accounts distinguished between the output of processors and conventional producers (who own the goods used in intermediate consumption), the problems posed to compilers by changes to IO coefficients because of the 2008 SNA treatment of goods sent abroad for processing would be resolved – as would be the problems in the 1993 SNA caused by goods sent to domestic processors. However this would increase the reporting and compilation burden. Another solution would be to add an adjusting entry in the commodity account to simulate the 1993 SNA. This possibility is covered later in this chapter.

*Commodity account*

**5.47** As explained earlier, the revisions to the 1993 SNA and BPM5 concern the question of whether a change of ownership of the goods is attributed to the processing unit in country B when material inputs move there from the unit in country A, and then again when the processed goods are shipped back to the original unit in country A.

**5.48** It is helpful to describe at this point how transactions recorded under the 1993 SNA or "imputed" treatment appear in a statistical system where the production accounts are fully integrated with the balance of payments account. Under the 1993 SNA, respondents acting as a contractor report their inputs and outputs on a net basis, meaning that they report as output the fee they receive for processing goods for principals, and report only their own intermediate inputs. They do not report the value of semi-processed goods provided by the principal from abroad. At the same time, their imports of semi-processed goods and exports of processed goods appear as imports and exports in the input-output tables on a gross basis, consistently with the balance of payments data obtained from customs sources. In order to arrive at a balance between the supply and use of output and input commodities, IO analysts must enter a series of adjustments. This amounts to increasing the value of output such that it is equal to the value

**Table 5.5 Supply and use tables and the contractor**

<i>Balancing supply and use tables – the contractor case</i>						
Step 1: Material is sent for processing from the principal in country A to the contractor in country B						
Production	Imports	=	Inputs	Final use	Exports	Inventories
	75		0			Imbalance
Step 2 : Production of a good						
Production	Imports	=	Inputs	Final use	Exports	Inventories
0					100	Imbalance
Step 3: Payment stage – processing fee						
Production	Imports	=	Inputs	Final use	Exports	Inventories
25						Imbalance

of exports recorded in the customs statistics, and raising the industry's inputs by the value of semi-processed goods (the import amount).

**5.49** This exercise retains the industry's balance of outputs and inputs (since the processing fee is assumed to be equal to the difference between the two gross values) and the level of GDP while making the industry accounts compatible with the balance of payments. When processing continues over more than one period, inventories are also adjusted. This imputation procedure describes the actual compilation practice in countries where processing is significant and there are sufficient data for the adjustments to be made with reasonable confidence of improving industry statistics.

**5.50** Unfortunately information about goods sent for processing is often missing, affecting compilation of the SU tables. In many countries, goods crossing the border free of charge are valued for administrative reasons at some approximation to market price.

**5.51** In many countries, manufacturers provide in surveys information on:

- Turnover and inventories.
- Receipts for doing work to the order of others.
- Cost of own material.
- Sub-contracting expenses.

**5.52** The manufacturer is not asked to estimate a value for the material he receives for processing, and may not be able to do so. As a result, IO analysts must deal with international trade data

that contain the value of goods sent for processing and with manufacturing data where no imputation has been made for the value of goods received and processed. Table 5.5 describes the difficulty of balancing the SU tables.

**5.53** In step 1 of the production process, semi-processed goods are imported into country B (75). Since they were not paid for by the contractor, a first imbalance appears in the SU tables: the use of the commodity will be lower than its supply. Based on his assessment of the reliability of the various data in the SU table, the IO compiler may adjust inputs to balance the system, implicitly imputing a value, following the 1993 SNA approach, for the material that enters the country but was not captured in business surveys.

**5.54** In step 2, production takes place and the processed good is sent back to its owner in country A. An export of 100 is recorded. However, no value will have been collected in business surveys except the amount the contractor in country B receives for processing the material. As a result, a second imbalance could occur. In the 1993 SNA, the imbalance is dealt with by adjusting production.

**5.55** Finally, in step 3, since the processing fee would have been embedded in the value of the exported processed goods, it is not clear to what extent national accountants are able to deal with the double counting of processing fees which are, in theory, reported by the contractor and included indistinguishably in the value of exports.

**5.56** Table 5.6 shows that similar imbalances may also occur in the case of the principal. In this case, the principal unit that has produced the semi-

**Table 5.6 Supply and use tables and the principal**

<i>Balancing supply and use tables – the principal case</i>						
Step 1: Material is sent for processing from the principal in country A to the contractor in country B						
Production	Imports	=	Inputs	Final use	Exports	Inventories
					75	Imbalance
Step 2 : Production of a good						
Production	Imports	=	Inputs	Final use	Exports	Inventories
100	100		X1	X2	X3	Imbalance
Step 3: Payment stage – processing fee						
Production	Imports	=	Inputs	Final use	Exports	Inventories
			25			Imbalance

X1, X2 and X3 are potential values necessary to balance the supply-use table

processed goods sends the goods to country B; they are recorded in customs statistics and the 1993 SNA as an export of 75. No output is recorded by the principal (unless the business survey relates to a period in which the semi-processed goods are in the hands of the processor, in which case output and a change in inventories of 75 are recorded).

**5.57** Another imbalance occurs after the contractor delivers the goods to the principal. The goods are imported into country A at a value of 100. But their owner (the principal) would have reported output of 100 in the manufacturing survey, creating an imbalance.

**5.58** Finally, another imbalance arises since the manufacturer (principal) in country A reports a processing fee (expense) of 25, an amount hidden in the value of the goods imported.

**5.59** The lack of coherence between international trade data and domestic surveys potentially creates imbalances in the commodity accounts in the absence of explicit information on the value of goods sent for processing. This will change with the implementation of the 2008 SNA, provided trade statistics are consistent with the corresponding financial transactions. Nevertheless in practice the problems illustrated above may remain after implementation of the 2008 SNA. It is likely that many customs authorities will continue to measure exports and imports on a gross basis. However, whereas currently compilers must estimate the imputations made by custom officials and then allocate them to industries, corrections will instead focus on the original trade data.

### Transportation margins

**5.60** With the implementation of the 2008 SNA, transportation services will replace transportation margins in the IO account.

### Analytical challenges

#### Input-output linkages

**5.61** A potential analytical disadvantage of not imputing a financial transaction for goods sent for processing, depending on the way in which IO tables are interpreted, relates to estimates of forward and backward linkages, which would change significantly under the 2008 SNA treatment. For example IO tables in the 1993 SNA address a question about how much upstream production or employment is associated with petroleum by-products by recognizing that the petroleum refiner requires oil as an input, and so in calculating the upstream impact of petroleum production take into account the employment of labour and capital and the use of other goods and services in extracting the crude oil. However with the 2008 SNA the explicit link that reflects the use of imported crude oil in petroleum refining will not be present, and so the calculation of upstream impacts will differ. Whether this is a good or a bad thing depends on the perspective. For example the same break occurs when services are outsourced, even if those services require some intermediate input from the principal. Moreover calculations measuring what employment, etc. was created in upstream industries as a result of the output in the relevant industry typically focus on the impact on other domestic industries; the imported products used in

production are not relevant for this purpose, meaning that the 1993 SNA and 2008 SNA will show the same upstream impacts. It is important to note in this context therefore that, in practice, the problem of measuring upstream impacts is more affected by domestic processing; and in this context the 1993 and 2008 SNAs are equally affected. A further question can be asked: should it be the activity of the contractor whose services are being purchased that is taken into account, since the catalyst for the activity is the principal, who determines the output of the contractor? Seen in this way, the 2008 SNA approach may be a better basis for measuring the impact on upstream activities.

### Regional input-output tables

**5.62** A key impact of not imputing a change of ownership on IO linkages as discussed above concerns regional SU tables. Integrated national-regional tables show links not only across production processes in different industries, but also across regions through an interregional trade flow matrix. Regional tables are often used to assess the upstream or downstream values related to a given commodity or industry across all regions of the domestic economy. However, this is subject to an important exception in the case of goods sent for processing. Since surveys of production industries normally collect information on revenues and costs related to contract processing or "custom work", a net treatment is built into the compilation of regional SU tables. As in the petroleum refining example, not imputing a change of ownership would result in changes to the estimates of upstream impacts, severing linkages when goods are sent to other regions for processing, thus limiting the value of IO tables for assessing technological dependencies between industries and regions. In this particular case, an imputation would be necessary in the regional tables to maintain the technological links for petroleum products.

### International trade

**5.63** The 1993 SNA requires gross values of imports and exports to be recorded when goods are sent abroad for processing. The clearest drawback of this treatment is that it exaggerates the highly visible and widely used measures of import intensity and export performance for production industries generally and for individual manufacturing industries. Trade ratios such as exports/gross output and imports/production overstate true export and import intensities and exaggerate the dependence of industries on external trade. In addition, by hiding the value of processing services in the gross value of traded

goods, the treatment understates the value of international trade in services. To get a better sense of how much exports really matter to the economy's GDP, studies often net out the import content of exports (or vice versa) in order to avoid the distortive effect of outsourcing, including the cases of goods sent abroad for processing.

**5.64** Under the 2008 SNA treatment, only imports and exports of services related to goods sent abroad for processing will be recorded in the final demand section of IO tables. As a result, the analysis will produce a lower estimate of imports associated with (or used in the production of) exports because it will be restricted to imports where ownership changes. In this case, the 2008 SNA treatment effectively changes the answer to an IO inquiry, and it would be important to explain to IO users how the 2008 SNA treatment affects the data.

### Input-output models

**5.65** IO determination models depend critically on market shares and input cost shares of goods and services to compute the impact of an exogenous change or "shock" to a system of inter-industry linkages starting from equilibrium. To the extent that an industry uses the outputs of other industries in its own production, it has a backward linkage to them. Similarly, an industry that supplies the intermediate inputs of others through its own production has a forward linkage to them. When the chain of inter-industry commodity flows is interrupted because products are imported from abroad, there is a leakage from the domestic economy. A larger leakage (a larger proportion of the supply of a commodity coming from imports) implies a smaller feedback from a demand shock to the production of the rest of the system. Under the 1993 SNA treatment, the import coefficient of a contractor industry is larger than under a no imputation treatment, because intermediate inputs include the gross value of goods received from the principal for processing. The larger import coefficient leads to lower impact coefficients in the output-determination model, thereby reducing the total impact of any exogenous change on gross domestic output, though not on value added.

**5.66** On the other hand, a large number of industries could be involved in processing. For each of them, it would be ideal to identify the component of processing fees received from other industries. If processing could not be associated with a specific industry, allocating the demand for processing services to producing industries based on market shares would spread the gross output to all producers involved in processing. For modelling

purposes, the 2008 SNA treatment requires much detail on processing by industry in order to properly calculate IO impacts related to processing. Again, it should be recalled that under the 1993 SNA the same challenges occur for contractors providing processing services to domestic principals.

### Productivity measures

**5.67** Where a production industry consists of one segment that operates on a traditional business plan and another segment that engages in contract processing, the implication for productivity of the increasing prevalence of goods for processing deserves a mention. When processing goods for a principal (as opposed to traditional own-account processing) becomes more prevalent in an industry, the industry's contribution to GDP (and GDP growth) is unaffected whether the imputing treatment is followed or not. It follows that the growth of productivity in the industry measured as the difference between real GDP growth and the growth in an index of labour inputs remains unaffected, as the same real GDP is produced with the same set of primary factors of production. (However, in practice productivity may rise, because the contractor is likely to make better use of capacity.)

**5.68** Under the 1993 SNA and 2008 SNA, the GDP derived from the operations of the principal will be the same and will have no impact on productivity estimates. However, as indicated in tables 5.1 and 5.2, the output and intermediate inputs structure will change, as for the contractor. Consequently, productivity measures could be affected depending of the coherence of the deflators used under the two concepts.

**5.69** Because of the change in the input-output structure, under both concepts the derivation of multifactor productivity estimates, where the result is a function of gross output and intermediate inputs, is more difficult to predict and will require further work.

## Operational treatment

### Adjusting entries

**5.70** The implementation of the 2008 SNA should make it easier to balance the commodity account. It is not so clear in the case of the industry account, where assumptions about homogeneity of the industry structure are often used. One solution could be to regroup contractors and principal-type producers in separate industries. However, since in every industry some units will be a blend of traditional producers and contractors, it would be difficult to implement such a strategy. An

alternative may be to start by balancing IO tables using the 1993 SNA approach to goods sent abroad for processing, with entries that impute changes in ownership subsequently removed to arrive at 2008 SNA IO tables. Such an approach would mean that complementary IO tables would be available for conventional analyses of production technologies. The approach could be extended so that any goods sent for processing to domestic processors could also be imputed.

**5.71** The adjusting entries should be viewed as a valuation adjustment allowing the production accounts to be converted according to various concepts. In this case, an adjusting entry would allow the physical or technological process of the production accounts to be shown while permitting viewing that same set of accounts by emphasizing financial transactions. This approach is no different from the decomposition of, say, intermediate inputs into their basic costs and various margins. It can be extended to include conceptual and statistical adjustments to source data when the industry and commodity accounts are compiled. Adjustments could be stored separately in a file of the same dimension as the one containing the IO accounts data. The data could be added to the initial set of data that would exclude goods for processing. This type of information would be very useful to IO compilers in interpreting structural changes.

**5.72** Though goods sent for processing are mostly discussed in an international context, the phenomenon also occurs on domestic markets. When goods move between affiliates (establishments of the same firm), there is no change of ownership since the entities have the same owner. It will be easy to implement 2008 SNA in such a case. However, where goods move from A to its affiliate B and then B sells the processed goods on the open market, a change of ownership must be recorded. In such a case, according to the 2008 SNA, establishment A is viewed as taking the risks related to production, determining the price of the processed goods and finding buyers for them.

**5.73** When establishments belong to different enterprises, the determining factor remains economic ownership. According to the 2008 SNA *“if an establishment has no discretion about the level of production, the price to be charged for the good or the destination of the good, there is evidence that the establishment has not taken economic ownership of the goods being processed and the value of the output should be treated as the processing element only”* (paragraph 6.85).

**5.74** The approach proposed to record international activities of principals and contractors can be used to record activities of principals and contractors engaged in transactions between domestic firms in the same set of accounts. When the focus is on physical transactions, an imputation must be made to value goods sent for processing, but the imputation must be removed when the focus is financial transactions (2008 SNA).

The IMTS conceptual framework gives priority to statistics reflecting physical cross-border movements of goods. The IMTS aim at satisfying the information needs of various groups such as international trade policy makers and commodity market analysts. IMTS data will naturally remain a prime source of information to national accounts and b.o.p. compilers. For their benefit, IMTS data could usefully be coded to identify goods for processing as well as goods resulting from such processing. One possible approach to removing

### **Box 5.1. Implications for environmental accounting**

The implications of the 2008 SNA regarding merchanting, production abroad and goods sent abroad for processing are not confined to the national accounts. The question arises in addition of how physical flows underlying these transactions should be recorded in the System of Environmental and Economic Accounting (SEEA). The purpose of environmental accounting is to describe how economies interact with the environment as well as with other economies. The SEEA and many of its accounts attempt to describe the physical requirements of the economy. The new 2008 SNA recommendations will mean that some of the key physical flows will no longer be recorded in the national accounts, because there is no accompanying change of ownership.

The London Group on Environmental Accounting has decided to record transactions according to the economic, and physical flows according to the physical, reality (option 2A in the paper of van Rossum and others (2010)). This means that transactions are recorded as recommended in the 2008 SNA and physical flows are recorded corresponding to the physical reality, which is that goods for processing cross borders whereas goods subject to merchanting do not, with a consequent (and regrettable) loss of consistency between the 2008 SNA and the SEEA. Users of the data should be aware of some consequences for hybrid indicators and IO analysis. The lack of consistent national accounts and physical data means that great care should be taken when deriving hybrid indicators or performing IO analysis.

Interpretation of production-based hybrid indicators (like energy and material productivity) needs to be made carefully, as was the case with the 1993 SNA which, for trade between non-affiliated resident enterprises, did not impute a change in ownership for goods sent for processing. The 2008 SNA brings the transactions between non-resident enterprises into line with those between resident enterprises, which will change current statistics and affect the interpretation of hybrid indicators. For this reason a change in a hybrid indicator needs to be interpreted very carefully, since it may reflect an improvement or worsening in environmental efficiency or merely a change in the legal arrangement between principal and contractor. To avoid these issues, it is recommended to use hybrid indicators based on value added.

The 2008 SNA treatment also has potential implications for environmental input-output analysis. Depending on whether the enterprises involved in processing produce goods on their own account or not, implementing the new 2008 SNA concepts may make industries appear more or less homogeneous.

### **Trade data**

**5.75** The compilation of balance of payments statistics on imports and exports of goods starts with merchandise trade statistics, which measure the physical movements of goods across countries regardless of the change of ownership. With the implementation of the 2008 SNA and BPM6, a large conceptual gap will open with merchandise trade statistics, since the ownership principle will be used for national accounts and b.o.p. statistics while the physical movement of goods will remain the focus of the merchandise trade data (in accordance with *International Merchandise Trade Statistics, 2010*).

goods sent for processing values from merchandise trade is to identify goods that are declared as "for processing" when they clear customs, and use the information to adjust merchandise trade estimated on a b.o.p. basis. Goods going into and leaving Free Trade Zones (FTZs) could be tagged for this treatment. Specific measures would need to be taken to distinguish the goods subject to this treatment - those which go into FTZs and come back to the same unit in the country - from other goods. For goods processed outside these zones, international agreement between customs authorities of major trading partners would be needed specifically dealing with the terms and



conditions of identification, evaluation and reporting of goods for processing. The tagged information on exports and imports would need to be collected at the most detailed level of the harmonized commodity classification in order to make it possible to link them with commodity categories in the SU tables, allowing analysts to compare the net values of tagged exports and imports with processing costs incurred by principal units and revenue data from processing units obtained from industry sources.

**5.76** An alternative data source for both principal units and contractor units is linked to surveys related to international transactions in commercial services. This type of survey is used to provide data on the services components of imports and exports in the b.o.p. Ideally, such a survey should be linked to a complete business register, allowing data collected through the survey to be linked with data obtained from surveys supporting the compilation of the production accounts, such as a survey on production by manufacturers which is the main source of data on inputs and outputs of production industries. The survey would collect data on contract production services from large plants most likely to be involved in the export and import of commercial services. Revenues and expenses related to goods for processing from this source would then be used as a check on the difference between the gross values of exports and imports of goods identified in merchandise trade that meet the definition of goods sent abroad for processing.

### Sampling

**5.77** The 1993 SNA exposes the data collection process to a sampling problem when it treats contractor-type producers and the traditional producers which make up the majority of units in an industry as homogeneous. Some countries seek complete coverage of MNEs and other entities accounting for a large proportion of the industry's turnover, and sample other smaller establishments, grossing up the sample results for non-sampled units. Units in the same industry or sampling stratum will have the same probability of being selected for the sample. This may lead to a situation where contract processing units are selected for a sample and their production statistics are used to make inferences about traditional units in the sample (and vice versa). A sampling error may arise when the contractor-type producers report their statistics in net terms (they produce a service), whereas traditional establishments report their gross production and gross intermediate cost values. Estimates for some periods would overestimate, and others underestimate, the true

values depending on which type of manufacturing unit is actually sampled. This introduces variability into time series of basic industry statistics even when a simple random sampling procedure is used.

**5.78** Finally, contractor-type producers will have fewer chances of being selected in the sample if sampling is based on turnover instead of value added. This is important in relation to the issue underlying table 5.5 since, without information about the mix of producers, it will be difficult for IO compilers to assess the accuracy of the production accounts.

### Intra-annual surveys

**5.79** Several countries collect intra-year data on turnover and inventories in order to monitor production in the manufacturing sector. To the extent that sending goods abroad for processing is important, surveys which do not distinguish between shipments and processing fees will be misleading. Finally, since the price of goods processed and the "price" of processing services will probably differ, price deflators for processing need to be developed.

### Annual surveys

**5.80** Given the probable difficulty of obtaining satisfactory trade data from the more frequent surveys, annual industry surveys can be used as a second and complementary source to obtain estimates of exports and imports of goods for processing. For a principal unit, new questions in production surveys should cover the value of goods of own manufacture that are sent abroad or outsourced domestically for processing, the post-processing value when the goods are returned, and the fees paid to foreign and domestic contractors that, adjusted for timing and transaction costs, make up the difference between the two values. The two gross values, summed across all industries, could be compared with the tagged data obtained from customs sources to enhance data quality and consistency of a given class of goods.

**5.81** Data on costs of processing services when goods are processed abroad and revenues earned by domestic contractors from foreign clients are two important elements required in order to implement the 2008 SNA. In general, in current surveys, from the response of processors, it is not possible to determine if the principal being served is an affiliate or not, located abroad or domestically, and whether the goods are returned to the principal or shipped to a third party or country. Moreover, it is often not possible to separate costs related to goods for processing from other

outsourcing costs. Current surveys must be expanded in order to better measure the goods for processing phenomenon. In the case where the principal is a resident firm, information about the value of the goods returned from processing would be valuable, since it could be compared with customs data, assuming the value of the processed goods can be identified in merchandise trade statistics. This would greatly facilitate the compilation of statistics according to the 1993 SNA that many analysts such as IO modellers focusing on physical movements of goods would like to obtain.

**5.82** Similarly, information is often available regarding the gross income of processing units from contracting fees, often referred to as revenues from "custom work". Such income will include processing for domestic and foreign principals, and income from processing that meets the definition of goods for processing as well as from other activities. More specific wording and a separate question in these surveys are needed in order to isolate income from processing goods for foreign principals in order to allow comparison with the net values of trade obtained from international trade statistics.

**5.83** Various attempts have been made to collect information about amounts paid to and received from sending or receiving goods for processing. Results indicate that the flows concerning processing abroad are very difficult to observe. The fact that goods often return in a different time period, the difficulty for MNEs to distinguish between domestic processing and processing abroad, and valuation problems due to discrepancies caused by import tariffs and duties and transportation costs, all present a challenge for quantifying the phenomenon of goods sent abroad for processing.

### Prices

**5.84** Industry statistics are prepared in real as well as in nominal terms. Price indices are normally available for products, but much less information is available about prices related to assembling them.

**5.85** With the implementation of the 2008 SNA and the concept of goods for processing, there is a need to develop price indices for both the production and intermediate consumption of contractor-type producers. The price of the final product and the "price" of the processing service are unlikely to move in line.

### Concluding remarks

**5.86** Globalization brings a need to portray production activities in a different way, with more

focus on how globalized production is organized rather than on the technology of production.

**5.87** A better understanding of goods sent for processing is certainly a step towards a better understanding of globalization. It gives a much better idea of the size of international trade in the economy. In many ways, the 2008 SNA will be simpler to apply than the 1993 SNA since it will no longer be necessary to impute values in various parts of the IO framework. The recording of goods for processing was discussed extensively during the updates of the 1993 SNA and BPM5, and agreement was reached to cease imputing a value for such transactions. Implementation of this aspect of the 2008 SNA could be difficult due to data gaps. But so it is also when applying the 1993 SNA - imputing for goods for processing requires adjusting annual surveys on production to customs data, while not imputing requires removing goods for processing from customs data to align them with annual surveys on production. Consequently, national statistical institutes will probably need to continue to gather a significant amount of information on goods for processing. Above all, there is a need to ensure they are removed from customs data designed to meet administrative needs.

**5.88** It is recognized that implementing the 2008 SNA will change the structural relationships shown in the IO framework based on the 1993 SNA. The conclusion suggested by this analysis is that both the "imputation" and the "no imputation" treatments should be maintained to ensure that SU tables continue to be useful. Compiling and presenting the data on both bases and informing data users should preserve the advantages of both treatments. The fact that statistics on goods for processing are necessary to implement both the 1993 and 2008 SNA concepts makes this approach very attractive.

**5.89** The SU framework is the only statistical framework that explicitly shows what goods and services enter into the production of other goods and services. How this relationship or "production technology" is represented is critically important to the questions that SU tables can answer. It will be necessary to explore further whether the new net representation of production technology - compared to one that is gross of inputs not owned by the producer - is capable of addressing questions traditionally dealt with by IO tables.

## CHAPTER 6

# Merchanting

### Introduction

**6.1** The statistical treatment of merchanting is defined in BPM5 as follows: *“the purchase of a good by a resident (of the compiling economy) from a non-resident and the subsequent resale of the good to another non-resident; during this process the good does not enter or leave the compiling economy”* (paragraph 262).

**6.2** The recording requirements for merchanting activities are straightforward. Merchanting is calculated as the value of the goods sold (estimated at basic prices) less the cost of purchasing the same goods at that point in time. In the BPM5 and the 1993 SNA this merchanting margin is classified as an export of merchanting services. However, the detection and regular recording of these activities is extremely challenging for the country where the merchant is resident. This is because the goods in question never cross the frontier of the country where the merchant is resident and are therefore not covered by the official trade statistics there.

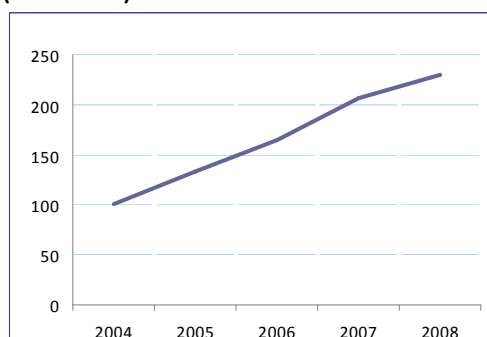
**6.3** The value of merchanting transactions reported increased by almost 130 per cent between 2004 and 2008 (see diagram 6.1). Merchanting increased globally from €28.5 billion in 2004 to €65.2 billion in 2008, showing the increasing importance of this activity, particularly in

the European Union where 25 countries report some merchanting activity. Data for 17 EU countries and Switzerland are shown in table 6.1.

**6.4** Apart from Switzerland, Turkey is the only country outside the European Union to report merchanting activity, suggesting considerable underreporting of merchanting globally. In the US balance of payments, the category “trade related” exports includes merchanting activities, but the amounts that relate solely to merchanting transactions cannot be determined from the published tables. There is no directly reported merchanting activity for (among others) Japan and Singapore. The fact that merchanting has hitherto been recorded on a net basis implies that the related gross flows would be even more significant. The 2008 SNA and BPM6 move to a form of gross reporting, in which the acquisition of goods by the merchant is recorded in the accounts of the country in which he is resident as a negative export, and the subsequent sale of the goods as a positive export, the difference representing the merchanting margin.

**6.5** In this chapter the recommendations of the 2008 SNA and BPM6 for merchanting of goods will be outlined. Some guidance on identification of merchanting activities is also included, given the likely significant underreporting of this activity globally. Annex 6.2 discusses a range of merchanting issues from the perspective of the Central Statistics Office (CSO) in Ireland, where the phenomenon of merchanting of services is significant.

**Chart 6.1 Growth in merchanting 2004 – 2008 (2004 = 100)**



Source: Eurostat, May 2010

### Background

**6.6** The 1993 SNA, BPM5 and the international standards related to them provide no clear definitions of “merchanting” and “merchant” based on the economic nature of the activity. For example, in the BPM5 treatment as outlined above, the difference between the value of goods when acquired and the value when sold is recorded as the value of merchanting services provided (see chart 6.2 below for an illustration of a typical merchanting transaction).

**Table 6.1 Global merchenting 2004 – 2008**

	€ millions				
	2004	2005	2006	2007	2008
European Union	25,543	34,223	41,453	52,329	56,145
of which:					
Belgium	1,233	1,469	1,408	4,580	4,251
Denmark	:	1,286	1,544	1,707	1,907
Germany	4,284	5,301	10,156	9,714	8,771
Ireland	2,480	4,018	5,301	8,816	9,817
France	3,323	5,864	6,213	5,631	8,220
Italy	140	141	164	132	106
Cyprus	319	404	468	369	627
Luxembourg	270	305	353	345	801
Hungary	988	1,234	1,157	1,235	1,317
Malta	35	61	80	51	82
Netherlands	1,020	1,059	1,143	1,196	1,240*
Austria	1,406	2,029	2,273	2,538	2,773
Slovenia	1	58	111	168	189
Finland	4,337	4,493	4,929	5,020*	5,100*
Sweden	3,459	3,936	4,866	6,669	7,392
United Kingdom	690	1,261	361	1,549	1,341
Switzerland	2,949	3,787	5,602	6,523	9,100
Total	28,492	38,009	47,055	58,852	65,245

(\*) Estimate

**6.7** However, there is a discussion of commodity arbitrage (*Balance of Payments Textbook*, paragraph 361) and the description in the 1993 SNA of this issue (paragraph 14.60) is along the same lines as BPM5. In addition the *Balance of Payments Compilation Guide* (paragraphs 138-139), *Balance of Payments Textbook* (paragraphs 189-194 and 361-362) and *Manual on Statistics of International Trade in Services* (MSITS) (paragraph 3.123 and box 6) deal with the treatment of merchenting. Nevertheless, various kinds of

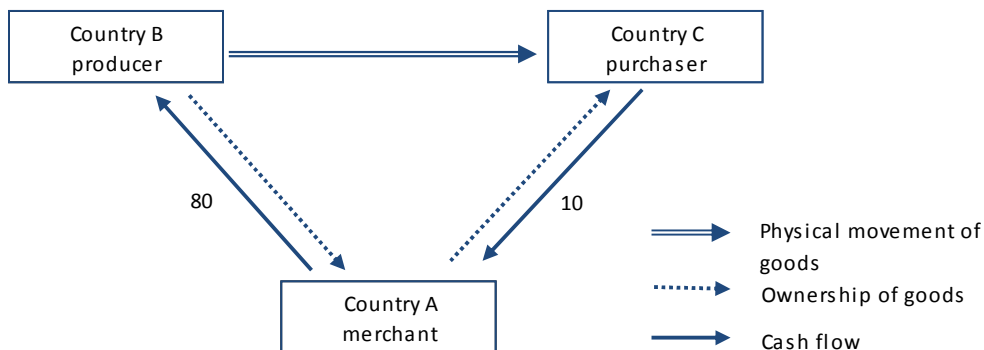
activities are included in the current definition of merchenting without any distinction between them. They include:

- a. Transactions resulting from global manufacturing.
- b. Global wholesaling services (and some retailing services).
- c. Commodity arbitrage (dealing).

**6.8** Holding gains and losses on the goods while they are in the possession of the merchant, which

**Chart 6.2 Global merchenting 2004 – 2008**

Merchant in country A purchases goods from country B and sells to country C



properly speaking are not transactions, are nevertheless included indistinguishably in the provision of merchanting services.

6.9 However, the economic nature of the transactors and transactions does in fact differ, as explained below.

**Global manufacturing**

6.10 The MSITS when discussing merchanting (paragraph 3.123 and box 6) refers to commodity arbitrage and wholesale trading but not to transactions arising from global manufacturing. Many transactions between enterprises within a multinational enterprise (MNE) may however fall within the definition of merchanting. In reality, the merchanting service may often be a return for marketing, R&D, financing, process management, etc. provided by an enterprise that does not physically handle the goods. For example, an entity within an MNE arranges for goods to be manufactured by one non-resident affiliate and sold on to another. The transactions between the resident entity which commissions the production and acquires and then sells the goods, and its foreign affiliates, fall under the heading of merchanting for the resident affiliate.

6.11 Merchanting in the context of global manufacturing is no different from other examples of merchanting except that all transactions take place within the MNE. The key feature of this recording is that the product is not subject to any transformation while owned by the entity performing the merchanting function. If the good is transformed or processed while in the ownership of the resident entity, the transaction is instead recorded under the goods for processing heading

“manufacturing services on physical inputs owned by others” in the services account.

6.12 In reality transactions between affiliates of an MNE may combine elements of merchanting and processing. Chapter 5 concerns goods for processing, and Chapter 8 discusses this and many other issues arising from the recording of global manufacturing.

**Global wholesaling and retailing services**

6.13 The treatment of merchanting also covers international wholesale/retail activities, where the merchant earns a margin by purchasing from one non-resident supplier and selling to another non-resident retailer or other distributor.

**Commodity trading**

6.14 Historically, merchanting often involved buying and selling physical commodities in the hope of profiting from price differences in the market for them. Much commodity trading now takes the form of trading in derivatives (options, futures, swaps, etc.) rather than in the underlying commodities. Trading in commodity derivatives is not regarded as merchanting.

**The statistical treatment recommended in international standards**

6.15 The reporting of merchanting-type activities has been discussed in all versions of the BPM since the first edition in the late 1940s. Over time, as the nature of globalized business activities has broadened and the methodology for the balance of payments current account has been elaborated,

**Table 6.2 Treatment of merchanting activities in successive IMF Balance of Payments Manuals**

<i>Edition of the Manual</i>	<i>Required recording</i>	<i>Classified in the BPM methodology</i>
BPM 1st edition - 1948	Record net under merchandise	Other transactions in merchandise
BPM 2nd edition - 1950	Record gross under merchandise	Other transactions in merchandise
BPM 3rd edition - 1961	Record net under merchandise	Merchandise transactions abroad
BPM 4th edition - 1977	Record net under “other” goods, services and income	Other goods, services and income
BPM 5th edition - 1993	Record net under services	Business services
BPM 6th edition - 2009	Record gross under goods (imports recorded as negative exports)	Goods under merchanting

more activities have been reported under the heading of merchanting.

**6.16** Previous editions of the BPM classified merchanting activities in various ways, as summarized in table 6.2.

**6.17** For national accounts, the treatment of merchanting follows the same approach as that of the BPM and is outlined in the 1993 SNA (paragraph 14.60) as follows: *"...the third exception (to the change of ownership principle) is one in which a change of ownership may occur but is ignored in the accounts. The exception relates to merchants or commodity dealers who buy commodities or other goods from non-residents and then sell them again to non-residents within the same accounting period without the commodities actually entering the economy in which the merchants are resident. The difference between the receipts and the sales of such dealers is treated as measuring the value of the services they provide and recorded under exports or imports of services."*

**6.18** While not mentioned explicitly in previous SNA manuals, the treatment of merchanting activities is a generalized one for all cross-border transactions in goods and services. For example the 1968 SNA (paragraph 6.138) says *"the scheme of classification [of the 1968 SNA] is also aligned as much as is possible with the classification of goods and services in the third edition of [the] Balance of Payments manual of the International Monetary Fund"*.

**6.19** It can be seen that the thinking behind the recommended treatment for merchanting has varied between net and gross recording. It is noteworthy that the motivation in BPM6 and the 2008 SNA for the required recording of merchanting in the goods account rather than the services account of the balance of payments is in line with the treatment in BPM3, where merchanting was to be recorded under the goods heading so that the net balance on merchanting *"must be added to exports to make world exports equal world imports"* (BPM3, page 43, paragraph 4). Subsequent editions seem to be more concerned to recognize the services aspects of merchanting activities at the expense of global additivity within the goods account. This is reflected in the instructions to record merchanting under services in BPM5.

### **International discussions on the 1993 SNA and BPM5 treatment of merchanting**

**6.20** Merchanting has been extensively discussed in various fora as part of the drafting of 2008 SNA

and BPM6. These include the Advisory Expert Group on National Accounts, the Intersecretariat Working Group on National Accounts, the Balance of Payments Technical Expert Group, the IMF Balance of Payments Committee and the Inter-agency Task Force on Statistics of International Trade in Services.

**6.21** The discussions have focused on the merchanting of goods, and in this context they have highlighted a number of difficulties caused by the current treatment of merchanting. These difficulties can be summarized as follows.

a. The recording of merchanting transactions is asymmetrical, i.e., the merchanting margin is recorded under *services* for the economy in which the merchant is resident, whereas statisticians in the countries in which the counterparties are resident record the related gross transactions in the *goods* account for both the exports and imports. This method of recording merchanting activities results in a global imbalance in the goods account. Annex 6.1 contains a full discussion of this issue.

b. The treatment is inconsistent with *inventories* data and *balance sheets* both for the merchant and for the supplier. Legal and economic ownership of the goods passes to the merchant when he acquires them, but the current treatment ignores this, with the result that data on assets are inconsistent with the enterprise accounts and balance sheets which show the actual position of the merchant. As the national accounts may not record these stocks in the *value of inventories* as owned by the resident merchant, the inventories may be without an owner. Although there is a provision to avoid this outcome in both the 1993 SNA (paragraph 14.60 *"If, however, the goods are not resold within the same accounting period, the purchases have to be recorded as imports of goods which are temporarily held as inventory..."*) and BPM5 (paragraphs 213 and 262 *"...if the commodities are not resold by the merchant in the same accounting period, an import of goods is recorded in the first period and a negative import entry is recorded in the later period"*), implementing these guidelines is difficult for the compiler, with the likely consequence that inventories are not attributed to any owner.

c. The valuation principles are not consistent with supply and use (SU) tables. Ignoring taxes, the SU tables are valued at either basic prices (i.e. goods transactions and margins are shown separately) or purchasers' prices (i.e. goods transactions are valued at basic prices plus corresponding margins). The existing treatment of merchanting is not

consistent with either pricing approach, as the merchant's margin is recorded under wholesale trade with no corresponding goods transaction. The treatment also undermines the relationship between distribution industries and the corresponding goods transactions, as the latter are omitted.

d. All other goods transactions in the balance of payments are recorded gross, including any retail and wholesale margins arising up to the national frontier. But only the margin (not the underlying good) is recorded in the balance of payments current account of the country where the merchant is resident.

e. No clear definitions, based on the economic nature, are provided for "merchanting" and "merchant" in the 1993 SNA and BPM5 and other current international standards.

### Merchanting in the 2008 SNA and BPM6

**6.22** The revised treatment for merchanting in the 2008 SNA and BPM6 can be summarized as follows.

a. The acquisition of goods by merchants is to be shown under goods as a negative export of the country in which the merchant is resident.

b. The subsequent sale of the goods is shown under "goods sold under merchanting" as a positive export of the country in which the merchant is resident.

c. The difference between sales and purchases of merchanted goods is shown as "net exports of goods under merchanting." This item includes merchants' margins, holding gains and losses and changes in inventories in the form of goods under merchanting (where the merchanting activity spans two accounting periods). As a result of losses, or increases in inventories, net exports of goods under merchanting may be negative in some cases. If the merchant arranges for the goods to be packaged, or otherwise treated without affecting their condition, the merchant buys "manufacturing services on physical inputs owned by others" (see BPM6, box 10.1).

d. Merchanting entries are valued at transaction prices as agreed by the parties, not at "free on board" (f.o.b.) prices.

e. In the SU tables the difference between the sales and purchases of merchanted goods appears as the production of a service in the merchant's economy, consistently with the treatment of margins applied to domestically produced goods. Annex 6.3

discusses the recording of merchanting in SU tables.

**6.23** The new treatment can be summarized as requiring merchanting transactions in goods to be recorded in the goods account rather than the services account in the balance of payments and the national accounts. Although the recording is gross, both the purchase and sale are entered on the credit (export) side, with purchases (imports) recorded as negative exports. In the SU tables the net surplus earned by the merchant is shown as a service.

### Impact of the treatment in the 2008 SNA and BPM6

**6.24** How far the new guidelines resolve the difficulties associated with the current recording of merchanting of goods under the 1993 SNA and BPM5 is now discussed following the order in paragraph 6.21.

a. *The recording of merchanting transactions is asymmetrical.* On the assumption that all merchanting transactions are in the goods account, the changed reporting requirements help to remove the discrepancy between global exports and imports. This result is illustrated in annex 6.1 which compares the 1993 SNA and 2008 SNA treatments.

b. *The treatment is inconsistent with inventories data and balance sheets both for the merchant and for the supplier.* As paragraph 6.22 (c) noted, the difference between sales over purchases of merchanting is shown as the item "net exports of goods under merchanting", which includes merchants' margins, holding gains and losses and changes in inventories of goods under merchanting. The new standards should resolve the difficulties with inventories and holding gains (see annex 6.1). However, it should be noted that holding gains and losses are excluded from trade margins in national accounts, because they do not represent transactions. In practice, particularly in the case of merchanting where data are scarce, the new manuals recognize that data sources may not allow all holding gains and losses to be excluded.

c. *The valuation principles are not consistent with SU tables.* The inclusion in the gross value of exports by the merchant of the wholesale/retail margin and the holding gains/losses accruing while the goods are in inventory is consistent with the measurement in SU tables of these margins in the SNA and BPM.

d. *All other goods transactions in the b.o.p. are shown including any retail and wholesale margins*

*arising up to the national frontier*, not with these margins separated. At the individual country level this drawback remains, and it is difficult to see how this issue could be resolved while at the same time attributing the surplus to the country of the merchant.

e. *No clear definitions, based on the economic nature, are provided for "merchanting" and "merchant" in the 1993 SNA, BPM5 and other current international standards.* The BPM6 contains a discussion of the economic nature of merchanting.

**6.25** A final point is that the gross reporting of merchanting activities as negative and positive exports when the goods never cross the border of the country where the merchant is resident poses a serious challenge for compilers. To this end some practical approaches to identifying and recording merchanting activities are set out in the next section.

### **Proposals for operational treatment in the accounts: identification and recording of merchanting activities**

**6.26** The IMF considers that merchanting activity is probably underreported globally. It is easy to understand that such a situation could arise given the nature of merchanting, where the goods being merchanted do not cross the border of the country in which the merchant is resident. Compilers must therefore first identify merchanting activities and then establish a system of regular reporting through business surveys. It may also be difficult for statisticians in the supplier country to assign goods sold to a foreign merchant to the correct country of destination, since they are likely to be recorded as shipped to the country of the final buyer.

**6.27** How can these activities be captured in the balance of payments statistics and by extension included in the national accounts? Merchanting activities can be identified in a number of ways.

a. First, an entity or enterprise solely involved in merchanting normally employs a relatively small staff while having substantial turnover - turnover per person tends to be very large. The national statistical institute could use its business register to identify such cases using ratio analysis.

b. MNEs sometimes engage in merchanting in conjunction with the production of other goods or services. These merchanting activities can be captured through a specific question on sales and purchases of merchanted goods.

c. The analysis of administrative data such as corporation tax records or dividend tax payments can also be used to identify firms with large taxable profits but no substantial physical presence in the economy, which are characteristics of merchants. Comparing customs data with corporation tax records for particular enterprises may identify enterprises earning large profits without the exports of goods which might be expected to generate them, another indication of merchanting.

d. An awareness of MNE practices and recording conventions is also helpful in identifying these activities, and statistical staff visiting MNEs should be aware that they may undertake merchanting activities, and be prepared to ask appropriate questions. It should be noted however that the term "merchanting" is generally not used by MNEs or other enterprises, which makes it more difficult to detect the activity. For example merchanting is also called "drop shipping" or "virtual sales" by these companies. In Ireland, an enterprise name ending in "EMEA" (a short form for "Europe, Middle East and Africa") sometimes indicates involvement in merchanting.

**6.28** In general the detection of merchanting activities requires that business services survey areas and national accounts and b.o.p. compilers are aware of the phenomenon and also of the likely circumstances in which merchanting may occur.

**6.29** As regards the recording of merchanting in national accounts, as mentioned earlier trade margins, such as the merchanting margin, should exclude holding gains and losses. In practice, it is difficult to exclude them: collection systems for balance of payments statistics may not identify holding gains and losses; balance of payments statistics may be compiled by a separate institution, the national central bank; and merchanting activities, whoever records them, will cover numerous transactions at both company and aggregate level.

**6.30** The recording of merchanting activities is discussed in detail in annex 6.1. Some practical points need to be kept in mind in the context of the national accounts.

a. On the expenditure side of the national accounts, the merchanting margin should have the same impact as in the balance of payments, i.e. the net export of goods should be identical in both sets of accounts. When transactions straddle accounting periods, the initial transaction (the negative export recorded in the accounts of the country in which the merchant is resident) must be matched by an increase in inventories, since



otherwise GDP will be reduced by the amount of the purchase of the goods. In the second period, the sale of the goods must be recorded as a (positive) export largely offset by a reduction in inventories, leaving the margin earned on the transaction as a net addition to GDP.

b. As paragraph 6.29 noted, a fall (or rise) in the price of the goods in the course of the merchanting (a holding gain or loss for the merchant) is unlikely to be picked up in practice. Consequently the recording of changes in inventories and net exports of goods may result in some inconsistency between the expenditure and output measures of GDP.

### **Recommended future work on the issue: extension of the treatment to cover merchanting of services**

**6.31** The 2008 SNA and BPM6, which relate to the recording of merchanting of goods in the goods account of the balance of payments and in national accounts, should resolve most of the existing problems associated with statistical recording of this type of merchanting activity.

**6.32** Merchanting of services is not a new idea. Indeed BPM3 referred to it in 1961: *"..the compiling country's residents may carry out international transactions in goods and services that are entered only on a net basis. Such transactions involve the purchase of goods or services in one foreign country and the sale or granting of them to another foreign country..."* (paragraph 472). However, where merchanting relates to services, the new guidelines may create some fresh difficulties. Under the BPM6 guidelines, there will no longer be a services category "merchanting." Services sourced and delivered in a merchanting-type arrangement must be recorded as gross transactions in the relevant services category. For example, if computer services are being merchanted, the compiler in the country in which the merchant is resident records an import of computer services of (say) 100 and an export of 130, with no indication that these services are being merchanted.

**6.33** Moreover, merchanting of services and services-type activities in general is an area where considerable growth in activity has already been observed. This point is developed in Hummels' paper: *"There is perhaps a third era in cross border trade unfolding even now, again driven by rapid improvements in a technology for connecting people across great distances. Clearly the telecommunication and internet revolution has already affected international integration, leading*

*to a growing rate of transformation and technology outsourcing and in migration of highly skilled professionals. The impact of these changes and the extent to which they displace older forms of integration bear close watching in the years to come"* (Hummels, 2007).

**6.34** Thus an entity in country A may purchase services in country B and promptly sell them, without transforming them in any way, to a client in another country. This is a form of merchanting. An example of the merchanting of services is the purchase by a resident company from a non-resident of telecommunications services and the sale of these same services to a related company or third party abroad. The transaction might take the following form: a resident company (merchant) in country A enters into an agreement with a major international telecommunications company in country B, the owner of an international telephone line or similar satellite or wireless means of telecommunication. The agreement takes the form of a lease of the telephone line for a set period. This line is from country B to country C. The company resident in A (the merchant) then sells the use of this line to an affiliate or third party resident in country C. The buyer is typically an MNE seeking to create a virtual international communications network. This transaction is therefore a single step in achieving this network. Annex 6.2. (paragraphs 6.2.10-13) gives an instance from the experience of Ireland, where a resident entity buys software services (for example, a licence to use software) from its US parent for sale to a client in another country. Although the international standards require gross recording of such services, it can be argued that a net recording, as for goods, would be more appropriate.

**6.35** As part of this so-called third era of globalization, there has been an explosion in the merchanting of services through outsourcing facilitated by innovations in telecommunications and web-based (internet) services. Indeed BPM6 (paragraph 10.160) does refer to the merchanting of services: *"Business and other services such as transport, construction, and computing may be subcontracted. This arrangement may be called 'outsourcing.' For example a specialist service arranger may be paid to provide back-office functions for a customer, which the service arranger subcontracts to another contractor. Thus, subcontracting is similar in some ways to merchanting of goods as the services are purchased and resold... ..'Service merchanting' of this kind is an important activity in some economies.."*

**6.36** Although the requirement is for a gross recording approach for these services, later in the paragraph BPM6 does allow the possibility of providing net data on a supplementary basis.

**6.37** So the BPM6 recognizes the issue of merchanting of services, but there is no distinct treatment for such transactions in the new manual. The scale of the gross flows involved in this type of merchanting activity, at least for the countries identified earlier in this chapter, does seem to warrant a net treatment under a separate classification in business services.

### **Conclusion**

**6.38** 2008 SNA and BPM6 guidelines for the recording of merchanting activities address the shortcomings in the treatment of these activities in

BPM5 and by extension in the 1993 SNA. These shortcomings relate to the global additivity of the goods account and the treatment of inventories and holding gains and losses. BPM6 also recognizes the issue of merchanting of services and its recording in the balance of payments. However, the recommended approach for the merchanting of services is a gross treatment under the relevant services category, with the possibility of a net presentation on a supplementary basis. This recommendation goes some way towards recognizing the impact of globalization and the consequent increase in the importance of telecommunications and internet services, and the impact that these developments will have on trade in services and on the merchanting of services in particular.

## Annex 6.1

### Merchanting of goods: 1993 SNA and BPM5 treatment compared with the new standards in the 2008 SNA and BPM6

6.1.1 The following example illustrates the basic principles of the present and new treatments, and the difference between them.<sup>18</sup> It may help understanding of the consequences of the change in the 2008 SNA and BPM6. All transactions occur within a recording period, with the goods physically moving from country B to country C directly without entering country A where the merchant is

resident. It is assumed that all transactions are settled by transfers of bank deposits (part of the financial asset category “currency and deposits”).

- Value of goods purchased by a resident of country A from a resident of B = 80
- Value of goods which the resident of A resells to a resident of C = 100

Chart 6.1.1 Merchanting

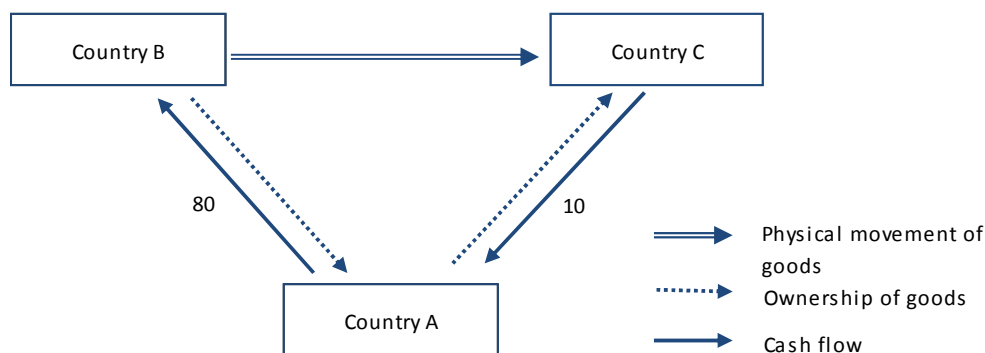


Table 6.1.1 Treatment under the 1993 SNA and BPM5 and recording in the 2008 SNA and BPM6

1993 SNA/ BPM5 treatment			2008 SNA / BPM6 treatment		
	Credit	Debit		Credit	Debit
<b>Country A</b>			<b>Country A</b>		
Services: merchanting	20		Goods under merchanting	100	
Bank deposits		20	Goods under merchanting	-80	
			Bank deposits		20
<b>Country B</b>			<b>Country B</b>		
Goods	80		Goods	80	
Bank deposits		80	Bank deposits		80
<b>Country C</b>			<b>Country C</b>		
Goods		100	Goods		100
Bank deposits	100		Bank deposits	100	
<b>Global balance*</b>			<b>Global balance</b>		
Goods	80	100	Goods	100	100
Services: merchanting	20		Incl. goods under merchanting	20	0
Bank deposits	100	100	Bank deposits	100	100

\* Merchanting is recorded only in country A (the exporter of merchanting services). This causes global imbalances in goods and services as no debit entry in merchanting is recorded.

<sup>18</sup> Taken from Takeda, 2005.

### Holding gains or losses

6.1.2 This case treats a holding loss; the recording principles are the same for a holding gain.

6.1.3 The following example (chart 6.1.2 and table 6.1.2) illustrates the principles of the present and new treatments if holding gains and losses occur. Before the resident of A resells the goods to the resident of B, the price decreases by 30. All transactions occur within a recording period, with the goods physically moving from country B to country C directly, and not entering country A. It is assumed that all transactions are settled by transfers of bank deposits.

- Value of goods purchased by a resident of country A from a resident of B = 80

- Value of goods which the resident of A resells to the resident of C = 50

### Changes in inventories: transactions that fall into two recording periods

6.1.4 The example in chart 6.1.3 and tables 6.1.3-6.1.4 illustrates the principles of the present and proposed treatments if merchenting transactions straddle recording periods. The value of the transactions is the same as in the basic case. However, the resident of A purchases goods from the resident of B in period t and resells the goods to a resident of C in period t+1. The goods move from country B to country C directly, without entering country A. It is assumed that all transactions are settled by transfers of deposits.

Chart 6.1.2 Merchenting (holding gains and losses)

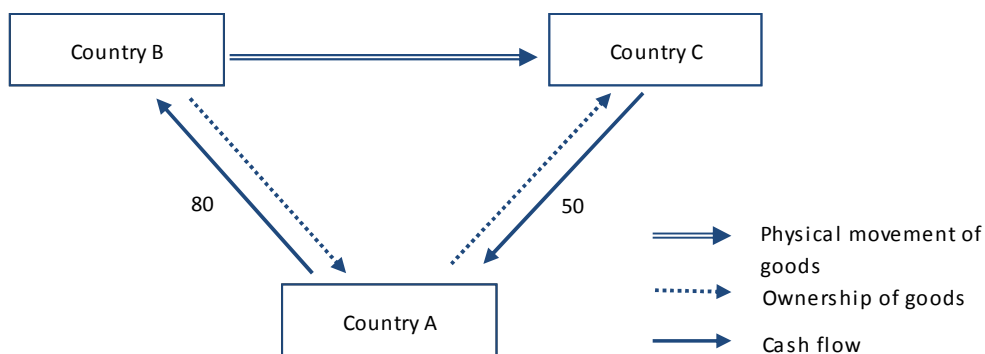


Table 6.1.2 Treatment under the 1993 ESA and BPM5 and recording in the 2008 SNA and BPM6

	1993 SNA/BPM5 treatment		2008 SNA/BPM6 treatment	
	Credit	Debit	Credit	Debit
<b>Country A</b>				
Services: merchenting	-30			
Bank deposits		30		
<b>Country B</b>				
Goods	80		80	
Bank deposits		80		80
<b>Country C</b>				
Goods		50		50
Bank deposits		50		50
<b>Global balance</b>				
Goods	80	50	50	50
Services: merchenting	-30		-30	
Bank deposits	80	80	80	80

Chart 6.1.3 Merchanting (when transactions straddle recording periods)

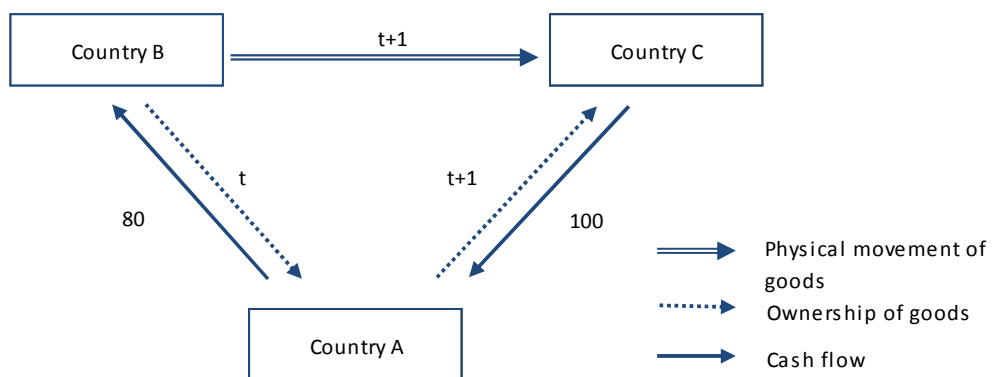


Table 6.1.3 Treatment under the 1993 SNA and BPM5

<i>a) period t</i>	<i>Credit</i>	<i>Debit</i>	<i>b) period t+1</i>	<i>Credit</i>	<i>Debit</i>
<b>Country A</b>			<b>Country A</b>		
Goods		80	Goods		-80
Bank deposits	80		Services: merchanting	20	
<b>Country B</b>			<b>Country B</b>		
Goods	80		Bank deposits		100
Bank deposits		80			
<b>Country C</b>			<b>Country C</b>		
			Goods		100
			Bank deposits	100	
<b>Global balance</b>			<b>Global balance</b>		
Goods	80	80	Goods		20
Bank deposits	80	80	Services: merchanting	20	
			Bank deposits	100	100

Table 6.1.4 Recording in the 2008 SNA and BPM6

<i>a) period t</i>	<i>Credit</i>	<i>Debit</i>	<i>b) period (t+1)</i>	<i>Credit</i>	<i>Debit</i>
<b>Country A</b>			<b>Country A</b>		
Goods under merchanting	-80		Goods under merchanting	100	
Bank deposits	80		Bank deposits		100
<b>Country B</b>			<b>Country B</b>		
Goods	80				
Bank deposits		80			
<b>Country C</b>			<b>Country C</b>		
			Goods, debit		100
			Bank deposits	100	
<b>Global balance</b>			<b>Global balance</b>		
Goods	80		Goods	100	100
Goods under merchanting	-80		Goods under merchanting	100	
Bank deposits	80	80	Bank deposits	100	100

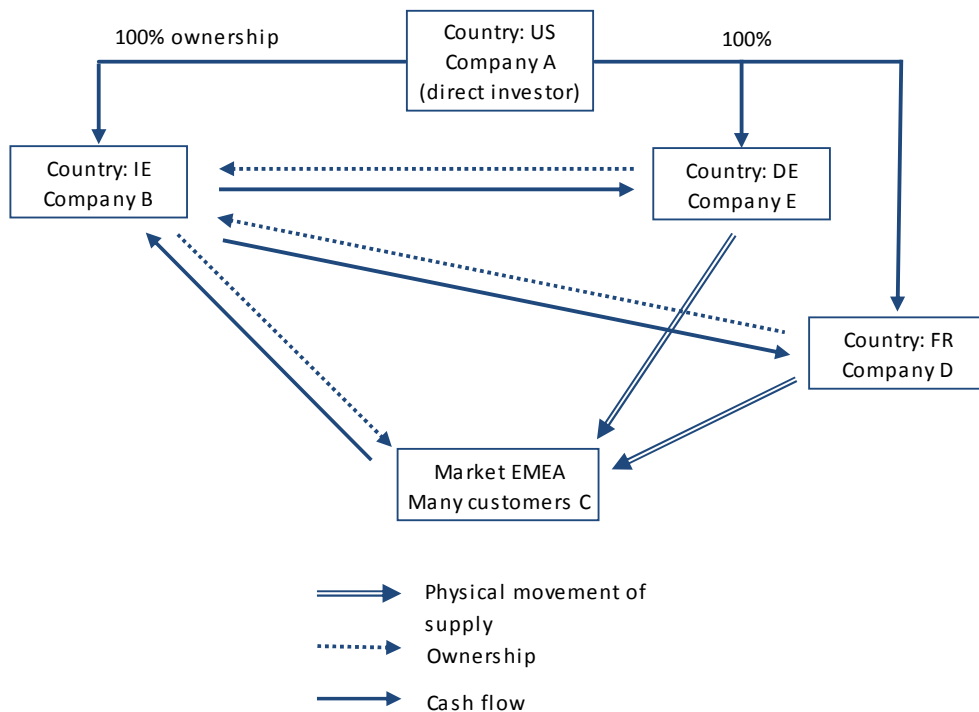
## Annex 6.2 Country practice: the Irish approach

**6.2.1** As shown in table 6.1 in the introduction to this chapter, because of its highly globalized economy Ireland is one of the five most important countries for merchanting activities. However, recorded merchanting activity for Ireland includes merchanting of services as well as service activities associated with the merchanting of goods. This broader scope for merchanting activities is based on country specific treatments developed by the CSO on account of their scale in Ireland.<sup>19</sup>

abroad in association with the supply of goods. They have recently been extended to the treatment of services outsourced and delivered abroad where goods are not involved.

**6.2.3** The main reason for the CSO's approach is to reduce the potential for statistical distortion arising from these very large transactions in both goods and services sourced and delivered abroad. Some statistical users, particularly trade associations or representatives, may be misled by

**Chart 6.2.1 Merchanting and related transactions**



**6.2.2** The CSO approach in compiling these statistics on merchanting activities is based on the recommendations of the BPM5 in relation to merchanted goods. However, certain significant modifications are made where considered necessary for clear and understandable results. These modifications were initially related to the treatment of services outsourced and delivered

statistics for exports of services which are inflated by gross recording of merchanted services. It seems better not to inflate the services exports and imports data by including such transactions, particularly if such large aggregate flows are likely to be compared with employment levels in a particular industry in Ireland. Nevertheless it is acknowledged that net recording by one compiler can lead to asymmetries where counterpart compilers record the transactions on a gross basis in their balance of payments statistics.

<sup>19</sup> References to the CSO treatment of merchanting are based on Fitzpatrick, 2007.

**6.2.4** The treatments for outsourced services adopted by the CSO and described below may seem to depart from the recommendations of the international statistical standards. Yet, while a gross treatment of outsourced services delivered to a non-resident customer may be implicit in BPM5, there appears to be no explicit discussion of such delivery of services in the manual documentation or any explicit reference as to how the relevant transactions should be treated.

**6.2.5** Two examples are set out below: the first relates to merchanting of goods and associated services, and the second relates to merchanting of services only.

### **Merchanting of goods and related services**

**6.2.6** The following is a simplified version of more complicated activities and practices. A direct investment enterprise located in Ireland (B) is owned by a US investor (A). B in Ireland arranges for the supply of equipment to a number of unrelated customers (C) in the European, Middle Eastern and African (EMEA) markets, for its installation and maintenance, and for the provision of related staff training, etc. The goods and services supplied are not sourced in Ireland by B: €2 billion of goods are purchased by B from its affiliate (E) located in Germany, and €3.5 billion of services are purchased from another affiliate D in France. The two affiliates deliver the goods and services to the customers (C). These customers pay B a total of €6 billion for the goods (€2.2 billion) and services (€3.8 billion) they receive. The Irish trader, B, records in its accounts all payments and receipts arising from the order. Chart 6.2.1 describes the situation.

**6.2.7** Under the BPM5 and other international recommendations, the goods element in these transactions would appear in the b.o.p. of Ireland only as the net margin (€0.2 billion) recorded as a merchanting service credit. The related service transactions would appear in imports and exports of services, a credit of €3.8 billion and a debit of €3.5 billion (see table 6.2.1).

**6.2.8** As both the goods and services delivered to the EMEA customers (C) have been sourced from and delivered by a non-resident of Ireland (i.e. a French D and a German E foreign affiliate of the Irish entity B), the CSO treats the combined

transactions for goods and services described above on a net basis. It records the overall net margin of €0.5 billion as a credit (service export) under merchanting services in the services part of the balance of payments current account (see table 6.2.2).

**6.2.9** The new proposals for the treatment of merchanting do not allow for the merchanting of services. Table 6.2.3 shows what the recording of these transactions in goods and services would be under the 2008 SNA and BPM6.

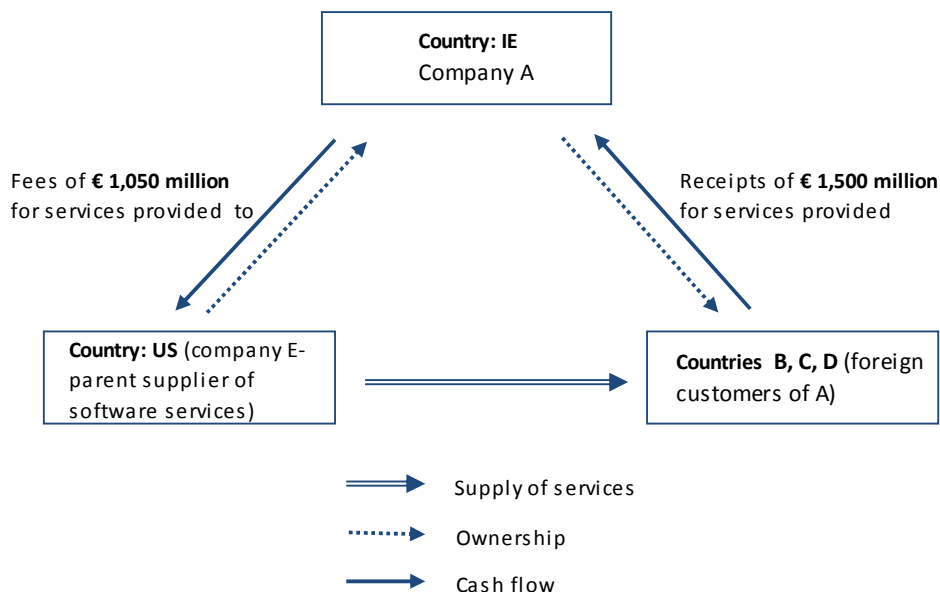
### **Merchanting of other services**

**6.2.10** In this further example, an Irish resident direct investment enterprise (A) has EMEA customers located in countries B, C and D. A purchases software services from its US parent for €1,050 million and supplies them to its EMEA customers for a total of €1,500 million. A records all turnover and expenditure as well as the profits generated. Chart 6.2.2 describes the situation.

**6.2.11** The CSO records the above transactions in its balance of payments statement as shown in table 6.2.4.

**6.2.12** The €450m recorded under merchanting services results from the netting of A's services imports of €1,050 million paid to the US parent with the services exports totalling €1,500 million. The operation in Ireland is assumed to be little more than a "brass plate" and its local costs to be zero. The merchanting surplus goes entirely to profits earned which are attributed to the US parent. Applying instead the proposed treatment for merchanting would give the result shown in table 6.2.5.

**6.2.13** The example suggests that a net treatment for the recording of transactions in merchanting of services (as in table 6.2.4) is appropriate. This is particularly important if the resident entity is the principal enterprise within a multinational group through which the receipts and expenditures of the various affiliates are routed, because a change in this arrangement can have a significant impact on the data. Thus a decision by the parent company to transfer the role to an affiliate in another country may result in a large discontinuity in the service data and profit/loss. A net treatment limits the extent of the discontinuity.

**Chart 6.2.2 Treatment of receipts and expenditure of an Irish direct investment enterprise for services provided by foreign affiliates**

**Table 6.2.1 1993 SNA and BPM5 recording treatment**

B.o.p. item	€ millions		
	Credit	Debit	Net
Merchanting services	200		200
Other services	3,800	3,500	300
Total	4,000	3,500	500

**Table 6.2.2 CSO, Ireland recording treatment**

B.o.p. item	€ million		
	Credit	Debit	Net
Merchanting services	500		500
Other services	-		-
Total	500		500

**Table 6.2.3 Recording treatment under the 2008 SNA and BPM6**

B.o.p. item	€ millions		
	Credit	Debit	Net
Goods - merchanting	2,200		200
		-2,000	
Other services	3,800	3,500	300
Total	4,000	3,500	500

**Table 6.2.4 CSO, Ireland recording treatment for merchant services**

B.o.p. item	€ millions		
	Credit	Debit	Net
Merchanting services	450	-	450
Profits		450	-450
Total	450	450	0

**Table 6.2.5 2008 SNA and BPM6 recording treatment for this example**

B.o.p. item	€ millions		
	Credit	Debit	Net
Other services	1,500	1,050	450
Profits		450	-450
Total	1,500	1,500	0



## Annex 6.3

### The recording of merchanting in the supply and use tables

**6.3.1** Chapter 6 outlined the changes to the guidelines for the recording of merchanting activities in the 2008 SNA and BPM6. These changes have consequences for the recording of merchanting in the SU tables, as illustrated here by an example. Merchants resident in economy A deal in two products, butter and computers. The recording of these merchanting activities in a particular year is set out below, firstly in line with the recording principles of the 1993 SNA (tables 6.3.1 and 6.3.2), and then following the recommendations of the 2008 SNA (tables 6.3.3 and 6.3.4).

**6.3.2** The 1993 SNA records the **supply** from merchanting by allocating the output to the relevant industry engaged in the merchanting, namely *office machinery and equipment* for computers, and *food and beverages* for butter. This allocation can be seen in table 6.3.1. These two products are recorded under the **product** of *wholesale trade*, because, since the products have been sourced abroad and sold to another non-resident, effectively only the margin earned on these transactions is recorded by the industries engaging in the merchanting. In many cases merchanting is not the only activity of these firms, and the activity covers also merchanting among

affiliates within MNEs. Unlike other wholesale trade activities in the economy, the total for this activity at basic prices is not then redistributed across the product categories in the *trade margin* column, as the underlying products being merchanting never enter the economy and the output is treated as a service. Consequently in the supply table, going from output at basic prices to total supply at purchasers' prices, the merchanting margin is recorded under *wholesale trade* but is not then allocated to any underlying products. This differs from the general recording of trade margins in the supply table. In the example, the merchanting supply of 600 (200 butter, 400 computers) is the total at basic prices and at producer prices for the "product" *wholesale trade*.

**6.3.3** The **use** of merchanting is recorded in the exports column of the use table at purchasers' prices. The total for merchanting exports representing the merchanting margin of 600 is recorded under the product *wholesale trade*.

**6.3.4** In the 2008 SNA, the **supply** of merchanting activities is again allocated to the product *wholesale trade* and across the industries where merchanting took place. However, in contrast to table 6.3.1 (the 1993 SNA) recording, the total for this activity at basic prices is then redistributed

**Table 6.3.1 Supply table, 1993 SNA**

	<b>Industries</b>	Agriculture, forestry and fishing	Food and beverages	.....	.....	.....	Office machinery and computers	Total domestic supply at basic prices	Imports	Trade margins	Taxes	Subsidies	Total supply at purchasers' prices
<b>Products</b>													
Agriculture, forestry and fishing													
Food and beverages													
.....													
.....													
Wholesale trade			200				400	600					600
Office machinery and computers													
<b>Total</b>			<b>200</b>				<b>400</b>	<b>600</b>					<b>600</b>

across the product categories in the *trade margin* column with the result that total supply is recorded by product at purchasers' prices. This occurs because merchanting has been reclassified as a transaction in goods in the 2008 SNA.

**6.3.5** Table 6.3.4 sets out the recording of merchanting in the use table. This also changes because the merchanting margin is now allocated across the product types at purchasers' prices, whereas under the 1993 SNA the entire margin was

allocated to the product *wholesale trade* in the use table (table 6.3.2).

**6.3.6** Thus the new recording guidelines for merchanting improve the analysis of this activity in the SU tables. Whereas formerly all the supply was allocated to the product *wholesale trade* in the relevant activity at basic prices, the treatment is now symmetrical with the analysis at producers' prices.

**Table 6.3.2 Use table, 1993 SNA**

	Industries	Agriculture, forestry and fishing	Food and beverages	.....	Office machinery and computers	Total inter-industry	HCE	NPISH	Government	GFCF	Change in inventories	Exports	Total final uses
<b>Products</b>													
Agriculture, forestry and fishing													
Food and beverages													
.....													
.....													
Wholesale trade						0						600	600
Office machinery and computers						0							
<b>Total</b>						<b>0</b>						<b>600</b>	<b>600</b>

**Table 6.3.3 Supply table, 2008 SNA**

	Industries	Agriculture, forestry and fishing	Food and beverages	.....	.....	Office machinery and computers	Total domestic supply at basic prices	Imports	Trade margins	Taxes	Subsidies	Total supply at purchasers' prices
<b>Products</b>												
Agriculture, forestry and fishing												
Food and beverages									400			400
.....												0
Wholesale trade			200			400	600		-600			0
Office machinery and computers									200			200
<b>Total</b>			<b>200</b>	<b>0</b>	<b>0</b>	<b>400</b>	<b>600</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>600</b>

**Table 6.3.4 Use table, 2008 SNA**

	Industries	Agriculture, forestry and fishing	Food and beverages	.....	Office machinery and computers	.....	Total inter-industry	HCE	NPISH	Government	GFCF	Change in inventories	Exports	Total final uses
<b>Products</b>														
Agriculture, forestry and fishing														
Food and beverages													200	200
.....														
.....														
Wholesale trade							0						0	0
Office machinery and computers													400	400
<b>Total</b>													<b>600</b>	<b>600</b>

Abbreviations: HCE - household consumption expenditure; NPISH - non-profit institutions serving households; GFCF - gross fixed capital formation.

## Annex 6.4

### The case of Hong Kong, China

#### Introduction<sup>20</sup>

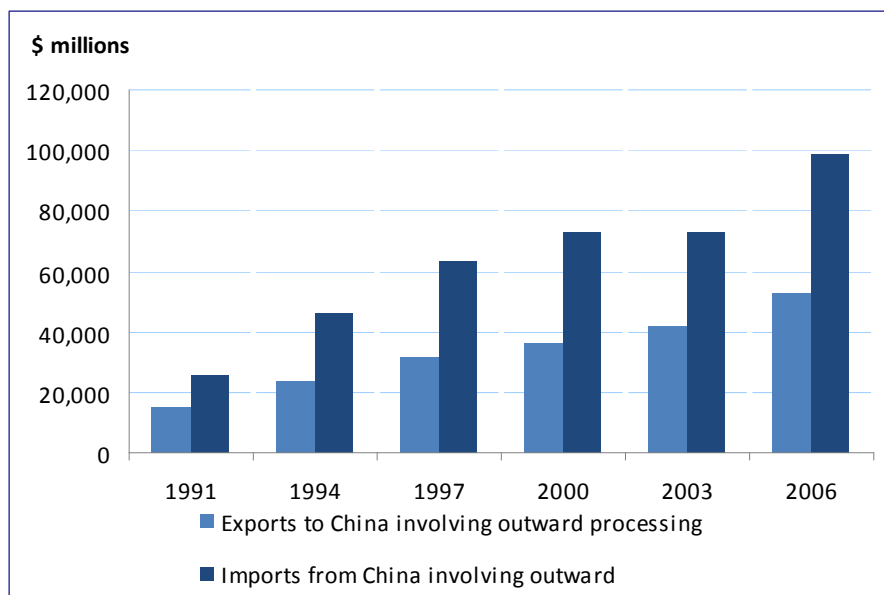
**6.4.1** Hong Kong is one of the world's largest trading entities and a premier trading hub in the Asia Pacific region. The past decades have seen a steady integration with the economy of Mainland China. Factories operated by Hong Kong entrepreneurs on the Mainland produce a wide range of commodities which are exported to many parts of the world.

**6.4.2** Over the past years, trading activities relating to goods for processing and merchandising have played a vital role in the external trade of

merchandising services from Hong Kong, is presented in charts 6.4.1 and 6.4.2 respectively. This annex concerns both processing and merchandising activities, and is therefore relevant to Chapter 5 as well as to this chapter.

**6.4.3** At present, data required for the compilation of the goods account in Hong Kong's balance of payments statistics primarily come from external merchandise trade statistics compiled on the basis of trade declarations submitted by importers and exporters. The external merchandise trade statistics record all movements of goods at

**Chart 6.4.1 Outward processing trade of Hong Kong with Mainland China**



Hong Kong. In 2006, about 30 per cent of goods imported into Hong Kong, and 17 per cent of goods exported from Hong Kong, were related to goods for outward processing on the Mainland, whereas about 26 per cent of exports of services of Hong Kong were related to merchandising activities. The historical trend of outward processing trade of Hong Kong with Mainland China,<sup>21</sup> and exports of

Hong Kong. As Mainland China has developed into a major manufacturing and processing centre in the region, its production costs have remained relatively low. Producers in Hong Kong would import major components from (for example) Japan, arrange to send the components to the Mainland for assembling, and then export the final products to the United States. Producers in Hong Kong mainly perform the management, marketing and other manufacturing related functions. As an illustration, for every sale of (US) \$100 of computer monitors, about \$50 would be the value of components imported from Japan, \$17 the processing fees received by plants in the Mainland, and \$33 the margin earned by producers and traders in Hong Kong.

<sup>20</sup> Based on a paper prepared for the Twentieth Meeting of the IMF Committee on Balance of Payments Statistics, Washington D.C., 29 October – 1 November 2007

<sup>21</sup> In the past 20 years, Mainland China has remained the hinterland for outward processing activities of producers in

the time they cross the border of Hong Kong, but not at the time of change of ownership. Goods for processing are thus included in the merchandise trade statistics, and are recorded at the time they are exported to the processing economy or returned to the original economy for local use or re-export. This implies that a change in ownership is imputed for goods for processing whenever they move into or out of Hong Kong, and they are recorded on a gross basis in the goods account. Under the present framework, merchanting is also treated as an exception to the change of ownership principle.

**6.4.4** As will be apparent from the main part of this chapter (and from Chapter 5 on processing), the new international statistical standards on goods for processing and merchanting in the 2008 SNA and BPM6 will when implemented have a substantial impact on the presentation, compilation and interpretation of external trade statistics of Hong Kong. The implementation of the new statistical standards will be one of the major initiatives of and challenges for the Census and Statistics Department of the Hong Kong SAR in the coming years.

**6.4.5** This annex presents some preliminary ideas regarding the plans of the Hong Kong SAR in implementing the new statistical standards. Specific issues relating to data collection and dissemination of statistics are also briefly addressed. A thorough consultation involving various parties will no doubt lead to elaboration and perhaps modification of the implementation

plan within resource limits.

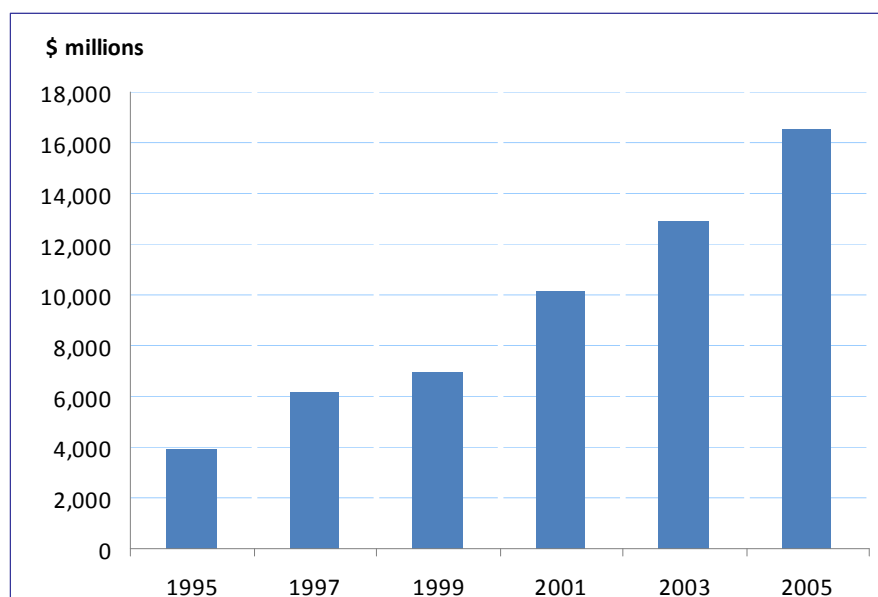
### The impact of implementing the new international statistical standards

**6.4.6** In order to assess the impact of implementing the 2008 SNA and BPM6 on relevant statistics of Hong Kong, an adjustment was made to the statistics for the year 2006 based on a crude estimation method. The adjusted figures help to illustrate the likely magnitude of the impact of the change.

**6.4.7** It can be seen from table 6.4.1 that implementation of the new international statistical standards would have a sizeable impact on the external trade statistics of Hong Kong. In particular, the balance of trade in goods in 2006 would be revised from a deficit of (US) \$14 billion to a surplus of \$51 billion, and the balance of trade in services from a surplus of US\$36 billion to a deficit of \$29 billion. In addition, given the importance of goods for processing and merchanting for the Hong Kong economy, the significant downward revision in the figures in respect of exports of goods and exports of services would change the relative ranking of Hong Kong in world exports of goods and services.

**6.4.8** As trade statistics are an important source of information used in bilateral trade negotiations, a significant revision in trade figures would probably confuse data users and policymakers, and the likely impact on trade negotiations should be carefully assessed before the new international statistical standards are implemented.

**Chart 6.4.2 Exports of merchanting services from Hong Kong**



## Important issues in implementing the new international statistical standards

### Additional data requirements

**6.4.9** In order to implement the new statistical standards on goods for processing, the following additional information must be collected for Hong Kong:

a. Exports and re-imports of goods for outward processing with breakdowns by commodity group and by country.

b. The amount of the processing fee payable.

**6.4.10** There are three different options for collecting this additional information, namely:

a. Expanding the trade declaration documents reported by traders to Hong Kong customs.

b. Conducting an enhanced survey on outward processing trade activities.

c. Applying new data models and imputations.

**6.4.11** Implementing the new standards on merchanting is easier. The additional information required can be obtained by enhancing the existing survey on trade in services. In the existing survey, data on purchases and sales of goods in

merchanting activities are collected to compile the gross margin, i.e. the value of merchanting services provided, which is the difference between the two. However, the existing survey can only provide annual data and cannot simply be taken as the data source for compiling quarterly b.o.p. statistics. It must also be enhanced to provide a breakdown by commodity group and by counterpart country.

**6.4.12** The pros and cons of each of the three options are elaborated below.

### Expanding the trade declaration documents

**6.4.13** Any person in Hong Kong who imports or exports any article other than an exempted article is required to lodge with the Commissioner of Customs and Excise an accurate and complete import or export declaration within 14 days of the importation or exportation of the article under the Import and Export (Registration) Regulations. Currently, more than 4.5 million trade declarations are lodged each quarter. In order to provide the new data for goods for processing, additional items would have to be collected in each trade declaration.

**6.4.14** The benefit of this option is that it can provide all additional statistical information required under the new standards. Reliable and timely statistics of exports and imports of goods for

**Table 6.4.1 Impact of implementation of the 2008 SNA and BPM6 on goods for processing and merchanting (US \$ billions)**

<i>External trade of Hong Kong</i>	<i>Value for year 2006</i>	<i>Adjusted for goods for processing only</i>	<i>Adjusted for merchanting only</i>	<i>Adjusted for both goods for processing and merchanting</i>
Imports of goods		233		233
	332	(-30%)	332	(-30%)
Exports of goods		265	336	283
	318	(-17%)	(+6%)	(-11%)
<i>Balance of trade in goods</i>	<i>-14</i>	<i>+32</i>	<i>+5</i>	<i>+51</i>
Imports of services		83		83
	37	(+127%)	37	(+127%)
Exports of services		73	54	54
	73		(-25%)	(-25%)
<i>Balance of trade in services</i>	<i>+36</i>	<i>-10</i>	<i>+18</i>	<i>-29</i>
<i>Balance of trade in goods and services</i>	<i>+22</i>	<i>+22</i>	<i>+22</i>	<i>+22</i>

(\*) Based on the assumption that the processing activities not related to Mainland China are not significant in size.

(\*\*) Summing up the adjustment for goods for processing and the adjustment for merchanting to obtain a combined adjustment. For example, the adjustment on exports of goods for both goods for processing and merchanting, \$(283-318) billion, is equal to the sum of adjustment for goods for processing, \$(265-318) billion, and the adjustment for merchanting, \$(336-318) billion. Any remaining discrepancy is due to rounding.

processing can be compiled. Moreover, detailed breakdown by commodity group, country of origin and destination can also be compiled. Nevertheless, this method requires a huge amount of resources for processing the new data collected from a large number of declarations each quarter, and imposes additional reporting burdens on traders. In general, experience shows that traders and legislators would be very concerned about any expansion of the data requirements on the trade declaration documents, since the declaration procedures would become more costly and time-consuming. Any expansion of the trade declaration would probably meet strong resistance.

#### **Conducting an enhanced survey on outward processing trade activities**

**6.4.15** The existing survey covers only the outward processing activities in Mainland China when some contractual arrangement for the subsequent return of the processed goods to Hong Kong exists. Processing in areas other than Mainland China is not covered in the present survey, since it is considered relatively insignificant. Statistics on outward processing trade are available only around 3 months after the reference period. The sample size of the existing survey is about 7,200 trade declarations per quarter. In the existing survey, the reporting burden on traders is kept to a minimum. Only information on processing activities is collected from the traders in the sample; information on the value of goods involved is extracted from the selected trade declarations. In order to fulfil the new international statistical standards, several major enhancements to the survey would be required, including:

- a. Expanding the survey to cover goods for processing in places other than Mainland China, e.g. Vietnam.
- b. Expanding the survey to cover processing activities in Mainland China when there is no contractual arrangement for subsequent return of the processed goods to Hong Kong.
- c. Speeding up the statistics on processing in order to support the timely release of GDP and b.o.p. statistics.
- d. Increasing the sample size substantially to support the detailed data breakdown required.

**6.4.16** The benefit of this option is that it can provide all the additional data required for compiling statistics on trade aggregates under the new standards. Moreover, less resistance is to be expected from traders because an additional reporting burden would not be imposed on all of

them but only on those selected in the survey. Nevertheless, this approach can only reasonably support a limited breakdown of statistics by commodity group and by country, and the extent to which the timeliness of statistics can be improved is limited even if substantial enhancement is made to the existing survey.

#### **Applying new data models and imputations**

**6.4.17** Based on the existing information, new data models and imputation procedures can be constructed to provide additional data at the aggregate level. An obvious benefit of this option is that no additional reporting burden will be imposed on traders. However, this approach cannot provide reasonably accurate breakdowns of processing trade by commodity group and by country, due to the lack of sufficiently detailed information.

**6.4.18** Data models would be designed to produce estimates of the proportion of goods related to processing within overall trading activities, taking into account historic trends and relevant proxy indicators. Regression of relevant trends on a set of explanatory variables and proxy indicators, with appropriate time lags, would provide workable data models for producing timely data at the aggregate level. One of the examples of an explanatory variable to be included in such a model for testing may be imports of raw materials into Hong Kong from various sources, since these raw materials would need to be imported into Hong Kong before they are delivered to Mainland China for outward processing.

**6.4.19** These data models, with appropriate input assumptions, could also produce estimates on processing fees for inclusion in trade in services statistics. Benchmark ratios of processing fees to the value of the goods involved by commodity group and by country could be collected from benchmark surveys once every few years to supplement the model estimates.

#### **Pragmatic modular approach for implementation**

**6.4.20** Since each of the three options has its pros and cons, it is clear that a pragmatic approach to implementing the new standards is to combine the three options in a flexible way at different stages of implementation, and for different levels of statistical detail. First, new data models will be constructed to produce preliminary estimates of trade aggregates under the new standards for supporting timely compilation of major macroeconomic aggregates, such as GDP and balance of payments statistics. These aggregate statistics must be released with short time lags, and

it is not practical to incorporate current information on processing trade collected from an enhanced survey into the preliminary aggregates when they are released for the first time.

**6.4.21** Second, the existing survey on outward processing trade activities will be enhanced to collect additional information for compiling external trade statistics under the new standards, with broad breakdowns by commodity group and by country. Such information will be available only with a longer time lag, but it can be used to revise the preliminary estimates of the trade aggregates produced by the data models, and to support more in-depth analysis. The enhanced survey will also provide the information necessary for regularly updating the parameters of the data models used for estimating the preliminary trade aggregates.

**6.4.22** A longer-term aim is to produce external trade statistics under the new standards with comprehensive breakdowns by commodity group and by country. Among the various options, the possibility of collecting detailed information through expanding the trade declaration documents will be explored. It is obvious that the most fundamental problem is obtaining source data of reasonable accuracy. In view of the significant resistance from traders and the high cost involved, strong policy support from the Hong Kong SAR Government is essential. Gaining the support and cooperation of traders and the business community will require a long-term strategy involving the various parties concerned.

**6.4.23** A study will be conducted to examine the cost effectiveness and technical details of various options, and to draw up a detailed implementation plan. The study will also cover two major tasks:

- a. Consulting key stakeholders in the Hong Kong SAR Government and in the private sector to assess their views on each of the options.
- b. Conducting research and consultation on international best practices in data collection, compilation and dissemination of statistics on goods for processing and merchandising.

#### **Presentation and interpretation of the new statistics**

**6.4.24** Under the new statistical standards, the value of external trade in goods shown in the national accounts will be significantly different from that shown under merchandise trade statistics, since the latter are not based on the change of ownership principle. To reduce confusion among data users, the following alternative

dissemination practices will be carefully considered:

*Releasing two different figures on trade in goods with bridge tables to explain the gaps*

**6.4.25** The benefit of this option is that it supports the specific needs of different data users and allows them to choose the figures for trade in goods, either from national accounts or from merchandise trade statistics, that best meet their need. The bridge tables explaining the differences between the two set of figures would help to reduce the confusion of data users.

*Releasing only one figure for trade in goods and services in national accounts*

**6.4.26** The benefit of this option is that it avoids the publication of two different sets of statistics on trade in goods, one under national accounts and one under merchandise trade. Given that the distinction between goods and services is increasingly blurred, many users may accept that they have to perform analysis by combining trade in goods and services. However, there are always some data users who need goods and services separately, and their statistical needs must also be met. Hence, this option will not be adopted without first obtaining strong support and consent from major data users.

**6.4.27** Views of major data users on these alternative dissemination practices will be sought. In particular, the following activities will be organized for different target groups:

- a. Talks for the media to explain the rationale behind the new international statistical standards.
- b. Discussion sessions with analysts and academics to obtain their reactions.
- c. Visits to major data users in both the public and private sectors to consult their views.

**6.4.28** It will also be helpful to provide illustrative examples of the appropriate applications of the two sets of figures on trade in goods. For example, the figures of trade in goods in national accounts should be adopted for macroeconomic analysis, such as forecasting overall economic growth, whereas the figures of trade in goods in merchandise trade statistics should be adopted for analysis relating to physical handling of the flow of goods, such as forecasting demand on port facilities. Educational pamphlets elaborating on these applications will be prepared and distributed to data users.



## CHAPTER 7

# International transactions in intellectual property products

### Introduction

**7.1** The 2008 SNA recognizes five categories of intellectual property assets:

- a. Research and development (R&D).
- b. Mineral exploration and evaluation.
- c. Computer software and databases.
- d. Entertainment, literary and artistic originals.
- e. Other intellectual property products (IPPs).

**7.2** Each of the five categories of IPP can be broken down into the following IPP types:

- The *original* IPP - whether produced on own account or sold (customized).
- *Licences to reproduce* the IPP.
- *Copies* of the original which owners may use for more than a year.

**7.3** *Services* can also be provided by IPP originals: typically these services are provided by copies which owners may use for one year or less, but they can also represent services provided by customized products not related to an underlying original with an expected life of one year or less.

**7.4** Both the 2008 SNA and BPM6 treat IPPs (originals, licences to reproduce, and copies) as *produced* assets. Because the assets are produced, any international trade in them, or international services provided by them, should be recorded in the goods and services accounts.

**7.5** With the exception of mineral exploration and evaluation, IPPs are subject to substantial international trade. Commonly, the trade relates to copies of IPPs, such as packaged software and musical and film recordings, or the services provided by them, but trade in originals, such as a R&D original, is becoming increasingly important, partly reflecting the increasing internationalization of production processes. The 2008 SNA recognizes R&D as capital formation for the first time.

**7.6** Unlike other produced assets however, which physically move across borders when they are bought and sold, there is rarely an equivalent physical movement for IPPs, as they can generally be transmitted across borders electronically. This presents measurement challenges for statisticians: transactions in IPPs may not appear in trade statistics as trade in goods and services. Often they appear under the general BPM5 category of "royalties and other license fees" without any further breakdown to distinguish whether the royalties, etc. relate to produced or non-produced assets. Payments for the use of IPPs and payments to obtain ownership of IPPs may be included in "royalties and other license fees", but not be separately identifiable with a specific category of IPP. So in practice they may be treated as transactions in or related to non-produced assets, such as trademarks or franchise fees.

**7.7** Trade in IPPs also raises the question of the nature of the ownership of the products - economic or legal.

**7.8** The intangible nature of IPPs means that they can easily be registered as the property of a unit in one country when they are used in production by an enterprise located in another. This characteristic creates an incentive for companies to register their IPPs as owned by a unit in a low-tax jurisdiction. For example a mobile phone producer in a high-tax country which develops its own software and embeds it in the phone may choose to transfer ownership of the software original to a subsidiary established in a low-tax jurisdiction, whose sole output is copies of the original software for use by the parent company. This shifts value added from the parent company to the affiliate, although the global production function of the parent company remains the same.

**7.9** This raises difficult questions for national accountants and users of statistics. On the one hand, it can be argued that the transfer of the IPP from the parent company to the affiliate reflects an economic reality resulting in a shift of value added

from the parent to the affiliate, in the same way that value added would shift if a productive activity were outsourced from the parent to the affiliate. On the other hand the transfer may be seen as merely an administrative arrangement, economic ownership, in sense of who bears the risks and rewards of using the asset, remaining with the parent company. What differentiates the two approaches is ownership: who is the economic owner of the original? There is limited practical guidance in the 2008 SNA on transfers of economic ownership between affiliated enterprises. Developing this guidance will require further research at the international level to clarify the existing standards. The section on further research towards the end of this chapter develops some ideas.

**7.10** Aside from economic ownership, two more practical problems arise in the context of trade in or related to IPPs.

- The first relates to the ability of official statistics to recognize that the trade is in IPPs, since the intangible nature of IPPs makes it difficult to identify transactions in them and as such they may be misclassified in international classification systems to other items, in particular transactions in non-produced assets. There is a risk therefore, that transactions in or related to IPPs are incorrectly recorded as property income.
- The second relates to trade within an MNE, where there are incentives to value transactions at transfer prices which are tax efficient. This is an issue that affects all cross-border transactions within an MNE, not only transactions in IPPs. What makes transfer pricing related to IPPs particularly challenging is that the originals are one-off assets, creating potential for a wide range of arm's-length valuations for transactions in them, given the lack of a market for comparable goods and services. While tax authorities no doubt keep MNEs' transfer pricing under review, there seems to be little that statisticians themselves can do to limit the problem.

**7.11** These two difficulties affect some important economic aggregates, depending on whether the transaction relates to trade in an IPP asset or trade in services produced by IPPs, and whether the transactions are within an MNE or not.

**7.12** Other chapters describe the potential scale of estimation problems caused by transfer pricing.

**7.13** The scope for expenditures on IPPs (recorded under "royalties and license fees") to be

incorrectly classified as expenditures on non-produced assets depends on the statistical information collected in the country concerned. In the United States the scope seems small, as "royalties and license fees" are broken down into main types of intangible asset, including industrial processes (a proxy for R&D); books, records and tapes; broadcasting and recording of live events; franchise fees; trademarks; general use computer software; and other intangibles (the last component forming typically only about 0.25 per cent of the total). Such detail is unlikely to be available for other countries.

## **The statistical treatment recommended in international standards**

**7.14** Despite the practical difficulties in recording transactions related to IPPs, the underlying concepts for recording these entries in both the 1993 SNA and the 2008 SNA are relatively clear. Indeed, the difficulties related to measurement are not caused by a conceptual change introduced in the 2008 SNA, which, with two exceptions, follows the 1993 SNA. These exceptions are the recognition of R&D as capital formation, and the treatment of sales of licences to reproduce.

**7.15** The 1993 SNA did not recognise R&D as capital formation in the form of intellectual property assets. In this sense the changes introduced in the 2008 SNA have increased the size of the existing difficulties in identifying and classifying transactions without changing their nature.

**7.16** The second exception concerns the treatment of sales of licences to reproduce. The 1993 SNA recommended that payments for licences to reproduce should be recorded as payments for services provided by the original IPP. The 2008 SNA however treats the licence to reproduce as a part of the underlying original. Accordingly the sale of a licence to reproduce does not reflect new production. The sale of a licence to reproduce for use in a territory that had not been factored into the valuation of the original should be recorded as a positive increase in "other" changes in the volume of assets account (matching the negative gross fixed capital formation (GFCF) represented by the sale of the licence viewed as part of the original).

**7.17** Paragraphs 10.99-10.100 of the 2008 SNA say the following on the treatment of IPPs:

*"Some intellectual property products are used solely by the unit responsible for their development*

or by a single unit to whom the product is transferred. Mineral exploration and evaluation is an example. Other products, such as computer software and artistic originals, are used in two forms. The first is the original or "master copy". This is frequently controlled by a single unit but exceptions exist as explained below. The original is used to make copies that are in turn supplied to other units. The copies may be sold outright or made available under a licence (paragraph 10.99).

A copy sold outright may be treated as a fixed asset if it satisfies the necessary conditions, that is, it will be used in production for a period in excess of one year. A copy made available under a licence to use may also be treated as a fixed asset if it meets the necessary conditions, that is, it is expected to be used in production for more than one year and the licensee assumes all the risks and rewards of ownership. A good, but not necessary, indication is if the licence to use is purchased with a single payment for use over a multi-year period. If the acquisition of a copy with a licence to use is purchased with regular payments over a multi-year contract and the licensee is judged to have acquired economic ownership of the copy, then it should be regarded as the acquisition of an asset. If regular payments are made for a licence to use without a long-term contract, then the payments are treated as payments for a service. If there is a large initial payment followed by a series of smaller payments in succeeding years, the initial payment is recorded as gross fixed capital formation and the succeeding payments as payments for a service. If the licence allows the licensee to reproduce the original and subsequently assume responsibility for the distribution, support and maintenance of these copies, then this is described as a licence to reproduce and should be regarded as the sale of part or whole of the original to the unit holding the licence to reproduce" (paragraph 10.100).

**7.18** IPPs can be made available for use in a number of ways. An original can be sold or transferred; copies can be sold represented by licences to use for more than year; licences to use for one year or less can be sold; and finally licences to reproduce can be provided. Accordingly the following accounting entries arise when companies engage in transactions in IPPs:

i. *When the entire IPP original produced in an earlier accounting period is sold by one company for sole use by another:* the accounts should record an export and negative GFCF in the exporting country and a corresponding import and positive GFCF in the importing country.

ii. *When the entire IPP original produced in the same accounting period is sold by one company for sole use by another:* the accounts should record an export in the exporting country and a corresponding import and positive GFCF in the importing country.

iii. *When a licence to reproduce is sold by one company to another:* assuming that the creation and acquisition of the licence to reproduce does not change the value of the underlying original, the accounts should record an export and negative GFCF in the exporting country and a corresponding import and positive GFCF in the importing country.

iv. *When a copy or licence to use is sold by one company to another:* as long as the copy or licence to use satisfies the requirements that it can be treated as an asset, and is produced in the same accounting period, the accounts should record an export (equivalent to the value of the copy/licence) and a corresponding import and positive GFCF in the importing country.

v. *When the underlying asset is used to provide services only:* this is equivalent to the provision of a licence to use or a licence to reproduce that does not satisfy asset requirements. In these circumstances the accounts should record an export (equivalent to the value of the services) and a corresponding import in the importing country.

**7.19** The rules above hold irrespective of whether the transactions relate to flows between affiliated enterprises or not. It is nevertheless useful to elaborate on the additional flows that should be recorded when IPPs are transferred between affiliates. When an IPP is provided by one affiliated enterprise to another, either in its entirety or via a licence to use or reproduce, a number of possibilities for recording the transaction arise:

a. In the simplest case, there is a sale or licence agreement between the provider and the recipient. The provider gives access to the IPP in exchange for a fee that is observable and should be recorded as a transaction in goods and services in the national accounts and balance of payments.

b. The IPP may be provided free. Imputations should be made to reflect this gift. The first imputation should reflect a capital transfer from the provider to the recipient. A second imputation is needed to record the transaction in IPP following the rules (i) to (v) set out in paragraph 7.18, depending on the type of IPP.

c. The IPP is provided by the parent to a foreign subsidiary without a fee but in the expectation of receiving income from the affiliate. In effect, the

parent provides the IPP for a fee and uses the fee to increase its foreign direct investment (FDI) in the subsidiary. In this case the accounts should record FDI from the parent, equivalent to the value of the IPP, and a purchase of the IPP from the parent (again following the flows described in (i) to (v) above, depending on the IPP type).

d. The IPP is provided to the parent by the foreign subsidiary without a fee but in response to previous FDI. The accounts should impute the sale of the IPP and then an equivalent receipt of property income by the parent.

**7.20** Transactions between affiliates may also affect the value of the original IPP. Where, for example, the MNE acquires a new affiliate and so obtains economic rights within a country that were not expected at the time of the original valuation, the present value of expected future benefits, and thus the aggregate value of the asset, increases. The increase would be recorded in the "other" changes in the volume of assets account of the provider. Such recordings have been rare in practice. A consequential difficulty relates to the split, if any, of the asset across the different countries where economic rights exist. However, it could equally be argued that in initially valuing the original, the owner of the original had priced in the possibility that the IPP would be used in the country of the new affiliate, in which case, all other things being equal, there would be no change in the value of the original. Determining which of the two scenarios is likelier is very difficult, but since in practice national accountants estimate the value of the original using a sum of costs approach, the distinction between the two scenarios is largely academic.

## Measurement problems

**7.21** This section assumes that the economic owner of the IPP is correctly identified in the accounts. (The thorny issue concerning economic ownership is discussed at the end of this chapter.) The section proceeds by separately considering each of the five transaction types described in paragraph 7.18 above when: (a) they are incorrectly classified as transactions in property income, rather than as transactions in goods and services, and (b) they are affected by artificially low or high transfer prices. Annex 7.1 contains extracts from the OECD's handbook on deriving capital measures of IPPs, including summarized questions which might be addressed to companies with cross-border transactions in IPPs.

i. *When the entire IPP original (produced in an earlier accounting period) is sold by one company*

*for sole use by another and (iii) when a licence to reproduce is sold by one company to another*

a. *incorrect classification as property income*

If the transactions relate to IPPs produced in an earlier accounting period, estimates of GDP will be unaffected even if the flows are incorrectly recorded as property income transactions, since GDP is unaffected by sales and acquisitions of pre-existing goods. Trade in goods and services will however be underestimated. Capital stock and GFCF may also be underestimated in the importing country and overestimated in the exporting country because trade data are often used in calculating them.

b. *artificial transfer prices*

GDP should be (largely) unaffected if artificial transfer prices are used. This is because in the accounts of the country selling the asset there will be offsetting errors in GFCF (sale of an existing asset, a negative entry) and in exports. Similarly in the importing country there will be offsetting errors in imports and in GFCF. Where there are taxes on the acquisition or sale of assets, however, artificial valuations may affect estimates of GDP and GNI.

ii. *When the entire IPP original (produced in the same accounting period) is sold by one company for sole use by another, and (iv) when a copy or licence to use is sold by one company to another*

a. *incorrect classification as property income*

For transactions in newly created IPP assets (i.e. those that have not previously been capitalized), GDP will too low in the exporting country and too high in the importing country. However, estimates of value added from the production or income (as opposed to the expenditure) approach may not be similarly affected. Business surveys may, for example, record the sales or purchases of IPPs as either output (for sales) or intermediate consumption (for purchases) of goods and services. Trade in goods and services will be underestimated. Capital stock and GFCF may also be underestimated in the importing country. Estimates of GNI will however be unaffected.

b. *artificial transfer prices*

An affiliate in country A that pays for services provided by an affiliate in country B may pay a price for IPPs produced in the same accounting period that is subsequently identified as being above or below the arm's-length valuation of those services. If the transfer price is artificially high, GDP in A will be too low and in B too high. Both exports

and imports of trade in services will also be too high. Conversely, if the transfer price is artificially low, GDP will be too high in A and too low in B. Even though all profits within affiliates are repatriated to the parent company (either directly or indirectly via imputation), estimates of GNI can also be affected by transfer pricing. If, for example, the affiliate in A is the parent company, and it paid above arm's-length prices for the IPPs provided by the affiliate in B because income taxes in B are lower than in A, GNI in B will be higher than it would otherwise have been by the amount of additional taxes paid to the government in B. To illustrate this point, suppose that the affiliate sells its IPPs to the parent for 100 units, when the arm's-length price is 40. GDP is then 60 higher than it should be in B and 60 lower in A. Of this additional 60 in B, the affiliate will return, either explicitly via property income or implicitly via the imputed remittance of retained earnings, a post-tax contribution of 60-X units to the parent, where X is the income tax payable in B on 60 units of profits. GNI in the territory of the parent company is therefore X lower than it should have been and X higher in the territory of the affiliate.

*v. When the underlying asset is used to provide services only*

*a. incorrect classification as property income*

GDP will be too high in the country paying for the IPP services and too low in the country exporting the services. However, estimates of value added based on the production or income (as opposed to the expenditure) approach may not be similarly affected, since business surveys may correctly record the sales and purchases of IPPs as (respectively) output and intermediate consumption of goods and services. Estimates of GNI will be unaffected.

*b. artificial transfer prices*

The impact on the accounts is the same as for transactions in new IPPs described above.

## Recommendations and operational treatment in the accounts

**7.22** The measurement problems described above reflect two issues. The first, concerning the incorrect classification of transactions in goods and services as property income, mainly arises from a lack of detail in the current *Extended Balance of Payments Services Classification* (EBOPS). The second relates to transfer pricing issues covered in other chapters. This section focuses on the former issue.

## International trade classification systems and intellectual property products

**7.23** Correctly recording transactions in IPPs has been difficult since the 1993 SNA first advocated the capitalization of some intellectual property assets. This difficulty reflects the lack of detail in the international trade classification systems in use since then, notably the supporting manuals and classifications of BPM5, such as the 2002 *Manual on Statistics of International Trade in Services* (MSITS) and the associated EBOPS. The consequence has been that many transactions in IPP goods and IPP services have been captured under the "other royalty and license fees" category of BPM5:

*"... the authorized use of intangible, non-produced, non-financial assets and proprietary rights (such as patents, copyrights, and industrial processes and designs) and the use, through licensing agreements, of produced originals or prototypes (such as manuscripts, computer programs, and cinematographic works and sound recording)....."*

**7.24** As described above, the lack of a breakdown by type of royalty (in particular the inability to distinguish between transactions in produced and non-produced non-financial assets) may affect estimates of GDP and GFCF.

**7.25** Fortunately however, improvements are being made in this area. Revisions to the MSITS and the associated EBOPS include a more detailed breakdown of IPPs, as described in table 7.1.

**7.26** The discussion below of the three main types of internationally traded IPP shows why the breakdown into the product groups defined in the version of EBOPS consistent with the 2002 MSITS is often not sufficient for national accounts purposes.

### Computer software and databases

**7.27** The supply-side approach to estimating GFCF requires a breakdown of products between those destined for intermediate consumption (IC) and those for GFCF. Such a breakdown has been developed conceptually as shown below (with the entry in brackets reflecting the conceptual destination category). More detailed information can be found in the *OECD Handbook on Deriving Capital Measures of Intellectual Property Products*. Computer software and databases can therefore be broken down into the following categories:

- Customized software and non-customized originals (GFCF).

- Non-customized software - outright sales of copies and long-term (more than one year) licences to use (GFCF).
- Non-customized software - short-term (one year or less) licences to use (IC).
- Non-customized software - licences to reproduce (resembling an operating lease) (IC).
- Non-customized software - licences to reproduce (not resembling an operating lease) (GFCF).
- Hardware and software consultancy, implementation and installation services; analysis, design and programming of systems ready to use (GFCF).
- Repairs and maintenance of computers and peripherals; data recovery services, provision of advice on matters related to management of computer resources; systems maintenance and other support services, such as training; data processing; web page hosting services; provision of applications, hosting clients' applications, and computer facilities management (IC).

**7.28** However, the product breakdown currently provided in the MSITS (2002) is at a more aggregate level. The 2002 version of the EBOPS classification contains a specific classification for *Computer services* but with no further breakdown. It does not capture trade in licences to use non-customized products provided on disks, etc. permitting perpetual use, which are instead recorded as trade in goods rather than trade in services. Neither does it capture licences to reproduce software separately, as they are included in the more general heading of *Other royalties and license fees*.

**7.29** The new MSITS (2010), and corresponding EBOPS, have been developed to better accommodate the needs of the national accounts in this regard. In March 2009, the Inter-agency Task Force on Statistics of International Trade approved a number of changes to the EBOPS classification. The following affect the measurement of software:

- A separate category, *Licenses to reproduce and/or distribute software*, within *Charges for the use of intellectual property* (previously referred to as *Royalties and license fees*).
- A breakdown of *Computer services* into *Computer software* and *Other computer services*, with a further of-which item for the former, *Software originals*.

- The inclusion of a supplementary item *Computer software transactions* (which includes *Licenses to reproduce/distribute software*, *Computer software* and importantly, *Transactions in computer software goods*).
- The inclusion of a further supplementary item *Licenses to use computer software* (which includes all licences to use computer software, irrespective of whether they are classified as goods or services).

**7.30** Such a breakdown should provide data to improve the quality of supply-based methods of compiling GFCF.

#### **Entertainment, literary and artistic originals (audiovisual products)**

**7.31** As for computer software, MSITS (2002) contains general product categories for audiovisual products such as *Audiovisual and related services* and *Royalties and license fees*.

**7.32** A product breakdown is needed that facilitates supply-based estimates of GFCF. Fortunately, as with software, planned and agreed revisions to the EBOPS will improve the situation. Those affecting the measurement of audiovisual products are as follows:

- A separate category, *Licenses to reproduce and/or distribute audiovisual and related services*, within *Charges for the use of intellectual property*.
- A breakdown of *Audiovisual services* into *Audiovisual products* and *Other audiovisual services*, with a further of-which item for the former, *Audiovisual originals*.
- The inclusion of a supplementary item *Audiovisual transactions*.
- The inclusion of a further supplementary item *Licenses to use audiovisual products*.

**7.33** The supplementary item *Licenses to use audiovisual products* will, for example, include transactions in audiovisual goods (CDs, DVDs, etc.), and *Other audiovisual services* will separately record transactions in audiovisual products, such as fees to actors, payments to encrypted television channels, etc. that should not be recorded as GFCF. This new product classification will provide data which should much improve supply-based estimates of GFCF.

#### **Research and development**

**7.34** In the 2002 MSITS, R&D transactions fall into three categories: *Other royalties and license fees*, *Research and development services* and *Acquisition*

or disposal of non-produced, non-financial assets. The first two categories are in the current account and the third is in the capital account. In BPM6 R&D transactions fall into two categories: *Charges for the use of intellectual property* and *R&D services*. As far as R&D is concerned, the major change in categorization is that payments for the acquisition of patents have been moved from *Acquisition or disposal of non-produced, non-financial assets* in the capital account to *R&D services* in the current account. This reflects the change in the 2008 SNA recognizing R&D expenditures as GFCF, and so as produced assets. In the 1993 SNA payments for these assets were often recorded as transactions in patents.

**7.35** The definition of R&D services in BPM6 is wider than that in the 2008 SNA and the Frascati

Manual (the standard for R&D surveys in OECD countries) because it includes *Testing and other product development activities that may give rise to patents* (see BPM6, paragraph 10.148). The planned revision to EBOPS, however, has been designed to identify this component of R&D services, as shown in the table.

### Further research: economic ownership of intellectual property products within multinational enterprises

**7.36** The recognition of IPPs as produced assets, and the associated recognition of the payments for use as service payments, has caused a gap to grow between estimates of GDP and GNI for some

**Table 7.1 Extended Balance of Payments Services Classification 2010 (EBOPS 2010)**

8	Charges for the use of intellectual property, n.i.e.
8.1	Franchises and trademarks licensing fees
8.2	Licenses for the use of outcomes of research and development
8.3	Licenses to reproduce and/or distribute computer software
8.4	Licenses to reproduce and/or distribute audiovisual and related products
8.4.1	Licenses to reproduce and or distribute audiovisual products
8.4.2	Licenses to reproduce and/or distribute other products
9	Telecommunications, computer, and information services
9.1	Telecommunications services
9.2	Computer services
9.2.1	Computer software
	<i>of which: 9.2.1.a Software originals</i>
9.2.2	Other computer services
9.3	Information services
9.3.1	News agency services
9.3.2	Other information services
10	Other business services
10.1	Research and development services
10.1.1	Work undertaken on a systematic basis to increase the stock of knowledge
10.1.1.1	Provision of customised and non customised R&D services
10.1.1.2	Sale of proprietary rights arising from R&D
10.1.1.2.1	Patents
10.1.1.2.2	Copyrights arising from R&D
10.1.1.2.3	Industrial processes and designs
10.1.1.2.4	Other
10.1.2	Other

EBOPS 2010 complementary groupings

C.1. Audiovisual transactions

*of which: C. 1.1 Licenses to use audiovisual products*

C.3. Computer software transactions

*of which: C.3.1 Licenses to use computer software products*

countries, which is hard to explain to users.

**7.37** For example, countries with low rates of tax on corporate profits may be chosen as the location for subsidiaries of MNEs. These subsidiaries may be brass-plate companies with no staff apart from a local “director”, where IPPs are registered and fees for licences to use them are received. The parent of the MNE pays fees to the subsidiary for the use of the IPPs in the production process. These fees are recorded as service payments according to the 2008 SNA, and so GDP of the low-tax economy is increased by this amount. Given the FDI relationship between the MNE parent and the subsidiary, the profits earned are returned to the parent as property income.

**7.38** So moving the registration location reduces GDP in the country where the MNE parent is resident, but the corresponding increase in net property income from abroad means that GNI there is unchanged. Similarly, the GDP of the low-tax economy rises by the amount of the service payments, but GNI is unaltered because of the subsequent outflow of profits as property income arising from the FDI relationship with the parent MNE.

**7.39** Examples of this happening, often in substantial amounts, include large pharmaceutical firms establishing IPP subsidiaries in a low-tax jurisdiction.

**7.40** This outcome is not at odds with national accounts practices, but it does complicate economic analysis, and, arguably, reduces the relevance of GDP, as is already being seen in countries with significant outward flows of property income. But a legitimate question arises about who the economic owner of the IPP is, as opposed to the legal owner, which in turn raises questions about whether the SNA contains sufficient guidance to determine ownership of IPPs within MNEs.

**7.41** Developing such guidance will require a collective effort at the international level. Meanwhile there remains the possibility that international comparability will be affected. Some countries for example may treat unidentifiable income implicitly generated by IPPs registered in their country as property income, whilst others may take the view that it arises from production of services.

**7.42** Until the underlying question relating to economic ownership is resolved, it is therefore possible that some international incomparability will remain. Some modifications may be needed to ensure consistency between estimates of capital stock and IPP service payments. Ideally, new surveys targeted at MNEs should be launched to address directly the measurement of these transactions.



## Annex 7.1

### Extract from the handbook on deriving capital measures of intellectual property products

#### III. International trade in R&D services and R&D output produced in the past (such as patents) between (i) affiliated and (ii) non-affiliated enterprises (recurrent)

##### Questions for R&D survey respondents

**7.1.1** International R&D transactions within your company [with foreign parent/other entities outside the country]

**7.1.2** International R&D transactions with others outside your company [and located outside the country]

**7.1.3** International transfers of R&D or patents (inflow/outflow)

Have you received/donated free transfers of R&D or patents from/to [including foreign parent, other foreign entities within the company]? Would you be able to estimate the production cost or value of these transfers?

##### Questions for international services trade respondents

**7.1.4** R&D services vs. other business and technical services - (one-off)

Have you reported R&D services exports/imports to include transactions in the following services [commercial testing, software development, engineering/design, post-sales customer services, royalties and licence fees]? Would you be able to separate out R&D services exports/imports from transactions involving these services?

**7.1.4b** International R&D transactions within your company

Would your company be able to report payments/revenues for R&D performed for/by you by/for others within your company [but located outside the country] [foreign parent/other foreign entities within the company]?

**7.1.5** International R&D transactions with others outside your company

Would your company be able to report payments/revenues for R&D performed for/by you by/for others outside your company and also located outside this country?

**7.1.6** International royalties, licence fees for the use or sale of intangible property excluding cross-licensing/in a cross-licensing arrangement [payments/revenues, of which software licensing]

Are these cross-licensing measures net or gross transactions with respect to cross-licensing? If net, could you estimate the gross value?

##### Questions for FDI survey respondents: new investments

**7.1.7** These questions should be directed to either  
a. a local business enterprise when a foreign parent company establishes or acquires directly, or indirectly through an existing affiliate, a 10 per cent or more voting interest in that enterprise, or

b. existing affiliates of foreign parents when they acquire, or merge with, a local business enterprise, or a business segment or operating unit in the compiling country.

**7.1.8** Have you or your foreign parent company engaged in [various types of investment] in this country?

**7.1.9** For M&As of existing businesses, would you be able to report the magnitude of the following items at the time of the M/A [including R&D expenditures, stock of patents issued, stock of patent applications]?

**7.1.10** For newly established businesses, would you be able to report if the new business is intended for R&D performance; if you plan to sell or license R&D to the new business; if you plan to sell or license patents to the new business; if you plan to transfer (for free) R&D or patents to the new business?



## CHAPTER 8

# Global manufacturing

### Introduction

**8.1** Previous chapters have described and analysed certain corporate activities (sending partly manufactured goods for processing, merchanting, and the transfer of rights in intellectual property products (IPPs) and the flows arising from their use), and described how their treatment has been affected by the introduction of the new international statistical standards.

**8.2** This chapter concerns cases in which corporate activities are combined in what is known as global manufacturing. The focus here is not on the particular activities but on how they may be combined, often by multinational enterprises (MNEs), and the challenges presented for national accounts (including the balance of payments). After reference to the description of global manufacturing in BPM6, and a useful definition of manufacturing arrangements taken from some recent work by the US Office of Management and Budget (OMB), Chapter 8 examines some examples of global manufacturing, illustrating the difference between the previous and new statistical standards with numerical examples. It then describes the treatment of large turnkey projects, where, coordinated by an enterprise whose main contribution is project design, planning and management, several enterprises from different countries contribute goods and services, while assembly and construction works are carried out in the country commissioning the project. Annex 8.1 describes experience in Israel of handling the statistical treatment of global production. The second part of this annex concerns the case in which manufacturing is entirely outsourced – what the OMB calls “factoryless” goods production. Annex 8.2 presents some recent work in the United States concerning the classification of such “factoryless” manufacturers who outsource all production while maintaining management control over all stages of the work and ownership of the product.

**8.3** Although the chapter and the annexes draw on work undertaken for particular national or regional statistical purposes, some or all aspects of

the phenomena described are relevant to most countries.

### Background

**8.4** Earlier versions of the SNA and Balance of Payments Manual did not mention global manufacturing. The phenomenon however now receives some prominence. In the 2008 SNA, the term is used only in connection with merchanting. Thus paragraph 14.73 repeats the prescribed treatment of merchanting activity as a negative export (when the merchant – here an entity engaged in global manufacturing – acquires the goods) and a positive export when they are subsequently sold, without having entered the country in which the merchant is resident. Elsewhere (paragraph 26.21) the 2008 SNA says that, under merchanting, the goods themselves should be sold on in the same condition.

**8.5** The BPM6 has more to say on global manufacturing. Thus box 2 in Chapter 10 reads as follows.

#### *“Recording of global manufacturing arrangements*

*With the trend toward a more globalized economy, there has been growth in cross-border production arrangements. These arrangements involve different aspects of production processes being partly or wholly undertaken by affiliates or outsourced to unrelated entities.*

*There are several types of arrangements, such as:*

*(a) Re-exports. Re-exports can be very significant in economies that are international centers for trading, transshipment, and processing that does not change the physical form of the goods (such as packing and labeling).*

*(b) Goods under merchanting. While sometimes used for simple wholesaling, merchanting also arises when parent companies acquire ownership of goods from their own manufacturing affiliates for resale to wholesaling affiliates or other customers, without taking possession.*

*(c) Manufacturing services on physical inputs owned by others and the associated movements of goods under these processing arrangements.*

*(d) Free trade and other special zones.*

*For economies where some or all of these arrangements are significant, it may be useful to use supplementary presentations that bring these processes together and/or provide more detail, such as presenting gross flows by type of activity, in order to enhance knowledge of economic developments.”*

**8.6** The main text contains further relevant material.

*“Merchanting arrangements are used for wholesaling and retailing. They may also be used...for the management and financing of global manufacturing processes. For example, an enterprise may contract the assembly of a good among one or more contractors, such that the goods are acquired by this enterprise and resold without passing through the territory of the owner. If the physical form of the goods is changed during the period the goods are owned, as a result of manufacturing services performed by other entities, then the goods transactions are recorded under general merchandise rather than merchanting.....In cases where the merchant is the organizer of a global manufacturing process, the selling price may also cover elements such as providing planning, management, patents and other know-how, marketing, and financing. Particularly for high-technology goods, these non-physical contributions may be large in relation to the value of materials and assembly (paragraph 10.42).*

*.....Manufacturing on own account and manufacturing services on physical inputs owned by others are different arrangements for manufacturing, and it is desirable to show them separately because the role of the manufacturer in designing, marketing, and financing the goods is quite different. With globalization and outsourcing, it is becoming more common to have parts of a production process conducted in different economies. Showing these transactions on a change of ownership basis assists in identifying actual transactions and correctly attributing value added due to the owner for designing, marketing, financing, and so forth, rather than to the party that undertakes physical processes” (paragraph 10.71).*

## The message from the international standards, and their application

**8.7** As noted above, the 1993 SNA and BPM5 do not mention global manufacturing. The 2008 SNA mentions global manufacturing only in the context of merchanting, though it later says that, under merchanting, the goods should be sold on in the same condition in which the merchant acquired them.

**8.8** BPM6 gives global manufacturing a much fuller treatment. Taking box 10.2 and the relevant parts of the main text together suggests the following. Where the parent MNE acquires ownership of goods from a manufacturing affiliate (or an unrelated enterprise) abroad and sells them on, the parent MNE engages in merchanting. In this case the goods are already in a finished state when the parent MNE buys them. The main text (paragraph 10.42) then indicates that the merchant (as principal in the global manufacturing process) may provide planning, management, patents and other know-how, marketing, and financing.

**8.9** This is the case in which the parent MNE buys manufactured products from a manufacturing affiliate or unrelated enterprise abroad. Another possibility is that the parent MNE owns the physical inputs or semi-manufactured goods on which the manufacturing affiliate or unrelated enterprise abroad works to produce the final article. BPM6 describes manufacturing services on physical inputs owned by others as processing arrangements. Here it seems that the parent MNE is buying a processing service from the manufacturing affiliate or unrelated enterprise abroad. This differs from the more familiar processing case discussed in Chapter 5, where the principal sends goods abroad for working up and then takes them back when the processing is complete. But the intended treatment seems to be the same – instead of recording negative than positive exports, as where the parent MNE is deemed to engage in merchanting, here the parent MNE pays a processing fee to the manufacturing affiliate or other enterprise abroad.

**8.10** The key then seems to be whether the parent MNE owns the goods throughout the processing abroad, or buys them in the finished state. This is indeed the ownership principle that distinguishes goods for processing from merchanting, as described in Chapters 5 and 6. In recording the activities of MNEs, however, it may be very difficult for statisticians to distinguish between these cases, particularly since the goods in neither case cross the border of the country in which the parent MNE is resident. Consider the

case in which the parent MNE resident in country A buys raw materials in country B which are used to manufacture goods by an affiliate in country C. The parent MNE then arranges the sale of the finished product to country D. Following the ownership principle, country A should record an import of raw materials from B, followed by an export of finished goods to D, and in between an import of processing services from C. This may be difficult in practice. No doubt in reality the same parent MNE sometimes owns the goods at all stages in the manufacturing, sometimes buys the finished product for resale elsewhere, and sometimes buys them at an intermediate stage. The appropriate treatment may be best decided on a case-by-case basis, following investigation by a unit charged with dealing with the complex activities of MNEs, as described in annexes to Chapter 1 and mentioned also in this chapter. It might be noted however that the statistical outcome in the country in which the parent MNE is resident is not so different: the merchanting treatment records negative, then positive, exports of finished goods, with various types of value added implicit in the margin; the processing treatment records an import of raw materials, etc., followed by an export of manufactured goods, with a payment for processing services, and, again, various types of value added implicit in the margin accruing to the parent MNE.

**8.11** This point about the allocation of value added in the country in which the parent MNE is resident perhaps deserves a further brief explanation. BPM6 (paragraph 10.42) notes that, particularly for high-technology goods, the non-physical contributions provided by the parent MNE (the management, patents and other know-how, etc.) may be large in relation to the value of materials and assembly. Under the merchanting treatment, the value added provided by the parent MNE in the form of these services is implicit in the merchanting margin – that is, in the difference between the negative exports which the country in which the parent is resident records when the parent MNE buys the goods manufactured abroad, and the positive exports which the country records when it sells them. Under the processing treatment, it is implicit in the difference between what the parent MNE pays for the inputs which are worked up abroad and what it receives when the finished product is sold, minus the processing fee paid to the manufacturing affiliate or other enterprise abroad. A consequence may be that the value added in the country in which the parent MNE is resident is misallocated - hidden in one or other of these margins, whereas in reality some of

it is services associated with the use of IPPs, etc. (Similar issues relating to recording intellectual property are discussed further in Chapter 7.) In connection with the merchanting treatment, it might be further added that the fact that the entity abroad produces to the order of and using intellectual property developed by the parent MNE, and may have no option but to sell the final product to the parent, makes this case different from more traditional merchanting.

**8.12** The examples below illustrate the treatment of global manufacturing, highlighting the implications of moving from the present to the new statistical standards. In these examples the parent MNE is assumed to own the inputs and the product throughout. To avoid complicating the examples, all the activities illustrated are assumed to fall within a single recoding period; it should be noted, however, that if they fall over two or more periods, the need will arise to identify and properly record changes in inventories held abroad. The second part of annex 1 describes the treatment of “factoryless” (or what are called in Israel “fabless”) producers, which are usually companies undertaking R&D in Israel but outsourcing all production abroad, the manufacturer abroad using its own inputs. Statistically factoryless producers are treated in Israel (or will be when the new standards are implemented) as engaging in merchanting. Statistics Sweden also treats this activity as merchanting, in the belief that the enterprise in Sweden (which, like its counterparts in Israel, also owns all the intellectual property) buys the finished product from the manufacturer abroad (see Svensson, 2010).

### Types of producer

**8.13** Recent recommendations by the OMB concerning the 2012 update of the North American Industry Classification System suggest three broad categories of producer, namely (a) integrated manufacturers, (b) manufacturing service providers, and (c) “factoryless” goods producers.

**8.14** The **traditional or integrated manufacturer** uses capital, labour, and energy to transform material inputs into a product to be sold. Integrated manufacturers typically:

- Own rights to the intellectual property or design (whether independently developed or otherwise acquired) of the final manufactured product.
- Own the production facilities and input materials.
- Own the product they manufacture, and sell it.

**8.15** An integrated manufacturer can fully account for input costs and output values.

**8.16** The **manufacturing service provider** (MSP) provides contract manufacturing services, transforming material inputs to contract specifications. MSPs typically:

- Do not own or control the intellectual property or design of the final product manufactured.
- May or may not own input materials.
- Own production facilities
- Do not own the manufactured products contracted to produce.
- Do not sell the final product.

**8.17** The MSP can provide information on the value of the contract work, the types of transformation activities performed, and the value of the labour, plant and equipment used. However, it cannot report the market value of the final product.

**8.18** The **factoryless goods producer** (FGP) outsources the manufacturing process, but undertakes all of the entrepreneurial steps and arranges the availability of the capital, labour, and material inputs required to make a good. FGPs typically:

- Own rights to the intellectual property or design (whether independently developed or otherwise acquired) of the final manufactured product.
- May or may not own the input materials.
- Do not own production facilities.
- Own the final product of their MSP partner.
- Sell the final product.

**8.19** The FGP can provide data on the number of units produced and the market value of the final product, and information on the purchase of the manufacturing service (the cost of the contract), but would not necessarily have data on the production worker payroll or capital expenditures on plant and equipment. FGPs are the subject of the second part of annex 8.1, and of annex 8.2.

## Some examples of global manufacturing

**8.20** The examples of global manufacturing discussed here concern a relatively simple case of oil refining, and a more complicated example of goods for processing. The examples show that change in international statistical standards is likely

to result in practice in a reallocation of value added and GDP between the countries whose enterprises are involved.

### Oil refining

**8.21** The new SNA guidelines will lead to changes in the recording of global manufacturing. The 1993 SNA required a change of ownership to be imputed in case of international deliveries of goods between affiliated establishments of the same enterprises.

*“[An exception] to the change in ownership principally concerns goods shipped by an enterprise to a branch or subsidiary which it owns in a foreign country or to a foreign affiliate which belongs to the same group of enterprises as the exporter. Legally, the ownership of the goods may remain unchanged in such circumstances, but a de facto change of ownership is imputed between the exporting enterprise and the foreign branch or subsidiary whenever goods are shipped between affiliated enterprises. The rationale for this treatment is similar to that for financial leasing, namely that from an economic point of view ownership rights and responsibilities are effectively exercised by the enterprise which receives the goods. The time of recording is when entries are made in the books or accounts of the enterprise concerned”* (see 2008 SNA, paragraph 14.59).

**8.22** The 2008 SNA no longer requires this imputation. Thus annex (3) setting out changes to the 1993 SNA (A3.155) explains that:

*“The 2008 SNA recommends that imports and exports should be recorded on a strict change of ownership basis. That is, flows of goods between the country owning the goods and the country providing the processing services should not be recorded as imports and exports of goods. Instead the fee paid to the processing unit should be recorded as the import of processing services by the country owning the goods and an export of processing services by the country providing it”* (see 1993 SNA, A3.155).

**8.23** This seems to suggest that in the case of global manufacturing two different situations can be distinguished. In the case considered here, the parent company has full control over production abroad, determining production quantities, output prices, purchasing of raw materials and sales of final products. In these cases the activities abroad are usually paid for by fees representing the reward for the industrial service delivered to the parent. This may be contrasted with an alternative arrangement where the parent is fully charged for the (final) products obtained from (foreign) affiliates, the latter taking full risk and

**Table 8.1 Global manufacturing: as shown in the accounts of the processing country**

<b>According to 1993 SNA</b>		
Output of petrol	150	
Intermediate use of crude oil		100
Value added		50
Import of crude oil	100	
Export of petrol		150
<hr/>		
<b>According to 2008 SNA</b>		
Output of industrial services	40	
Value added		40
Export of industrial services		40

responsibility for their own operations. Here the parent seems to take on the role of merchant.

**8.24** The accounting implications of the first situation, where the global manufacturer is the economic owner of products manufactured abroad, are further explored below.

**8.25** These hypothetical examples illustrate the complexities of industrial manufacturing and show the possible effects of corresponding SNA changes.

**8.26** An oil refinery plant (the processor) converts a 100-worth of crude oil into petrol worth 150. The crude oil is owned by a foreign parent company and shipped from abroad. The foreign parent sells the petrol abroad. The oil refinery plant receives processing fees from the parent company to cover its operating costs.

**8.27** The 1993 SNA and 2008 SNA recommendations for recording this economic activity are illustrated in table 8.1. The 1993 SNA requires the imputation of a transfer of ownership. In this way the output of petrol and intermediate consumption of crude oil are explicitly covered in the production account of the oil refinery plant. The new national accounting guidelines no longer require this imputation. The output of the processor represents only a fee for the industrial service delivered to the owner of the manufactured product. It makes no difference if the processor (the refiner) is a separate company owned by a third party.

**8.28** Although conceptually the new accounting conventions do not lead to different value added or trade balance totals, a different way of measurement (not based on imputed values for product flows) of these activities may nevertheless change the outcome. Where the production value and intermediate consumption are based on

imputed market values, the reward for undertaking and managing the whole activity is likely to be wrongly captured in the gross operating surplus of the processor. This is explicitly shown in the example. When, as under the 2008 SNA, the processor's output is based on the actual industrial service provided, this measurement error will probably not occur. As a consequence, the value of the industrial processing service is expected to be reduced and under the new recording approach part of the profit generated will emerge in the gross operating surplus of the foreign parent or owner. Amounts imputed for the production of petrol and intermediate consumption of crude oil under the 1993 SNA may also have been incorrect – it would be difficult to know.

**8.29** The 2008 SNA recording of output is based on the processing fee obtained from the principal. One complicating factor in this case is the possible effect of transfer pricing on reported service fees.

**8.30** Regardless of the method applied, GNI will probably not be affected if these downward adjustments of value added coincide with reductions in dividend payments and/or retained profits. In practice, however, this is not at all certain, especially since the two transactions (value added versus dividends) may be based on different data sources.

**8.31** Table 8.2 shows how the operation is recorded in the accounts of the economy in which the parent is resident; the oil refinery affiliate (the processor) is abroad. The parent owns the crude oil and petrol. In addition, it is assumed that all crude oil is purchased from a non-resident unit and all petrol is sold in the rest of the world.

**8.32** Under the 1993 SNA, it is unclear what economic activity will show up in the accounts of

**Table 8.2 Global manufacturing: as shown in the accounts of the parent's country**

<b>According to 1993 SNA</b>		
Output of (traded) services	10	
Value added		10
Export of services		10
<b>According to 2008 SNA</b>		
Output of petrol	150	
Intermediate use of crude oil		100
Intermediate use of industrial services		40
Value added		10
Import of crude oil	100	
Import of industrial services	40	
Export of petrol		150

the economy in which the parent is resident. Since the parent runs the foreign refinery plant, the national accounts may reflect the company's full turnover including that of production abroad, or may instead reflect no production relating to the foreign refinery plant on its part. Since at least some related economic activity takes place in the country in which the parent is resident, it is however likely that some value added will be reported in connection with related organizational and managerial work. In the example this value added amounts to 10. This is the reported value of output in the economy in which the parent is resident.

**8.33** However output and value added are recorded under the 1993 SNA, GNI in the country in which the parent is resident will subsequently reflect the income of the company as a whole as dividend or retained profit earnings (a credit in the property income account) arrive in the parent's accounts.

**8.34** By contrast, in the 2008 SNA accounting all the output is reflected in the national accounts of the country in which the parent company is resident.

### **A more complex example of global manufacturing**

**8.35** In this example, a multinational company has its headquarters (establishment A) in country A and conducts part of its production activities abroad, in country B. Establishment A (the headquarters) controls the entire business and is responsible for all sales of manufactured goods and

purchases of raw materials. The domestic production unit in A produces semi-manufactured goods with a market value of 15. Before the final products are delivered to domestic and foreign costumers, the semi-manufactured goods are further processed abroad by a foreign affiliate (establishment B). The foreign affiliate earns a processing fee of 16 from headquarters. Total turnover of the entire company is 68, of which sales in country A represent 23, sales in country B 10, and sales in other countries 35.

**8.36** Operational costs are as follows:

- Intermediate consumption of the entire company amounts to 44, and all intermediate goods are directly purchased by headquarters.
- 11 of intermediate goods are used by establishment A in its production of semi-manufactured goods, 4 of this being imported. The 4 of value added recorded by establishment A may include some organization and management services.
- Establishment B has 33 of intermediate consumption, all obtained from suppliers resident in country B. This amount excludes the delivery of semi-manufactured products by establishment A.

**8.37** Table 8.3 shows the production account of establishment A. Under the 1993 SNA its output is the semi-manufactured goods with a market value of 15. The 1993 SNA requires the imputation of change of ownership, and the semi-manufactured goods sent to B are recorded as an export.



**Table 8.3 Global manufacturing: as shown in the accounts of the parent**

<b>Production account of establishment A, 1993 SNA</b>		
Output	15	
Intermediate consumption of goods		11
Value added		4
<b>Production account of establishment A, 2008 SNA</b>		
Output	68	
Intermediate consumption of goods		44
Intermediate consumption of services		16
Value added		8

Intermediate consumption equals 11 and value added (the parent's contribution to GDP in A) is 4.

**8.38** The 2008 SNA recording is different. The MNE's entire output is recorded in the production account of country A. The parent in country A owns the semi-manufactured goods and the final products until they are sold to customers. Similarly, all purchases of raw materials, in country A and country B, show up (as intermediate consumption) in the production account of establishment A. In addition a processing fee of 16 paid to the foreign affiliate is recorded as intermediate consumption (imported services) in A.

**8.39** Calculated as the difference between the market value of the final products and the market value of the semi-manufactured goods, this 16 may not reflect the market value of the industrial service provided. This is illustrated by the production account of the foreign affiliate in country B. Under the 1993 SNA, the company's total turnover (68) is recorded as output of affiliate B. Its intermediate consumption is 48, representing the 15 of semi-manufactured goods received from A and 33 of intermediate consumption in B. This leaves a value added of 20, which does not correspond to the processing fee of 16 received from headquarters. As a consequence, the transition from the 1993 SNA to the 2008 SNA transfers value added from country B to country A.

**8.40** There could be several reasons for this. One possible explanation is that under the 1993 SNA treatment a part of operating surplus was incorrectly allocated to affiliate B's production account, an amount representing the reward for "entrepreneurship" (organization and management of the whole operation). Since establishment A is in full charge of the company's operations, this income element should show up in the production account of country A. In this case, one may assume

that the processing fee of 16 probably approximates to a market-based reward for the service provided by establishment B, indicating that the reward for entrepreneurship is  $(20 - 16 =) 4$ . Another possibility is that the processing fee is subject to transfer pricing, leading to accumulation of profits in country A. This option is not unlikely if country A has a more favourable tax regime. Collecting this kind of background information about the nature of the company's business will help interpretation of survey results. In any case, this example shows that, although from a purely conceptual viewpoint adopting the 2008 SNA will not lead to changes in value added and GDP, in practice it is quite likely that such changes will occur.

**8.41** This example also shows that supplementary information may appear quite important in determining the trade balance. Business surveys and statistics of foreign trade in goods and services do not provide a complete picture. One obvious obstacle is of course that, at least in EU countries, trade in goods statistics will, at least for some time, maintain a cross-border recording principle in line with the 1993 SNA but not necessarily with the 2008 SNA. Following the 1993 SNA, country A exports semi-manufactured goods (15) and imports raw materials (4) and final products (23 – 45 of the final product being sold in countries B and C) which leads to a negative trade balance of 12.

**8.42** Determining the trade balance according to the 2008 SNA is less straightforward. The international trade in goods statistics need to be adjusted for national accounts purposes. Total exports of country A should reflect all sales of final products outside country A, which amount to 45. Imports of country A should include, in addition to the industrial service fee of 16, the purchases of raw materials in country A (4) and country B (33). The latter import flow may be less easy for

**Table 8.4 Global manufacturing: as shown in the accounts of the processor**

<b>Production account of establishment B, 1993 SNA</b>		
Output	68	
Intermediate consumption of goods		48
Value added		20
<b>Production account of establishment B, 2008 SNA</b>		
Output	16	
Intermediate consumption of goods		-
Intermediate consumption of services		-
Value added		16

statisticians in country A to trace, since it will probably not show up in the trade in goods statistics of country A. Finally, the 2008 SNA requires the flow of semi-manufactured products (15) to be removed from country A's exports. The difference in the trade balance (4) reflects the part of the processing fee which the 1993 SNA accounting principles (incorrectly) recorded as value added generated in country B.

**8.43** The processing fee of 16 (an export of manufacturing services) is the only item affecting the balance of trade in goods and services of country B under the 2008 SNA.

**8.44** The example presented in this section is a clear case of a parent company that fully controls production activities carried out abroad. Since the parent determines production levels and is responsible for the acquisition of all intermediate goods, the parent effectively assumes economic responsibility for all business undertaken by its foreign affiliate. There may be cases in which economic ownership between the various affiliates is less easily identified. The 2008 SNA (paragraph 6.86) provides some guidance on how to identify economic ownership between establishments of the same enterprise. Decisive factors in this context are the discretion in determining output levels, the amount of inputs required and the prices to be charged. In the example above, establishment B would probably be the economic owner if it controlled its own output levels and had some independence in setting its output prices.

**8.45** In the example establishment A is responsible for the company-wide purchase of intermediate goods. However, it could be that establishment B is responsible for acquiring all or part of its own inputs without being the economic owner of its outputs, for example because it controls neither output levels nor output prices. In this case the service fees obtained from

headquarters must cover establishment B's spending on intermediate consumption, including items such as rental of buildings, electricity, water, local transport, etc.

**8.46** A further point illustrated in this example is that processed goods may not return to the resident country of the principal, but may instead be directly shipped to customers worldwide.

### **Measurement issues arising from implementation of the new standards**

**8.47** It will be apparent from these examples that the measurement of transactions related to global manufacturing is challenging. The implications of adopting the new standards for statistical measurement are explored next. Source statistics may need to adapt to the new SNA guidelines. However, although the implementation of the 2008 SNA may be made difficult by international trade in goods statistics based on a cross-border registration principle, it is important to stress that the updated SNA and BPM are more closely in line with business accounting practice. Moreover, the 1993 SNA had several shortcomings in a globalizing economy, and presented measurement difficulties of its own. For example, business surveys conducted in country A would probably have had difficulty in measuring properly the output of semi-manufactured products (of 15); instead, they would probably capture (part of) the company's turnover in country A, or even worldwide. If so, this would lead to serious double-counting errors in the accounts of country A and subsequently to difficulties in balancing the goods and services account.

### **International trade in goods**

**8.48** In the European Union, as often elsewhere, trade in goods statistics are based on a strict cross-border recording principle. There is so far no plan to adapt the guidelines to the 2008 SNA and BPM6.

**Table 8.5 Global manufacturing: effect on the trade balance of the parent's country**

<b>Trade balance of country A, 1993 SNA</b>		
Export	15	
Import of materials		4
Import of final products		23
Trade balance		-12
<b>Trade balance of country A, 2008 SNA</b>		
Export of final products	45	
Import of materials		37
Import of services		16
Trade balance		-8

International trade in goods statistics will accordingly record any cross-border commodity flow irrespective of change of ownership (and omit any transactions in goods where ownership is acquired or relinquished by a resident without the goods crossing the frontier of the country). Sometimes the trade in goods statistics may provide additional information on whether commodity imports or exports are subject to inward or outward industrial processing. This information may be used to remove commodity flows which are not subject to change of ownership from import and export data in the national accounts, thereby avoiding double-counting of trade flows and processing fees.

**8.49** This adjustment will however often not be possible: later on in this section it is shown that this information will not always account for all aspects of global manufacturing, notably where the global manufacturer is engaged in merchanting-type activity – for this purpose a business survey (see below) is likely to be necessary. In these cases, additional information on the specific characteristics of the MNE's activities abroad is needed to determine its import and export flows.

#### **International trade in services**

**8.50** In the European Union, the regulation on trade in services statistics will be adapted to the 2008 SNA and BPM6. It is expected that this data source will provide information on the value of industrial services purchased from abroad, and those provided domestically to foreign customers. It is less certain that intra-company services will be covered adequately. As mentioned already, these services may be provided for fees that are not based on comparable market values.<sup>22</sup> In the case

of IPPs, companies may not recognize their company-wide use as provision of a service, and consequently their import and export is likely to be underreported in the trade in services statistics.

#### **Business surveys**

**8.51** Business accounts in the country in which the processor is resident will usually record the charge for the industrial service provided. In this regard the 2008 SNA probably accords more closely with business accounting principles than its predecessor. Similarly, in cases of outward industrial processing under a global manufacturing regime, the business accounts of the parent, or the owner of products subject to global manufacturing, are likely to capture all turnover from these global manufacturing activities. So, under the revised SNA, national accounts in the countries in which the owner of the inputs and products, and the processor, are resident seem to be more in line with business accounting practice.

**8.52** However, in most countries the 1993 SNA has determined the design of business surveys and not only the conceptual basis for the national accounts. The recording of turnover in these business surveys should under the 1993 SNA be restricted to production activities carried out in the domestic economy. To conform to the 2008 SNA, this turnover concept must be changed in order to account properly for turnover from global manufacturing. This implies that the definition of turnover in business surveys may need to change.

**8.53** The changed coverage of production should be extended to production costs in global manufacturing, i.e. to all raw materials and semi-

<sup>22</sup> The proposed 2010 ESA (paragraph 21.24) recognizes the difficulty of dealing with this problem, given the likely lack of

information and the often specialized nature of the products transferred within the MNE, which may mean that there is no established market price.

**Table 8.6 Multinational enterprises with a parent company resident in Israel**

	<i>\$ billions</i>			
	2002	2003	2004	2005
Total sales	23.0	24.5	28.3	31.7
of which: sales from Israel (not including exports to affiliates)	10.3	11.2	13.2	14.4
Exports from Israel to affiliates abroad	4.1	4.2	4.9	5.4

manufactured products directly purchased by the domestic parent abroad, and payments for related industrial processing.

**8.54** Experience with business surveys in Israel is relevant here. In order to improve the measurement of external transactions associated with the activities of MNEs, Israel has largely replaced bank transactions data collected by the central bank with surveys of enterprises conducted by the national statistical office. Two types of relevant surveys are conducted currently – annual surveys on exports and imports of services, and six-monthly surveys of MNEs. Because the transactions are complicated, the collection of data in these surveys often involves visits to the enterprises or personal telephone interviews.

**8.55** The six-monthly surveys of MNEs are conducted in Israel according to the guidelines in the *Handbook on Economic Globalization Indicators* published in 2005 by the OECD. To build a frame for sampling, various data sources are combined and linked to the national statistical office's business register:

- The Registrar of Companies in the Justice Ministry on ownership of enterprises.
- Dun and Bradstreet for data on enterprises.
- The Customs Authority for data on imports and exports of goods by importer or exporter.
- Data from the banking system mentioned above on foreign currency transactions by enterprises.

**8.56** A stratified survey sample is prepared by breaking down the data from these sources by share of foreign ownership, the size of enterprises, and the extent of their involvement in external trade and other external transactions. The survey covers MNEs the parent enterprises of which are abroad, and MNEs with parent enterprises in Israel. The variables included are relevant for the analysis of production of such enterprises. However, the coverage does not give a full picture of the joint activities, since the data for MNE affiliates in Israel with parents resident abroad cover only the data available from the domestic affiliate. The data also

suffer from the deficiencies mentioned elsewhere – use of transfer prices which differ from market prices, and lack of information on the market value of the output of the entity in Israel engaged in joint production. The data for MNEs with parent enterprises in Israel in table 8.6 indicate a significant amount of joint activities.

**8.57** As elsewhere (see the annexes to Chapter 2), efforts are being made in Israel to improve the classification of transactions by combining and analysing the data collected in other surveys at the national statistical office and all the available administrative data. For some of the largest MNEs, comparisons with data published in international financial reports are also made. Annex 8.1 contains more on Israel's experience with global manufacturing and particularly with entities that outsource all production activities (that is, they are factoryless producers as described in paragraph 8.18 above).

### **Turnkey projects, and recording the activities of the project vendor**

**8.58** In the following paragraphs the term "project delivery" means any large-scale turnkey project delivered by a project vendor to a foreign principal. Typical examples of such projects are power plants, telecommunication networks, and gas pipeline networks. Large projects are divided into subcontracts involving several MNEs. A project vendor's own contribution may be confined to the production technology and project management, product development, contact with the principal and with public authorities in the country which is host to the project, and sales and marketing. Many or all of the components may be manufactured by contractors, who may be resident in the same country as the project vendor, in the country which has commissioned the project, or in a third country. In many respects the project vendor resembles a factoryless producer.

**8.59** Such projects present many statistical challenges. An example of an extremely complex and international project delivery is a new nuclear power plant currently under construction in

Finland. Typical project vendor company and project delivery characteristics are:

- Most of the project vendor's revenue comes from abroad.
- The project vendor focuses on design and project management.
- Most of the project vendor's own employees serve in a supervisory role.
- The project vendor manufactures at most a part of the equipment required.
- The project lasts from a few months to several years.
- Payments are often made in stages depending on progress.
- The project vendor may establish a subsidiary or branch/affiliate in the country in which the project is being carried out, but equally may only register for liability to pay VAT.

**8.60** For many reasons, foreign project deliveries complicate the compiling of national statistics in ways that have much in common with other aspects of globalization described elsewhere in this guide. Positions and transactions among those involved in the project are often difficult to identify.

### International guidelines

**8.61** International manuals do not specify precisely how foreign project deliveries should be treated in, for example, international trade statistics, the balance of payments or national accounts. There are however many similarities to construction projects, for the treatment of which there are guidelines. There are guidelines also for the installation of equipment. However, the construction work is often carried out, as a subcontract, by an entity or entities in the host country. The project vendor's own export product is usually more akin to engineering services or other business services. Project deliveries may also have characteristics similar to commission trade, particularly if the project vendor owns a foreign company through which the project vendor provides, for example, equipment and engineering services.

**8.62** According to international statistical standards, foreign construction projects should be treated in different ways depending on the duration and nature of the project.

**8.63** The purpose of a one-year threshold is to distinguish between investment-based

construction and renovation work. If the duration of a construction project is less than a year, it should be treated as an export of construction services in the accounts of the country in which the project vendor is resident; local construction costs incurred in the host country are treated as an import of construction services by the country in which the project vendor is resident. Where the project vendor itself delivers goods, care should be taken to avoid counting the transaction twice, in both trade in goods and in services.

**8.64** International statistical standards require construction projects lasting longer than one year to be treated as capital formation by an entity resident in the host country. Project deliveries by the project vendor should be treated as FDI by the project vendor in a branch/affiliate formed in the host country for the purpose of the project. (The branch/affiliate may be notional, and there may be more than one.) This entity is deemed to purchase goods and services from the project vendor and other suppliers, and repatriate to the project vendor profits generated by the project. Flows between the non-resident project vendor and these (possibly notional) resident entities should be recorded as FDI in the financial and investment income accounts in both the project vendor's and the host country's balance of payments.

**8.65** As the project progresses, the branch/affiliate acquires real assets (construction works and equipment installed in the host country), the counterpart to the inward direct investment by the project vendor. As stage payments are made to the project vendor, the part relating to project costs should be entered in the financial account (FDI) as return of capital (that is, a disinvestment), and the part exceeding project costs should be recorded as a dividend on FDI. On completion of the project, the branches/affiliates should no longer hold any assets and no further entries for reinvested earnings on direct investments should be necessary.

**8.66** In practice, it is difficult even to identify such (often notional) foreign branches/affiliates and to register them. Correct imputation of transactions in the balance of payments to these artificial branches/affiliates requires precise data on, for example, project costs, payments made by the principal and project payment receivables. Companies often find it impossible to report these data regularly (and to do so by project and country where, as often, they are involved in several projects). In practice, FDI statistics primarily cover the incorporated foreign affiliates of domestic companies, and usually fail to capture imputed

**Table 8.7 Numerical example of the turnkey project - revenues and costs**

<b>Contract value</b>	<b>100</b>
<b>Costs of the project (*)</b>	<b>80</b>
Supply of goods from the country of the project vendor	10
Supply of goods from other countries	20
Supply of services from other countries	10
Local supply of goods (from the host country)	10
Local supply of services (from the host country)	10
Local salaries (earned by residents of the host country)	20
<b>Revenues minus costs</b>	<b>20</b>

(\*) Excluding in-house costs of the project company (e.g. planning,, management)

transactions with notional foreign branches/affiliates.

**8.67** Table 8.7 shows a numerical example. It should be noted that adoption of the 2008 SNA and BPM6 does not affect the results.

**8.68** If the project duration is less than one year, in accordance with the international standards for construction projects the following items would appear in the balance of payments and national accounts of the country in which the project vendor is resident: export of goods, 10; export of services, 100; import of services, 80.<sup>23</sup> The country in which the project vendor is resident accordingly records a net surplus on trade in goods of 10, and on services of 20. (International manuals do not say whether such projects should be recorded gross or net, nor under which service item project revenues and costs should be entered. The possibilities seem to be construction services or architectural and engineering services in the category of business service activities.)

**8.69** As noted earlier, a project lasting more than one year should be treated as FDI abroad by the country in which the project vendor is resident. In this case a foreign branch/affiliate would purchase 10 of goods from the project vendor's home country, and the project would earn 20 for the project vendor, recorded partly as an export of services (the compensation for engineering work and project management), and partly as FDI income, the proportions depending on the nature of the project and how it is structured.

### Some issues related to project deliveries

**8.70** Including in the business register branches/affiliates located abroad (and resident branches/affiliates of foreign companies) is a

challenge, as a major international project vendor may conduct simultaneously dozens of projects abroad lasting over a year.

**8.71** How to define the project vendor's industry for the business register is also not very clear. Even the revised statistical classifications of economic activities (ISIC Rev.4, NACE Rev. 2) fail to define clearly how companies which have outsourced part or all of their industrial production should be classified. Seen from a global standpoint, project vendors are very similar to manufacturing companies, but at the national level their operation may be closer to that of a service provider. Annex 8.2 examines this issue.

**8.72** Regardless of their classification, it may be difficult to measure the domestic production and value added of project vendors. It cannot be done from physical production quantities, e.g. tonnes of steel, or number of machines produced. As manufacturing enterprises increasingly provide services, more use of value data may be needed. More comprehensive reporting of engineering and project services often requires statisticians to have a greater understanding of the company's business and to hold informed discussions with the company.

**8.73** Any exports or imports of goods related to project deliveries appear in statistics on merchandise trade. Correct measurement may be complicated by re-exports, sending goods for processing abroad, and transfer pricing at variance with market prices, perhaps for tax reasons - all issues discussed elsewhere in this guide.

**8.74** Other issues concern price statistics, not least because a project may be unique, making it difficult to identify a homogeneous product and measure its price over time. The specification pricing approach found in Eurostat's *Handbook on Price and Volume Measures in National Accounts* deals with unique products, but to gather the

<sup>23</sup> Furthermore, according to the *Manual on Statistics on International Trade in Services (MSITS)*, local salaries should be deducted from service imports and added to the compensation of employees abroad.

necessary detailed data is usually impossible in practice.

**8.75** Problems with labour market statistics in the context of project deliveries relate to measuring the number and labour input of foreign employees. International labour movement, of which this is one aspect, is the subject of Chapter 10.

**8.76** All these problems with source statistics affect compilation of the balance of payments and national accounts, including supply and use (SU) tables. Thus some service exports or imports may be omitted from the balance of payments. Calculation of the current account is also complicated by project delivery salaries paid abroad and received from abroad. The difficulty of capturing the various imputed transactions with (especially notional) branches/affiliates of the project vendor set up in the host country has been described already. All this has implications for the national accounts, where lack of data makes the calculation of the project vendor's intermediate consumption and its domestic value added difficult. Errors in output may lead to incorrect estimates for domestic demand in the balancing of supply and demand for the whole economy. The problem of allocating the project vendor's output in commodity statistics affects product breakdowns in SU tables, while the problems for price statistics affect volume calculations.

**8.77** Many of these issues are not confined to turnkey projects but reflect the globalization of business. As described in the annexes to Chapter 2, statisticians have reacted by setting up units to deal with large enterprises as key data suppliers and ensure the quality and consistency of their data in source statistics and national accounts. The EuroGroups Register (EGR) project mentioned in Chapter 3 is also relevant here, at least when a branch/affiliate is formally set up by the project vendor.

### **Recommended future work on the issue of global manufacturing**

**8.78** Paragraphs 8.7-8.12 explained the treatment of outsourcing of production by global manufacturers, and the difficulties of applying the correct treatment in practice. Some of these will be apparent from the examples in the text and from the description of Israel's treatment of outsourcing in annex 8.1.

**8.79** The new international standards (particularly BPM6) indicate that a global manufacturer who buys goods from an affiliate or other entity abroad and sells them to another

affiliate or other entity without significant change in them is engaged in merchanting, in which case the statistical treatment described in Chapter 6 (negative then positive exports to be recorded by the country in which the global manufacturer is resident) applies. This is despite the possibility that the global manufacturer may have substantial input in the form of R&D and other intellectual property in the goods, and may organize the production process. Thus BPM6, paragraph 10.42 says "*where the merchant is the organizer of a global manufacturing process, the selling price may also cover elements such as providing planning, management, patents and other know-how, marketing, and financing. Particularly for high-technology goods, these nonphysical contributions may be large in relation to the value of materials and assembly*". If on the other hand the global manufacturer owns the raw materials or semi-finished goods being worked up, the foreign affiliate or other entity is deemed to be providing a processing service, and the statistical treatment follows that for goods for processing described in Chapter 5.

**8.80** This approach respects the change-of-ownership principle underlying the accounts. Where however the input of R&D and other intellectual property owned by the global manufacturer is a substantial ingredient in the product, it is not so clear that the role of the global manufacturer really is that of a merchant, even if he does not own the raw materials or semi-finished goods and buys the finished product from the outsourced producer for onward sale. At the very least there is the issue of identifying the return on IPPs within the merchanting margin and allocating the related value added correctly (an issue discussed in another context in Chapter 7). Once the return on intellectual property has been identified and correctly allocated, there is a further question of obtaining some indication of the volume of IPP services provided. In practice, there are also likely to be intermediate cases, where the global manufacturer owns some but not all of the physical inputs, or where their ownership changes in the course of the production process. The text earlier suggested that outsourcing should be looked at case by case, but even that may not be adequate. The appropriate treatment in such cases may not be stable; in practice it seems unlikely that statistical systems will respond appropriately. The outcome seems likely to be some inconsistency across countries and between individual cases of outsourcing by global manufacturers. There may be further questions relating to consistency with other commonly used statistical sources – international

trade statistics have been mentioned, but there may be issues also for product or commodity statistics. The suggestion here is that the treatment of outsourcing by global manufacturers should be further investigated with the aim of better consistency and appropriate allocation of value added by the process.

## Conclusions

**8.81** Aside from the reservations expressed above, the 2008 SNA is better aligned with the economic reality of global manufacturing than its predecessor. For example, foreign affiliates engaged in industrial processing will usually be able to report on the compensation received from the principal (headquarters, or the parent MNE) for the industrial services provided. They may have more difficulty in providing information on the market value of their output, as the 1993 SNA required them to do, since in many cases they are not the economic owner and not responsible for selling it. Moving to the new SNA may lead to a reallocation of value added arising from global manufacturing affecting GDP, as explained above.

**8.82** Generally, inward processing is easier to observe than outward processing, where it is difficult to determine all production activities abroad carried out under the responsibility of the parent MNE. If such measurement problems are not overcome, they may give rise to biased results

in national accounts. A recurrent complicating factor is the possible influence of transfer pricing on processing fees. It may also be difficult in practice to distinguish between cases of processing and merchanting. The activities of large MNEs must be examined case by case, with close cooperation among statisticians working in relevant areas. Annexes to Chapter 2 describe such initiatives in Ireland, the Netherlands, Finland and Sweden, but they are not confined to these countries – thus the Central Bureau of Statistics in Israel has also established coordination procedures. International cooperation among statisticians may be necessary to capture large cross-border projects in the statistics in an appropriate and consistent way. EU countries have taken important steps in this direction.

**8.83** The fact that statistics of international trade in goods continue to measure cross-border movements implies a need to use them with care in the compilation of trade balances and SU tables, given that MNEs may have substantial shares in national accounts aggregates at industry branch and even aggregate level. Finally, as the US paper on the industrial classification of “factoryless” production (annex 8.2) suggests, it seems advisable to be in a position to separate factoryless producers from other manufacturers to avoid distortion to productivity and other derived statistics and to business statistics generally.



## Annex 8.1

### The measurement of global production in the national accounts of Israel

**8.1.1** Rapidly growing globalization of production has brought important problems of measurement and analysis in the national accounts and the balance of payments of Israel in recent years. The production may be organized in different ways, and pose different problems. This annex sets out the treatment of the two most common production patterns. The first part of the annex relates to problems with measurement of joint production by MNEs, and the second part relates to international outsourcing.

#### Joint production across borders by multinational enterprises

**8.1.2** Israel has experienced a fast growth in subsidiaries of foreign corporations or branches of MNEs in Israel that engage in joint production across borders. Thus, for example, most of the major computer hardware MNEs have opened R&D centres in Israel. Similarly, Israeli firms have acquired firms or opened new subsidiaries abroad and engaged in joint production with these enterprises.

**8.1.3** An indication of the growth in such links may be seen in data on FDI as shown in table 8.1.1 (although in many cases companies may have only marketing subsidiaries abroad, and may not engage in production across borders).

**Table 8.1.1 Direct investment position of Israel**

<i>End year</i>	<i>\$ millions</i>	
	<i>Direct investment position in Israel</i>	<i>Direct investment position abroad</i>
1996	7,096	983
2000	22,556	9,091
2004	30,689	18,493
2008	63,930	54,382
2009	71,183	56,130

**8.1.4** Since important parts of the production of many foreign affiliated units in Israel are R&D, software and support services, which can be transferred abroad over the internet or by

telephone, measurement may be difficult. The export of output to parent enterprises abroad may not be recorded, due to its intangible nature. Even if the export of output is recorded, it may be valued at cost or at low transfer prices and not at market value as required by the SNA (see also the reference to the proposed 2010 ESA in footnote 24 on page 133).

**8.1.5** As noted in the main text, in the past the source of information in Israel for transactions between the linked enterprises was banking data: foreign currency transactions were subject to exchange control administered by the central bank, and detailed information on them was recorded by banks. Since the end of exchange control, the banking data have become less useful for this purpose – enterprises may choose to leave foreign currency abroad, and the classification of flows may be less reliable, since the data are not needed for the control of currency flows or other administrative purposes. Often the only transactions of foreign affiliated units in Israel which were covered in practice in the balance of payments were transfers of money from the parent enterprise abroad to finance compensation of employees in the domestic enterprise. In the past such transactions have often been registered as income and not as sales of output, and usually did not include a mark-up.

**8.1.6** In order to improve the measurement of external transactions, banking data have been replaced by surveys of enterprises. Two types of relevant surveys are conducted currently – annual surveys on exports and imports of services, and six-monthly surveys of MNEs as described in the main text. Because the transactions are complicated, the collection of data in these surveys often involves visits to the enterprises or telephone interviews.

**8.1.7** A stratified survey sample is prepared by breaking down the data from these sources by share of foreign ownership, the size of enterprises, and the extent of their involvement in external trade and other external transactions. The survey covers both MNEs the parent enterprises of which are abroad, and MNEs with parent enterprises in Israel, and the variables included are relevant for the analysis of production of such enterprises. However, the coverage does not give a full picture of the joint activities, since the data for MNEs with

headquarters abroad cover only the data available from the affiliate(s) in Israel. The data also suffer from the deficiencies mentioned above – use of transfer prices which differ from market prices, and lack of information on the market value of the output of entities in Israel engaged in joint production. The data for MNEs with parent enterprises in Israel in table 8.6 in the main text indicate a significant amount of joint activities.

**8.1.8** Efforts are being made to improve the classification of transactions by combining and analysing the data collected in other surveys at the Central Bureau of Statistics and all the available administrative data. For some of the largest MNEs, comparisons with data published in international financial reports are also made.

### Outsourcing across borders

**8.1.9** Outsourcing across borders has been known in Israel for many years. Textiles and clothing were the first main industries to outsource parts of manufacturing to enterprises abroad. In recent years the use of outsourcing abroad has increased rapidly - the major part of manufacturing of textile and clothing is now outsourced abroad, and outsourcing has also become common in most other industries.

**8.1.10** The problems of recording flows of goods across borders for processing (and their return) and analysing production processes have been known for a long time, and in recent years, when outsourcing has become widespread, new methods of measurement have been used. The approach used for full outsourcing described below is also relevant for enterprises with partial outsourcing.

#### Full outsourcing

**8.1.11** The increasing use of outsourcing has led to the establishment of enterprises that are fully-fledged outsourcers – that is, all processing is outsourced. Such outsourcing has been especially common for enterprises engaging in semiconductor development, and consequently the name “fabless” (an enterprise without a “fab” – the short name used by computer enterprises for a fabrication plant) is often used in Israel. Here the term “factoryless” is used as elsewhere in this chapter. Full outsourcing is however by no means confined to the semiconductor or electronics industry.

**8.1.12** A typical factoryless enterprise in the semiconductor industry designs and markets finished products, which are produced by non-affiliated enterprises in another country (usually in Asia). The non-affiliated enterprise manufactures

the final product using its own raw materials according to the model developed by the factoryless enterprise. The non-affiliated enterprise gets a payment for the final product from the factoryless enterprise, and there is no change in the final product from the point that it leaves the non-affiliated enterprise to its final destination. In the financial reports of the factoryless enterprise, the whole value of the sales of the final product is recorded as domestic income. The net income of the factoryless enterprise, after deducting the purchases from the non-affiliated enterprise abroad, amounts to a substantial percentage of the value of the product.

**8.1.13** The partial data on factoryless enterprises in the semiconductor industry, collected for the balance of payments in Israel, indicate the fast growth of such enterprises (see table 8.1.2).

**Table 8.1.2 Exports of factoryless companies in the semiconductor industry in Israel**

	<i>\$ millions</i>	
	<i>Gross revenues from sales abroad</i>	<i>Net revenues from sales abroad</i>
2001	380	131.1
2005	897.9	309.7
2006	1074.6	370.7
2007	1130.9	390.1
2008	946.5	326.5

**8.1.14** In most cases the final product is sent directly from the sub-contractor to customers, and no flows of imports or exports of goods are registered in Israel where the factoryless enterprise is located. Consequently, at first glance the activities of factoryless enterprises resemble those of enterprises engaged in merchanting – they buy products from non-residents and sell them to non-residents, and they may have a relatively large amount of marketing activities. But there are important features not usually present in the traditional form of merchant activity, notably the provision of R&D and management of the production. In fact, the large value added obtained by factoryless enterprises can probably mainly be attributed to those activities. Under BPM6 (paragraphs 10.41-10.49 and box 10.2), their activity is included under merchanting as “global manufacturing”.

**8.1.15** In Israel, the discovery that transactions related to such enterprises were not included in the balance of payments first revealed the problem

of measuring these activities. Because no cross-border trade takes place, the transactions of these enterprises were not included in the customs records. Banking data on international transactions did however record the associated flows as exports and imports.

**8.1.16** After the problem was discovered, a new measurement method was introduced. A monthly comparison of customs records, banking data, VAT records and data collected in business surveys for individual enterprises is now made in order to identify cases of global manufacturing. VAT records are also used, since they are comprehensive and include data on transactions exempt from VAT, which in most cases are exports. Once a case of global manufacturing is identified, the financial reports of the relevant enterprise are examined, and the transactions are recorded as described below.

**8.1.17** The activities of the enterprise are first considered in order to decide how to classify the enterprise and account for its transactions with the rest of the world. The concept of “converter” defined in the NACE 1.1 classification has been adopted as a basis for deciding whether to classify the enterprise’s activities as trade (ISIC G) or manufacturing (ISIC D). According to this definition: *“Converters are units which sell goods and services under their own name, but arrange for their production by others. These units are classified to Sector G (wholesale and retail) except when they own the legal right and the concept of the product, in which case they are classified as if they produce the goods themselves.”* (NACE 1.1, introduction, page 14). An enterprise outsourcing production totally and selling goods without being involved in any production process will be classified in trade. On the other hand, if an enterprise is the owner of patent rights on the products, is engaged in significant R&D activity, and is the owner of the final products, which are being sold under its name, it will be classified as engaged in manufacturing. (This classification issue is explored further in annex 8.2.)

**8.1.18** Since the non-affiliated enterprise uses the R&D developed by the factoryless enterprise (although it uses its own tangible raw materials and receives payment for the final product from the factoryless enterprise), it may in a way be seen as a subcontractor abroad selling manufacturing services to the factoryless enterprise. Consequently the value of these services is currently treated as an import of services. But when Israel implements the 2008 SNA and BPM6, the plan is to adopt the treatment recommended for goods under

merchandising, namely recording the acquisition of the goods by the factoryless enterprise as a negative export of goods, since the arrangements seem to fit the descriptions given in the new standards (SNA 2008, paragraph A3.158 and BPM6, paragraph 10.42 cited above).<sup>24</sup>

**8.1.19** The factoryless enterprise sells the final manufactured good to a third country (the subcontractor ships the product directly to this country). This transaction is currently not registered, but will be registered as exports of goods when Israel implements the 2008 SNA and BPM6.

**8.1.20** In order to facilitate the analysis of such arrangements by the users of the data, it is also planned to register the transactions in a separate subcategory, namely goods/services under outsourced production. This subcategory will be further divided between:

- a. Outsourced to affiliates.
- b. Outsourced to non-affiliated enterprises.

**8.1.21** If possible, it is also planned to improve data by comparing the Israeli records of transactions of factoryless enterprises broken down by partner countries with the registration of trade in those partner countries.

<sup>24</sup> Paragraph A3.158 of the 2008 SNA reads as follows: *“The 2008 SNA recommends that goods acquired by global manufacturers, wholesalers and retailers and those cases of commodity dealing being settled in the commodity should be recorded as negative exports on acquisition and positive exports on disposal. The difference between the two appears in exports of goods but appears as the production of a service in the merchant’s economy, analogous to trade margins applied to domestically traded goods. In the case where goods are acquired in one period and not disposed of until a subsequent period, they should appear in changes in inventories of the merchant even though these inventories are held abroad.”*

## Annex 8.2

### The industrial classification of “factoryless” production

#### Introduction

**8.2.1** The background section of the main text of Chapter 8 described three broad classes of producer identified in recent recommendations by the US Office of Management and Budget (OMB) concerning the 2012 update of the North American Industry Classification System (NAICS). These are (a) integrated manufacturers, (b) manufacturing service providers (MSPs), and (c) “factoryless” goods producers (FGPs). This annex is concerned with the industrial classification of the last group, “factoryless” enterprises which outsource all production.

**8.2.2** The International Standard Industrial Classification of All Economic Activities, ISIC Revision 4, bases classification of units that outsource transformation solely on ownership of input materials. If a unit purchases materials and contracts with another unit to process those materials, it is classified to manufacturing. “A principal who completely outsources the transformation process should be classified into manufacturing if and only if it owns the input materials to the production process – and therefore owns the final output” (page 30). For ISIC, a unit that outsources physical production activities but owns inputs is a manufacturer and a unit that outsources production without owning inputs is treated as being engaged in trade. ISIC applies the ownership of materials criterion to units that outsource production activities to either domestic or foreign manufacturing service providers.

**8.2.3** The ISIC classification based on ownership of materials alone is consistent with the proposed procedures for classification of goods sent abroad for processing in the 2008 SNA, which specifies that sending goods abroad for processing should be recorded as the import of a service. For example, a unit that exports silicon wafers to a semiconductor manufacturer in another country would be treated as purchasing semiconductor manufacturing services rather than as exporting wafers and importing semiconductor devices.

**8.2.4** Recommendations from BPM6 are consistent with the treatments recommended in the 2008 SNA. However, BPM6 indicates that the manufacturing service fee could include the cost of materials purchased by the processor.

**8.2.5** It might be noted that the *International Merchandise Trade Statistics* manual (IMTS 2010) requires the value of materials sent abroad for processing to be recorded as exports of goods, and the processed goods subsequently returned to be recorded as imports as different goods.

#### Classification guidance

**8.2.6** Following a public consultation, the OMB recommends for the 2012 revision of the NAICS that FGPs should be classified to the same industries as integrated manufacturers and manufacturing service providers (MSPs). However, statisticians should be encouraged to allocate sub-industry level identifiers to these three types of producers and to apply methodologies that recognize not only the differences between integrated manufacturers, MSPs and FGPs, but also the different relationships among variables such as employment, shipments, and cost of materials for the three types of manufacturers.

**8.2.7** This decision will provide a consistent and stable classification framework regardless of changing outsourcing decisions.

#### Justification

**8.2.8** The main reasons for the recommendation are the following. Goods producers arrange for all the necessary factors of production, accepting the entrepreneurial risk of producing and bringing goods to market. When individual steps in the complete process are outsourced, an establishment should remain classified in the manufacturing sector. For example, a decision to produce or purchase raw materials does not change the classification; nor does a decision to use contractors or a professional employer organization rather than a traditional employment contract, or to outsource marketing and distribution to a wholesaler.

**8.2.9** Goods producers will often perform part of the manufacturing work but outsource individual steps. For example, a producer of generators may outsource generator castings to a casting producer, windings to an armature producer, and purchase hardware from yet other producers, without changing the classification. If the final assembly is also outsourced, the establishment is still bringing

together all of the factors of production to produce generators and is the only establishment that can fully account for the value of generators produced. The establishment has managed the production process but contracted out the steps to individual goods producers or MSPs.

**8.2.10** Over time, changes in the relative cost of factors of production will change the most efficient allocation of work. High wage rates in a country may provide an incentive to use less costly labour abroad. That relative wage advantage could disappear if transport costs increase. Shifting among input sources based on relative costs is a common practice and should not generally result in a change of industrial classification.

**8.2.11** Classification of FGPs within the manufacturing sector is consistent with past practices in other areas, particularly in the construction sector. NAICS subsector 236 (*Construction of buildings*) includes establishments very similar to FGPs. An establishment that is engaged in the construction of buildings is classified to construction if it arranges for all the factors of production necessary to produce the building even if it does not perform any construction work itself. Using specialized contractors or subcontractors does not change the classification.

**8.2.12** Classification of FGPs to wholesale trade instead would expand the scope of wholesale trade beyond buying and selling goods. It would not be appropriate to measure the output of FGPs as a trade margin (which should not include the returns to intellectual property and entrepreneurial assumption of risk for the production of goods).

**8.2.13** A strict adherence to the international recommendation to classify FGPs solely on ownership of materials is impractical. If the definition of ownership required physical possession, the ability to substitute between different countries to obtain the cheapest inputs could change sector classification in NAICS if the inputs were sent directly from the producer in country B to an MSP in country C. The establishment in country A that arranged for the

production would never take physical possession of the materials. If the definition of ownership were based on separate transactions, problems would still arise. Contracts between FGPs and their manufacturing partners change with market conditions. Payment terms and the allocation of risk can shift with the availability of credit and the market power or capacity of the individual parties. Classification of an establishment should not change simply because it has the market power to shift the timing of payment for the inputs from the front of the process to the end of the process, or because critical shortages of transformation capacity increase the bargaining power of an MSP. The OMB thus focused on the entrepreneurial aspects of the process (and therefore on ownership of the goods being produced) rather than on ownership of materials.

**8.2.14** A proposal to base classification on the location of the MSP was rejected. There are practical advantages to classifying in manufacturing FGPs that use domestic MSPs because of the theoretical ability to link the establishments involved, while classifying FGPs that use foreign partners in wholesale trade, because of the practices for recording trade in goods. This approach however has the serious disadvantage that two establishments operating in the same way could be classified differently based on the source of their inputs, which is not consistent with NAICS; the classification of an FGP which switched production between offshore and domestic contractors would change.

**8.2.15** Classification of FGPs to manufacturing will expand the traditional definition of manufacturing beyond establishments known as factories, plants or mills. It may be argued that this expansion will artificially increase the importance of manufacturing. Arguments can also be made that a strict requirement for physical, chemical, or mechanical transformation has unreasonably limited the definition of manufacturing in a global economy. Both arguments have merit. There is no single correct solution, and the difficulty of identifying and consistently classifying FGPs is recognized.



## CHAPTER 9

# Measurement issues associated with administrative trade data and globalization

### Introduction

**9.1** Statistics on trade in goods are based on cross-border movement of the goods, which are generally measured using administrative sources and considered an acceptable proxy for change of ownership. In the past, with the limited exception of merchanting, goods were generally imported or exported by a resident, who owned them.

**9.2** Globalization has increased the relevance and variety of transactions where the physical movement of goods does not reflect a change of ownership. In addition, the administrative documents do not always allow a full identification of the transactors or their residence, forcing compilers to make estimates based on incomplete information. Processing and merchanting, described in Chapters 5 and 6, are recognized cases of a separation between change in ownership and the cross-border movement of goods.

**9.3** This chapter concerns transactions where the cross-border movement of goods does not reflect changes in ownership, and may lead to incorrect allocation of value added across countries. This problem first became apparent to compilers of EU and euro area aggregates through the phenomenon of quasi-transit trade; more recently it has emerged that a similar type of transaction can create an imbalance in the national data of a single country.

**9.4** In quasi-transit trade, goods are imported into a country by a non-resident entity, and re-exported to a third country, sometimes at a substantially higher price. The owner of the goods may be an MNE or a trader. The reporting economy excludes these goods from national data on imports and exports, since the goods are not owned by a resident.

**9.5** Quasi-transit trade shares features with transit trade, re-exports and merchanting, in that the goods move across a third country on their way

- The owner of the goods (X) who arranges their import into A and their sale to an entity in B

from the initial producer to the final consumer (for explanations of these terms, see paragraphs 9.31 onward).

### Background

#### The source of the phenomenon

**9.6** European regulations and guidelines require the transmission of balance of payments and merchandise trade data to Eurostat and the European Central Bank (ECB) compiled according to the "community principle", with quasi-transit trade included. This is because goods imported into the European Union/euro area are cleared for circulation in the whole area at the point of entry. Nevertheless quasi-transit trade is excluded from national foreign trade and b.o.p. data by member states, and also from the rest of the world sector in their economic accounts. There are however large differences in the gross values of exports and imports of goods measured in the two frameworks.

#### Examples of quasi-transit trade

**9.7** Some examples showing the flows of goods and the corresponding flows of payments may help to explain the issue: in reality, transactions may be more complicated than shown here.

- Country Y is the non-EU country producing the goods and from which the goods enter the European Union.
- Country X is the country where the owner (X) of the goods imported into the European Union is resident; country X may be located inside or outside the European Union.
- Country A is the member state where the goods enter the European Union. It is not the country in which the owner of the goods, who arranges their import into A, is resident.
- Country B is the member state where the goods are finally delivered and consumed. may be a trader or a multinational enterprise (MNE) involved in global manufacturing.

**9.8** In country A, the entity A which handles customs procedures and pays import duties does not become the owner of the goods. A may be a local fiscal representative dealing with the customs, and considered only as a provider of services to non-residents in the national accounts of country A.

**9.9** Entities in countries X and A may be independent (as it is generally the case when the goods are imported into the Netherlands) or related (as it is often the case in Belgium); X may be resident in country B (in which case country B and country X are the same).

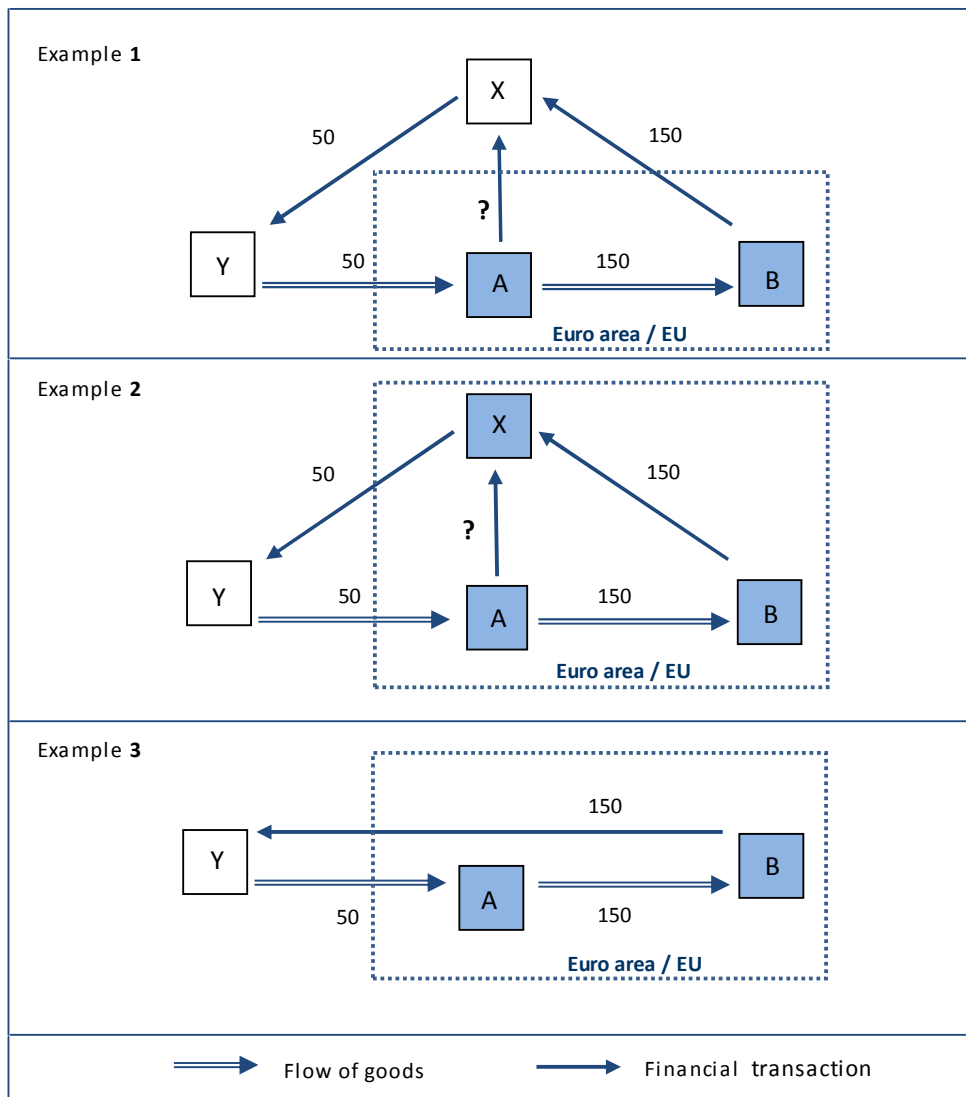
**9.10** Chart 9.1 shows three examples of possible transactions among Y, X, A and B.

**9.11** In examples 1 and 2, the goods acquired by country X from country Y enter the European Union/euro area through member state A. Goods are then dispatched to member state B, which provides a payment to country X that in turn pays Y.

**9.12** In example 1 the owner X who arranges the import into A is a not resident in the European Union/euro area; in example 2 the importer X is resident in the European Union/euro area.

**9.13** A price gap is observed between the import value recorded when the goods enter the European Union (which is the value at which they are reported by A according to the “origin principle” with counterpart Y), and the (sometimes much

**Chart 9.1 Examples of quasi-transit trade schemes characterized by major price gaps**





higher) value recorded when goods are dispatched from country A to country B; country B according to the “consignment principle” will report imports from A (and not from Y). This approach (called the community concept) avoids a double counting of imports from Y at aggregated level. Annex 9.4 explains the systems for recording trade with countries outside the European Union (Extrastat, using customs documentation) and cross-border movements of goods within the European Union (Intrastat, based on surveys)

**9.14** Example 3 can be seen as a special case of example 2, where X and B are merged. In example 3 the cash flows take place directly between country Y and country B, the country of final destination in the European Union.

**9.15** An important consideration is the relationship between the units in X, Y and B. If these units are independent, the price gap could be attributed to merchanting. In the more significant cases displaying the largest price gaps, the units tend to be related and part of the same MNE. The phenomenon of global manufacturing, of which these cases may be instances, is discussed at length in Chapter 8.

### The size of quasi-transit trade in the European Union

**9.16** Quasi-transit trade is very significant in Belgium, Luxembourg and the Netherlands.

Following EU enlargements, the transit trade phenomenon has also been detected in other member states.

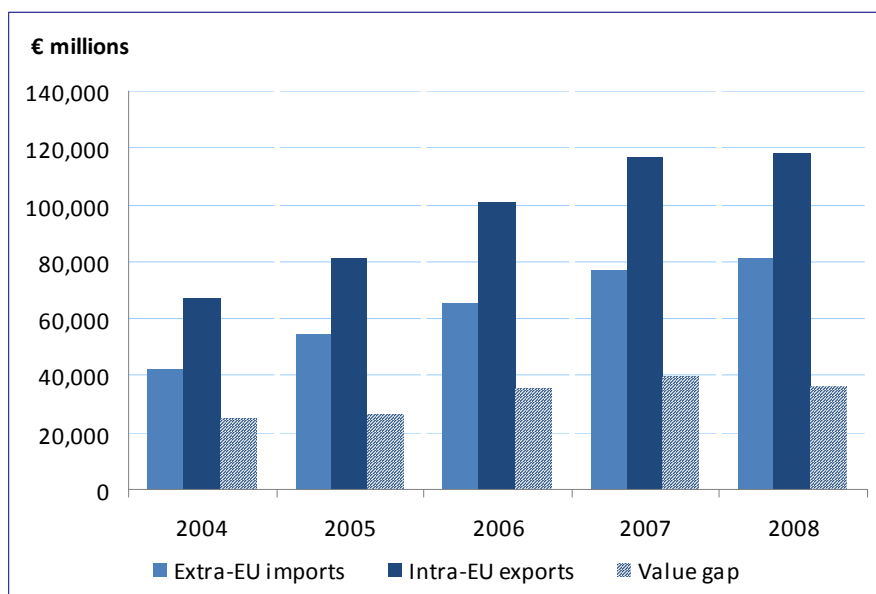
**9.17** Chart 9.2 compares quasi-transit trade imports into the European Union with quasi-transit dispatches (exports) from the EU country in which the goods entered the European Union to the country of final destination. The gap between these two values reached €40 billion in 2007, decreasing to €36 billion in 2008, due to a decrease in the gap recorded in Belgium and the Netherlands following their efforts to deal better with the national component of quasi-transit trade transactions. The data relating to quasi-transit in Belgium, the Netherlands and some other EU countries are shown in annex 9.1.

### A similar phenomenon: trade undertaken by entities which are not resident in a country

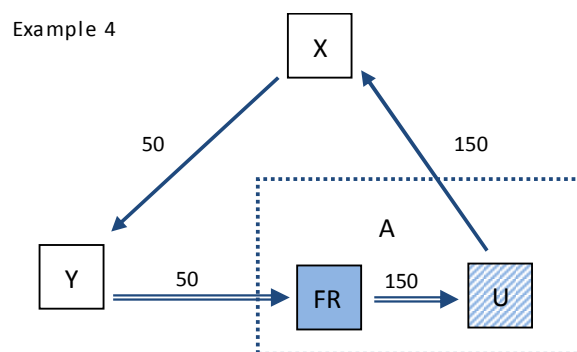
**9.18** If it is possible for a non-resident enterprise to import goods into a country, a phenomenon similar to quasi-transit trade can occur within a single country. Chart 9.3 explains how this may arise.

- Country Y is the country producing the goods and from which the goods enter country A.
- Country X is the country where the owner of the goods (who may be a merchant or an MNE)

Chart 9.2 Quasi-transit trade in the European Union (€ millions)



Source: Eurostat, Balance of Payments Quality Report, BoP/FTS Reconciliation tables. Extra-EU imports and intra-EU exports in this chart relate only to the quasi-transit trade component.

**Chart 9.3 Example of trade undertaken by entities which are not resident in a country**


imported into country A is resident.

- Country A is the country into which the goods are imported and is also the residence of the final user.

**9.19** In country A, the entity FR (a fiscal representative) handling customs procedures does not become the owner of the goods. This entity provides a service to country X.

**9.20** A merchant or an MNE resident in country X imports goods into country A; these imports are valued at the price the merchant or MNE paid for them (50). The goods are then sold to a resident of country A (user U), who is the final buyer; this transaction values the goods at the selling price of the merchant or MNE (150). The gap between the value of imports and the value of the transaction in which the actual change in ownership takes place represents the trade margin of the merchant (or MNE). This margin is not recorded as an import of services in country A, so there is an imbalance between demand for and supply of goods and services in A.

**9.21** Adjustments are necessary to balance the supply and use (SU) tables. As the SNA requires imports to be recorded as the value of the transaction when ownership of the goods changes, an adjustment to imports could be a solution, which however would end up inflating the value of imports of goods. Another solution is to make an imputation to increase imports of services.

**9.22** Where however national accountants are not aware of its source, they may resolve the discrepancy between demand and supply in some other way – for example, by reducing intermediate consumption - which restores balance between the output and expenditure measures, but at too high a level of GDP.

### An example of trade conducted by non-resident entities in a country

**9.23** An example of the phenomenon within a country is described in a document presented by the Hungarian Central Statistical Office (HCSO) to the Conference of European Statisticians in June 2008 (see Csizmazia, 2008 and annex 9.3 below). HCSO discovered this valuation problem when comparing information relating to trade in goods from bank payments sources with the information available from merchandise trade data.

**9.24** The problem described by HCSO arises from the activities of a group of distributors called VAT residents of foreign enterprises, who are resident in Hungary for VAT purposes but not for statistical purposes. The share of this group in Hungary's external trade, insignificant in 2004 when Hungary joined the European Union, reached 10 per cent in 2007.

**9.25** The problem discovered by HSCO affects both exports and imports; however the similarities with quasi-transit trade are strongest for imports. The flows described below correspond to examples 1 and 2 in chart 9.1, so the country codes used there are repeated.

a. A non-resident company (Y) sells goods to a VAT resident in Hungary (A) controlled by the parent company (X); the foreign parent company (X) pays for the goods.

b. There are then two possibilities:

i. The VAT resident (A) sells the goods to a buyer resident in Hungary, who pays the foreign parent company (X) for them.

ii. The VAT resident sells the goods to a non-resident of Hungary (B), who pays the foreign parent company (X). This case corresponds to quasi-transit trade.

**9.26** Hungary observes for case b(i) a difference in valuation between the import as recorded in merchandise trade statistics and what the resident purchaser pays for the goods. In case b(ii) Hungary observes a valuation difference between imports and re-exports in merchandise trade similar to that noted in quasi-transit trade. In both cases payment is made to the country of residence of the foreign parent.

**9.27** The Hungarian example shows that a problem similar to quasi-transit trade may also exist within a country. The Czech Republic has recently revealed similar problems to those reported by Hungary (Petraskova 2010).

### The main elements behind the phenomenon, and possible explanations

**9.28** The main single element behind the phenomenon seems to be the possibility for a non-resident to have a VAT number in the reporting economy, and to import, re-export, or sell on the domestic market.

**9.29** Little is known about why a company requests a VAT number in a country where it is not resident, and even less about why it may substantially increase the price of goods in the course of transporting them to their final destination. It may be that enterprises declare a low value at the port of entry to minimize custom duties. Transfer pricing is however generally associated with a resident unit which generates value added and profits and pays taxes. In case of quasi-transit trade no resident unit is involved, and transfer pricing seems not to apply.

**9.30** Another possible explanation is that the goods when imported are not yet sold to the final customer. In this case the only price that can be declared at the time of import is (for a merchant) the price which he paid, or (for an MNE) the cost price, with allowance for transport, etc. costs. When a customer is found and the goods are exported to him, they will be priced at a higher selling price.

### Statistical treatment recommended in international standards

#### The definition of quasi-transit trade

**9.31** Quasi-transit trade is not defined in the international manuals.<sup>25</sup> The following refers to standard definitions of related concepts. Although

<sup>25</sup> Because however of the relevance of the issue for European accounts, a definition of quasi-transit trade is introduced in the proposed 2010 ESA – see further below.

some are set out in other chapters, they are repeated here for convenience.

**9.32** It is useful to distinguish between the following related concepts:

- **Simple transit trade** describes transactions in goods which cross the reporting economy on the way to their final destination. They are excluded from the foreign trade statistics (FTS), b.o.p. and national accounts of the reporting economy.
- **Re-exports** describes transactions in goods which are imported into the reporting economy by a resident and then re-exported. Re-exports imply a change in ownership and are included in the FTS, balance of payments and national accounts of the reporting economy.
- **Merchanting** (the subject of Chapter 6) describes purchases of goods by a resident of the reporting economy from a non-resident and the subsequent resale of the same goods to another non-resident without the goods entering the reporting economy.
- **Quasi-transit trade** as described in this chapter concerns transactions in goods which are imported into the reporting country by a non-resident entity, and then re-exported to a third country within the same economic union. A variant is the case in which they are imported into the country and later sold to a resident there, sometimes at a much higher price, without significant change to the goods and without the involvement of any resident to whom the value added reflecting the increase in price might be attributed.

**9.33** Simple transit trade, quasi-transit trade and re-exports have a common element: in all three cases the domestic supply of goods in the compiling economy is not increased, even if the goods are physically present there.

**9.34** Merchanting is fundamentally different from transit and quasi-transit trade and re-exports, in that the merchanted goods are not physically present in the compiling economy. Merchanting is however relevant to this discussion because it is a possible cause of the increase in value of the goods between their import and their export or sale to a final user in the importing country.

**9.35** The following four sections analyse further the definitions and concepts related to these issues.

### Simple transit trade; direct transit trade; transport transit trade; goods in simple circulation

**9.36** Simple transit trade means that goods cross a country on the way to their final destination; no transaction (beyond related transport, etc. costs) is recorded in FTS, balance of payments and national accounts (the 1993 SNA and 1995 ESA). Such (non) transactions have different names in the international manuals.

**9.37** Intrastat Regulation No 638/2004 Article 2 (g) defines "goods that are in simple circulation between Member States" as "Community goods dispatched from one Member State to another, which, on the way to the Member State of destination, travel directly through another Member State or stop for reasons related only to the transport of the goods". These goods are excluded in the European Union from the FTS of the country through which they pass.<sup>26</sup>

**9.38** The *International Merchandise Trade Statistics* compilers' manual (IMTS, paragraph 102) defines the criterion for identifying "goods being simply transported through a country". "These are goods entering the compiling country for transportation purposes only. Transportation may involve simple handling operations and temporary storage. ... If the goods' destination, at the time of crossing the compiling country's border, is another country, these goods are to be treated as being simply transported through the country and have to be excluded from trade statistics".

**9.39** BPM5 (paragraph 209) defines direct transit trade as "goods in transit through an economy" and specifies that these must be excluded from imports and exports.

**9.40** BPM6 (paragraph 10.22a) defines transit trade as "goods admitted under special customs procedures that allow the goods to pass through the territory" and specifies that these must be excluded from general merchandise because there is no international transaction.

**9.41** The 1995 ESA (paragraph 3.136) specifies that imports and exports of goods exclude "goods in transit through a country". The 2008 SNA (paragraph 26.50) excludes from trade in goods, goods that change location from one economy to another but do not change economic ownership.

### Re-exports and re-imports

**9.42** Re-exports relate to transactions in goods which are imported into a country by a resident trader and then re-exported. The resident enterprise acquires ownership of them from a non-resident. Re-exports are considered as normal transactions in trade in goods and are included in both national and EU FTS.

**9.43** The IMTS (paragraph 136) defines re-exports as "foreign goods exported (or re-imported) ... in the same state as previously imported (or exported)." These goods must be included in total merchandise exports/imports.

**9.44** BPM6 defines re-exports (paragraph 10.37) (and re-imports in similar terms in paragraph 10.40). "Re-exports are foreign goods (goods produced in other economies and previously imported) that are exported with no substantial transformation from the state in which they were previously imported. The price of the re-exported good may differ from its price at the time it was originally imported, due to factors such as transport costs, dealer's margins, and holding gains/losses. For goods to be included in re-exports for balance of payments statistics, a resident must acquire, then resell the goods with the goods passing through the territory".

### Merchanting of goods

**9.45** The treatment of merchanting in the 1993 SNA and BPM5, and the changes introduced in the 2008 SNA and BPM6, are discussed at length in Chapter 6. It might be noted that data on merchanting cannot be collected through merchandise trade statistics and must be collected through surveys.

### Quasi-transit trade

**9.46** According to merchandise trade terminology, quasi-transit trade describes transactions where goods enter an economic union through a member state, are cleared for free circulation within the economic union (with customs duties paid) and are finally dispatched to another member state. The same kind of trade is also known as disguised transit trade, to be distinguished from goods in "simple transit", where no administrative clearance takes place.

<sup>26</sup> Regulation No 638/2004, Article 3(2a) and (3b).

**9.47** Quasi-transit trade concerns mainly imports; exports are affected, though apparently to a smaller extent.<sup>27</sup>

**9.48** The 1993 SNA, 1995 ESA, 2008 SNA, BPM5 and BPM6 do not mention quasi-transit trade.

**9.49** The 1993 SNA (paragraph 14.88) defines exports of goods as *"sales, barter, gifts, or grants"* from residents to non-residents. The 1995 ESA (paragraph 3.132) states that *"Imports and exports of goods occur when there are changes of ownership of goods between residents and non-residents"*.

**9.50** The 1993 SNA (paragraph 14.59) and 1995 ESA (paragraphs 3.132-3.133) allow for an exception to the change in ownership rule in case of delivery of goods between affiliated enterprises (branch or subsidiary, or foreign affiliate): *"a change of ownership is to be imputed whenever goods are delivered between affiliated enterprises"*. This exception has been removed from the 2008 SNA, which together with BPM6 now strictly follows the change of ownership principle (2008 SNA, paragraphs 26.20-26.21).

**9.51** Using the SNA terminology, quasi-transit trade can be defined as relating to goods that are imported into a country, and then exported, by an entity which does not acquire the ownership of the goods and that is not a resident in the reporting economy, where it is not considered an institutional unit (it may be an entity which is only registered for VAT).

**9.52** In the country where the goods enter the European Union and are cleared for free circulation, the entity which is handling the import of the goods may be a logistics service provider, a fiscal agent or a tax representative. It may be that no staff is employed in the country: there may be only a VAT number required to comply with the necessary customs declarations for importing the goods into the European Union and with the necessary Intrastat declarations. In this case all declarations are prepared by the non-resident merchant or manufacturer, possibly using the services of a fiscal agent.

**9.53** Following much discussion among European statisticians, the proposed 2010 ESA introduces a definition of quasi-transit trade in paragraphs 18.28 (in the chapter on the rest of the world account) and 19.16 (in the chapter on accounts for the euro

area or European Union as a whole). The draft 2010 ESA says that, though quasi-transit trade should be excluded from national data, since the entities involved in obtaining customs clearance are not institutional units (paragraph 18.28), quasi-transit trade should be included in the European aggregated accounts (paragraph 19.16).

## Measurement problems

**9.54** Merchandise trade is the main source of data on goods for most EU balance of payments and national accounts compilers. Merchandise trade records the value of the goods at the moment of crossing the border.

**9.55** When balance of payments and national accounts use merchandise trade data as their primary data source, they assume that crossing of borders could be considered as an acceptable approximation for the change of ownership (see 2008 SNA, paragraph 26.53). However, goods increasingly move across borders independently of changes in ownership. Goods may be imported into a country by an MNE or a trader who will decide only later to whom and at what price to sell them.

**9.56** Whenever a merchant or an MNE involved in global manufacturing imports goods into a country which is not his country of residence, quasi-transit trade and similar problems may affect balance of payments and national accounts data.

**9.57** Annex 9.4 provides a detailed explanation of the way merchandise trade data are collected in the European Union and explains how data on quasi-transit trade are identified in some EU countries.

## Proposals for operational treatment in the accounts

### Quasi-transit trade and EU and euro area aggregates

**9.58** Balance of payments data are used in the European Union for compiling the rest of the world account in the EU (and euro area) integrated economic and financial accounts by institutional sector.<sup>28</sup>

**9.59** Users of balance of payments data for compiling EU (and euro area) sector accounts must address the problem of the discrepancies between national balance of payments data and the EU/euro area rest of the world column in the aggregated

<sup>27</sup> Thus some Baltic EU member states, according to their Extrastat data, export goods which cannot have originated there, like French wine. But there is no Intrastat arrival declaration from another EU Member State.

<sup>28</sup> For the European sector accounts, see [http://epp.eurostat.ec.europa.eu/portal/page?\\_pageid=2553,64638007,2553\\_64938511&\\_dad=portal&\\_schema=PORTAL](http://epp.eurostat.ec.europa.eu/portal/page?_pageid=2553,64638007,2553_64938511&_dad=portal&_schema=PORTAL)

accounts. In relation to the item goods, the largest contributor to differences between them is quasi-transit trade (see annex 9.2).

**9.60** Quasi-transit trade data are included in the national contributions from balance of payments and merchandise trade statistics reported to Eurostat, but not in the rest of the world data reported by some member states for the purpose of aggregated economic and financial accounts. There is also the problem of accounting for the increase in value of goods in the course of quasi-transit, given that the value of quasi-transit exports is substantially higher than the value of the quasi-transit imports, and the gap is much larger than can be attributed to storage, tax, transport and insurance fees.

**9.61** To overcome the problems for EU aggregates, and to bring the balance of trade in goods in the EU balance of payments and rest of the world account into line, EU balance of payments compilers have introduced an adjustment in services, under a new heading "*Branding/quasi-transit trade adjustment*".

**9.62** The term branding was chosen because companies involved in quasi-transit trade explain the increase in prices of goods in quasi-transit as a mark-up covering costs of research, planning, marketing and advertising provided by the parent company. Implicitly, therefore, the European Union/euro area is importing services from the country in which the parent MNE is resident which

are not reflected in the price at which the goods enter the economic area, but only in the price at which they enter the country of final destination.

**9.63** The recommendation for making this adjustment came from a Task Force on the Rest of the World Account set up to address the problems of using balance of payments data in compiling sector accounts (see Eurostat, 2007).

**9.64** The Task Force considered the possibility that transfer pricing could be a source of the problem: intra-group transactions in goods and services can be valued by MNEs at artificially low (or high) prices when they enter the European Union, with the purpose of realizing profits in one country rather than another for fiscal reasons or for minimizing custom duties. The Task Force chose not to revise (upwards) the value of intra-group transactions related to goods imported from non-EU countries, because of the effect this would have on value indices.

**9.65** Box 9.1 includes the definitions and guidelines in relation to the treatment of quasi-transit trade that were included in the *Balance of Payments Vademecum*, the reference document for the transmission of member states' balance of payments data to Eurostat.

### **A national accounts interpretation of the treatment of quasi-transit trade in the European Union**

**9.66** In terms of national accounts, the treatment

#### **Box 9.1 Extract from the *Balance of Payments Vademecum* (Eurostat, 2009)**

*Balance of payments item 201, Current account, Services, Branding, Quasi-transit adjustment shall be used by the member states affected by the phenomenon of "Quasi-transit trade" to report the gap between the value declared when the goods are initially imported from a non-EU country and their value when dispatched to another EU member state.*

*"Quasi-transit trade" is a term used to define goods which enter the European Union in member state A, are cleared for free circulation (and submitted to import duties) in member state A, are then dispatched to the EU member state B.*

*In member state A, a company with little or no staff employed (but with a VAT number) might be managing the customs procedures related to these goods. In case member state A treats this company as non-resident for national accounts purposes, the transactions concerned would not be included in the goods compiled according to the national concept. However, they are included in the community concept followed in merchandise trade and the balance of payments. Theoretically, "quasi-transit trade" should have no impact in net terms. In practice the value of the goods re-exported can be much higher than the value of the goods which entered member state A. This creates significant differences between the net value of trade in goods recorded in the balance of payments and in the rest of the world account.*

*The gap between imports and dispatches (excluding changes in price due to storage, tax and insurance) should be recognised in the balance of payments as "Services", at least when reporting data to Eurostat and the ECB.*

*For practical reasons, (i.e. regardless of whether this is an intra-group transaction or transaction between independent parties), Eurostat and the ECB prefer the imputation to be made under "Branding", BoP item 201. The geographical breakdown should be compiled on the basis of the country of residence of the parent enterprise controlling the company that manages the customs procedure related to these goods in the reporting economy. Consultations with the counterpart countries (which should record a corresponding export of services) are encouraged in order to reduce intra EU asymmetries.*

of quasi-transit trade introduced in the European Union implies that the value added generated by the trade margin (corresponding to the price difference between quasi-transit trade imports and subsequent dispatches) is attributed to the country of residence of the parent MNE, country X.

**9.67** Table 9.1 shows how the quasi-transit trade transactions and the connected services imputation could be recorded in the national accounts of the countries involved: Y (the exporting country), A (the point of entry in the European Union, and hence the country compiling the FTS import data in Extrastat and recording the Intrastat dispatch), B (the country of final destination in the European Union), and X (the country of residence of the parent MNE). The consolidated external account for the European Union is also shown. Table 9.1 shows the recording if country X does not belong to the European Union, and table 9.2 the recording if country X is part of the European Union.

**9.68** Whereas this imputation solves the discrepancies occurring in the recording of the quasi-transit trade in the country where the goods are finally sold (country B), it should be noted that it adds to the information required from country A, namely to which country the recorded margin should be allocated.

**9.69** Country X (the country of residence of the merchant or parent MNE) may not always be able to record the value added that it obtains from purchasing or manufacturing goods in country Y and re-selling these goods at a significant margin in country B. The balance of payments and hence the rest of the world account of that country may not record the merchanting or branding margins, as it may be unaware of them. In case the parent is an MNE, business statistics may contain the information, but not attribute it to an export of services, because business statistics generally do not provide a geographical breakdown for sales of goods and services and for the value added.

**9.70** If the owner of the goods located in country X is a merchant, the transactions may be recorded and captured via a survey on merchanting, but an MNE involved in global manufacturing is unlikely to participate in a survey on merchanting and the value added will probably escape external trade statistics. The transactions of MNEs will be captured by business statistics, but, as noted above, business statistics may be unable to attribute the trade margin to a sale of services abroad with geographical breakdown.

**9.71** If the accounts of the parent MNE or merchant resident in X show the value of the goods imported into country A as 50 and the value of

**Table 9.1 Treatment of quasi-transit trade in the European Union - country X outside the European Union**

External accounts	Country Y		Economic union				Economic union		Country X	
	Uses	Res	Country A		Country B		Uses	Resources	Uses	Resources
			Uses	Resources	Uses	Resources				
Exports/imports of goods	50		150	50		150		50		
Exports/imports of services/branding				100				100	100	
Trade balance		50		0		-150		-150		100
	<i>Assets</i>	<i>Liabilities</i>	<i>Assets</i>	<i>Liabilities</i>	<i>Assets</i>	<i>Liabilities</i>	<i>Assets</i>	<i>Liabilities</i>	<i>Assets</i>	<i>Liabilities</i>
Financial account	50				-150		-150		150	50

**Table 9.2 Treatment of quasi-transit trade in the European Union - country X part of the European Union**

External accounts	Country Y		Economic union						Economic union	
	Uses	Resources	Country A		Country B		Country X		Uses	Resources
			Uses	Resources	Uses	Resources	Uses	Resources		
Exports/imports of goods	50		150	50		150				50
Exports/imports of services/branding				100			100			
Trade balance		50		0		-150		100		-50
	<i>Assets</i>	<i>Liabilities</i>	<i>Assets</i>	<i>Liabilities</i>	<i>Assets</i>	<i>Liabilities</i>	<i>Assets</i>	<i>Liabilities</i>	<i>Assets</i>	<i>Liabilities</i>
Financial account	50		0	0	-150		150	50		50

goods sold to country B as 150, the 100 mark-up will be reflected in the statistics of country X. Hence value added in country X, as measured by the production approach or income approach will be correct. However national accounts compilers in country X will need to identify the correct expenditure component (here, the export of merchanting or branding services) to reconcile the expenditure approach; they must not incorrectly assign the expenditure to domestic uses.

### **The impact of the 2008 SNA and BPM6 on the proposed treatment**

**9.72** As noted in connection with the treatment of goods sent abroad for processing and merchanting, BPM6 and the 2008 SNA take the firm view that a change in ownership is the only criterion in determining imports and exports. The 2008 SNA (paragraph 26.21) allows no exceptions to this principle.

**9.73** In theory, under the provisions of the new manuals, the treatment of quasi-transit trade proposed by the Task Force on the Rest of the World Account will be simplified in national statistics.

**9.74** In practice merchandise trade data will continue to follow the movement of goods and not the change of ownership, and adjustments will remain necessary to ensure a correct value and geographical specification for the data of the European Union.

**9.75** However, since the new manuals require country X to record these transactions under goods (as merchanting of goods), the current EU recording of the counterpart under services

(branding) may need to be revisited, to avoid introducing asymmetries.

### **Recommended future work on the issue**

**9.76** Quasi-transit trade was initially thought to be an issue only for EU aggregates (with implications for aggregated data relating to other customs unions). It appears, however, that quasi-transit trade can also cause serious problems to national data of the member countries of the European Union. This point deserves further investigation.

**9.77** Further work can be recommended along two main lines:

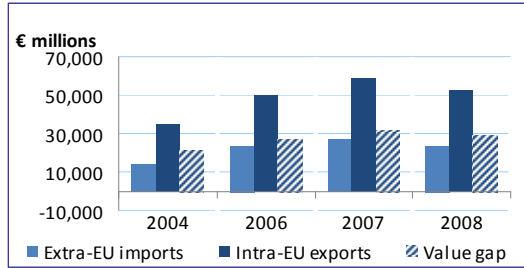
- a. Analysis of problems related to quasi-transit trade and trade conducted by non-residents within a country.
- b. Investigation of the relationship between merchanting and quasi-transit trade, and in particular:
  - i. the geographical detail of the observed quasi-transit trade. Individual countries could identify country X, the country of residence of the parent MNE or merchant. Where the merchant or parent MNE is resident in the European Union, mirror statistics from balance of payments surveys on merchanting could be analysed.
  - ii. the recording of the transactions in country X, which is where the value added reflecting the price gap and a corresponding merchanting transaction (or provision of branding services) should be recorded.



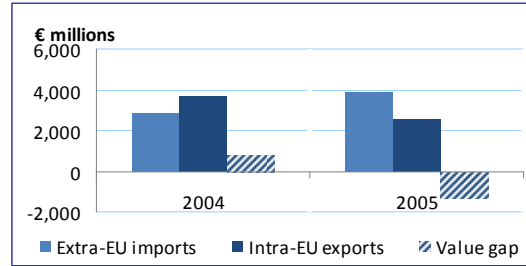
## Annex 9.1

### The value of quasi-transit trade in selected EU countries

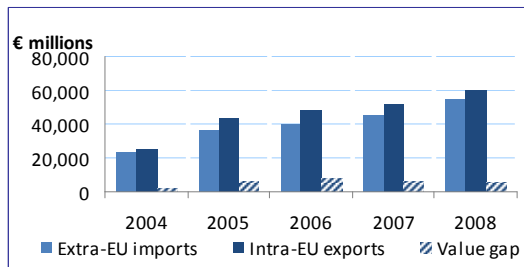
Belgium



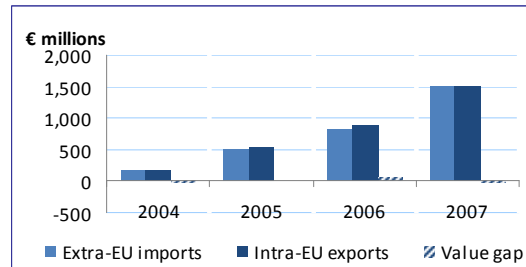
Austria



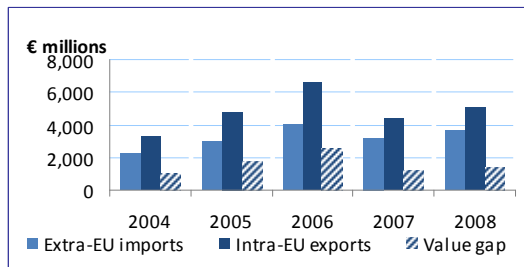
Netherlands



Slovenia



Luxembourg



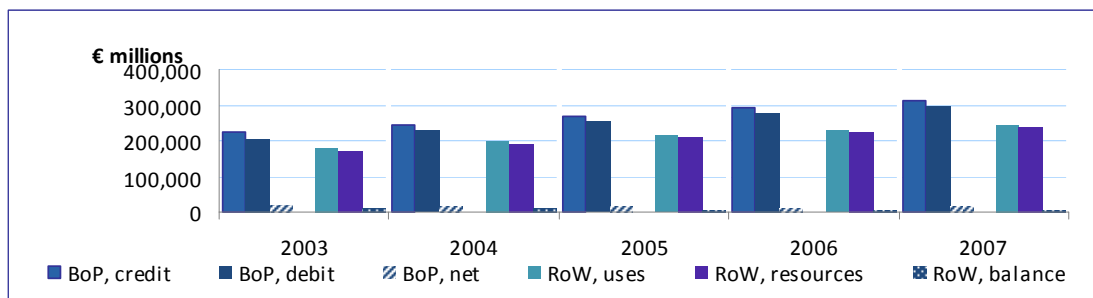
Source: Eurostat, *Balance of Payments Quality reports*. Extra-EU imports and intra-EU exports here relate only to the quasi-transit trade component.

Note: different scales.

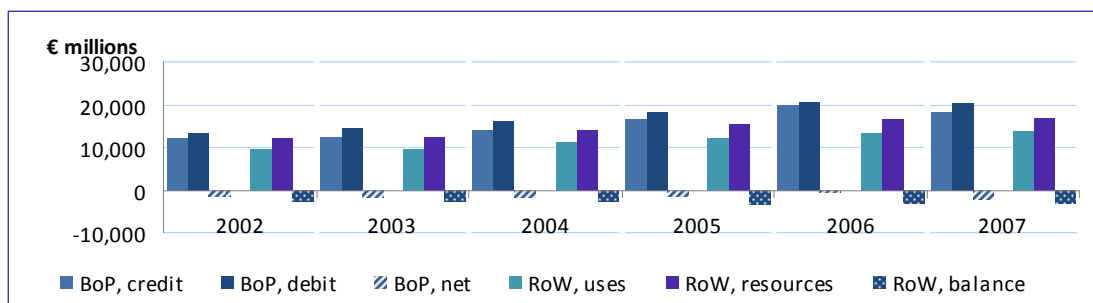
## Annex 9.2

### Total trade in goods in the (national) balance of payments and rest of the world account of selected EU countries

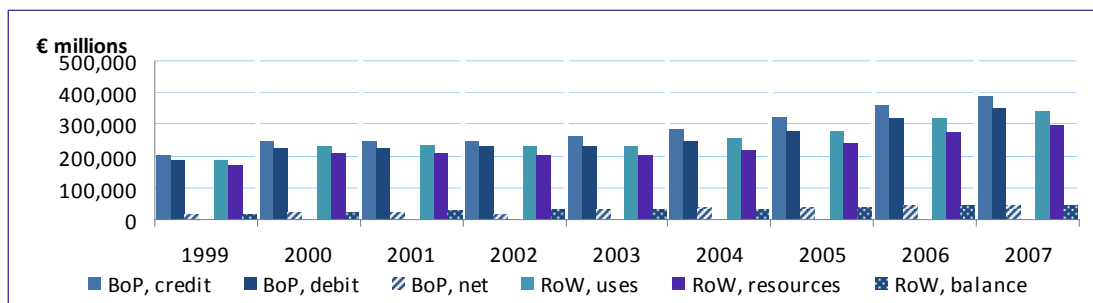
#### Belgium



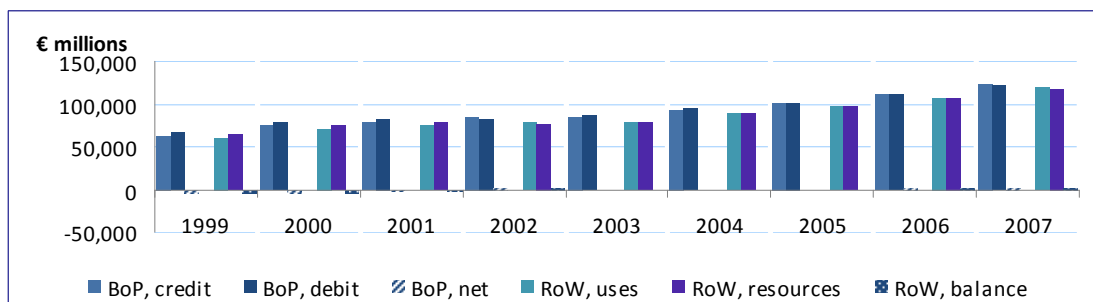
#### Luxembourg



#### Netherlands



#### Austria



Source: Eurostat, *BoP/RoW Survey 2009: the Results*.

Note: different scales.

## Annex 9.3

### A valuation problem concerning transactions with the rest of the world: case study by the Hungarian Central Statistical Office

#### Summary<sup>29</sup>

**9.3.1** The balance of external merchandise trade of Hungary has been improving since accession to the European Union in 2004. The former negative balance had decreased significantly by 2007. A key role in the improvement of the balance is played by a group of special distributors and – as revealed in the analysis which follows – the related valuation problem.

**9.3.2** To analyse the role of the group of special distributors, cash data relating to transactions in goods in the balance of payments for the period 2003–2006 are used in this annex in addition to statistics on external merchandise trade (foreign trade statistics, FTS). The analysis also uses detailed enterprise level data.

#### Discussion

**9.3.3** The valuation problem refers to a group of special distributors called in Hungary value added tax (VAT) residents of foreign enterprises. “Residents” is confusing, since they are treated statistically as non-resident: this annex accordingly calls them “VAT entities”. Their parent enterprises are always non-resident. In Hungary, as in other countries, foreign enterprises may, for commercial purposes, apply for a VAT number without being required to set up a business, establish a local unit or employ anyone in the country. The VAT entity is obliged to submit a VAT return but need not make a return for corporation tax. Although not resident, VAT entities may import goods into and export goods from Hungary.

**9.3.4** To compile FTS, export and import data are collected directly from the VAT entity (where one is involved) or obtained from customs records. Although the share in Hungarian exports of VAT entities was insignificant at the time of accession to the European Union, it is more than 10 per cent today, and they have an even more important role in influencing the balance of external trade.

**9.3.5** Based on the analysis, the different valuations and differing measurements applied by FTS and settlement statistics (based on bank payments and receipts on behalf of customers, which are a traditional source for balance of payments statistics) can be illustrated by the following basic transactions.

#### Exports

a. Transactions: a Hungarian resident sells products to a VAT entity, and the VAT entity then sells the products abroad. The transaction can be illustrated in the following manner (chart 9.3.1).

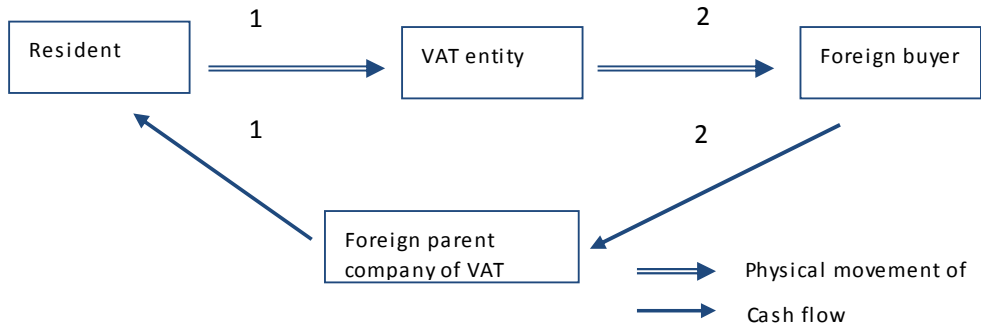
b. Product flow: between the resident seller of the product and the VAT entity (1), and between Hungary and abroad (2).

c. Money flow: transfer from the account of the parent company of the VAT entity to the resident seller of the goods (1), and from the foreign company buying the product to the account of the parent company of the VAT entity (2). The involvement of the VAT entity means that the value of the transaction measured in FTS and the balance of payments (based on settlements data) is different.

**9.3.6** Comment: the transaction between the Hungarian resident selling the goods and the VAT entity is a domestic transaction from the point of view of the VAT system. The resident seller invoices the VAT entity, and the sale/purchase is included in the VAT return of both of them, but the product becomes the property and is recorded in the books of the foreign parent company of the VAT entity. Based on settlements data, the export transaction will be recorded when the Hungarian resident sells the goods to the VAT entity, at the value at which that transaction takes place. FTS on the other hand record the export when the goods pass to the foreign buyer, and at the price at which that transaction takes place.

<sup>29</sup> This annex is based on a paper prepared for a seminar on “Strategic issues related to measuring international transactions” (see Csizmazia, 2008).

**Chart 9.3.1 Exports**



**Imports**

a. Transactions: the VAT entity imports the product. In case A, it sells the product to a Hungarian resident; in case B, the VAT entity sells it abroad (chart 9.3.2).

*Case A:*

a. Product flow: in stage one the product is imported into Hungary from abroad (1), from the foreign company selling the product to the VAT entity; in stage two the product moves within Hungary, between the VAT entity and the resident buyer (2A).

b. Money flow: from the Hungarian buyer to the foreign parent company of the VAT entity (2A); then from the parent company of the VAT entity to the foreign seller (1).

**9.3.7** Comment: FTS record imports in stage one; settlement statistics capture the second transaction, the value of which is different from that of the first transaction.

*Case B:*

a. Product flow: in stage one, the same as in case A; in stage two, the imported product is exported (2B) (that is, there is a re-export transaction).

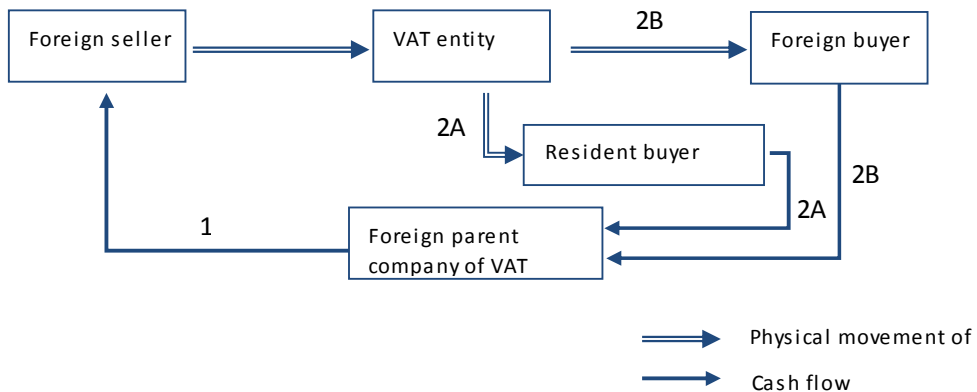
b. Money flow: between foreign companies (2B), without the involvement of Hungarian residents.

**9.3.8** Comment: both transactions are measured in FTS, but neither is recorded in balance of payments statistics based on bank settlements.

**9.3.9** In the first case the value of exports as measured by FTS is higher than the value of exports as measured in settlement statistics, while in part A of the second example the value of imports in FTS is lower than that of imports recorded in settlement statistics. FTS may record a different purchaser's price and sales price in case 2B as well, while the transaction is omitted from bank settlement statistics in Hungary.

**9.3.10** In practice, there may be variants of these cases involving VAT entities (thus there may

**Chart 9.3.2 Imports**



be a VAT warehouse, or there may be processing of the goods under contract in Hungary).

**9.3.11** In macroeconomic statistics (national accounts and the balance of payments) the VAT entities may be regarded as notional units, or – as in the Hungarian case – be classified as non-residents. To ensure consistency across macroeconomic statistics, it is necessary to record transactions with the same value for all purposes, and estimate the trade margin earned by foreigners which should be recorded as an import of services.

**9.3.12** Three approaches as set out below have been used to estimate the differing measurements of FTS and bank settlement statistics, i.e. amounts accruing to non-residents which should be recorded as an import of services.

#### **Balance difference method**

**9.3.13** HCSO managed to identify a group of resident enterprises which transact with those VAT entities which have significant turnover. Invoice values provide an estimate of turnover between these resident Hungarian enterprises and VAT entities corresponding to balance of payments transactions. The export and import balance of residents is overestimated in FTS by the difference between the estimated merchandise trade balance and the balance derived from bank settlements.

#### **Estimation using VAT data provided by VAT entities**

**9.3.14** The VAT returns of VAT entities represent relatively simple transactions, since they are essentially distributors. VAT data provide a simplified balance of revenues (the sum of export and domestic sales) and expenditure (the sum of import and domestic purchases) from which the sales surplus as a proportion of total sales can be calculated. Assuming that prices are identical in each export direction, and multiplying exports of the VAT entities by the proportion representing the sales surplus, gives an estimate of the sales surplus accruing to foreign enterprises.

#### **Imputed trade margin method**

**9.3.15** The surplus realized on imports and exports is calculated by imputing a percentage trade margin considered applicable to international business, assuming that all imports into Hungary by VAT entities are sold in Hungary and that all exports from Hungary by VAT entities derive from resident producers.

**9.3.16** In the first two cases the difference can be divided between exports and imports according to their relative size, while in the third case the division is given. The three methods lead to similar results.

#### **Conclusion**

**9.3.17** The balance of goods measured in FTS contains a component that is related to foreign enterprises, is recorded in their books and cannot be deduced from residents' transactions. Accounting for the correction concerning foreign enterprises may take the following form in macroeconomic statistics:

- a. Adjusting external trade prices to domestic prices, i.e. valuing imports at domestic sales prices and exports at domestic purchasers' prices. Price adjustment requires the division of the difference between exports and imports.
- b. Accounting for the revenue surplus of foreign enterprises as imports of services or income attributable to non-residents.

## Annex 9.4

### The collection of data on merchandise trade in the European Union

**9.4.1** The European Union is an economic union with a common customs territory. The customs union entered into force on 1 July 1968 and since then EU member states have applied a common tariff to imports from outside the European Union. There are no customs duties on cross-border trade within the European Union.

**9.4.2** Customs duties are due when the goods are released for free circulation within the European Union.<sup>30</sup> Other duties (such as alcohol or tobacco excise duties or value added tax (VAT), which are not harmonized across the EU countries) are due when the goods are released for consumption. Release for consumption (i.e. payment of VAT and excise duties) is virtually always done in the country of destination.

**9.4.3** The internal market was largely completed by January 1993, when all border controls within the European Union were abolished. Since then two different procedures have been in place for collecting data on trade in goods among EU member states and with other countries: the Intrastat and the Extrastat systems.

**9.4.4** The purpose of the Intrastat system is collection of data on trade in goods between EU member states. Intrastat is linked to the VAT system and to the physical movement of the goods. Based on enterprise surveys, Intrastat collects data according to the country of consignment (in the case of imports, or “arrivals” as they are called in Intrastat) and destination (in the case of exports, or “dispatches”).<sup>31</sup>

**9.4.5** The Extrastat system is based on customs data and collects data according to the country of origin (imports) or final destination (exports).

**9.4.6** When the goods enter the customs territory of the European Union, they are subject to customs supervision in the country where the goods arrive. If customs clearance takes place in a member state which is not the country of final destination, but a Member State located at the external frontier of the European Union such as

the Netherlands or Belgium, movement of goods between a country outside the European Union and a Member State which is the final destination of the goods will be divided into two trade flows: one reported within Extrastat, the other reported in Intrastat.

**9.4.7** Community statistics require this approach to ensure that export and import data from non-EU countries at aggregate level are as accurate as possible and are not counted twice or omitted.

**9.4.8** As explained in the main text of Chapter 9, goods may increase substantially in value between customs clearance and arrival in the country of final destination. The phenomenon is sometimes called the Rotterdam effect, from the name of one of the main ports where goods enter the European Union.

**9.4.9** According to some studies made in the European Union, it seems that the Rotterdam effect is not a peculiarity of EU trade, but can affect trade data wherever goods are transported through the territory of one or more countries before reaching the country of final destination.

**9.4.10** Few EU member states can identify and exclude correctly this type of trade from their national statistics.<sup>32</sup> Most have no means of establishing if what is imported into their country by a non-resident remains there or not, so they assume that whatever is cleared for free circulation in the country is imported (and consumed) in the country, or re-exported.

**9.4.11** Extrastat has been revised recently to adapt statistics on trade with countries outside the European Union to the modernised custom code introduced with the Regulation No 450/2008 (OJ L145, 4.6.2008). Article 106 of the modernised customs code introduces a centralized customs clearance (CCC) procedure which allows companies to lodge the customs declaration in

<sup>30</sup> Apart from a collection fee of 25 per cent retained by member states, import duties are paid into the Community budget. Non-resident fiscal representatives may pay the import duties.

<sup>31</sup> Eurostat, 2008, pages 28-29.

<sup>32</sup> For Extrastat, quasi-transit trade can be considered to coincide with transactions where the declarant uses customs procedures that exempt him from payment of the VAT in the EU member state of entry of the goods (identified by procedure codes 42 and 63). Linking the Extrastat import with the subsequent Intrastat movement is more difficult. The Netherlands is able to distinguish between quasi-transit and normal trade because in its Intrastat forms it requires an additional field for the special procedure code.

any member state and not necessarily in the member state where the goods enter the European Union and are submitted to customs controls<sup>33</sup>. Under this new procedure, the lodging of the customs declaration may therefore be dissociated from the place of entry or exit of the goods in the European Union, and from the place of final destination.

**9.4.12** It is not yet clear what consequences the new system will have for quasi-transit trade. Implementation of the CCC procedure may reduce the Rotterdam effect. Currently, the trade flow is

recorded in the country where the customs declaration is lodged, which is not necessarily the country of final destination of the goods. In future, with CCC, the trade flows will be recorded in the country of final destination and today's distortions will be reduced. However, the CCC will not lead to an improvement if companies, when clearing the goods for free circulation, do not know where the goods will finally be sold. The final buyer and country of destination may become known only after some time, in which case the Rotterdam/quasi-transit trade effect will continue.

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<sup>33</sup> The CCC and single European authorization procedures will enable enterprises to centralize the accounting and payment of custom duties for all transactions in the authorizing member state (which should be the one where the enterprise has its main records), although the movement of goods may take place in another member state.





# Section III

## Household-related issues

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Chapter **10**  
**International labour movements**

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Chapter **11**  
**Remittances**

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Chapter **12**  
**Second homes abroad**

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Chapter **13**  
**E-commerce**

## Household-related issues

The outsourcing and cross-border processing described elsewhere in this guide may be partial substitutes for cross-border movement of labour. Nevertheless, an important aspect of globalization is the movement of people to work in other countries. Reduced barriers to working abroad and perhaps cheaper and easier travel have helped this movement. Some migrant workers live in their home country, crossing the border to work each day, and others work for relatively short periods abroad. Some work abroad for long spells. Many retain strong links with their country of origin, and send money back.

Chapter 10 is about measuring the number of foreign workers in the host country, estimating their remuneration, and establishing which sectors and industries they are working in. An analytical framework comprising a set of interrelated tables is proposed. Various administrative and other sources may contribute information, though the presence of illegal (or at least unregistered) workers complicates the task of compiling comprehensive data. Other statistical issues in this area arise from the difficulty of detecting many flows relating to migrant workers in reporting systems, because of their relatively small individual size and the use of channels other than banks and licensed money transfer operators. Chapter 10 also considers the residence and employment status of foreign workers, which has many statistical implications some of which are discussed further in Chapter 11. Population censuses and household (including labour force) surveys must take appropriate account of the presence of foreign workers, and there are implications for derived statistics such as labour productivity. Chapter 10 considers the possibility of complementing data collected in the host country with information (perhaps from household surveys) collected in the countries of origin of the migrant workers.

The focus of Chapter 11 is the estimation of cross-border income flows and transfers to households, including those sent by foreign workers and migrants back to their home country. With some exceptions, people working in another country for a year or more are deemed to be resident in the country in which they are working. Those working in another country for shorter periods, including cross-border workers who come and go regularly, perhaps for an extended period, remain residents of their home country. There is a further distinction

between people working abroad with some employment contract, and those without one. The first group are (resident or non-resident) employees, while the second group are treated as (resident or non-resident) sole proprietors providing services rather than receiving wages and salaries. These distinctions, which may in practice be hard to make for reasons explained in Chapter 10, affect the recording of flows back to the countries of origin. In particular in BPM5 the important category “workers’ remittances” is confined to transfers by employees who are resident for statistical purposes in the country in which they are working. Resident workers who are not employees receive payment for provision of a service; any amounts they send back to their home country are included in “other transfers”. Short-term and cross-border workers who are not resident in the country in which they work receive “compensation of [non-resident] employees”, unless they do not have an employment contract, in which case their remuneration shows as an import of services by the country in which they work.

BPM6, supplemented by the companion guidebook *International Transactions in Remittances: Guide for Compilers and Users*, introduces some important changes. BPM6 includes workers’ remittances in a broader category “personal transfers”, as a standard component of the balance of payments, and introduces compensation (less expenses) of non-resident workers along with other items as remittances components or remittance-related flows. The aim is to present a clear and comprehensive picture of work-related flows and transfers to households, including also flows relating to cross-border payment of social benefits and cross-border transfers to non-profit institutions serving households in the recipient countries.

The consequences of international labour movements for many aspects of economic and financial accounts (including the balance of payments), and for statistics based on them such as labour productivity, are important for countries which host many foreign workers or have large numbers of nationals working abroad. Annexed to both Chapter 10 and Chapter 11 are case studies describing how various measurement difficulties and other issues arising from labour migration and remittances are dealt with in certain countries, giving an impression of the importance of this aspect of globalization for them.

Increasing prosperity, low travel costs and the removal of exchange controls and other restrictions, have greatly increased the ownership of residential property abroad. The focus of Chapter 12 is vacation homes owned by non-residents, though in practice it may be difficult to distinguish between second homes abroad acquired for vacation and for work-related purposes. Acquisition of property abroad by a non-resident is treated as direct investment in the financial account of the balance of payments and in the international investment position: the non-resident is not deemed to own the property directly, but rather to own a quasi-corporation resident in the country in which the property is located, which in turn is the notional owner of the property. Like other residential property, the second home abroad “produces” housing services. The quasi-corporation is deemed to export these to the non-resident owner; in the balance of payments this notional export of services (in the category “travel”) is matched by a notional dividend payment by the quasi-corporation to the non-resident owner. The difficulty in some countries of identifying vacation properties and the residence status of their owners makes this a difficult area of statistics.

Tourism statistics, which used to be able to assume for practical purposes that most foreign tourists would stay in hotels, have had to come to terms with the growing practice of using private accommodation during a stay abroad, whether owned by the traveller or rented from a resident or non-resident of the country in which the accommodation is located. Chapter 12 explains that at present tourism statistics use a range of surveys and administrative data in an attempt to

establish the prevalence of ownership of vacation homes and the residence status of their owners.

Inconsistent treatment of transactions related to second homes abroad seems very likely. Chapter 12 suggests ways in which national statisticians, and also statisticians responsible for different areas of the accounts, might collaborate to improve all aspects of consistency and coverage. As in most chapters, annexes describe country experiences.

Unlike the other chapters in this section, e-commerce does not relate predominantly to households. Chapter 13 discusses business-to-business e-commerce and its implications for producer prices indices and business statistics more widely. Nevertheless, an important aspect of e-commerce is the opportunity it gives to households to buy goods and services outside the traditional shopping outlets. Chapter 13 distinguishes between items which are ordered over the internet or through other electronic channels and delivered physically, and those which are delivered electronically. In line with the globalization theme of this guide, particular attention is paid to cross-border e-commerce. The main points of concern are the ability of statistical systems to pick up small consignments of goods ordered by individuals directly from abroad over the internet, which may lead to understatements of trade in goods (and consumption expenditure) to be understated. The associated difficulty of measuring prices (and taking proper account of quality) has consequences for consumer price indices which may have a knock-on effect on deflators used to calculate volume changes in GDP and its components. Classification of trade flows and consumption expenditure may also become more difficult – are, for example, down-loaded books goods or services?



## CHAPTER 10

# International labour movements

### Introduction

**10.1** International labour movements have increased due to, among other things, opening of borders and markets, cheaper transportation and the growing practice of international contracting. This development poses challenges both to measurement and to analysis of the national accounts, many of which are described in the case studies annexed to this chapter.

**10.2** The types of employment differ and may involve employers or contracting agencies in other countries - some persons may even have contracts with agencies in more than one country or be intermittently employees and self-employed. Consequently international labour movements cover more than the movement of persons seeking employment with an employer in another country – what is often called “labour migration”. Movement of both foreign workers in an employer/employee relationship and foreigners who work in another country in some self-employed capacity is included in international labour movements, and these categories include people who are treated statistically as part of the labour force in the country in which they are working, as well as people who are part of the labour force in their country of origin (that is, they are considered to be resident there despite working abroad).

**10.3** Identifying the types of employment may be difficult. A distinction is made between employees (people in an employer/employee relationship, whose earnings are treated as compensation of employees) and workers who do not have an employment contract, who are deemed to be self-employed producers of services. In addition, not all employment is registered, so that there may be severe problems of coverage and classification in statistics on employment of persons from other countries.

**10.4** Among the specific measurement problems encountered are:

a. Employment through international hiring agencies, which makes the measurement of labour compensations and remittances difficult.

b. Movement of labour as part of international contracting – for example, specialized labour in connection with turnkey projects.

c. Movement of workers for short-term work within multinational enterprises (MNEs).

d. Work of foreign persons directly employed, when they operate as a sole proprietor. Such persons may for example perform short-term work for households or small firms, and may not be registered.

e. Unregistered work of foreign persons who were originally given permission to work in the country for a limited period, but remain in the country after the permission expires.

**10.5** The most common measurement problems and their impact on the national accounts and the balance of payments are presented below. Possible solutions are suggested, based on experience in various countries.

**10.6** The increase in international labour movements also means that the analysis of labour input and productivity in the national accounts has become more complicated, and additional analytical tools may be necessary in order to understand economic developments. A presentation of data linking labour statistics and national accounts is proposed, using a social accounting matrix framework. This presentation should facilitate the assessment of the impact of international labour movements on the national accounts – including the impact on productivity, wages, workers’ remittances, household expenditure, GDP and national income. The presentation could be in a satellite account or a labour account integrated into the national accounts.

### Background

**10.7** In recent decades international labour movements have increased following the opening of borders and markets (for example as a result of the establishment and enlargement of the European Union, or of various bilateral or multilateral international agreements on trade and

movement of persons), cheaper transportation and easier international communication

**10.8** On the one hand the opening of markets has led to increases in outsourcing abroad and global manufacturing, which do not necessarily involve international labour movements – and could perhaps even lead to a decrease in the movement of labour. For example call centres of American car rental firms, telephone companies, or software and computer services enterprises may be placed in India, the Philippines or other foreign countries, so that customers in fact get services directly from employees in another country. However, there may be a flow of workers if the global manufacturing involves goods and services that are not easily sent across borders – construction, personal services – or involves services where there is a danger of leaks or spill-over of knowledge (R&D, innovation), which may put at risk the revenues of the enterprise. There may be a problem of coverage of such movement, since the individuals may be hired by a foreign employer, and also may receive all or part of the compensation for their work in another country.

**10.9** Other issues that may be linked to global activities are services rendered by foreign self-employed persons, for example lawyers, architects or accountants. The services may be contracted to a foreign enterprise which is an MNE, so that it may be difficult to estimate the value of the services rendered to the compiling economy.

**10.10** One main problem in these connections is the need to identify whether there is an employer-employee relationship between the foreign worker and an entity in the country in which he or she is working. If there is no employer-employee relationship (that is, a service contract is the basis for the provision of labour), the transactions will be recorded under imports of services by the country in which the work is being done, and exports of services by the country in which the worker is resident for statistical purposes (this is called mode 4-type trade in services in the *Manual on Statistics of International Trade in Services, 2002* (MSITS 2002)). If there is an employer-employee relationship, remuneration of the labour will be recorded as compensation of employees in the income account.

**10.11** This problem has been explained in depth in an issues paper prepared by the World Trade Organization (WTO) for the May 2009 meeting of the Group of Experts on the Impact of Globalization on National Accounts. Thus:

*"Trade in services through presence of natural persons (mode 4) and labour mobility may be distinguished by the type of contracts underpinning the transactions. While employment contracts are related to labour mobility, mode 4 is defined by the fact that it is a service contract that takes place between the supplier and the consumer of the service (i.e. trade in services).*

*The absence of clear operational criteria for the statistical measurement of mode 4 and what are the commonalities and mainly the differences with the concepts of labour mobility (short-term and long-term) adds a difficulty for using appropriate information when focusing on one aspect or the other. The use of inappropriate indicators for measuring mode 4 trade in services (i.e. compensation of employees and workers' remittances data drawn from the balance of payments) is an illustration of confusions around definitions, be it legal or their translation into statistical concepts.*

*As a consequence reliable and internationally comparable information for short-term labour mobility and trade in services (mode 4) is lacking. A crucial issue to distinguish between the two aspects is the difference between employment and services contracts, in particular for self-employed and for labour services provided via employment agencies. For the latter an additional difficulty may be to establish the type of services provided (e.g. agricultural services, mining services, accountancy)."*

**10.12** If the activity is within a multinational firm and involves transfers of services within the firm, there may be special problems of estimating the value of such services, since the payment for the services is not necessarily in terms of market prices – the problem of transfer prices, which may differ widely from market prices, is discussed elsewhere in this volume, especially in Chapters 2, 7 and 8.

**10.13** On the other hand the opening of borders has led to an increased movement of persons seeking employment in foreign countries. In particular, people in occupations where expertise can easily be transferred to foreign countries, such as construction, nursing, and caring for the elderly, where the skills are not country-specific and language is of secondary importance, seek employment abroad to obtain improved income and living standards. Significant parts of such labour may not be registered, and may not be covered in regular statistics. Some of the persons are hired by employment agencies, and may be compensated partly abroad, so that the measurement of labour compensation, remittances

and trade in services becomes difficult. Other migrants may work for short periods as self-employed plumbers, decorators, cooks, etc. for households or small enterprises, and this work may not be registered. In many cases such persons may arrive as registered foreign workers, but choose to stay on after the work permit expires and engage in unregistered work.

**10.14** The problems are not confined to short-term international labour movements. Thus if persons are unregistered and stay longer than a year in a country (which is the usual criterion for classification as resident), they may not in practice be classified as resident and covered in the population statistics. Since population statistics are at the basis of household surveys, the coverage of labour and consumption expenditure of residents will be incomplete.

**10.15** All these problems of undercoverage and misclassification of transactions affect estimates of GDP, productivity, final uses, income and international transfers.

### **Definitions and statistical recommendations: is terminology consistent?**

**10.16** Various statistical frameworks contain definitions related to international labour movements.

**10.17** Definitions on types of migration given in the framework of population statistics are relevant in the first place for statistics on international labour movements. The United Nations recommendations on statistics on international migration (Revision 1) use the term "country of usual residence" to mean *"The country in which a person lives, that is to say, the country in which he or she has a place to live where he or she normally spends the daily period of rest. Temporary travel abroad for purposes of recreation, holiday, visits to friends and relatives, business, medical treatment or religious pilgrimage does not change a person's country of usual residence"*.

**10.18** The population statistics framework also distinguishes between:

i. Long-term migrants: *"persons who move to a country other than that of their usual residence for a period of at least a year (12 months), so that the country of destination effectively becomes their new country of usual residence"*.

ii. Short-term migrants: *"persons who move to a country other than that of their usual residence for a period of at least 3 months but less than a year*

*(12 months) except in cases where the movement to that country is for purposes of recreation, holiday, visits to friends and relatives, business, medical treatment or religious pilgrimage. For purposes of international migration statistics, the country of usual residence of short-term migrants is considered to be the country of destination during the period they spend in it"*.

**10.19** In connection with short-term movement, it should be made clear that foreign business travellers are defined in population statistics as *"foreign persons granted the permission to engage in business or professional activities that are not remunerated from within the country of arrival. Their length of stay is restricted and cannot surpass 12 months"*.

**10.20** Within the population statistics, categories of transients not relevant for international migration are also mentioned. A category relevant for the statistics on international labour movements is foreign border workers, namely *"foreign persons granted the permission to be employed on a continuous basis in the receiving country provided they depart at regular and short intervals (daily or weekly) from that country"*.

**10.21** The publications of the International Labour Organization (ILO) on labour statistics use the term labour mobility only for movement of members of the labour force between domestic areas or industries. The term labour migration is reserved for movement of labour from one country to another with the objective of employment with an employer in the other country. On the other hand the stock of foreign workers in a country is defined as those foreign citizens who at a particular date or during a specific reference period would be counted as being economically active in the country, as employed or unemployed, according to the ILO guidelines for the measurement of the economically active population. The economically active population is defined by an ILO Resolution adopted by the Thirteenth International Conference of Labour Statisticians (October 1982)) as comprising *"all persons of either sex who furnish the supply of labour for the production of economic goods and services as defined by the United Nations systems of national accounts and balances during a specified time-reference period"*. This stock definition includes within the economically active population employed, unemployed and underemployed persons, and seems to be different from and more inclusive than the flow definition.

**10.22** The national accounts concepts are intended to be harmonized with the definitions in

both the population statistics and labour statistics frameworks.

**10.23** Chapter 19 in the 2008 SNA mentions this harmonization:

*“Clearly, if a ratio is to be formed between measures of output and labour input, the concept of labour used must match the coverage of production in the SNA. The relevant standards on the labour force are maintained by the International Labour Organization (ILO). The ILO standards are contained in “resolutions”, which are adopted by sessions of the International Conference of Labour Statisticians (ICLS). The resolution of 2008 confirms that the economically active population is defined in terms of individuals willing to supply labour to undertake an activity included in the SNA production boundary.*

*Not everyone who is economically active works for a resident institutional unit. It is therefore particularly important that the concept of residence underlying the population estimates is consistent with that for labour force estimates and that the residence of individuals included in employment estimates is consistent with the criterion of resident institutional unit in the SNA”* (paragraphs 19.5-19.6).

**10.24** The concept of residence in the national accounts is described in chapter 26 of the 2008 SNA:

*“The residence of each institutional unit is the economic territory with which it has the strongest connection, expressed as its centre of predominant economic interest.*

*An institutional unit is resident in an economic territory when there exists, within the economic territory, some location, dwelling, place of production, or other premises on which or from which the unit engages and intends to continue engaging, either indefinitely or over a finite but long period of time, in economic activities and transactions on a significant scale. The location need not be fixed so long as it remains within the economic territory. Actual or intended location for one year or more is used as an operational definition. ... Most units have strong connections to only one economy but with globalization, a growing number have strong links to two or more economies”* (paragraph 26.36).

**10.25** The definition of residence of households is relevant in connection with international labour movements:

*“A household is resident in the economic territory in which household members maintain or intend to*

*maintain a dwelling or succession of dwellings treated and used by members of the household as their principal dwelling. If there is uncertainty about which dwelling is the principal dwelling, it is identified from the length of time spent there, rather than other factors such as cost, size, or length of tenure. Being present for one year or more in a territory or intending to do so is sufficient to qualify as having a principal dwelling there”* (paragraph 26.37).

**10.26** The 2008 SNA also mentions specific cases, some of which are relevant for the issue of international labour movements:

*“Crew of ships, aircraft, oil rigs, space stations or other similar equipment that operate outside a territory or across several territories are treated as being resident in the territory of their home base. The home base is determined by where they spend most of their time when not undertaking their duties. This location may not be the same as that of the operator of the mobile equipment* (paragraph 26.38 c).

*Cross-border workers. There is no special treatment for these workers. The residence of the persons concerned is based on the principal dwelling, rather than the territory of employment, so employees who cross borders to undertake a job still have their residence determined from their principal dwelling”* (paragraph 26.38 e).

**10.27** The 2008 SNA divides the labour force according to residence:

*“The labour force consists of four groups of persons; residents who are employees of resident institutional units, residents who are employees of non-resident institutional units, unemployed residents and self-employed persons. (A self-employed person is necessarily associated with a resident household. If such a person provides goods and services abroad, these are recorded as exports.) Employment in the SNA is defined as all persons, both employees and self-employed persons, engaged in some productive activity that falls within the production boundary of the SNA and that is undertaken by a resident institutional unit”* (paragraph 19.19).

**10.28** Since resident producer units may employ both residents and non-residents, the following guidelines are given:

*“Population numbers are dependent on the residence of individuals but employees do not have to be resident in the economy where they work. The results of the activity of producer units can be compared with employment only if the latter*



includes both the residents and the non-residents who work for resident producer units. Employment mainly consists of resident employees working for resident institutional units and self-employed persons. However, it also includes the following categories where there might be a question about whether they are considered resident or not:

- (a) non-resident border workers (sometimes called frontier workers), that is, persons who cross the border each day to work as employees in the economic territory;
- (b) non-resident seasonal workers, that is, persons who move into the economic territory and stay there for less than one year in order to work in industries which periodically require additional labour;
- (c) members of the country's armed forces stationed in the rest of the world;
- (d) nationals who are on the staff of national scientific bases established outside the geographic territory of the country;
- (e) nationals who are on the staff of diplomatic missions abroad;
- (f) members of the crews of fishing boats, other ships, aircraft and floating platforms operated by resident units;
- (g) employees of general government bodies situated outside the geographic territory, for example embassies;
- (h) students undertaking employment are included or not according to their classification as resident or non-resident (paragraph 19.32).

On the other hand, the following residents, though employees, are excluded from employment in residential institutional units:

- (a) residents who are border workers or seasonal workers, that is, who work as employees in another economic territory;
- (b) nationals who are members of the crews of fishing boats, other ships, aircraft and floating platforms operated by non-resident units;
- (c) residents who are employees of foreign government agencies located on the geographic territory of the country;
- (d) the personnel of international civilian organizations located within the geographic territory of the country (including local employees directly recruited);

(e) members of the armed forces working with international military organizations located on the geographic territory of the country;

(f) nationals working in foreign scientific bases established in the economic territory" (paragraph 19.33).

**10.29** The definitions in BPM6 are consistent with the definitions in the 2008 SNA, although additional details are given. BPM6 clarifies the distinction between employment and supply of services:

*"Cross-border compensation of employees arises only when a resident individual is employed by a non-resident or when a resident employs a non-resident individual. Therefore, it is important to establish whether an employer-employee relationship exists between a resident individual and a non-resident employer or between a non-resident individual and a resident employer. An employer-employee relationship exists when there is an agreement, which may be formal or informal, between an entity and an individual, normally entered into voluntarily by both parties, whereby the individual works for the entity in return for remuneration in cash or in kind. The remuneration is normally based on either the time spent at work or some other objective indicator of the amount of work undertaken. If an individual is contracted to produce a given result, it suggests a service contract relationship between the entity and a self-employed. Self-employed individuals are deemed to operate their own unincorporated enterprises, and thus sell output they produce. Self-employed individuals may also employ others. Self-employed individuals are generally responsible for decisions on markets, scale of operations and finance, and are also likely to own, or rent, machinery or equipment on which they work"* (paragraph 11.11).

*"Several factors may have to be considered in determining whether an employer-employee relationship exists. An important test of whether an employer-employee relationship exists is that of control. The right to control or to direct, both as to what shall be done and how it shall be done, is a strong indication of an employer-employee relationship. The method of measuring or arranging for the payment is not important as long as the employer has the effective control both on the method and the result of the work undertaken by the individual. However, certain control on the work being undertaken may also exist for the purchase of a service. Therefore, other criteria should also be used to define more clearly the employer-employee relationship. If the individual is solely responsible for social contributions, that would suggest that the individual is a self-employed service provider.*

*Payment of social contributions by the employer is an indication of employer-employee relationship. If the individual is entitled to the same kind of benefits (e.g., allowances, holidays, sick leave) that the enterprise generally provides to its employees, this indicates an employer-employee relationship. Payment of taxes on the provision of services (such as sales tax or value added tax) by the individual is an indication that the individual is a self-employed service provider.”* (paragraph 11.13).

**10.30** Definitions used in tourism statistics in the latest manual *International Recommendations for Tourism Statistics 2008* (IRTS 2008) published in 2010 are harmonized with the 2008 SNA and BPM6. However, tourism statistics classify tourism trips by main purpose, which may be helpful for the collection of data on international labour movements. According to this classification:

*“The main purpose of a trip helps to determine whether it qualifies as a tourism trip and the traveller qualifies as a visitor. For instance, as long as it is incidental to the trip, a visitor might earn some income during his/her stay (for example, youths backpacking). Nevertheless, if the main purpose is to be employed and earn an income, then the trip cannot be a tourism trip and he/she cannot be considered as a visitor but as an ‘other traveller’”* (paragraph 3.11).

*“Each main purpose (except the case of 1.7. Transit) is associated with a group of main activities undertaken during the trip as follows:*

*1. Personal. This category includes all purposes of tourism trips that are not classified as business and professional.....*

*2. Business and professional. This category includes the activities of the self-employed and employees as long as they do not correspond to an implicit or explicit employer-employee relationship with a resident producer in the country or place visited, [and] those of investors, businessmen, etc...”* (paragraph 3.17).

**10.31** The new *Manual on Statistics on International Trade in Services* (MSITS 2010) is harmonized with BPM6, and also explains in detail the distinction between employment and supply of services. This manual also propose a link between the classification of tourism statistics by purpose mentioned above and the classification of migration statistics by duration of stay in the country, thereby creating a classification of data which is especially helpful for distinguishing between the two kinds of transactions in the balance of payments.

**10.32** Although there are some slight differences in coverage and terminology, the definitions and recommendations in the various statistical frameworks seem sufficiently harmonized to ensure that the population and labour statistics collected according to UN/ILO frameworks may be used in the national accounts and balance of payments without adjustments. The classifications of persons given in the new manual on services could be rearranged to fit the national accounts categories. Such a rearrangement of categories is proposed in the next part of this chapter, together with an outline of the transactions in connection with international labour movements that are relevant for the domestic economy.

### **Measurement guidelines in international standards: what are the data sources?**

**10.33** The guidelines for measurement of labour in national accounts given in the 2008 SNA relate mainly to measurement of the resident labour force. The data sources mentioned in paragraph 19.77 of the SNA are household surveys, such as a labour force survey, establishment surveys, and administrative data (for example, employment associated with a payroll tax). The SNA notes that population census data may also be available, if only infrequently.

**10.34** But, as explained above, non-residents employed by resident producers must also be included. The 2008 SNA does not include specific recommendations on this point, but mentions that:

*“The problems connected with handling border workers in the national accounts have been described in the section on residence. As far as data sources are concerned, household surveys are likely to include employed persons in the country in which they are surveyed (that is, their country of residence) unless the survey contains specific questions to identify and exclude such workers”* (paragraph 19.81).

**10.35** BPM6 refers to measurement problems:

*“In practice, residence principles are generally not applied to specific individuals, but to broad groups of people. As a result, factors such as intention to stay for one year or more are typically inferred from patterns of similar groups in the past. Some administrative data sources may vary somewhat from statistical definitions of residence. If the variations are significant, some adjustment may be made, or the administrative definition may be considered as an acceptable approximation in practice”* (paragraph 4.129).

**10.36** The manual on trade in services also suggests various collection methods:

*“A number of complementary sources could be used to collect other statistics relevant for analyzing trade in services, in particular for the variable number of persons for assessing mode 4. Various sources exist for collecting this information, such as data obtained from migration authorities or other administrative sources (population registers, permit data, visas), census data (which could be used as a benchmark), household, enterprise, labour force surveys or border/passenger surveys. However appropriate questions would need to be developed in order to identify the information of interest from a trade in services perspective”* (paragraph 5.101).

**10.37** Altogether specific guidelines in manuals on measurement of international labour movements and trade in services involving movement of persons are few, and common problems with data sources are not dealt with.

**10.38** However, in recent years measurement problems such as those mentioned in the introduction to this chapter have been acknowledged by the international institutions, and some efforts have been made to overcome them.

**10.39** Thus it has been recognized that administrative data often lack coverage, and consequently the ILO, in collaboration with the World Bank and Eurostat has developed data modules for household surveys including labour

force surveys, with the aim of improving data on economic characteristics and employment conditions of labour migrants. They contain a series of questions to be added to existing household/labour force surveys, with sections suitable for origin and destination countries, allowing countries to adapt the module to their specific context. The complete module contains approximately 200 questions. However, prioritization of questions provides some guidelines for shortening the module and allows countries to drop questions already asked on existing household surveys. Since its development in 2005-2006 the module has been tested in a few countries (Armenia, Thailand, Egypt, Ecuador and Moldova), but improvements are still planned.

**10.40** The World Bank and the International Organization for Migration also conduct or sponsor household surveys with migration modules. Examples of such surveys conducted in Moldova and Ukraine are described in annexes 10.4 and 10.5.

**10.41** It should also be mentioned that the IMF, together with a group of compilers referred to as the “Luxembourg Group”, prepared a remittances compilation guide in 2009, which provides a list of possible questions that could be added to household surveys including questions on international labour movements (see Chapter 11 for information on the work of the Luxembourg Group in measuring remittances).

**Table 10.1 Inflow of employed immigrants**

Country	2004	2005	Sources
Andorra	4,737	4,606	Administrative records and related sources (Ministerio de Justicia e Interior)
Belarus	530	651	Administrative records and related sources (2000-2006: Ministry of Interior)
Ecuador	10,153	10,553	Instituto Nacional de Estadística y Censos
France	6,740	8,556	Administrative records and related sources (2002-2005: Insee ) Administrative records and related sources (Hungarian Central Statistical Office. Th for immigrants were prepared on basis of the registration of the National Research Methodological Centre of Labour.)
Hungary	79,233	72,562	Administrative records and related sources (unpublished data from the Ministry of Manpower and Transmigration.) Based on data from border control files (Central Bureau of Statistics, Israel)
Indonesia	1,340		
Israel	32,000	29,400	
Japan	158,877	125,430	International Statistical Affairs Division, Statistics Bureau. Ministry of Justice)
Latvia	7,400	7,900	Labour force survey (annual reports of LSES)
Macau, China	15,553	27,160	Administrative records and related sources
Morocco	6,236	6,602	Administrative records and related sources
New Zealand	42,974	42,360	Administrative records and related sources (Statistics New Zealand)
Norway	6,740	7,866	Labour market statistics and population statistics (Statistics Norway)
Romania	2,775	3,678	Administrative records and related sources (OECD, 2001)
Spain	167,894	663,185	Estadística de permisos de trabajo a extranjeros (MTAS)
Ukraine	3,560	4,986	Administrative records and related sources (Employment Office Data)
United States	155,330	246,877	..

Source: LABORSTA

## Experience with measurement problems

### Available data on international labour movements

**10.42** Data on international labour movements are relatively sparse, but data for some countries are presented by the ILO (see table 10.1), most of them based on administrative records.

**10.43** The OECD also maintains a database on inflows of foreign workers (see table 10.2). The OECD's website says that most of the statistics in the database are based on the number of work permits issued during the year: "Settlement

countries (Australia, Canada, New Zealand and the United States) consider as immigrant workers, persons who have received a permanent immigration permit for employment purposes. In each of these four countries, it is also possible to work on a temporary basis under various programmes. The data on European countries are based on initial work permits granted, which sometimes include temporary and seasonal workers. Some significant flows of workers may not be covered, either because the type of permit that they hold is not covered in these statistics, or because they do not need permits in order to work (free circulation agreements, beneficiaries of family reunification, refugees). Data for some countries may include renewals of permits. The

**Table 10.2 Inflows of foreign workers into selected OECD countries**

<i>Thousands</i>										
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Australia										
Permanent settlers	27.9	32.4	35.7	36.0	38.5	51.5	53.1	59.5	60.8	65.4
Temporary workers	37.0	39.2	36.9	33.5	36.8	39.5	48.6	71.2	87.3	110.6
Austria	18.3	25.4	27.0	24.6	24.1	24.5	23.2	22.6	29.6	35.2
Belgium	8.7	7.5	7.0	6.7	4.6	4.3	6.3	12.5	23.0	25.0
Canada	107.1	116.6	119.7	110.9	103.2	112.6	122.7	139.1	164.9	192.5
Denmark	3.1	3.6	5.1	4.8	2.3	4.3	7.4	13.6	17.2	7.6
Finland	..	10.4	14.1	13.3	13.8	15.2	18.7	21.0	23.0	25.0
France										
Permanent workers	6.3	6.0	8.8	7.5	6.5	6.7	8.6	10.0	16.8	22.7
Temporary workers	5.8	7.5	9.6	9.8	10.1	10.0	10.4	10.7	9.9	9.9
Germany	304.9	333.8	373.8	374.0	372.2	380.3	..	..	..	..
Hungary	29.6	40.2	47.3	49.8	57.4	79.2	72.6	71.1	55.2	42.5
Ireland	6.3	18.0	36.4	40.3	47.6	34.1	27.1	24.9	23.6	13.6
Italy	21.4	58.0	92.4	139.1	..	..	75.3	69.0	150.1	..
Japan	108.0	129.9	142.0	145.1	155.8	158.9	125.4	81.4	77.9	72.1
Luxembourg	24.2	26.5	25.8	22.4	22.6	22.9	24.8	28.0	31.0	31.1
Netherlands	20.8	27.7	30.2	34.6	38.0	44.1	46.1	74.1	50.0	15.6
New Zealand										
Permanent settlers	5.6	7.8	13.3	13.4	9.2	7.7	14.5	12.9	12.4	12.6
Temporary workers	32.1	35.2	48.3	59.6	64.5	77.2	88.1	106.0	121.5	136.6
Norway	14.0	14.8	17.8	23.5	25.2	33.0	28.3	40.5	54.8	52.5
Poland	17.1	17.8	17.0	22.8	18.8	12.4	10.3	10.8	12.2	18.0
Portugal	4.2	7.8	136.0	55.3	16.4	19.3	13.1	13.8	..	..
Slovak Republic	..	..	..	..	..	3.3	4.7	4.2	..	15.2
Spain	49.7	172.6	154.9	97.6	73.1	155.0	643.3	101.8	102.5	..
Sweden	2.4	15.6	12.6	10.0	10.2	8.5	5.8	11.5	9.6	11.0
Switzerland	31.5	34.0	41.9	40.1	35.4	40.0	40.3	46.4	74.3	76.7
United Kingdom	42.0	64.6	85.1	88.6	85.8	89.5	86.2	96.7	88.0	77.7
United States										
Permanent settlers	56.7	106.6	178.7	173.8	81.7	155.3	246.9	159.1	162.2	227.8
Temporary workers	303.7	355.1	413.6	357.9	352.1	396.7	388.3	444.4	503.9	449.9

Source: OECD website, [www.oecd.org](http://www.oecd.org)

*administrative backlog in the processing of work permit applications is sometimes large (as in the United States, for example), so that the numbers recorded may bear little relation to the demand. The data may also cover initial entries into the labour market and include young foreigners born in the country who are entering the labour market.”*

**10.44** In the European Union, various studies on international labour movements have been carried out, including estimates of the inflow of foreign labour. But the studies deal mainly with foreign nationals who are residents of the country in which they are working, and estimates are based on labour force survey data.

**10.45** It is not clear whether data on persons involved in the supply of mode 4-type services are excluded from such datasets.

**10.46** The experience with problems of measurement of international labour movements in individual countries apparently has not often been documented. The solutions found to measurement problems in five countries – the Czech Republic, Germany, Israel, Moldova and Ukraine - are described in the annexes to this chapter.

### **The impact of measurement problems**

**10.47** The low coverage of international labour movement statistics and the possible misclassification of transactions involving foreign labour, when it is difficult to identify whether there is an employer-employee relationship or not, affect estimates of GDP, productivity, final uses, income and international transfers.

**10.48** The impact of undercoverage of non-resident labour on GDP or productivity will depend upon the ways the production of these employed persons is estimated. For example, where production of unregistered non-resident employed persons is estimated as part of the non-observed economy using data on hours worked, GDP may be understated, but productivity may be less affected. If on the other hand GDP is estimated by other means, productivity may be overstated.

**10.49** Since so few data are available, it is difficult to estimate the extent of this impact. In countries where the inflow of labour is large, the impact may be important. The data for Israel show that non-residents accounted for 10.9 per cent of hours worked in 2008, but received only 3.8 per cent of labour compensation. 25.3 per cent were employed as domestic personnel – mostly as carers for the elderly; 23.1 per cent were employed in construction; and 11.0 per cent in agriculture. Their

share in these industries was large – for example 41.8 per cent of all employed persons in the construction industry were non-residents - so that the impact on value added and productivity is much larger in these industries.

**10.50** Misclassification of trade in services as compensation of employees and vice versa will affect GDP, productivity, exports/imports, and income – a description of the possible impact of such a misclassification on national accounts is given in box 10.1 prepared by the World Trade Organization.

**10.51** Consumption expenditure will also be affected by the measurement problems. Expenditure in the compiling economy of both registered and unregistered employees, and also of employed persons engaged by foreign entities, should be covered, but it may be difficult to obtain such data. They are usually not covered in household surveys, and data from surveys on expenditure of tourists will not be suitable for estimating their consumption expenditure. In cases when the workers bring their families, the impact will be larger. Against this, non-resident labour seems to spend a rather small share of income on consumption in the host country, limiting the impact of the omission. In the case of Israel, estimates of consumption expenditure of non-resident labour account for around 1 per cent of total consumption expenditure.

### **Possible solutions to measurement problems**

#### **Measuring the inflow of labour**

**10.52** As the country case studies in the annexes show, inflows of labour may be measured by using administrative data, such as data on residence permits, work permits, social security recordings, and taxes. Administrative data may also provide data on compensation of employees.

**10.53** Household surveys may also be used, but such surveys mostly cover only residents, and samples are linked to population statistics, so that in most cases they give only a partial picture of the inflow of labour. Probably neither administrative data nor household surveys will cover unregistered labour in a satisfactory manner.

**10.54** As annex 10.3 shows, combining individual data on entrances and exits at border control may yield estimates of unregistered labour, but such estimates can only be made if the registrations are of a reasonable quality, and the estimations require many assumptions.

**Box 10.1****The extent of trade in services involving natural persons and the impact on national accounts**

A rough WTO Secretariat estimate based on studies carried out by national compilers estimates trade in services through the presence of persons (the product of persons who do not have an employee/employer relationship with an employer in the country where the service is supplied) at around \$150 billion in 2005. In comparison, total compensation of employees and workers' remittances received (as an estimate of the amount of transactions resulting from international labour movements) were of the magnitude of \$200-270 billion (source: World Bank, *World Development Indicators*).

In terms of the number of persons crossing borders in the context of trade in services, no reliable estimate can at present be derived from existing migration or labour statistics sources. However tourism statistics can provide a sense of the size of the phenomenon by showing the number of arrivals of international visitors travelling for business or professional purposes. It would be necessary to refine these figures to identify the persons actually involved in the trading of services, since the tourism definition covers other types of business visitors. It is not clear, however, how well the category of business and professional purposes is identified (i.e. to what extent it does not in practice cover people with an employment contract – thus in many countries entry-exit cards refer to "work", without distinguishing clearly between an employment and a service contract).

The distinction between what constitutes provision of labour and what is provision of a service is difficult. MSITS 2010 provides further clarification regarding the practice in countries: *"It is often the payment of taxes or social security contributions that will determine the perception of individuals involved, along with the way accounting systems record their remuneration and as a consequence how the distinction is made in available sources for statistics (registration in the client economy of a transaction as compensation of employees or payment for a service)."*

Although the impact may often be minor, for some countries where international labour movement is important the distinction may significantly influence macroeconomic aggregates. This phenomenon will increase in importance with the opening of markets for services and labour, as has happened in the European Union. For instance, classifying relevant economic transactions as an export of services by the country of origin of the workers (and an import of services by the host country) may significantly influence GDP (upward if exports, downward if imports). Measurement of value added will be affected as many of these transactions will be classified either as output (if exports) or intermediate consumption (if imports). On the income side, treating the transactions as trade (rather than as compensation of employees) means that they will not be registered under compensation of employees or mixed income. Treating the transactions as compensation of employees, by contrast, will not affect GDP and output, but will be reflected in GNI. The output and intermediate consumption will remain unchanged. Compensation of employees and mixed income will be affected.

Similar questions arise for this distinction within labour or migration statistics. If the distinction is not clearly made between employment and trade in services, one or other category in the host country will be overestimated and the other underestimated. Measures of labour productivity measures will be affected by whether the persons crossing borders are classified as employees working in the host country or as providers of a service there. The example below is a simple illustration of the influence such a choice may have on single labour productivity value added-based measure.

	<i>Labour mobility</i>	<i>Trade in services</i>
Output	1,000	1,000
Intermediate consumption	200	300
Value added	800	700
Employment (hours worked)	20	10
Labour productivity	40	70

Take an economy with a single firm producing 1,000 of output. The intermediate consumption of this firm is 200 leading to a value added of 800. The labour input (half of it assumed to be linked to short-term employment from abroad with the host country being the employer) corresponds to 20 hours worked, leading to a single labour productivity of 40 per hour worked. Now imagine that there has been a mistake in classification, and what had been treated as employment with an employer in the host country has to be reclassified as trade in services (i.e. service contract with a non-resident institutional unit). The value of the service contract is 100, which leads to a reduction of value added to 700. The new treatment of half the labour input as a service contract leads to a reduction of employee work to 10 hours, raising measured productivity to 70 per hour worked.

Of course in reality these relations are not as clear and other factors tend to influence productivity measurement, in particular multifactor productivity, where intermediate inputs (increased by the reclassification in this example) may have an important role to play.

**10.55** The measurement of inward labour movements through enterprise surveys has not been explored by the countries whose experience is described in the annexes, but it could be a good alternative, providing a fuller picture of payments and of the productivity of the foreign labour. Enterprise surveys could probably also improve the distinction between compensation of employees and payment for services. It should be possible to focus on industries where non-residents can be employed relatively easily, such as construction, agriculture, etc. However, the problem with this alternative might also be undercoverage of unregistered employment.

**10.56** For the national accounts the consumption expenditure of foreign workers within the country is also needed, and since the expenditure patterns of households of foreign workers may be assumed to be different from those of tourists and also from those of residents, data on expenditure of foreign workers need to be collected. But it may be difficult to reach households of foreign workers, especially unregistered workers.

### **Measuring the outflow of labour**

**10.57** Measurement of outflows through household surveys may provide better measurement of work hours and wages, and give better information on the nature of employment and kind of activities. Such household surveys could also provide good estimates of consumption expenditure of persons working abroad. As the surveys in Moldova and Ukraine show, unregistered labour abroad may also be covered and identified in household surveys, but it would be interesting to discover if all unregistered labour is captured in the outflows measured in household surveys. The income of unregistered labour may also be underreported, as the report on the survey in Ukraine notes (annex 10.5).

**10.58** The WTO issues paper mentioned earlier also suggests collecting data by including in household surveys specialized modules or adding questions to existing surveys, or by having specialized surveys targeted at relevant households. The ILO labour migration module mentioned above, which is currently being tested and improved, seems a useful basis for such surveys, although questions might have to be added for national accounts purposes.

### **The use of partner country data**

**10.59** Cooperation between countries and mirror exercises to compare inflows in one country with outflows in another could provide fuller

information on the activities, income and expenditure of non-residents in a country.

**10.60** Sharing data from enterprise surveys in partner countries, with separate data for MNEs, also seems a promising alternative. The data from enterprise surveys would need to include separate information on persons employed or rendering services broken down by their country of origin.

**10.61** Information on flows of labour such as the main countries of origin or destination and the main industries employing foreign workers in the host countries may be of help in establishing such cooperation, and in identifying which partner countries are relevant and which industries should be surveyed.

### **Distinguishing between compensation of employees and trade in services**

**10.62** The need to distinguish between sales of services, which are part of exports and imports, and compensation of employees, which is part of income, deserves special attention, since the separation of the two kinds of flows may be especially difficult.

**10.63** As noted earlier, workers not in an employer/employee relationship with an entity in the country in which they are working are deemed to be producing a service, and, if they are not resident in the country in which they are working, to be exporting the service to that country (which in turn records an import of services from the country in which they are resident). Capturing activity of this sort is very difficult; probably no approach can provide wholly reliable results. To measure imports of services related to GATS mode 4, the country in which the migrants are working could develop appropriate questions for inclusion in surveys to enterprises. However administrative sources, entry/exit cards (and a border survey) could also be used, and could help to distinguish between trade in services and employment with an employer in the host country. If migrant workers are an important phenomenon, household surveys could also help to collect information relevant to establishing the status of the migrant workers if the households are employers or consumers of the services which the migrants produce. The same source might capture information on the consumption expenditure of migrant workers.

**10.64** For the measurement of services exports, again as suggested above, household surveys could be used to estimate the number of persons (self-employed or not) travelling abroad to provide services. While the self-employed persons

themselves are the only reliable source of information for identifying the value of the service contract, administrative sources could also provide useful information, in particular on specific services activities.

**10.65** Enterprise surveys would probably be more appropriate to collect information from mode 4-type service suppliers who are not self-employed, but are sent by their employer to work in the host country (both in terms of numbers and value of service contracts).

### Analytical problems

**10.66** Even if all relevant data on non-resident labour have been collected, there still remain problems of integrating the data on this labour in the national accounts correctly and in a way that allows users to understand economic developments. Users would like to analyse the impact of non-resident labour on productivity, wages, household expenditure, GDP and national

income. However, the familiar national accounts aggregates do not allow such analysis. They will for example group resident and non-resident labour together in the production accounts, and combine the expenditure of households of non-resident workers together with expenditure of tourists in household expenditure accounts. This means that the national accounts aggregates may lose part of their relevance in a globalized environment.

### A proposed analytical framework

**10.67** A more detailed presentation of data is proposed, with extended classification of labour input, and with links between labour statistics and the national accounts. The analytical framework often used for such a presentation is the social accounting matrix, as proposed in a paper prepared by the United Nations in 2004. Such a presentation could be prepared in a satellite account or as a labour account integrated in the national accounts, and with details added to the core national

**Table 10.3 Classification of persons by type of international labour movement**

	<i>Length of stay of persons</i>			
	<i>Border crossed daily or weekly</i>	<i>More than a week but less than 3 months</i>	<i>3 to 12 months</i>	<i>More than 12 months</i>
1. Business and professional (no employer-employee relationship with an entity established in the compiling economy)				
1.1 Contractual service supply				
- self-employed				
- employed				
of which: Intra-corporate transfer				
1.2 Negotiations for a service contract or for setting up commercial presence				
- service sales / commercial presence of service producing company negotiations				
- commercial presence of goods producing company negotiations				
1.3 Other (incl. attending meetings, conferences, etc)				
2. Migrant workers and employment-based stay (employer-employee relationship with an entity established in the compiling economy)				
2.1 Intra-corporate transfer				
2.2 Directly recruited by a foreign-established company				
2.3 International civil servants				
2.4 Other				
3. Entrepreneurs and investors settlement				
4. Diplomatic and consular personnel				
5. Crews of fishing boats, other ships, aircraft and floating platforms				
6. Staff of foreign scientific bases established in the geographic territory of the compiling country				
7. Military personnel				

Grey shading indicates the provision of mode 4-type services to the compiling economy.



accounts.

**10.68** The detailed categories of inflow of non-residents should be classified to allow their correct inclusion in the national accounts and the balance of payments. The classification given in MSITS 2010, where tourism and migration data are combined, could be adopted (as suggested in the WTO paper mentioned above), with some modification. Since the expenditures and remittances of persons crossing the border daily or weekly are usually quite different from those of other groups, it is important to separate them. Other special groups of labour (ships' crews, etc.)

must also be distinguished. A proposed classification is shown in table 10.3, where the grey area shows the cases where mode 4 trade in services may occur. Persons staying longer than 12 months usually will be counted as residents in the compiling economy, and if they are self-employed they will have their main centre of economic interest in the compiling economy, so that they will not be suppliers of imported services.

**10.69** Table 10.4 showing how transactions are recorded depending on the residence of the institutional units involved may make clearer the impact on the accounts.

**Table 10.4 Classification of transactions involving natural persons in the national accounts and the balance of payments of the domestic economy**

<i>Framework</i>	<i>Persons involved by residence status of the persons concerned with respect to the domestic economy</i>			
	<i>Residents</i>		<i>Non-residents</i>	
	<i>National accounts</i>	<i>BoP</i>	<i>National accounts</i>	<i>BoP</i>
Institutional units by residence status with respect to the domestic economy, place of activity and type of contract with the persons				
1. Resident institutional units				
1.1 Activity within domestic economy Contract with self-employed person	Payments for services	Not registered	Imports of services	Imports of services
Employer-Employee relationship	Compensation of employees	Not registered	Compensation of employees paid to abroad	Compensation of employees paid to abroad
1.2 Activity in foreign country Contract with self-employed person	Payments for services	Not registered	Imports of services	Imports of services
Employer-employee relationship	Compensation of employees	Not registered	Compensation of employees paid to abroad	Compensation of employees paid to abroad
2. Non-resident institutional units				
2.1 Activity within domestic economy Contract with self-employed person	Export of services	Export of services	Not relevant for domestic country	Not relevant for domestic country
Employer-employee relationship	Compensation of employees received from abroad	Compensation of employees received from abroad	Not relevant for domestic country	Not relevant for domestic country
2.2 Activity in foreign country Contract with self-employed person	Export of services	Export of services	Not relevant for domestic country	Not relevant for domestic country
Employer-employee	Compensation of employees received from abroad	Compensation of employees received from abroad	Not relevant for domestic country	Not relevant for domestic country

**Table 10.5 Employment and income of non-residents active within the domestic economy, by length of stay, and by industry and residence status of the institutional unit employing them (or managing their provision of services) with respect to the domestic economy**

Code	Total	Agriculture	Manufacturing	Electricity and water supply	Construction (building and civil engineering projects)	..	Community, social, personal and other services
	A-M	A	B	C	D		M
Employees	Employed persons						
In resident institutional units							
Border crossed daily or weekly							
Stay one week - 3 months							
Stay 3 to 12 months							
In non-resident institutional units							
Border crossed daily or weekly							
Stay one week - 3 months							
Stay 3 to 12 months							
Self-employed							
Contract with resident institutional units							
Border crossed daily or weekly							
Stay one week - 3 months							
Stay 3 to 12 months							
Contract with non-resident institutional units							
Border crossed daily or weekly							
Stay one week - 3 months							
Stay 3 to 12 months							
Employees	Work hours						
In resident institutional units							
Border crossed daily or weekly							
Stay one week - 3 months							
Stay 3 to 12 months							
In non-resident institutional units							
Border crossed daily or weekly							
Stay one week - 3 months							
Stay 3 to 12 months							
Self-employed							
Contract with resident institutional units							
Border crossed daily or weekly							
Stay one week - 3 months							
Stay 3 to 12 months							
Contract with non-resident institutional units							
Border crossed daily or weekly							
Stay one week - 3 months							
Stay 3 to 12 months							
Employees	Compensation of employees						
In resident institutional units							
Border crossed daily or weekly							
Stay one week - 3 months							
Stay 3 to 12 months							
In non-resident institutional units							
Border crossed daily or weekly							
Stay one week - 3 months							
Stay 3 to 12 months							
Self-employed	Mixed income						
Contract with resident institutional units							
Border crossed daily or weekly							
Stay one week - 3 months							
Stay 3 to 12 months							
Contract with non-resident institutional units							
Border crossed daily or weekly							
Stay one week - 3 months							
Stay 3 to 12 months							

Grey shading indicates data for persons that are not part of the domestic labour force.

**10.70** It is proposed to prepare labour accounts on employed persons, work hours, compensation of employees and mixed income by industry with subdivisions as shown in table 10.5. (Mixed income is the equivalent for unincorporated enterprises of operating surplus.) The table shown here includes only details on non-residents. Mirror tables for residents employed abroad could also be constructed if needed. It should be noted that the non-resident self-employed are foreign institutional units, so that they are not part of the domestic labour force (the relevant cells are shaded grey). The foreign employees and self-employed who are employed by or have a contract with a foreign institutional unit are also not part of the domestic labour force. They are however included in the table since the information on the activity of all of these persons is of interest - they

are active in the compiling economy, and will usually have consumption expenditure there, which must be recorded in its national accounts.

**10.71** In addition the relevant parts of the national accounts can be subdivided to correspond to this classification so that flows linked to non-residents' activities can be analysed. Such subdivisions could be made where the accounts relate to production and net value added, household expenditure and income, exports and imports, and income paid and received from abroad. These subdivisions could also be linked to supply and use (SU) tables. Ideally such tables should also be exchanged with partner countries to allow for international comparisons of data. A subclassification by gender may also be helpful in improving the quality of the series.

**Table 10.6 Employment and income of non-residents active within Israel, by length of stay, and by industry and residence status of the institutional unit in which they work with respect to Israel economy, 2008**

<i>Code</i>	<i>Total A-M</i>	<i>Agriculture A</i>	<i>Manufacturing B</i>	<i>Electricity and water supply C</i>	<i>Construction (building and civil engineering projects) D</i>	<i>Commerce, accommodation services and restaurants E-F</i>	<i>Business activities I</i>	<i>Health, community, social, personal and other services L-M</i>
Employed persons - thousands								
In resident institutional units								
Employees – total	270.7	30.0	11.8	-	62.2	35.4	51.6	79.7
Border crossed daily or weekly	58.6	4.1	9.5	-	25.8	13.0	5.7	0.5
Stay one week - 12 months	212.1	25.9	2.3	-	36.4	22.4	45.9	79.2
In non-resident institutional units								
Self-employed – total	1.8	0.1	0.3	-	0.8	0.4	0.2	-
Border crossed daily or weekly	1.8	0.1	0.3	-	0.8	0.4	0.2	-
Stay one week - 12 months	..	..	..	..	..	..	..	..
Hours worked per week - thousands								
In resident institutional units								
Employees – total	12,295.0	1,569.4	581.2	-	2,634.6	1,627.6	2,320.3	3,561.9
Border crossed daily or weekly	2,549.5	198.4	459.3	-	962.8	629.6	279.5	19.9
Stay one week - 12 months	9,745.5	1,371.0	121.9	-	1,671.8	998.0	2,040.8	3,542.0
In non-resident institutional units								
Self-employed – total	75.7	6.0	14.2	-	29.8	17.1	8.6	-
Border crossed daily or weekly	75.7	6.0	14.2	-	29.8	17.1	8.6	-
Stay one week - 12 months	..	..	..	..	..	..	..	..
Compensation of employees NIS millions								
In resident institutional units								
Employees – total	13,662.0	1,710.4	698.8	-	3,806.8	2,261.2	2,433.1	2,751.7
Border crossed daily or weekly	2,819.5	162.4	509.1	-	1,274.0	578.0	276.5	19.5
Stay one week - 12 months	10,842.5	1,548.0	189.7	-	2,532.8	1,683.2	2,156.6	2,732.2
In non-resident institutional units								
Self-employed – total	84.1	4.9	15.3	-	38.2	17.4	8.3	-
Border crossed daily or weekly	84.1	4.9	15.3	-	38.2	17.4	8.3	-
Stay one week - 12 months	..	..	..	..	..	..	..	..
Mixed income NIS millions								
In non-resident institutional units								
Self-employed – total	84.1	4.9	15.3	-	38.2	17.4	8.3	-
Border crossed daily or weekly	84.1	4.9	15.3	-	38.2	17.4	8.3	-
Stay one week - 12 months	..	..	..	..	..	..	..	..

**10.72** Tables 10.6-10.8 provide an example of a labour account and part of the corresponding accounts for compensation of employees paid to workers resident abroad and their household expenditure in the economy in which they are working (using Israeli data). At this stage separate information on self-employed persons who do not cross the border daily or weekly is missing. Data on

non-resident employees and self-employed persons working in Israel but who are employed by or have a contract with a foreign enterprise are not available. At this stage it has also not been possible to construct a similar detailed table showing residents employed by foreign institutional units or who are self-employed abroad.

**Table 10.7 Compensation of non-resident employees and expenditure of non-resident employed persons in Israel**

	<i>NIS millions</i>			
	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>
Compensation in Israel of non-resident employees - total	10,472	10,806	12,266	13,662
Border crossed daily or weekly	1,704	1,744	2,177	2,820
Stay one week-12 months	8,768	9,062	10,089	10,843
Expenditures in Israel of non-resident employed persons	4,139	4,090	4,119	4,063
Border crossed daily or weekly	203	231	311	390
Stay one week-12 months	3,936	3,859	3,808	3,673

**Table 10.8 Consumption expenditure by non-resident employed persons staying one week to 12 months in 2008**

	<i>NIS millions</i>
	<i>Total</i>
Restaurants, cafes, pubs	161
Food and beverages	1,017
Real estate activities	1,335
Buses, underground railways	173
Hospitals, clinics, dentistry	35
Pharmaceutical products	40
Footwear	45
Swimsuits and underwear	70
Gold and silver articles	7
Soap, detergents & cosmetics	47
Books, periodicals, other	7
Telephony	311
Collection and treatment of water	34
Electricity	128
Local authority services	65
Domestic appliances	10
Bedclothes/spreads	3
Products n.e.c.	38
Education services	36
Electronic equipment	90
Legal services	10
Leather products	10
Total consumption expenditure	3,673

## Conclusion

**10.73** The challenges to measurement and analysis in the national accounts due to the increase in international labour movements and trade in services through the movement of persons are not easy to overcome, and new collections of data and new analytical frameworks are needed.

**10.74** Existing country experiences mainly focus on labour movements (except the example of Germany which also covers trade in services). New initiatives provide more insight on this aspect but do not separate out trade in services. Further work is needed to establish reliable sets of statistics on international labour movements and trade in services. It seems especially important to explore the possibility of international cooperation with the aim of combining different sources of data

including enterprise surveys in partner countries, as well as performing mirror exercises where detailed inflows and outflows of the partner countries may be compared.

**10.75** The need for improved analytical frameworks may be met by adding social accounting matrices or integrated labour accounts to the familiar national accounts, thereby linking labour statistics and the national accounts. An example of such additions was presented above.

**10.76** However, the proposed framework should be tried on data from countries with a different structure of inflow or outflow of labour and services rendered by persons, to ensure that the proposal fits the various analytical problems encountered.

## Annex 10.1

### Measuring the inflow of labour in the Czech Republic

**10.1.1** Migration of people for economic reasons is an important economic phenomenon. It is not only a consequence but also a cause of differences in economic development of countries and regions. Migration affects the social and economic situation both in the migrants' countries of origin and in the host countries. The phenomenon is reflected in national accounts as well as in balances of payments.

**10.1.2** For the Czech Republic it is a relatively new phenomenon. In the 1970s and 1980s the migration to the former Czechoslovakia was covered by intergovernmental agreements with Cuba, Poland and Vietnam. However, the numbers of workers were insignificant. The migration of Czechoslovak citizens to foreign countries was considered to be politically motivated by the then totalitarian regime and was discouraged. Economic cross-border contacts between relatives were possible only through official channels and were readily captured in the balance of payments.

**10.1.3** In the 1990s data on cross-border flows were still taken from official sources and were supported by estimates of the new phenomenon of shuttle trade. The transformation and adaptation problems encountered by the statistical service and chaos in legislation did not allow the Czech Republic to capture significant changes, such as the return of many emigrants, the increasing inflow of

immigrants and a new wave of short-term emigrants intending to work abroad. The Czech Republic turned from a predominantly emigrant country to a predominantly immigrant country in that period. It became a destination for migrants seeking work. Immigrants now account for about 5-7 per cent of the 5.5 million workers in the Czech Republic.

**10.1.4** Since there is no single compulsory registration system for foreigners in the Czech Republic, three independent and overlapping databases are used to obtain data on foreign labour. These databases are operated by (i) the alien police (residence permits); (ii) the employment bureau (work permits), and (iii) trade licensing offices (trade licences). The databases are used to obtain estimates of foreigners by type - employees, entrepreneurs and non-workers (students, children and pensioners), and by country. In addition the number of illegal immigrants not covered in the databases is estimated based on the number of foreigners deported - this is a weak point in the estimates. The results of these estimations are shown in table 10.1.1. ("Entrepreneurs" means foreign workers who do not have an employment contract with an entity in the Czech Republic.)

**Table 10.1.1 Number of foreigners in the Czech Republic, 2006**

	<i>Non-resident employees (legal)</i>	<i>Non-resident employees (illegal)</i>	<i>Resident employees</i>	<i>Resident entrepreneurs</i>	<i>Economically non-active foreigners</i>	<i>Total</i>
Euro area	841		9,598	5,280	3,251	18,970
of which: managers	697		7,007	n.a.	2,064	9,768
Other European Union	12,867		88,041	10,776	23,715	135,399
of which: Poland	1,263		12,939	1,385	1,804	17,391
Slovakia*	11,065		73,060	8,512	20,925	113,562
Other countries	55,527		35,950	79,833	35,684	206,994
of which: Western countries	2,021		1,924	1,352	1,759	7,056
Ukraine	35,318		22,356	29,429	8,413	95,516
Russia	4,805		3,457	5,004	4,874	18,140
Vietnam	231		223	27,570	10,935	38,959
Illegal foreign workers	n.a.	7,117	n.a.	n.a.	n.a.	7,117
<b>Total</b>	<b>69,235</b>	<b>7,117</b>	<b>133,589</b>	<b>95,889</b>	<b>62,650</b>	<b>368,480</b>

\* Slovakia joined the euro area in January 2009, after the period to which this table relates.

## Annex 10.2

### Measuring international labour movements into and from Germany

*Note: In this annex “outward commuters” are German residents travelling frequently (often daily) to work in another country, or who work in Germany but for allied military, foreign diplomatic, etc. missions. Similarly “inward commuters” are foreign residents travelling frequently to work in Germany, or who work in German diplomatic, etc. missions abroad.*

#### Cross-border compensation of employees

**10.2.1** The compensation of outward commuters in the year 2000 totalled €4,080 million and that of inward commuters to Germany totalled €5,680 million.

**10.2.2** The gross wages and salaries and employers' social contributions are calculated separately and then totalled to determine the compensation paid to inward and outward commuters. Gross wages and salaries are calculated in principle by multiplying estimates of appropriate average earnings by the number of inward and outward commuters. The average rates of social contributions in relation to gross wages and salaries are used to estimate employers' social contributions.

#### Number of commuters

##### *Number of outward commuters*

**10.2.3** In the year 2000, around 95,000 German residents commuted to work outside Germany. This number can be divided into employees of the allied forces and of diplomatic, consular and cultural missions of foreign states and international organizations in Germany, and German residents regularly crossing the border to work in (mainly) neighbouring countries.

**10.2.4** Information regarding the number of German employees who work for the allied forces in Germany is available from employment statistics and the Federal Ministry of Finance. In total 20,000 commuters were working for the allied forces in 2000. This was 21 per cent of all outward commuters.

**10.2.5** Information on German employees working for international organizations is provided by the Deutsche Bundesbank. Official records show that around 5,000 people were employed in this way in the year 2000.

**10.2.6** Figures are also available from the employment statistics on German employees

working for other countries' diplomatic, consular and cultural missions in Germany. In 2000, about 3,000 German residents were working in other countries' missions.

**10.2.7** The Deutsche Bundesbank compiles data on the number of outward commuters from information provided by the statistical offices or social insurance agencies of the countries with the highest numbers of such commuters from Germany. The figures for Switzerland, Luxembourg, the Netherlands and France total 57,000 persons, representing around 60 per cent of all cross-border commuters. Calculations are made for the remaining countries on the basis of the population census and microcensus.

**10.2.8** During the last population census in Germany it was not possible to attribute some of the commuters to any of these countries. An allowance was added for this group of “long-distance” commuters.

##### *Number of inward commuters*

**10.2.9** In 2000, a total of 201,000 residents of other countries commuted to Germany for employment. These persons can be divided into cross-border commuters, seasonal workers and local non-German employees of German diplomatic, consular and cultural missions abroad.

**10.2.10** Information concerning cross-border commuters from abroad who are required to contribute to statutory pension schemes in Germany is obtained from the German Federal Pension Fund. The data on pension scheme contributions relates to the inward commuters' place of residence. Neither the place of work nor the industry is recorded. An allowance is added to the data from the German Federal Pension Fund for persons who do not have to pay statutory pension scheme contributions.

**10.2.11** Data on the number of seasonal workers is derived from the number of work permits issued by the Federal Employment Agency. The number of gainfully employed seasonal workers is calculated using a model based on the figures obtained from the agency. The number of work permits granted is added to the figures, ignoring the number of work permits granted but not actually taken up. In 2000 around 68,000 seasonal workers were employed in Germany.



**10.2.12** The number of foreign nationals employed at German embassies abroad is taken from the federal budget. countries.

**Table 10.2.1 Number of outward and inward commuters in 2000**

<i>Outward commuters</i>	<i>Number</i>	<i>Inward commuters</i>	<i>Number</i>
Cross-border commuters	71,399	Cross-border commuters	130,148
German employees of foreign embassies, consulates and cultural missions in Germany	2,698	Non-German employees of German embassies, consulates and cultural missions abroad	1,830
German employees of the allied forces stationed in Germany	19,875	Seasonal workers	68,383
<b>Total</b>	<b>93,979</b>	<b>Total</b>	<b>200,361</b>

**Average earnings of outward and inward commuters**

*Average earnings of outward commuters*

**10.2.13** The average earnings of German employees of the allied forces stationed in Germany are assessed on the basis of annual information provided by the Federal Ministry of Finance.

**10.2.14** € millions The Deutsche Bundesbank compiles information on the earnings of employees of international organizations.

**10.2.15** The data on gross annual earnings and numbers of employees contained in employment statistics are used to calculate the average earnings of Germans employed by the diplomatic, consular and cultural missions of foreign countries in Germany.

**10.2.16** Figures on the average earnings of outward commuters to Luxembourg, France and Switzerland are supplied to the Deutsche Bundesbank by the respective national statistical offices, and are supplemented by Eurostat data on average earnings in industry in the relevant

*Average earnings of inward commuters*

**10.2.17** Since 1985, annual figures have been compiled by the German Federal Pension Fund on the average earnings of inward commuters (cross-border commuters) classified by country of origin, who are liable to pay statutory pension contributions. These figures are reduced by 2.3 per cent in order to reflect the net effect of marginal part-time workers not registered with the German Federal Pension Fund since they do not make statutory insurance contributions (their earnings are likely to be below the average), and also of those whose income is higher than the threshold for payment of statutory contributions.

**10.2.18** Figures on the salaries paid to the foreign employees of German diplomatic, consular and cultural missions abroad are recorded in the annual federal budgets, and are converted to average earnings since the number of employees is known.

**10.2.19** The average pay of seasonal workers is estimated on the basis of earnings in Germany. A 10 per cent deduction is made from the earnings recorded in the national accounts since in practice seasonal workers are likely to earn less than the national average.

**Table 10.2.2 Average earnings in euro of outward and inward commuters in 2000**

<i>Outward commuters</i>		<i>Inward commuters</i>	
Cross-border commuters	35,678	Cross-border commuters	23,778
German employees of foreign diplomatic, consular and cultural missions in Germany	22,086	Non-German employees of German diplomatic, consular and cultural missions abroad	14,052
German employees of the allied forces stationed in Germany	35,056	Seasonal workers	22,695

**Employers' social contributions for outward and inward commuters**
*Employers' social contributions for outward commuters*

**10.2.20** Employers' social contributions for German employees of the allied forces stationed in Germany are assessed on the basis of German contribution rates. The contributions paid to the insurance funds are allowed for at a rate of 2.5 per cent, based on information from the Federal Ministry of Finance.

**10.2.21** The German contribution rates are also applied in calculating the social contributions of employers of German staff at foreign diplomatic, consular and cultural missions in Germany.

**10.2.22** Details of the rates used to calculate the employers' social contributions relating to day commuters are provided by the Deutsche Bundesbank in the case of Switzerland, Luxembourg and France. In the absence of information on employers' social contributions for commuters who work in Denmark and Austria, the German contribution rates are applied.

*Employers' social contributions for inward commuters*

**10.2.23** Employers' social contributions for cross-border commuters are assessed on the basis of the average rate of contribution for German employees, applied to the gross wages and salaries of cross-border commuters.

**10.2.24** In the case of seasonal workers the average rate of employers' contributions in Germany is also applied.

**10.2.25** The employers' social contributions for foreign employees of German diplomatic, consular and cultural missions abroad, although insignificant

in size, are estimated from figures in the federal budget in line with the contributions payable within Germany.

*Quality and exhaustiveness of estimates of the compensation of inward and outward commuters*

**10.2.26** To gain an assessment of the quality and exhaustiveness of these estimates, as well as the degree to which they are essential, it is necessary to consider the components which make up the compensation of inward and outward commuters in detail.

**10.2.27** The figures on the number of employees of the armed forces, at international organizations and at embassies, are considered very reliable and complete. The model for determining the number of seasonal workers is based on good data and, with the aid of the adjustment for inward commuters who do not have to pay pension scheme contributions in Germany, and given that cancelled work permits are disregarded, these figures provide a full picture of employment in this segment of the labour market.

**10.2.28** The figure for cross-border commuters is based, for inward as well as outward commuters, on less reliable statistics, because the social security fund records only employees and remuneration which are liable for payment of earnings-related social contributions. To compensate for this, the number of employees is adjusted upwards and a deduction is made from average earnings. On balance, with the help of these adjustments, the employee structure is now represented fully. However, some of these figures are based on the structures on the German labour market, for example with regard to the earnings of seasonal workers.

**10.2.29** Illegal workers are not treated as cross-

**Table 10.2.3 Selected service items in the German balance of payments in 2000**

<i>Title</i>	<i>€ millions</i>	
	<i>Credit</i>	<i>Debit</i>
Engineering and other technical services, including services of architects	2,974	4,190
IT services	4,115	4,963
Activities of self-employed workers	994	3,701
Business services	3,277	5,785
Employee leasing	566	393
Waste removal services	44	112
Repairs to transport equipment	637	1,117
Repairs to buildings and other immobile assets	0	47

border workers but as residents. Special estimates are made for their employment in restaurants, domestic services and building activities.

### **The mode 4 problem**

**10.2.30** The mode 4 transactions shown in table 10.2.3, and other similar activities, are, in accordance with international statistical standards, classified as cross-border transactions in services. However, for analytical purposes it may be useful to identify the cross-border labour component and show it, perhaps as a memorandum item, alongside (or aggregated with) compensation of employees who are not resident in the country in which they are working

**10.2.31** The data are taken from the German inquiry on cross-border transactions.

**10.2.32** The figures do not present the remuneration of labour, but exports and imports of services including all material costs, etc. However they represent a first step in identifying mode 4 transactions.

### **Final remark**

**10.2.33** Work on mode 4 transactions is in its infancy. But a first look at the data shows for example that employee leasing accounts for 14 per cent (€560 million out of €4,080 million) of compensation of outward commuters and 7 per cent (€393 million out of €5,680 million) of compensation of inward commuters. These figures show that international labour movement is significantly higher than presented by the conventional measures alone, and is therefore an important matter for further work in the context of globalization

## Annex 10.3

### Measuring the inflow of labour in Israel

**10.3.1** Israel has had a relatively long experience of an inflow of labour. There has been a continuing large inflow of Jewish immigrants (*olim*) since the establishment of the state. These immigrants in almost all cases either become Israeli citizens or obtain permanent residence permits at the time of their arrival. This means that the flows are registered, and the activity of such immigrants is also covered by labour force surveys, although they may have been in the country less than a year.

**10.3.2** In addition, since 1968 a large number of workers from the Palestinian Authority have been employed within Israel, mostly returning to their homes each day. While most of these workers have work permits, not all do, and the flow of labour is only partly measured in administrative data on work permits or on workers insured by the Israeli National Insurance Institution. However, quarterly labour force surveys, conducted by a statistics unit in the civilian administration in the years

1968 to the mid-1990s, and since then by the Palestinian Central Bureau of Statistics, include questions about work in Israel, and the results of these surveys are used to estimate work of Palestinians for the purposes of the national accounts of Israel published by the Israeli Central Bureau of Statistics (ICBS).

**10.3.3** Since the mid-1990s there have also been large inflows of foreign workers from countries such as Romania, Ukraine, Thailand, Philippines and China. The first inflows of foreign workers almost always arrived with work permits, but since 2000 many have arrived as tourists and started working without work permits, and others who arrived with work permits have stayed on and worked after the permits expired. Although efforts have been made by the authorities to expel some of the illegal foreign workers, only some are found and sent back to their original country.

**10.3.4** Since the numbers involved are large, various methods to deal with the measurement

**Table 10.3.1 Foreign workers who entered with a work permit by main countries of citizenship, end 2007**

<i>Percentage males</i>	<i>Thousands</i>	
57	109.6	Total
59	85.0	<i>Asia - total*</i>
52	2.9	India
99	2.3	Turkey
20	5.8	Nepal
96	11.8	China
15	28.0	Philippines
94	31.2	Thailand
21	3.0	Other countries in Asia
58	0.4	<i>Africa - total</i>
52	23.0	<i>Europe - total</i>
47	1.7	Bulgaria
30	8.6	Former Soviet Union**
77	0.1	Germany
78	0.1	UK
65	11.5	Romania
52	1.0	Other countries in Europe
52	0.9	<i>America and Oceania - total</i>
66	0.3	USA
41	0.5	Other countries
71	0.2	<i>Not known</i>

(\*)Including Asian republics of the former Soviet Union.

(\*\*)European republics only.

**Table 10.3.2 Estimates of number of foreign workers who entered Israel as tourists by main countries of citizenship, end 2007**

<i>Per cent</i>	<i>Thousands</i>	
100	90.4	Total
74	67.3	10 leading countries
30	26.8	Former Soviet Union
10	9.4	Jordan
7	5.9	Mexico
5	4.8	Brazil
5	4.5	Romania
4	3.8	Colombia
4	3.6	Turkey
3	3.1	Poland
3	2.9	Philippines
3	2.5	Egypt
26	23.1	Other countries

problems have been developed.

**10.3.5** The ICBS receives administrative data from various authorities on the inflow, outflow and stocks of persons entering with a work permit. The data are usually not consistent, and must be combined using certain assumptions to obtain estimates of foreign workers who entered with a work permit (see table 10.3.1).

**10.3.6** In addition, individual data on the inflow and outflow of persons entering with tourism visas are obtained from the border control and examined in order to identify persons overstaying their visa. An estimate of the number of illegal workers is calculated assuming that most of the overstayers from less-developed countries are illegal workers.

However, since records of entry and exit do not match, the numbers may be inflated, and an adjustment is applied based on a calculation of the per cent of apparent overstays for each country as the ratio of apparent overstays to tourist arrivals (subtracting those who have adjusted their status). The estimates are published once a year, and are also used in the national accounts published by the ICBS (see table 10.3.2).

**10.3.7** For the national accounts the annual average numbers are estimated, and the distribution of unregistered employed persons by industry is estimated using the partial information available and making various assumptions about labour productivity in the

**Table 10.3.3 Estimates of non-resident employed persons in Israel by industry, 2008**

<i>Code</i>	<i>Industry</i>	<i>Total</i>	<i>Cross-border employed persons (from Palestinian Authority)</i>	<i>Registered employed persons from abroad</i>	<i>Unregistered employed persons from abroad</i>
	Total	272.3	60.2	76.2	135.9
A	Agriculture	30.0	4.1	25.9	0.0
B	Manufacturing	12.1	9.8	2.3	0.0
C	Electricity and water supply	0.0	-	-	-
D	Construction	63.0	26.6	11.0	25.4
E	Wholesale and retail trade	18.0	9.8	0.0	8.3
F	Accommodation services, restaurants	16.1	2.0	3.2	11.0
G	Transport, storage, communications	1.7	1.7	0.0	0.0
H	Banking, insurance, financial	0.0	-	-	-
I	Business activities	51.8	5.9	2.4	43.5
J	Public administration	0.0	-	-	-
K	Education	0.0	-	-	-
L	Health, welfare, social work	4.0	-	-	4.0
M	Community and other services	2.5	0.5	2.0	0.0
N	Domestic personnel	69.0	-	25.3	43.7
O	Extra-territorial organizations	0.0	-	-	-
X	Other	4.2	-	4.2	-

various industries (see table 10.3.3). It should be noted that some of the workers have stayed longer than a year, and should be included in the Israeli population according to international recommendations. However, since they are not covered in the population estimates, nor in the

labour force surveys or household expenditure surveys based on the resident population, it seems preferable to include them as foreign workers. Their labour compensation and household expenditure are estimated and added to the figures obtained for residents.

**Table 10.3.4 Employee jobs and average monthly wages of workers from abroad, by industry**

	Total	Agriculture	Construction (building and civil engineering projects)	Accommodation services and restaurants	Total	Of which: recruitment and provision of personnel	Total	Of which: home- care services	Other industries
Code	A	D	F	I	74	L	862		
	Employee jobs (thousands)								
1996	79.8	17.0	29.3	4.4	17.5	13.3	2.8	1.1	8.7
1997	83.0	18.5	30.7	4.6	16.4	11.8	3.8	1.7	9.0
1998	79.3	20.1	29.4	4.4	12.0	8.2	5.2	3.2	8.2
1999	76.5	20.4	25.0	4.5	11.7	7.6	5.8	3.5	9.1
2000	78.0	20.6	23.4	4.9	12.5	8.8	7.3	4.5	9.3
2001	88.8	21.9	29.7	4.4	13.8	9.7	9.3	5.7	9.7
2001 (1)	89.2	22.0	29.9	4.3	13.7	9.6	9.3	6.1	9.8
2002	93.0	22.8	29.8	3.8	16.2	10.8	10.6	7.2	9.9
2003	72.3	23.7	16.7	2.4	10.4	7.6	11.1	7.7	8.1
2004	64.0	24.5	11.2	2.4	7.5	5.9	13.0	10.3	5.4
2004 (1)	60.1	21.9	10.8	2.2	7.5	6.1	12.6	10.4	5.1
2005	63.1	23.3	10.8	2.0	6.3	5.0	16.0	13.9	4.8
2006	65.9	22.6	11.7	2.0	5.7	4.4	19.4	17.3	4.6
2007	69.9	23.9	10.1	2.0	6.4	5.1	22.7	20.4	4.8
2008	79.9	25.9	11.0	3.3	8.7	6.3	25.5	23.0	5.6
	Average wages per employee job - at current prices (NIS)								
2001	4,042	3,638	4,398	4,629	3,986	3,609	1,927	1,473	5,704
2001 (1)	3,997	3,529	4,370	4,351	4,061	3,618	1,909	1,472	5,606
2002	4,249	3,787	4,774	4,561	4,068	3,699	1,957	1,606	6,342
2003	4,070	3,814	4,749	4,480	3,842	3,401	1,937	1,671	6,525
2004	3,975	3,826	4,692	4,778	4,552	3,594	1,975	1,726	6,808
2004 (1)	3,987	3,820	4,727	4,704	4,505	3,561	1,993	1,733	7,019
2005	4,065	3,944	5,156	5,594	4,374	3,023	1,985	1,757	8,135
2006	4,264	4,157	5,539	6,673	5,022	2,430	2,000	1,805	9,094
2007	4,297	4,441	5,888	6,688	4,401	2,424	2,157	1,988	9,241
2008	4,285	4,535	5,790	6,255	3,926	2,542	2,230	2,045	8,951

(1) New sample.

**Table 10.3.5 Estimates of work hours and compensation of employees by residence status in Israel**

<i>Year</i>	<i>Work hours</i>			<i>Compensation of employees</i>		
	<i>Total</i>	<i>Residents</i>	<i>Non-residents</i>	<i>Total</i>	<i>Residents</i>	<i>Non-residents</i>
	Millions			NIS billions		
1995	80.9	74.0	6.9	144.2	139.7	4.5
1996	85.4	76.0	9.4	170.1	163.2	6.9
1997	88.4	77.1	11.3	192.3	183.5	8.8
1998	90.4	76.9	13.5	212.2	200.6	11.6
1999	93.6	79.9	13.7	232.8	219.3	13.5
2000	97.6	83.8	13.8	256.5	242.4	14.1
2001	97.1	83.7	13.4	268.4	254.9	13.5
2002	98.3	85.3	13.0	270.6	256.6	14.0
2003	98.1	86.3	11.8	265.4	253.3	12.1
2004	98.6	88	10.6	272.4	261.9	10.5
2005	101.5	91	10.5	287.1	276.6	10.5
2006	103.7	93.4	10.3	312.2	301.4	10.8
2007	109.2	98.1	11.1	334.6	322.3	12.3
2008	113.7	101.3	12.4	358.2	344.5	13.7

## Annex 10.4

### Measuring the outflow of labour in Moldova

**10.4.1** Moldova has had a large outflow of labour for many years and various methods have been used to measure the impact on the Moldovan economy. Details on the outflow of labour and remittances are collected in household surveys conducted by the Center for Sociological Investigation and Marketing (CBSAXA) in cooperation with the International Organization for Migration (IOM). The surveys provide detailed information on patterns of labour migration and remittances in Moldova and their impact on individual households and communities. They measure among other things the number of persons who were abroad at the time of the survey while remaining a member of a household in Moldova. The year of their first departure abroad, the destination country and their plans to remain abroad or to make further trips are also measured.

**10.4.2** One of the surveys is conducted as a panel survey, so that the behaviour of the persons working in another country compared to their original plans may be followed over time, and their residence status may be determined.

**10.4.3** The household survey conducted in 2008 found that 7.1 per cent had worked abroad in the last two years: 56 per cent of these were seasonal workers, who worked abroad for six months or less, and another 14 per cent worked abroad for less than one year. As for future plans, the same amount of seasonal work was planned by the respondents for the coming years.

**10.4.4** These measurement methods seem very promising, and could improve data on labour movements. The questionnaires are extensive and cover both current and former members of households. Questions on employment and income are included, and the surveys provide data which are especially difficult to obtain if sources are confined to flows of labour, for example on illegal residence status and monthly income (some of the questions on migration included in the questionnaire are reproduced in table 10.4.1).

**10.4.5** Some examples of results from the surveys are given in chart 10.4.1.



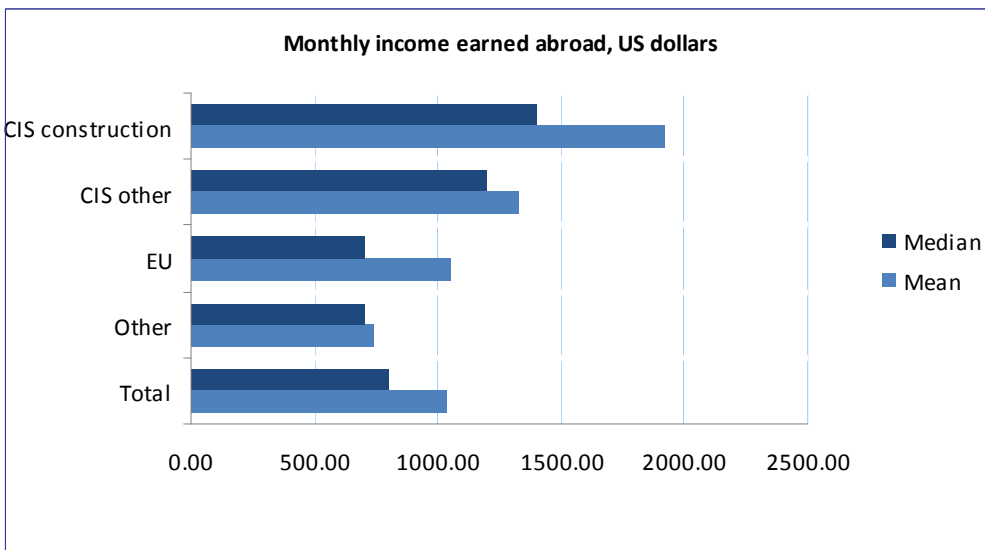
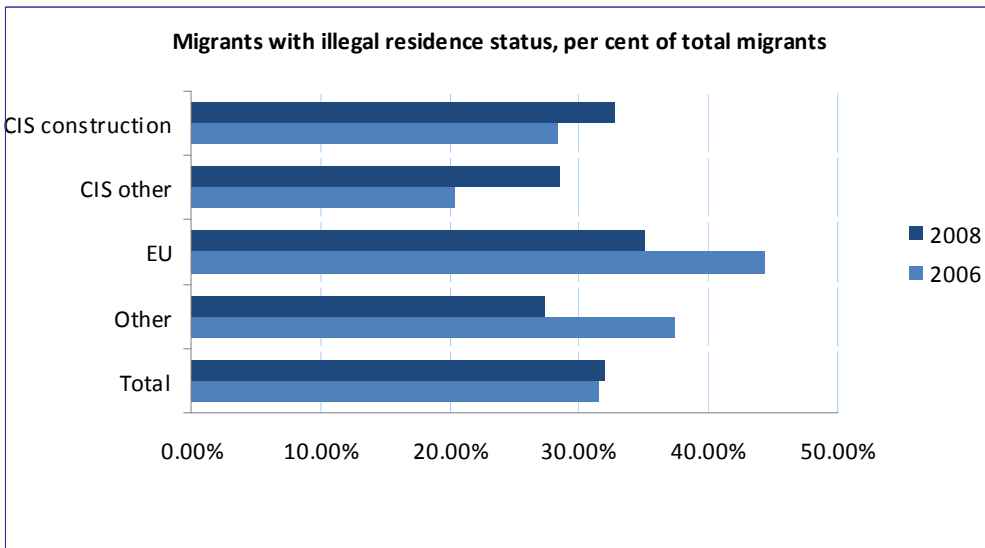
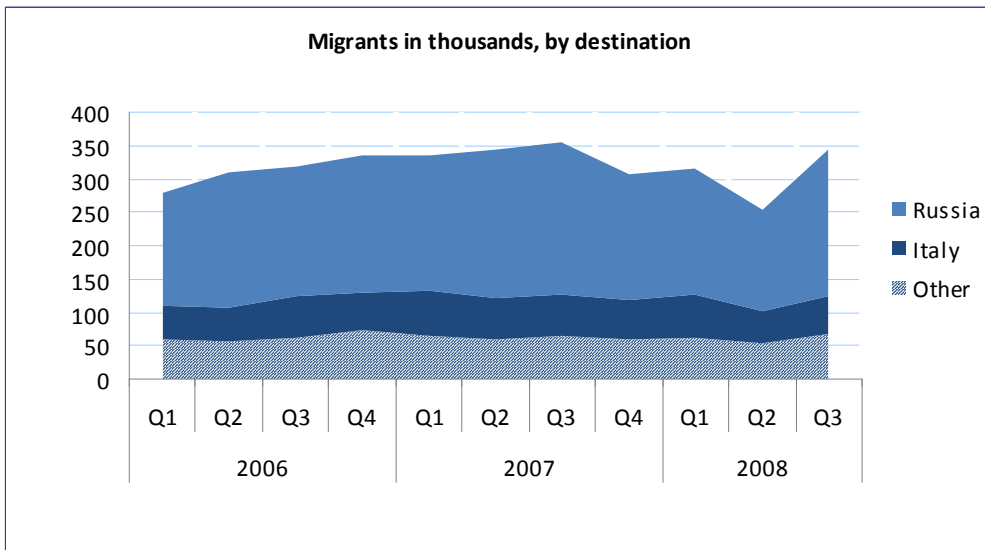
**Table 10.4.1 Examples of questions on migration included in the 2008 CBSAXA household survey for Moldova (for current and former household members who were abroad in 2007-2008)**

	<i>How would you describe the migration pattern of the person concerned?</i>	<i>Is the person concerned a seasonal migrant meaning that he/she leaves and returns regularly but never stays for more than six months? (do not consider short home visits)</i>	<i>(If yes) In what season of the year does the person concerned leave most often? (do not consider short home visits)</i>
Person's first name	1 Permanently abroad, comes back less than once a year 2 Permanently abroad, comes back at least once a year 3 Goes back and forth on a regular basis, spending considerable time both abroad and in the republic of Moldova (e.g. works abroad for three months, then returns to the Republic of Moldova for three months and then leaves again) 4 Lives in the Republic of Moldova for most of the time and only goes abroad at certain times of the year (e.g. harvest work)	1 Yes 2 No	1 Spring 2 Summer 3 Autumn 4 Winter 5 Departure does not depend on season

<i>In the destination country, how long did it take the person concerned to find his/her first job?</i>	<i>Was the first employment abroad of the person concerned legal?</i>	<i>In what sector was the first job of the person concerned?</i>
1 Had a job already before departure 2 Found a job just after arrival 3 Less than 1 month 4 1-2 months 5 2-3 months 6 More than 3 months 7 Has not found a job yet 8 Other (specify)	1 Yes 2 No	1 Agriculture 2 Industry and mining 3 Construction 4 Wholesale and retail trade, hotels and restaurants 5 Transport and communications 6 Public administration, education, health, social work 7 Other activities

<i>Does the person concerned still have the same job he/she had first?</i>	<i>[If not] Is the current employment abroad of the person concerned legal?</i>	<i>In what sector was the current job of the person concerned?</i>
1 Yes - question... 2 No	1 Yes 2 No	1 Agriculture 2 Industry and mining 3 Construction 4 Wholesale and retail trade, hotels and restaurants 5 Transport and communications 6 Public administration, education, health, social work 7 Other activities

Chart 10.4.1 Examples of results of Moldovan household surveys



Source: International Organization for Migration (IOM), 2008.

## Annex 10.5

### Measuring the outflow of labour in Ukraine

**10.5.1** Ukraine has experienced significant outflows of labour, and consequently the State Statistics Committee of Ukraine and the Ukrainian Centre for Social Reforms, in cooperation with the World Bank, conducted a large-scale household survey of the outflow of labour in June 2008 in the framework of the project “*Labour migration survey in Ukraine*”.<sup>34</sup> The purpose of the survey was to assess the scale, popularity, and geographic direction of external labour migrations, the socio-demographic category of migrants, their occupation, the frequency and length of their trips, etc.

**10.5.2** The methodology and organization of the survey corresponded to international practice. The survey took the form of a module in two household sample surveys, one of economic activity and one of living conditions. The sample was representative for the country as a whole and five broad regions. The subjects of the survey were household members of working age (women aged 15–54 and men aged 15–59). The survey covered almost three and a half years (1 January 2005 to 1 June 2008).

**10.5.3** The survey showed that nearly 1.5 million persons from 1.2 million households worked abroad at least once during the period, representing 5.1 per cent of the population of working age. Almost 1.3 million of these people (4.4 per cent of the population of working age) worked abroad in the period early 2007 to 1 June 2008.

**10.5.4** Data on the labour outflow broken down by what were considered to be the main host countries and by main types of economic activity were also collected. Seven major host countries were considered (the Russian Federation, Italy, the Czech Republic, Poland, Hungary, Spain and Portugal) as well as seven major types of economic activity (agriculture, industry, construction, wholesale and retail trade, hotels and restaurants, transport and work in households).

**10.5.5** Data on income, detailed expenditure within the host country and transfers to Ukraine were collected, and may be a valuable source for national accounts in both Ukraine and the host countries. A report on the survey mentions that: “*Determining the amount of actual earnings of labour migrants is quite possibly the most difficult aspect of sample surveys, primarily because of the reluctance (anxiety) of migrants and their families to give honest replies to questions about earnings. This is understandable, since many labour migrants are working and receiving income abroad semi or completely illegally.*”

<sup>34</sup> A discussion of this survey from the perspective of remittances may be found in Chapter 11 on remittances, annex 11.2.



# CHAPTER 11

## Remittances

### Introduction

**11.1** Cross-border remittances - household income from foreign economies arising mainly from the temporary or permanent movement of people to those economies - have grown rapidly in recent years.<sup>35</sup> IMF estimates show their global value (measured as global receipts of "workers' remittances" and "compensation of employees") rising from \$144 billion in 2002 to \$395 billion in 2008, or at an average annual rate of 18 per cent (table 11.1). Some of the increase may reflect

declining transfer costs. Although remittances are not necessarily connected to migration, in practice most remittances are accounted for by funds sent by migrants to relatives in their countries of origin. Because of this, the largest migration corridors - Mexico to the United States and other Commonwealth of Independent States (CIS) countries to Russia, for example - also tend to be the most important corridors for remittance transfers, although nations with large and widely dispersed migrant populations, such as India and China, are also major remittance recipients (charts

**Table 11.1 Compensation of employees and workers' remittances, 2002-2008**

	<i>\$ millions</i>						
	2002	2003	2004	2005	2006	2007	2008
Compensation of employees							
Credit	49,532	60,135	71,881	78,527	86,459	103,907	119,738
Debit	57,331	67,921	77,671	86,609	96,255	117,962	141,945
Global discrepancy	7,799	7,786	5,790	8,083	9,797	14,055	22,207
Workers' remittances							
Credit	94,050	114,138	128,267	167,038	200,310	242,509	275,645
Debit	77,524	81,255	91,994	99,657	118,068	144,735	164,407
Global discrepancy	-16,526	-32,883	-36,273	-67,381	-82,242	-97,774	-111,238
Sum of compensation of employees and workers' remittances							
Credit	143,581	174,273	200,148	245,565	286,769	346,416	395,383
Debit	134,855	149,176	169,665	186,266	214,323	262,697	306,352
Global discrepancy	-8,727	-25,097	-30,483	-59,299	-72,445	-83,719	-89,031

Source: *International Transactions in Remittances: Guide for Compilers and Users*, IMF, 2009, updated with data from the IMF's balance of payments database.

Note: This table uses BPM5 definitions. In particular, "workers' remittances" is defined as current transfers from employment income by migrants who are employed in new economies and considered residents there. In the list of standard components for the balance of payments accounts, "workers' remittances" has been replaced in BPM6 by "personal transfers", a somewhat broader concept.

valuation effects due to price and exchange rate movements and some may be a result of better measurement, but much of it is real, largely the result of increased international migration and

11.1 and 11.2).

**11.2** As they have increased in size, remittances also have increased in importance at both individual and national levels. For individual recipients, remittances are often a significant source of household income, providing support for consumption, education, healthcare and potentially a path out of poverty. For individual senders,

<sup>35</sup>This definition is from appendix 5 of BPM6. As will be seen later, not all remittance flows arise from the movement of persons. However, all remittances and remittance-type flows are intended to benefit households, either directly or indirectly.

Chart 11.1 Compensation of employees plus workers' remittances – credits in 2008

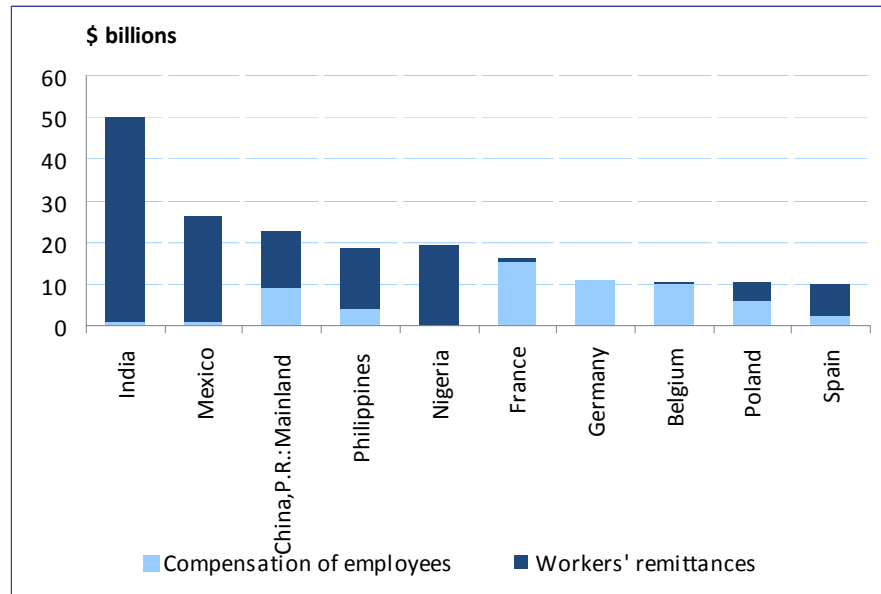
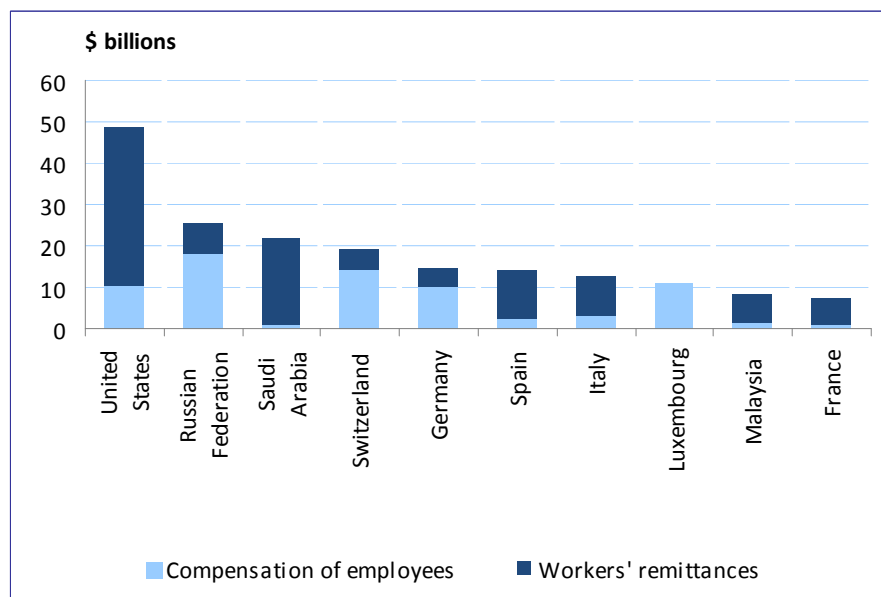


Chart 11.2 Compensation of employees plus workers' remittances – debits in 2008



remittances represent an important link with family in the home country. At the national level, in addition to supporting household consumption, remittances may be an important source of foreign exchange for net receiving nations. For net sending countries, the majority of which are more developed, remittances represent resource transfers to developing nations. Remittances can

thus be seen as a type of development and humanitarian assistance, which can be considered in conjunction with government aid, private investment, and other resource flows in evaluating needs for aid.

**11.3** Remittances vary widely in their importance to national economies, which may lead to differences in the emphasis given by national

statisticians to measuring and monitoring them. For net sending nations, the amounts transferred may be large in absolute terms, but their importance relative to total economic activity generally is small. For the United States, for example, outflows of workers' remittances and compensation of employees were \$49 billion in 2008, but that amount was only a fraction of 1 per cent as large as US GDP in that year. For net receiving nations, the situation often is reversed. Moldova, for example, reported only \$2 billion for 2008 as inflows of workers' remittances and compensation of employees, but that amount was one-third as large as its total GDP in that year.

**11.4** Although remittances are increasingly important to many economies, accurate measurement of remittances remains difficult. The difficulties in measurement can be illustrated by the large discrepancy between global receipts (credits) and payments (debits) of remittances. Although in reality, and by any definition, the amounts sent and received are the same, estimates of remittances based on reported payments tend to be considerably smaller than estimates based on reported receipts. In 2008, for example, reported payments, at \$306 billion, were only about three-fourths as large as reported receipts. Such differences suggest that at least some statistics on remittances lack the minimal level of reliability required for them to serve their intended purposes. They also may result in differences in perceptions about the adequacy of remittances as a source of assistance and of the need for other types of resource flows.

**11.5** Two main factors have complicated the measurement of remittances, namely differing definitions and difficulties in capturing the transactions. The problem of differing definitions has recently been addressed through the publication of standard statistical definitions in BPM6 and in *International Transactions in Remittances: Guide for Compilers and Users* (the *Remittances Guide*). Over time, these should result in greater consistency in definition. Historically, however, research and reports on remittances have often included as "remittances" one or more items not covered by the new definitions, such as money brought home by returning migrants, funds sent by migrants back to their countries of origin to purchase real estate, invest in local businesses, or otherwise for the migrant's own account, and the estimated value of volunteer time spent on international programmes. In some cases, the definition employed has depended on the use of the statistics or on data availability. Economic accountants require a definition that is compatible

with the rest of the national accounting framework and thus are concerned with details such as the residency status of the sender and the absence of a quid pro quo. Government aid officials and development professionals are often more concerned with total resource flows between countries, regardless of the residency of the sender or the presence or absence of a quid pro quo, to show the economic impact of these flows on sending and receiving countries.

**11.6** With regard to data capture, because of the small size of individual transactions and the sometimes uncertain status of those who make them, remittances data are difficult to collect using traditional methods. Individual remittance transactions often fall below reporting thresholds for banks and other financial institutions, and thus cannot be identified within the reported data. Money transfer operators (MTOs), the preferred vehicle of transfer for many migrants, may only settle net payments through the banking system, making it difficult to identify the underlying gross receipts and payments. In addition, remittance transactions are often effected outside the formal financial system, such as through hand-carry by returning migrants and workers or through unlicensed transfer businesses, both of which usually bypass formal reporting systems. Capturing data via household surveys may also be difficult, especially in countries where large portions of the migrant population lack legal status. Faced with these numerous and varied difficulties in data collection, some countries have chosen to estimate remittances using statistical modelling techniques that do not attempt to capture and sum individual transactions, but rather combine sample information on, or assumptions about, remittance behaviour by various demographic groups with information on the populations belonging to each group.

**11.7** This chapter will describe recent efforts to address conceptual, definitional, and measurement challenges with regard to remittances and will discuss challenges that remain. It will proceed as follows. The next section will provide background on the commonly used definitions of remittances and will review the new definitions provided in the BPM6 and the companion *Remittances Guide*. Conceptual issues that may arise in defining and measuring remittances and the problems that mismeasurement may cause for national accounts are then discussed, followed by the practical measurement problems facing compilers and suggestions for ways to overcome compilation difficulties. The chapter concludes with a discussion

of ongoing activities and recommendations for future work.

## Background: development of guidelines

**11.8** Because they represent international transactions, remittances have long been addressed in the balance of payments framework. The fourth edition of the *Balance of Payments Manual*, published in 1977, included the item "workers' remittances", defined as "unrequited transfers by those migrants (persons who have come to an economy and who stay, or are expected to stay, for a year or more) employed in their new economy." This item, with the definition slightly altered to state explicitly that it pertains only to current transfers, remained the single component specifically associated with remittances in the fifth edition (BPM5), published in 1993.

**11.9** In the 1990s, as global migration increased, transfers from migrants became increasingly important to many national economies, prompting government policymakers, development officials, and national compilers to focus increased attention on the size and nature of remittance transfers. The balance of payments item "workers' remittances" provided some information, but it did not completely cover the wide variety of remittance-type transactions between countries. The item workers' remittances is limited to current transfers by employed permanent migrants and thus excludes current transfers by non-migrants and by unemployed migrants, as well as any household-to-household capital transfers. It also excludes the resource flows to countries of origin that result from employment of their residents in other countries, as well as transfers made, not directly to households, but to non-profit institutions serving households (NPISHs).

**11.10** To construct a broader measure of remittances, analysts have often combined workers' remittances with two other items from the balance of payments, namely gross compensation of non-resident employees and migrants' transfers. While the resulting measure gives a more complete picture, it does not capture all flows that may be regarded as "remittances", which may include such items as capital transfers and transfers from non-migrants. In addition, the measure may overstate "remittances" to the extent that a portion of the compensation of employees payments does not flow back to home countries but is spent by non-resident workers in host economies.

**11.11** Rather than use balance of payments statistics, public and private agencies and organizations have sometimes compiled their own estimates of remittances, occasionally by surveying migrant or recipient populations. These surveys have employed a variety of definitions of remittances and may sometimes have captured transactions that would not universally be regarded as within the scope of the remittances concept, such as purchases of real estate, business investments, and savings, which involve funds sent abroad but which are not transfers. One such broader estimate of cross-border giving has reflected the value of time spent by volunteers on international programmes, which represents assistance by residents of one country to residents of another but lies outside the scope of standard economic accounts.<sup>36</sup>

**11.12** The use of multiple compilation methods, each of them reflecting a different collection of transactions, has produced vastly different estimates of remittances. The wide variety of estimates has created confusion and uncertainty over their importance relative to other flows and their impact on sending and receiving countries.

### BPM6: a standardized definition

**11.13** The development of a standard balance of payments definition of remittances began at the Sea Island Summit in 2004, where Group of Eight (G-8) participants acknowledged the rapid growth and developmental impact of remittances in the action plan *Applying the Power of Entrepreneurship to the Eradication of Poverty*. The plan highlighted the need for better statistics on remittances and called for the G-8 countries to "work with the World Bank, IMF, and other bodies to improve data on remittance flows and to develop standards for data collection in both sending and receiving countries." This statement led to the creation of the United Nations Technical Sub-group on the Movement of Natural Persons (TSG), which worked in consultation with the IMF Committee on Balance of Payments Statistics and the Advisory Expert Group on National Accounts to clarify the definition of remittances. The TSG's recommended definitions have been incorporated in BPM6. Following the adoption of these definitions, a working group, which came to be known as the Luxembourg Group, was formed under the auspices of the IMF to develop a compilation guide based on the BPM6 definitions. The resulting *Remittances Guide* provides further detail on the

<sup>36</sup> See Hudson Institute, 2010. This report estimates the value of such time spent by US volunteers as \$3.6 billion in 2008.



nature of remittances and outlines several compilation methodologies. The recommendations will be discussed further below.

**11.14** BPM6 introduces several increasingly broad categories of remittances (see table 11.2).<sup>37</sup>

**11.15** Personal transfers are a standard component of the balance of payments framework. Personal remittances, total remittances, and total remittances plus transfers to non-profit institutions serving households (NPISHs) are supplementary items. This structure allows compilers to publish a variety of remittance measures without altering the central balance of payments framework (although they may need to alter their data collection to align with the new guidelines).

The item personal remittances approximates to the commonly used calculation of remittances discussed above, although it does not include migrants' transfers, which under BPM6 are no longer regarded as transactions in the balance of payments.<sup>38</sup> Annex 11.1 presents a more detailed examination of the differences between the BPM5 and BPM6 remittance statistics using Russian data.

**11.18** The final two items incorporate social benefits and transfers to NPISHs. These transfers are not commonly thought of as remittances, but they are conceptually similar as they both provide direct support to households abroad. These broadest definitions are of interest to those wanting to determine the total amount of support provided to the households of one nation by those

**Table 11.2 Remittance concepts in BPM6**

<i>Total remittances and transfers to non-profit institutions serving households (NPISHs): a+b+c+d+e+f</i>					
<i>Total remittances: a+b+c+d</i>				(e)	(f)
<i>Personal remittances: a+b+c</i>			(d)	Current transfers to NPISHs	Capital transfers to NPISHs
(a)	(b)	(c)	Social benefits		
Personal transfers (part of current transfers)	Compensation of employees less taxes, social contributions, transport, and travel	Capital transfers between households			

Note: "Travel" as used in column b is as defined in BPM6 to include food, lodging, and other goods and services acquired for personal use by seasonal, border, and other short-term workers who are not resident in the economy in which they are employed.

**11.16** These concepts provide a broader and more fully articulated framework for the analysis of remittances than was available under BPM5. The item personal transfers (a component of the narrowest remittance measure, personal remittances) retains a focus on individual transfers from residents similar to that of the BPM5 concept of workers' remittances. However, it places the focus on the household-to-household nature of the transactions rather than on the employment status of the sender. Personal transfers include additional types of household-to-household transfers - such as transfers from non-migrants and non-workers - that are excluded from workers' remittances.

**11.17** Personal remittances comprise personal transfers, household-to-household capital transfers and the net compensation of non-resident workers.

who are residing or working, or who have worked, in another.

**11.19** While no country currently publishes the full array of new remittance measures, many countries publish remittance-related components, usually including a measure of personal transfers (with many countries still showing "workers' remittances" as defined under BPM5) and gross compensation of employees. Available data suggest that, for many countries, personal transfers are the largest component of remittances, reflecting the

<sup>37</sup> See Appendix 5 of BPM6 for additional information.

<sup>38</sup> BPM5 also recognized that migrants' transfers are not transactions in the true sense, but it nonetheless recommended recording them as such in order to provide contra-entries to flows of merchandise and other items resulting from migration. BPM6, in contrast, recommends that these items, which do not involve changes in ownership, be excluded from merchandise and other accounts, placing both those accounts and the account for transfers (secondary income) on a conceptually more correct basis.

broad base of potential senders and recipients and the social and economic importance of these transfers. For example, for India and the United States, respectively the largest receiving and sending nations, personal transfers account for the majority of remittance flows (charts 11.1 and 11.2). However, in some countries, particularly those with a sizeable population of border workers, a large guest worker programme, or membership in an economic area that provides for labour movement within the area, compensation of employees is the largest component. This is the case, for example, for inflows to France, Germany, and Belgium and outflows from the Russian Federation, Switzerland, Germany, and the Netherlands. The relative importance of personal transfers and compensation may differ between receipts and payments.

**11.20** Social benefits are likely to be the smallest component of total remittances, reflecting the relatively small population of long-term employees who return to their country of origin or retire abroad. Data from the US Social Security Administration, for example, indicate that social security payments made to beneficiaries outside the United States totalled \$3.5 billion in 2008, which accounted for only a small fraction of the value of US remittance components that can be separately identified. The relative importance of transfers to NPISHs is determined mainly by the size of the non-profit sector, which varies across

countries.

**11.21** In addition to those items included in the definition of remittances, BPM6 also highlights the analytical importance of two additional remittance-related data series: investment by migrants and travel. These items do not provide support directly to households, but they represent additional channels through which national economies interact with their migrant populations. Other potentially important data series are telecommunications and trade in "home goods" (goods, such as food, that migrants import or arrange to be shipped from relatives back home).

### The statistical treatment recommended in international standards: conceptual issues

**11.22** The release of BPM6 and the *Remittances Guide* represents a major advance in defining remittances and in providing statistical guidelines, both of which should result in higher quality, better understood, and more internationally comparable statistics. However, the fact that multiple remittance concepts, made up of components that are treated quite differently in economic accounts, are presented calls for extra care in interpretation and in communication with data users. Table 11.3 shows the components required for compiling the different remittance measures and the different

**Table 11.3 Components required for compiling remittance items and their source: item and description**

<i>Item</i>	<i>Source and description</i>
1. Compensation of employees	Primary income account, standard component
2. Personal transfers	Secondary income account, standard component
3. Travel and transport related to employment of border, seasonal, and other short-term workers	Goods and services account, supplementary item
4. Taxes and social contributions related to employment of border, seasonal, and other short-term workers	Secondary income account, supplementary item
5. Compensation of employees less expenses related to border, seasonal, and other short-term workers	Primary income account (for compensation of employees), standard component Goods and services account (for travel and transport expenses) and secondary income account (for taxes and social contributions), supplementary items
6. Capital transfers between households	Capital account, supplementary item
7. Social benefits	Secondary income account, supplementary item
8. Current transfers to NPISHs	Secondary income account, supplementary item
9. Capital transfers to NPISHs	Capital account, supplementary item

Source: BPM6, appendix 5, table A.5.1.

accounts from which they are constructed.

**11.23** Taken together, the various remittance concepts draw upon four different balance of payments accounts: (1) goods and services, (2) primary income, (3) secondary income, and (4) capital account. As noted in BPM6 (paragraph 2.13): *"The different accounts within the balance of payments are distinguished according to the nature of the economic resources provided and received."* These differences also are recognized in national accounts, and as a result the nature of any distortions in national accounts that may be caused by inaccuracies in the measurement of remittances can differ depending on which remittance component or components are mismeasured.

**11.24** Compensation of employees, for example, affects GDP, primary income, and disposable income in the home country (the country of permanent residence of the workers) but not in that of the host country (the country where they work). Thus, if it is mismeasured (or unrecorded), these items also will be mismeasured, as will saving - computed as the difference between disposable income and final consumption expenditure. Personal transfers, by contrast, are not reflected in GDP or in primary incomes, but they do affect disposable income. If they are mismeasured, GDP will be unaffected, but there will be errors in the measurement of disposable income and saving. Capital transfers are not reflected in GDP or in measures of income, but they do result in changes in national balance sheets of both donor and recipient economies, which would thus be distorted by their incorrect measurement.

**11.25** These differences in effects are a reflection of the fact that "remittances" is not a national or international accounts concept, but rather represents a grouping of a variety of items from these accounts in an effort to measure the sum total of country-to-country flows through which individuals or organizations residing or working in one country benefit households of another country. Because of the differences, for some purposes it may be useful to view the remittance aggregates in conjunction with information on their components, given the rather fundamental differences in the economic nature of the components. It may be particularly desirable to have information on net compensation of employees separately from that on the various items of transfers, since compensation alone represents income generated by productive activities of the recipient countries' own residents.

**11.26** From time to time questions have arisen about several items that are excluded from total remittances but that are sometimes considered in a remittances context. It will be useful to review these, not to call into question the internationally agreed concepts and definitions, but rather to explore the boundary between remittance and non-remittance flows and because they are sometimes viewed in conjunction with the included items in studies and reports on international philanthropy and development assistance. In general, their effect is to broaden the remittance concept.

**11.27** Transfers to NPISHs are not included in the BPM6 measure of total remittances, yet these transfers may differ from household-to-household transfers only in the sense that intermediary institutions are involved in mediating funds that are donated by households in one country with the intent of benefiting households in another country. Among the items that have been excluded from total remittances, these transfers perhaps have the most in common with the included items, and their significance and relevance has been recognized by the new standards, even if they have not been included in the core remittance aggregates.

**11.28** The value of volunteer time spent on international programmes likewise represents benefits provided by residents of one country to residents of another. However, this value lies outside the scope of conventional economic accounts and therefore has not been recognized in statistical guidelines, even as a related concept.

**11.29** Investment by migrants in their countries of origin is recognized by BPM6 as a "related concept", but it is excluded from all of the remittances measures suggested in it and in the *Remittances Guide*.<sup>39</sup> However, migrants' investments may be in businesses that provide relatives or others in their countries of origin with employment opportunities and thus may benefit home-country households as well as the emigrant investors residing abroad. Thus, while migrants' investments in their countries of origin are excluded from the standard statistical measures of remittances, it must be acknowledged that they can have much in common with components that are included.

<sup>39</sup> BPM6 does acknowledge that investment may be a vehicle for remittances in cases where relatives live rent-free in migrant-owned real estate, or are paid above market wages by migrant-owned businesses. In cases where these arrangements are known to compilers, estimates may be made to account for the remittance portion of these transactions.

**11.30** Financial and non-financial assets of returning migrants are likewise excluded from all of the remittances measures, on the grounds that they lie outside the current balance of payments framework. However, including the earnings of workers who stay abroad for less than a year and excluding the accumulated assets of workers who stay for a year or more before returning home may strike some as an arbitrary distinction, especially when only small differences in length of stay are involved. Perhaps reflecting this view, these values may sometimes be considered in a remittances context, even though they lie outside the standard definitions.

**11.31** Corporate giving raises equally difficult questions. A pharmaceutical firm's donation of medicines to a foreign relief organization could be included in current transfers to NPISHs (which are not limited to transfers made by households). However, what should be the treatment if the firm sells the medicines in developing countries at discounted prices, or even below cost? Economic accounting guidelines recommend recording transactions at market prices, so one might argue that the transaction should be recorded at market price and the discount shown as a type of transfer, relevant to remittances. However, the price received may be only a partial measure of the value of the sale to the firm, which may be rewarded for its benevolence through the accumulation of goodwill or the avoidance of regulations or price controls. In some cases, discounting may simply represent the profit-maximizing actions of a monopolist charging different prices to exploit demand differences in distinct markets. Perhaps reflecting these considerations, as well as practical difficulties in data collection, the value of this form of giving has not been recognized as a remittance component in the new international guidelines.

**11.32** Different questions about corporate giving arise when the giving is done, not across the border, but rather through affiliates located in recipient countries. Because foreign affiliates are treated in economic accounts as resident in their countries of location rather than in the countries of their owners, their donations in host countries are treated as transactions between residents and thus outside the balance of payments framework. Yet to the extent that the giving raises the foreign affiliate's costs and lowers its profits, the income received by the home-country parent firm would fall, making the cost to it of the donation much the same as if it had made the donation directly.

**11.33** From these examples, it is clear that the remittances concept is among the more difficult

economic constructs to define and interpret. While the new guidelines have done much to clarify and expand remittance concepts, the complexity of the concept and multiple potential uses of the data mean that conceptual difficulties remain.

## Measurement problems

**11.34** On top of these numerous conceptual issues is an equally varied array of measurement challenges, most of them relating to the personal transfers component. Personal transfers are typically small, household-based on both the sending and receiving ends, and capable of being sent through a wide variety of channels, making them difficult to capture using traditional methods of collection. Additional factors such as the legal status of the remitting population, the available financial infrastructure, and the residence of the sender also complicate the capture of data on personal transfers.

**11.35** In most countries, individuals have many options, both formal and informal, for sending personal transfers.<sup>40</sup> Widely used formal methods of sending monetary transfers include banks, credit unions and licensed money transfer operators (MTOs). Funds sent through these channels enter the formal financial system and can be captured along with other types of financial flows. However, entry into the financial system does not completely eliminate the collection difficulty. Remaining issues include identifying gross flows (many institutions net their international transactions), determining the primary source and destination of the transfers, and distinguishing between personal transfers and other small financial transactions.

**11.36** Informal methods of monetary transfer include hand-carry, either by the senders themselves or through family members or friends, transfers through unlicensed MTOs, and hawala or similar area-specific informal systems.<sup>41</sup> When sent through these channels, the transferred funds do not enter the formal financial system and most established data collection systems miss them: money carried across a border often does not have to be declared below a certain threshold, unlicensed MTOs may operate outside the banking system, and hawala does not involve actual cross-border payments between households. Collecting data on transfers made through informal channels requires targeted methods, such as surveys of the

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<sup>40</sup> For a more comprehensive discussion of remittance channels, see the *Remittances Guide*.

<sup>41</sup> Hawala is a method of transfer, well established in Islamic communities, where instruction on payment, rather than the money itself, is sent across borders.

sending or receiving populations. Statistical modelling may also help to overcome these difficulties.

**11.37** Although in-kind transfers may also flow through formal channels, it is generally believed that most travel through informal channels. Formal methods of transfer include declared shipment via post or with a registered exporter. Informal methods include hand-carry and undeclared shipment via cross-border passenger or transport vehicles. Compared to money transfers, data collection for in-kind transfers faces an additional complication: determining the value of the remitted items. Formal shipments should have a declared value; however, because of their small size, they may fall below reporting thresholds. It may also be difficult to distinguish in-kind transfers from other small shipments. Informal shipments are not only difficult to track; they face the additional problem of valuation.

**11.38** A number of factors including geography, financial infrastructure, cost, and history may contribute to the choice of one transfer channel over others. Transfers between countries with a shared geographic border, especially a relatively open border, are more likely to be transmitted by hand or through established informal travel and trade routes. Financial infrastructure, such as the prevalence of banks in both countries and the ease of opening an account, affects the use of bank transfers. The cost of sending a transfer is also a consideration; so too is the convenience for both sender and recipient. International efforts made in recent years to decrease the cost of transferring through formal channels have led to an increase in the use of these channels. Finally, the familiarity and trust that the sender and recipient have in a transfer company or method is also an important factor; remitters are often highly loyal to their chosen transfer method.

**11.39** The combined effects of all of these factors are reflected in the choice of transfer channel. In some countries, this may result in a single channel dominating the market, potentially simplifying data collection as efforts can be focused on a single market segment. In countries where a variety of easily accessible transfer methods are available and no single channel dominates, data must be collected from multiple market segments or through other methods, such as surveys of senders or recipients.

**11.40** Factors other than the transfer channel also complicate measurement. The legal status of the migrant population is one factor; illegal residents may be more likely to use informal

channels and are often difficult to contact or survey. Countries that are international banking centres may have funds sent from third countries transit through their banking system, creating noise in the financial flows data. Finally, whatever the channel, it is difficult to determine length of residency of the sender, a key factor in distinguishing between personal transfers and compensation of employees.

**11.41** Measuring transactions in the broader remittance categories is also difficult. Although there may be official data associated with visa or tax records, the question of residence complicates the collection of data on compensation of employees. Additional complications arise if there is a large non-legal migrant workforce, or in countries with open guest worker programmes. Social benefits and transfers to NPISHs are likely to flow exclusively through formal channels; however, identifying these flows may be difficult. Data on social benefits, largely issued by the government, may be available through official records, although identifying and obtaining data from all potential benefit sources may complicate data collection. The difficulty of collecting data on transfers to NPISHs depends on the source of the transfer. As with personal transfers, small transfers from households will be difficult to identify, whereas large transfers from well-known charities or foundations will be more easily captured.

## Proposals for operational treatment in the accounts

**11.42** The *Remittances Guide* outlines four principal methods for compiling data on remittances: extracting the data from international transactions reporting systems (ITRS), direct reporting by MTOs, household surveys, and model-based methods.<sup>42</sup> Each of these approaches focuses on data capture from different segments of the remittance market, and each has strengths and weaknesses in terms of coverage, cost, and feasibility. Data compilers can use these methods singly or in combination. As the collection issues outlined above illustrate, remittances can take many forms, and more than one method is often needed to construct comprehensive estimates.

**11.43** An ITRS regularly collects data from banks (and possibly from enterprises) on transactions with non-residents. These systems often grew out

<sup>42</sup> The Center for Latin American Monetary Studies has also issued a guide, *Best Practices for the Compilation of International Remittances, 2006*. This guide is primarily intended for Latin American countries, but a number of its recommendations can be applied more broadly.

of foreign exchange control systems and today are commonly used to collect data on international financial transactions. ITRS vary in their degree of coverage, ranging from those that attempt to capture all transactions individually regardless of size to those that collect detailed data on only the major transactors and allow aggregated reporting for small transactions. They also vary in timeliness; data may be reported electronically at the time of transaction, or manually at less frequent intervals. For collecting remittance data, more detailed and timely reporting is, of course, preferable. However, collecting data on remittances is not the primary purpose of ITRS systems, and the systems often cannot be altered to fit the needs of remittance data compilers.

**11.44** Where they exist, ITRS can be an important source of data on remittances sent through formal channels, including licensed MTOs, whose international transactions are often conducted through the banking system. Because the ITRS system is already in place and legally enforced, this method of data collection usually is highly cost-effective and accurate. ITRS data are also comprehensive in that they cover all categories of remittances sent through formal channels, including social benefits and transfers to NPISHs.

**11.45** ITRS, however, often cannot provide the level of detail required by compilers. In systems with reporting thresholds, a significant portion of the data on remittance flows may not be collected. Within the data that are captured, it may be impossible to distinguish remittances from other small transactions, or to distinguish among the different categories of remittances, especially in systems that allow for the aggregation of transactions. Because an ITRS only captures those transactions actually settled through the financial system, the data will not reflect the gross flow of remittances if institutions net their transactions prior to settlement. In addition, in countries that are international banking centres, ITRS may over-report remittances to the extent that these transactions transit through the national financial system. Finally, ITRS cannot capture informal or in-kind transfers, both of which are substantial in many countries.

**11.46** Another method of data collection is a direct survey of MTOs.<sup>43</sup> This method is similar to ITRS in that the data are reported by a financial intermediary rather than by the sender or

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<sup>43</sup> The *Remittances Guide* notes that this method can also be applied to other remittance intermediaries, such as banks and hawala operations.

recipient. Unlike ITRS, the direct survey method gives compilers control over the level of detail collected, allowing them to overcome some of the problems encountered when using ITRS. Specifically, compilers can request that MTOs report gross rather than net transactions and can set thresholds low enough to capture the majority of remittance transactions. In countries where MTOs are required to collect information on the purpose of transactions, compilers may be able to collect data on remittances separately from other small transactions.<sup>44</sup> Compilers may also be able to collect information on the cost, number and frequency of transfers, which is useful in understanding the nature and impact of remittances. If MTOs are the dominant transfer vehicle, a direct survey may allow compilers to collect the majority of transfer data in an accurate, timely and cost-effective manner. The case studies on cross-border remittance statistics in Russia and the Netherlands (annexes 11.1 and 11.5) present data collected from MTOs.

**11.47** Despite these advantages, data collected from MTOs are unlikely to capture the full range of remittance-type transactions. MTOs are primarily a vehicle for personal transfers and cannot serve as a source of data on the other components of remittances. Short-term workers may remit some of their compensation through MTOs prior to their return home. However, these transfers are considered part of compensation of employees, and it is unlikely that MTOs will be able to distinguish between transfers made by short- and long-term migrants. A survey of MTOs will not capture informal and in-kind transfers. Finally, where information on the purpose of the transfer is not collected, MTOs will be unable to distinguish personal transfers from other small financial transactions. To overcome these final complications, compilers may conduct periodic sample surveys of MTO users to determine what percentage of transactions are transfers.<sup>45</sup>

**11.48** Moving from surveys of financial intermediaries to surveys of senders and recipients leads to the method that may have the potential to produce the most comprehensive and detailed remittance statistics, namely a household survey. Focused on the units whose support is at the heart of the remittances concept, a well-designed

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<sup>44</sup> National regulations, particularly those focused on combating money laundering and the financing of terrorism, often determine what information MTOs are required to collect from their customers.

<sup>45</sup> Another option is to assume that all transactions below a certain amount are personal transfers, although this can be expected to overstate remittances.

household survey can collect data on all transfer channels and all remittance categories, although some categories can only be collected from recipients. Household surveys can collect receipts and payments of personal transfers, net compensation of employees (provided the worker, or some member of his or her household, is present in the economy when the survey is conducted), and transfers to NPISHs. However, information on social benefits is only available from recipient households, and surveys of households will not cover institutional payments to NPISHs.<sup>46</sup> Household surveys can also collect supplementary data on the demographic profiles of senders and recipients and on the use and impact of remittances. The case study on the labour migration survey in Ukraine (annex 11.2) presents data on remittance flows and the demographic profile of remitters collected by a household survey.

**11.49** There are, however, significant difficulties in implementing household surveys. One of the most important is cost, which increases with the sample size. In most countries migration is a relatively rare event, necessitating a large sample size to ensure that the survey captures a representative group. One way of mitigating this cost is to build a focused sample frame by including a test question in a broadly-based existing survey to identify households engaged in remitting. Another is to limit the scope of the survey to those aspects of remittances that cannot be collected using other methods.

**11.50** Household surveys are also particularly vulnerable to reporter error. Such errors may be unintentional, resulting from a lapse in memory or misunderstanding of the survey questions. Carefully constructed survey questions that clearly explain the types of transactions and time period for which data are being collected can diminish these errors, although additional questions will also increase costs. Reporter errors may also be intentional, especially when the questions concern finances. Remittance senders may overstate the amount sent in an attempt to make themselves appear more generous, while recipients may understate their receipts to prevent additional taxation or for security reasons.

**11.51** Other disadvantages of household surveys include the lack of timeliness and difficulties in surveying unauthorized, transitory, or seasonal populations. The difficulty in surveying the

migrant population may make household surveys a less useful tool in migrant-receiving countries than in migrant-sending countries.

**11.52** The final method of compilation, the model-based approach, moves away from collecting data on actual transfers and instead uses information on other economic and demographic factors to estimate remittance flows. Models offer a cost-effective way to compile comprehensive statistics, particularly in countries where remittances flow through many channels. Although they are most commonly used to compile statistics on personal transfers, models can also be designed to cover other remittance categories.

**11.53** There are two main modelling approaches, econometric and demographic.<sup>47</sup> Econometric models construct a mathematical relationship between remittance flows and various explanatory variables, such as GDP, per capita income, the exchange rate, interest rates, and the size of the migrant population. Demographic models take demographic data collected in censuses or other surveys and apply either an average amount remitted or a percentage of income remitted to the relevant population. For implementation, both types of models require some information about the size and characteristics of remittance transfers; however, this information can come from a one-time or infrequent survey, partner country data, or academic studies, greatly reducing the burden of data collection. The case study on estimates of remittances in the Czech Republic (annex 11.3) outlines the demographic model used to estimate remittances, and the case study on Bulgarian experience in developing estimates for remittances (annex 11.4) describes the model used by Bulgaria to estimate compensation of employees.

**11.54** As with the other methods, there are weaknesses in the model-based approach. Because models are built around the assumption of fixed relationships among variables, they are especially vulnerable to changes in patterns of remitting behavior. Models are also highly reliant on good source data. This is a particular concern for demographic models in countries where there is a large unauthorized population for which it may be difficult to obtain accurate data. Finally, because the resulting estimates are not based on actual flows, model outputs are difficult to verify.

**11.55** In addition to these four compilation methods, remittance-related data, especially for

<sup>46</sup> Transfers from domestic NPISHs to foreign NPISHs or foreign households may be collected through a survey of NPISHs.

<sup>47</sup> A third method, the residual model, assumes that remittances account for the majority of imbalances in external flows.

the broader components, may also be available from other sources. Government agencies managing visa and social security programmes often have administrative data on visa holders, employers, or social security payments abroad that compilers can use to estimate compensation and social benefits. Data on social benefit payments may also be available from public financial or tax filings of firms or pension funds. In some countries, private firms or non-profit organizations conduct research into migrant populations, private giving or other aspects of remittances, the results of which may be available to compilers.

**11.56** Countries may also be able to set up data exchanges with major remitting partners to collect data they are not able to collect themselves. The adoption of guidelines from the BPM6 and the *Remittances Guide* should increase the opportunities in this area by providing a set structure for organizing and publishing remittance estimates, allowing nations to check their remittance figures against those of their major partners. A supply and use (SU) framework may be useful in making these comparisons and testing the assumptions made in estimating remittances and related national accounts.

**11.57** To determine which method, or combination of methods, is most appropriate for a country, data compilers must be knowledgeable about their remittance market, including the prominent transfer channels and the characteristics of the relevant population. Where significant amounts of remittances travel through informal channels, a survey of MTOs will not provide a complete measure of personal transfers. Countries with a substantial unauthorized population will have difficulty using household surveys. To a large extent, knowing the market determines the collection method. Mexico, for example, combines direct reporting from MTOs and financial institutions with estimates of hand-carried transfers based on a monthly survey of international travellers. This method captures data on the two major transaction channels for transfers to Mexico.<sup>48</sup>

**11.58** Different methods are also often needed to collect data on different remittance categories. Although some countries may be able to collect the majority of personal transfers data from MTOs, other methods will need to be employed to collect data on compensation of employees. As an

example, the United States uses demographic models to calculate personal transfers and compensation of employees, administrative data from the US government for social benefit payments, and a survey of non-profit organizations, supplemented with data collected by the US government and a private organization, to calculate payments by NPISHs.<sup>49</sup> The use of different methods is further illustrated in the country case studies (annexes 11.1-11.5).

**11.59** Regardless of the methods employed, compilers need to stay abreast of new developments in the transfer market. Financial and technological innovations are continually expanding the transfer options available to remitters. Mobile banking - and with it mobile transfers - is increasingly popular in many countries, as are linked bank accounts, debit cards, and internet-based transfers. Current compilation methods may fail to capture transfers sent through these new channels. Changes in the demographic profile of the remitting population, such as age, origin, and legal status, may also affect the ability of a collection method to produce accurate estimates, as can changes in national financial regulations.

## Ongoing activities and recommendations for future work

**11.60** Work on improving remittance data continues at the international level. At the June 2008 Summit at Hokkaido Tokyo, the G-8 announced the creation of a Global Remittances Working Group (GRWG), coordinated by the World Bank, to carry forward international work on remittance issues. The GRWG is divided into four thematic areas, the first of which is "Data".<sup>50</sup> In June 2009, an International Technical Meeting on Measuring Remittances was held in Washington, DC to further refine the work program for the "Data" area. Participants proposed creating a new technical working group focused on improving remittance data that would meet annually to oversee and promote global and regional efforts to improve data, including the provision of technical assistance, and the exchange of metadata and

<sup>48</sup> See the website of the first meeting of the Luxembourg Group for information about collection methods in other countries at <http://www.imf.org/external/np/sta/bop/2006/luxgrp/060106.htm>.

<sup>49</sup> In August 2008, the US Census Bureau conducted a survey of remitting behaviour as a one-time module attached to the monthly current population survey. The Bureau of Economic Analysis will explore the potential for the results of this survey to be used to refine the demographic model that it uses to estimate personal transfers.

<sup>50</sup> The other areas are "Interconnections with migration, development, and policy," "Payment and market infrastructure," and "Remittance-linked financial products and access to finance."



bilateral data. In addition, the GRWG is in the process of creating a website to serve as a global repository for detailed metadata, bilateral data, and the results of ongoing research.

**11.61** Despite their potential power, until recently only limited work was done to develop household surveys as a tool for collecting remittance data. In an effort to address this knowledge gap, in January 2008 the UN Economic Commission for Europe (UNECE), World Bank, and US Census Bureau sponsored an Expert Group Meeting on the Contribution of Household Surveys to Measuring Remittances. Meeting participants have since formed the Task Force on Improving Migration and Migrant Data Using Household Surveys and Other Sources (the Suitland Working Group). Operating under the Conference of European Statisticians' Work Plan on Improved International Migration Statistics, this group will further examine these issues as well as the broader topic of using household surveys to measure migration. At a conference in March 2009, the Suitland Working Group further refined its work plan. Areas of focus include creating a draft module on migration and remittances to be included in nationally representative household surveys, linking administrative data with survey data, addressing data quality issues, and developing an online repository of household survey questionnaires.<sup>51</sup>

**11.62** At the regional level, the UNECE can support these continuing efforts by providing technical assistance for improved data collection and the conversion to BPM6 definitions. Several regional institutions, including the Center for Latin American Monetary Studies, the IMF Middle East Technical Assistance Center, and the Statistical Office of the European Union (Eurostat), have conducted programmes to improve remittance data collection in member countries. UNECE members that have difficulty adjusting to the new BPM6 definitions, or that do not currently have adequate data collection methodologies, may benefit from assistance provided by the UNECE to refine or develop collection methods.

**11.63** Bilateral data sharing is another area where a regional UNECE initiative may be effective. Because migration is often a regional phenomenon, the sharing of data within a regional group can highlight asymmetries between major partner countries, which the countries concerned can then examine within the context of the larger region. The development of a centralized remittance database, either publicly available or restricted, may facilitate data sharing, and the development of an SU framework may facilitate the analysis of the data.

**11.64** Finally, as mentioned above, continued research is needed into emerging transfer methods and changes in the demographic profile of the remitting population. Research should be conducted at the national and regional levels to capture both country-specific developments and regional changes.

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<sup>51</sup> For additional information, see the conference website at <http://www.unece.org/stats/suitland/suitland.html>.

## Annex 11.1

### Cross-border remittance statistics in Russia

#### Introduction

**11.1.1** Russia tops the list of emerging market economies in terms of the number of migrants in its territory, while in terms of the value of remittances it is second only to the United States. Calculated on the basis of balance of payments data,<sup>52</sup> the value of remittances from Russia in 2007 stood at \$18 billion, or 7 per cent of the world's total.

**11.1.2** This annex illustrates some practical and methodological approaches adopted by the Bank of Russia in developing a statistical framework for cross-border remittances.

#### Statistics on cross-border transactions of individuals

**11.1.3** In 2004 the Bank of Russia initiated data collection on cross-border transactions of natural persons as part of its continuing effort to improve the quality of Russia's external sector statistics. The reporting population covers banks, MTOs and Russia's Federal Postal Service. The resulting database includes information on all international transactions of individuals, including remittances.

**11.1.4** In 2008, individuals' cross-border transactions (flows to Russia plus flows from Russia) were valued at \$51.9 billion, the equivalent of 3.1 per cent of Russia's GDP. Outflows exceeded inflows by \$30 billion (1.8 per cent of GDP).

**11.1.5** Remittances are only part of this indicator because the latter includes data on (i) flows to Russia (or from Russia) in favour of (or from)

resident individuals and non-resident individuals, and (ii) payments related to merchandise trade, trade in services, financial transactions, etc.

**11.1.6** The cross-border transactions statistics have attracted a wide range of users. The transactions show the interdependency of different economies. And they allow evaluation of the extent of households' involvement in banking sector transactions. The data also allow some assessment to be made of financial literacy, and help banks and MTOs to determine their shares in the money transfer market.

**11.1.7** Taking into consideration the great interest shown by banks and the media, the Bank of Russia has begun to publish statistical data on cross-border transactions on a quarterly basis. At present, users are particularly interested in data on the value of private cross-border transactions conducted through MTOs and the postal service. These data are disseminated as received; they come directly from banks that have clearing centres for MTOs, from MTOs that do not have clearing banks in Russia, and from reports on postal remittances.

**11.1.8** Comparison of Bank of Russia data on cross-border transactions conducted via MTOs with mirror statistics provided by Georgia and Tajikistan shows broadly similar results (discrepancies in 2007 ranged from 2 to 5 per cent (table 11.1.1)).

#### Economic definition of remittances

**11.1.9** The principal methodological problem the Bank of Russia faced was distinguishing between

**Table 11.1.1 Comparison of cross-border remittances**

	<i>\$ millions, and per cent</i>	
	<i>2006</i>	<i>2007</i>
Remittances from Russia to Tajikistan		
Bank of Russia data	957	1,632
National Bank of Tajikistan data	934	1,560
Discrepancy	3%	5%
Remittances from Russia to Georgia		
Bank of Russia data	344	558
National Bank of Georgia data	369	545
Discrepancy	-7%	2%

<sup>52</sup> The sum of the following balance of payments items: workers' remittances, compensation of employees and migrants' transfers.

remittances and other cross-border transactions of individuals due to the lack of a single economic definition of remittances. The latest

recommendations of international organizations and statistical fora are a major advance. The Bank of Russia believes that the aggregates introduced at the international level, such as personal remittances and total remittances, are a good statistical approximation to the definition of remittances.

**11.1.10** In the view of the Bank of Russia, and in agreement with international standards, remittances are:

- a. Resource flows from abroad to resident households of financial and other economic values related directly or indirectly to labour migration.
- b. Resource flows from resident households of financial and other economic values related directly or indirectly to labour migration.

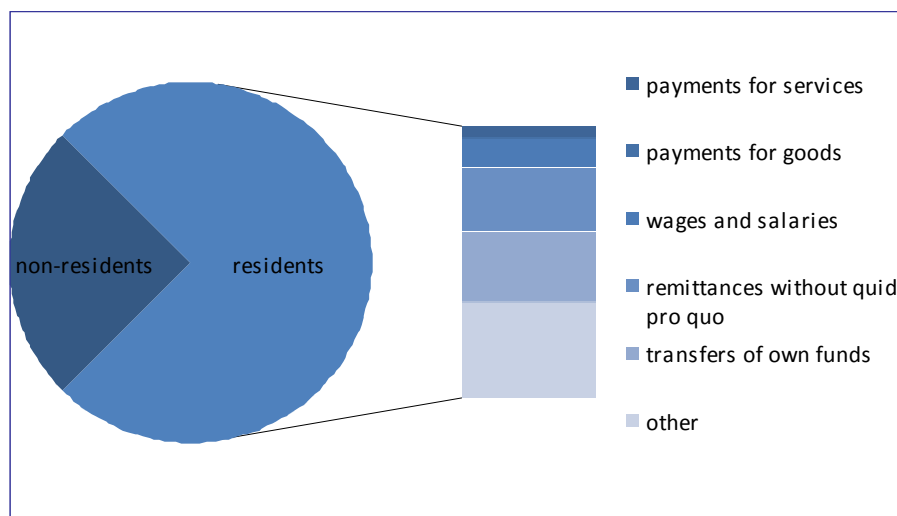
**11.1.11** Consequently, there are two major factors that should be taken into account when defining remittances: the final beneficiary (the household), and the fact that the movement of economic values is related to labour migration.

**11.1.12** In order to measure remittances, the Bank of Russia has disaggregated the indicators from the bank statements on individual cross-border transactions. The transactions have been divided into non-resident and resident, the latter being further broken down by purpose.

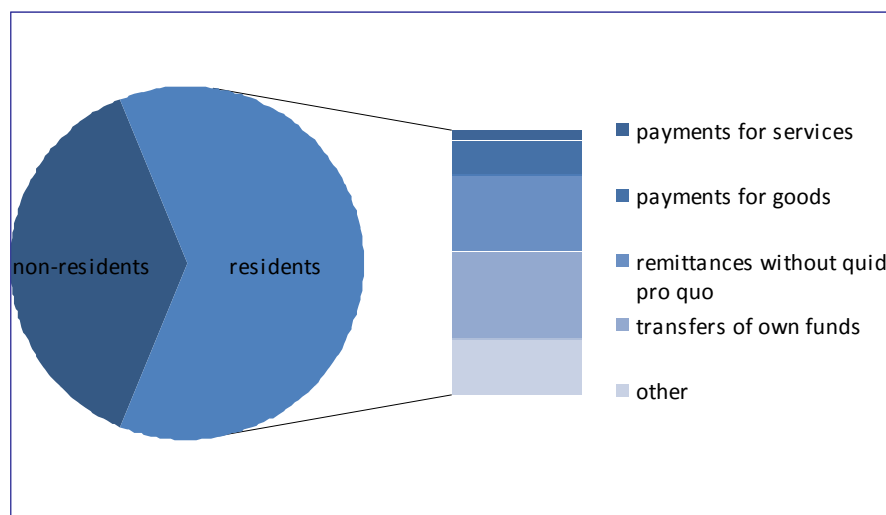
**11.1.13** The problems are that too many cross-border transfers remain unclassified (18 per cent of payments and 33 per cent of receipts), and too many people have dual citizenship.

**11.1.14** The breakdown by country allows better

**Chart 11.1.1 Money transfers to the Russian Federation in favour of individuals**



**Chart 11.1.2 Money transfers abroad from individuals in the Russian Federation**

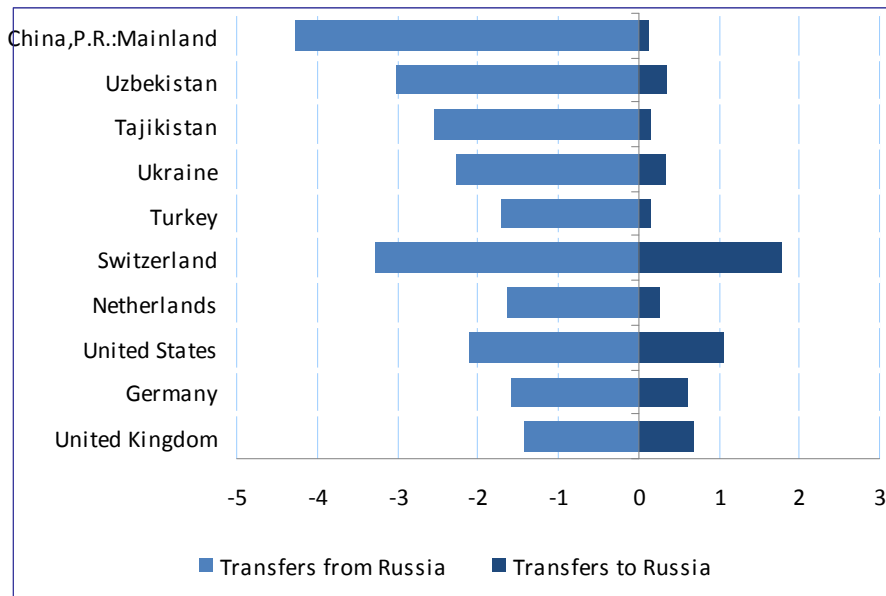


analysis of data for the purpose of determining remittances in the true sense. Transfers to Uzbekistan, Tajikistan and Ukraine (amounting to \$7.8 billion in 2008, the equivalent of 0.5 per cent of Russia's GDP) seem likely to represent part of compensation of employees paid to migrant workers from these countries. This is confirmed by frontier control service data on the number of people who entered Russia, and data on average earnings.

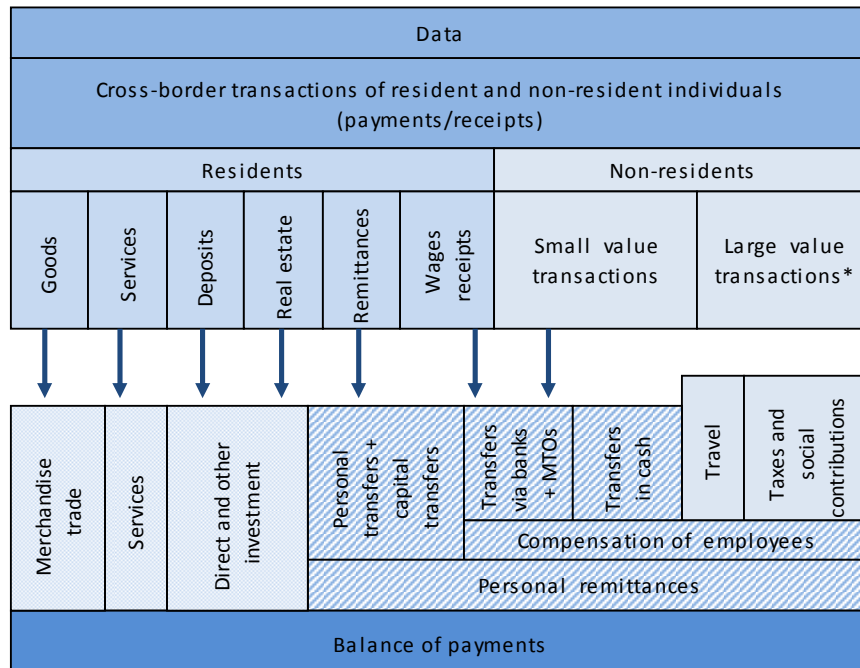
**11.1.15** At the same time, Russia's negative balance with China (estimated at \$2.4 billion) is not supported by data on the number of Chinese nationals in Russia. Research suggests that some remittances to China declared by individuals as transfers without quid pro quo represent payment for imports brought to Russia without being cleared by customs.

**11.1.16** Large transfers are also a problem. It is common practice in Russia for unincorporated

**Chart 11.1.3 Cross-border transactions of individuals: data on top ten countries in 2008, \$ billions**



**Chart 11.1.4 Breakdown of cross-border transactions**



\*Merchandise trade

entrepreneurs to pose as private individuals and remit through MTOs payments related to merchandise trade. Declared as personal transfers to the banks and reported by them accordingly, such transactions involve considerable funds. Consequently transfers exceeding \$5,000 have been excluded from household-to-household remittances.

**11.1.17** The work has resulted in the separation of remittances from other individual cross-border transactions.

### Personal remittances

**11.1.18** "Personal remittances" is a supplementary item introduced in BPM6.

**11.1.19** Personal remittances are the sum of:

- Secondary income in the form of personal transfers.
- Primary income in the form of compensation

of employees (less taxes, social contributions, transport and travel).

c. Capital transfers between households.

**11.1.20** In Russia the item personal remittances has been calculated using balance of payments data.

**11.1.21** As a result of these calculations, personal remittances proved to be 10 per cent smaller on average than when calculated according to the BPM5 methodology. Deducting expenses incurred by foreign workers in the host country accounts for most of the decrease.

**11.1.22** The compilation of the new item was not challenging from the standpoint of determining net compensation of employees, because estimates of taxes and social contributions paid by temporary workers and the export and import of travel services were made regularly. Total compensation of employees has been estimated using statistical

**Table 11.1.2 Comparison of measures of personal remittances in BPM5 and BPM6, \$ billions**

	2004	2005	2006	2007	2008
<b>A. BPM5 framework (standard components related to remittances)</b>					
Income - compensation of employees					
Receivable (credit)	1.2	1.8	1.9	2.6	3.8
Payable (debit)	-1.5	-2.9	-6.1	-9.9	-18.0
Current transfers - other sectors					
Workers' remittances					
Receivable (credit)	0.9	0.6	0.8	0.9	0.8
Payable (debit)	-2.7	-3.1	-4.6	-6.9	-7.3
Capital account – migrants' transfers					
Receivable (credit)	0.4	0.6	0.7	1.2	1.4
Payable (debit)	-1.1	-1.0	-0.8	-0.9	-0.9
Remittances (credit)	2.5	3.0	3.3	4.7	6.0
Remittances (debit)	-5.2	-7.0	-11.5	-17.8	-26.1
<b>B. BPM6 framework (components related to remittances)</b>					
Personal remittances (supplementary item)					
Personal remittances (credit)	1.8	3.0	3.4	4.3	5.3
Net compensation of employees (receivable)	0.9	1.4	1.5	2.2	3.4
Compensation of employees (standard component)	1.2	1.8	1.9	2.6	3.8
less					
Taxes on income (paid to non-residents)	-0.1	-0.2	-0.1	-0.2	-0.2
Travel (import)	-0.2	-0.2	-0.2	-0.2	-0.3
Personal transfers (standard component)	0.9	1.6	1.9	2.1	1.9
Workers' remittances	0.9	0.6	0.8	0.9	0.8
Other household-to-household transfers	0.0	1.0	1.2	1.2	1.1
Personal remittances (debit)	-3.5	-5.8	-9.7	-16.2	-23.8
Net compensation of employees (payable)	-0.9	-1.9	-3.6	-6.3	-12.3
Compensation of employees (standard component)	-1.5	-2.9	-6.1	-9.9	-18.0
less					
Taxes on income (received from non-residents)	0.1	0.2	0.3	0.6	1.2
Travel (export)	0.5	0.9	2.2	3.0	4.5
Personal transfers (standard component)	-2.7	-3.9	-6.0	-9.9	-11.6
Workers' remittances	-2.7	-3.1	-4.6	-6.9	-7.3
Other household-to-household transfers	0.0	-0.8	-1.5	-3.0	-4.3

modelling techniques, using data on the number of residents temporarily employed in a foreign economy and the number of non-residents working in Russia (collected quarterly by the migration service) multiplied by the average income broken down by activity for non-resident employees and by country and activity for resident employees. Certain items are then deducted (i) estimated spending on accommodation, meals and other goods and services, and (ii) tax payments according

in the form of cash taken out of the country as "pocket" money or passing through third persons, and transfers in kind, are not registered in the secondary income account of Russia's balance of payments.

b. To publish personal remittances by country as supplementary statistical information to the balance of payments.

c. To include the institutions which make

**Table 11.1.3 Compensation of employees**

Compensation of employees= number of employees	Travel (living costs, food, other current expenses) Taxes on income and social contributions
x	Remittances of non-residents via banks and MTOs
average wage/salary	Cash remittances of non-residents

to a flat personal income tax rate set in Russia and the weighted average tax rate for foreign countries. This approach allows net compensation of employees to be determined, split between funds remitted formally via banks (actual data taken from the banking statistics) and informal cash transfers as a residual.

**11.1.23** This model, given the size of Russia's territory, does not take into account temporary workers' transport expenses, as this is important only for border workers who regularly (daily or weekly) bear such expenses. Russian resident workers stay abroad and non-resident workers stay in Russia for 3-6 months on average.

**11.1.24** The item personal transfers (workers' remittances and other current transfers between households) has been taken as equal to: (i) the household-to-household remittances without quid pro quo reported by banks and MTOs, plus (ii) estimated transfers made by those non-residents (and estimated transfers in favour of those non-residents) whose legal and statistical residency status differ.

**11.1.25** Bank reporting cannot identify capital transfers, which are included with other current transfers between households.

**Further developments**

**11.1.26** To expand the coverage of remittance statistics, the Bank of Russia plans:

a. To estimate the value of transfers from Russia through hand-carry. Cash transfers by non-residents (temporary workers) form part of compensation of employees, but resident transfers

electronic transfers via the internet in the reporting population. Transfers from one electronic purse to another are a new way of making remittances, with few users so far. However, the advantages of this channel call for the organization of data collection. In Russia these transactions are conducted by unlicensed institutions which are not obliged to provide detailed statistics. The Bank of Russia is aware that illegal transfers (money laundering, etc.) may pass through these systems.

d. To compile mirror statistics with major recipient countries.

**Conclusion**

**11.1.27** Remittances are a topical issue in the era of globalization, and the statistical monitoring of them should be elaborated. It will be useful to study this phenomenon not only from the standpoint of the impact of remittances on the economies that supply migrant workers, but also for the effect that migrant workers have on the economic development of host countries, knowledge of which would help to raise the social status of migrants and improve their working conditions.

## Annex 11.2

### Migrant workers' earnings and remittances: results of a labour migration survey in Ukraine

**11.2.1** In Ukraine, considerable information on personal remittances has been obtained in the framework of the project "*Labour migration survey in Ukraine*".<sup>53</sup> In June 2008, the State Statistics Committee of Ukraine (SSCU) and the Ukrainian Centre for Social Research conducted the survey, which was the first country-wide labour migration sample survey addressed to households. In the rest of this annex it is called the labour migration survey.

**11.2.2** The methodology of the survey and its organizational principles are aligned with current international statistical recommendations.<sup>54</sup> The survey was based on a sample of households merging the samples used for two government surveys, namely the labour force survey and the household living conditions survey. The size of the sample allows representative data to be obtained for the country as a whole and for each of the five broad regions (North, Centre, South, East, West).

**11.2.3** Assessment of real earnings of migrant workers is the most complex matter in sample surveys, largely because migrants are often unwilling to respond openly to questions related to earnings. A considerable proportion of migrant workers operate under pseudo-legal or illegal employment schemes.

**11.2.4** The methodology to estimate the actual amounts of migrant workers' earnings and remittances was based on labour migration data as well as on the ILO and Eurostat data on earnings of Ukrainian economic migrants in receiving countries.

**11.2.5** Earnings of migrant workers depend on:

a. The number of migrant workers and their distribution by cohorts (depending on host country and activity area).

b. The amount of work available (on average) to the representatives of each selected cohort of migrant workers.

c. The wages of migrant workers in each cohort.

**11.2.6** Using the adopted methodology, amounts of earnings and remittances are estimated for the year 2007. Labour migration survey data on the number of migrants going abroad in 2007 and the first half of 2008 were used for the calculation.

**11.2.7** A limited selection of countries and activities are considered representative of earnings of migrants in other countries and other activities. Seven main countries hosting Ukrainians working abroad (the Russian Federation, Italy, the Czech Republic, Poland, Hungary, Spain and Portugal) and seven main activities (agriculture, industry, construction, wholesale and retail trade, hotels and restaurants, transport and activities of households) were chosen.

**11.2.8** Remittance amounts (including bank transfers, money sent by informal channels and money taken back when migrants return to their home country) depend on both earnings and the cost of living in host countries. According to the survey findings, 22.5 per cent of migrants' earnings are spent in the countries of temporary residence. Transport costs of going abroad and back must be taken into account: in practice, migrants often use low-cost transport, and those working in more distant countries tend to go abroad for a long period. Thus remittances account for 70 per cent of total earnings, over €1.3 billion.

**11.2.9** About half of Ukrainian migrant workers originate from six western regions (Volyn, Zakarpattia, Ivano-Frankivsk, Lviv, Ternopil, and Chernivtzi). The remittances sent to households in these regions amount to around €700 million, the equivalent of over 20 per cent of the payroll in these regions. In Zakarpattia region (the territory with the highest prevalence of labour migration) remittances exceed half of the local payroll.

**11.2.10** People working abroad usually resort to strict economy. According to the survey data, 66.1 per cent of migrant workers spent in the host country less than a quarter of their earnings, and 29.9 per cent between a quarter and a half. Only

<sup>53</sup> A discussion of this survey from the perspective of labour movement may be found in Chapter 10 on international labour movements, annex 10.5.

<sup>54</sup> It is recognized that the methodology described in this annex allows only approximate estimation of the earnings and remittances sent by migrants to their families and relatives in Ukraine. However, these estimates are consistent with the reality. More accurate estimations of remittances sent by Ukrainian migrant workers will require more detailed studies including surveys improving the base used for calculations.

4.0 per cent of Ukrainians working abroad spent more than half of their earnings.

**11.2.11** Expenditures also depend on the legal status of migrant workers. Persons having a residence and work permit spent abroad a larger share of their earnings than illegal migrants, possibly because illegal migrant workers have uncertain status and have no plan (or possibility) to stay long in the host country. They save as much as they can in the time available. Considerable consumption expenditure coupled with a stable legal status could be evidence of an intention to reside abroad for a longer period, perhaps permanently. 3.2 per cent of men and 5.8 per cent of women spend abroad more than half of their earnings, which could suggest that some Ukrainians working abroad plan a longer or permanent migration.

**11.2.12** Expenditures largely depend on living costs and the period of stay in the host country. The longer the stay, the higher the expenditures for settling. Migrants working in Hungary, Poland and the Russian Federation had the lowest expenditures - 78.9, 76.9 and 72.0 per cent respectively of all migrants in these countries spent less than a quarter of their earnings. By contrast only 28.4 per cent of migrants in Spain, 49.1 per cent in Italy, and 55.7 per cent in Portugal spent such a small proportion of their earnings, reflecting higher living costs and the likelihood of longer continuous employment in these countries.

**11.2.13** 61.1 per cent of migrant workers sent money from abroad to their families in Ukraine. This does not mean that other migrant workers did not support their relatives. However, the distribution by host country reveals that migrants sent money to their relatives primarily from distant countries (Spain - 81.8 per cent, Italy - 78.6 per cent, Portugal - 71.3 per cent). Most migrants working in Hungary and Poland did not send money to their relatives. Approximately half of migrants working in the Russian Federation sent a portion of their earnings.

**11.2.14** The assumption is that migrants working in neighbouring countries transfer what is left of their earnings personally when returning to Ukraine.

**11.2.15** A higher proportion of men (62.3 per cent) than of women (58.8 per cent) send a portion of their earnings to Ukraine, though women make up a larger proportion among migrants in the countries from which the funds are remitted. This is evidence of a weakening of ties between women migrants and the home country.

**11.2.16** Persons who have a formalized legal status remitted a somewhat larger amount to Ukraine than migrants without a legal status, though their expenditures in the host country were also higher. On average in 2007 migrants with a residence and work permit remitted \$2,831. This is attributed to higher earnings in this cohort of migrants. At the same time migrants without legal status or whose status was not defined sent on average \$2,551 and \$2,511, respectively.

**11.2.17** Migrants working frequently abroad remitted markedly larger amounts. Migrants who went to work abroad once in 2007 remitted \$2,353 on average, whereas those who went to work abroad several times remitted \$2,821. Those who regularly went abroad to work every month remitted as much as \$3,451 in 2007 (probably a certain share was of a trade and business nature).

**11.2.18** Migrants spend most on essentials (foodstuffs, clothes and services) as reported by 72.0 per cent of migrant workers. The second heading is durables (39.3 per cent), and the third, purchase and reconstruction of property (apartments, houses), and new construction (29.1 per cent). Less frequently earnings were used to pay for studies by household members (12.4 per cent), loan repayment (10.4 per cent), savings (9.7 per cent), and medical treatment (6.5 per cent).

**11.2.19** Migrant workers' earnings sent to Ukraine contribute considerably to the quality of life in Ukraine.

**11.2.20** On the whole, 1.33 million households (or one in two surveyed) in 2007 received aid from abroad in cash or in kind, predominantly from family members and relatives; only 4.5 per cent received aid from friends and other acquaintances. Households received 89.2 per cent of the aid in cash, on average amounting to \$2,207 per household in 2007. The amount of aid to rural residents was 1.4 times that to urban residents.

**11.2.21** Cash aid contributed on average 42.6 per cent to household aggregate income.

**11.2.22** Welfare of households with migrant workers is largely secured by their work abroad. Thus 62.5 per cent of households perceived as wealthy received from migrants almost a half of their incomes. In the group perceived as mid-wealthy, such households made up 41.6 per cent. And for the group below mid-wealthy, such households accounted for only 36.6 per cent.

**11.2.23** A relationship can be observed between the level of wealth and amounts of cash aid



received. One in three households perceived as mid-wealthy and one in two households perceived as below mid-wealthy or poor in 2007 received on

average up to \$1,000. At the same time, one-third of wealthy households received \$2,001-\$3,000, and one-third over \$5,000

## Annex 11.3

### Estimates of remittances in the Czech Republic

#### Introduction

**11.3.1** The Czech Republic has experienced a large inflow of foreign workers in recent years. Capturing the remittances of immigrants to their countries of origin in the national accounts and balance of payments has thus become important.

**11.3.2** The direct cause of the transfer of responsibility for remittance estimates from the Czech National Bank (CNB) to the Czech Statistical Office (CSO) was higher thresholds for obligatory identification of transactions by commercial banks, and increasingly popular use of credit cards. The former method of estimating remittances became ineffective because the remittance flows captured through the formal financial system (banks, credit unions and licensed MTOs) represented only a small portion of total remittances. Flows through formal channels do not allow full coverage of all transactions, and combining tourists' and migrant workers' money transfers means that the purpose of transactions cannot be properly identified. Moreover, data on flows through formal channels do not differentiate between short- and long-term migrants, which is important for the distinction between primary and secondary income flows. Currently, remittances can be estimated only by using statistical methods combining various information sources. However, the CSO has not accumulated sufficient experience in this area. Work has accordingly focused on the labour of foreigners in the Czech Republic, for whom the CSO has developed a general procedure to estimate income, expenses and remittances to their countries of origin. This aspect of remittances is the subject of this annex.

#### Estimate of foreigners' labour in the Czech Republic and remittances to their countries of origin

**11.3.3** Following the first attempts from the late 1990s, the current approach to the estimates is focused on full coverage of the basic requirements of national accounts, balance of payments, and supply and use (SU) tables. Each of the three areas has specific requirements. National accounts require a distinction between primary and secondary income and a focus on gross wages (compensation of employees, taxes, and contributions to social and health insurance systems). Apart from the principal requirements of

national accounts, the balance of payments needs also a territorial breakdown, according to the main (groups of) countries of origin. The consumption and export of goods by short-term migrants needs to be divided according to commodities in the input-output tables and SU tables.

**11.3.4** The CSO's approach to the estimation procedure is based on these requirements. The description of the procedure below is limited to one direction of remittance flows - the flows from the Czech Republic to foreign countries. These flows include only those from migrant workers, and not from Czechs. The estimation procedure can be divided into four stages: (1) the number of foreigners working in the Czech Republic, (2) their income, (3) their expenses in the Czech Republic, and (4) their remittances. The sources and methods for estimating the number of foreign workers are explained in annex 10.1 to Chapter 10 on international labour movements. The remaining steps are outlined below.

#### Estimates of income of foreigners working in the Czech Republic

**11.3.5** Foreigners working in the Czech Republic are put into two categories, namely (a) employees, and (b) "entrepreneurs", or self-employed persons (who do not have an employment contract with a resident employer). Different approaches are necessary to estimate their income.

a. The estimates for employees are based on data on average wages of foreigners from statistical surveys conducted for the CSO by Trexima (a private agency). The data are structured according to the countries of origin. However, they are not structured according to the fields of activity, income groups and type of stay (long-term, short-term, and illegal), and activity and income breakdowns (as made by the CSO) cannot be regarded as reliable. In case of workers staying in the country for a short time (non-residents), the estimated gross wage is used to derive the contributions to social and health insurance systems and income taxes. In case of illegal workers, the contributions and taxes are not calculated, so the gross wage is regarded as the net wage.

b. The estimates for entrepreneurs aim to quantify the net income remaining for personal expenses and any remittances to their countries of origin.

**Table 11.3.1 Monthly incomes and expenditures of foreigners working in the Czech Republic, 2006, in koruna**

	<i>Euro area</i>		<i>Other EU</i>		<i>Non-EU</i>		<i>Total</i>
	<i>Total</i>	<i>Managers</i>	<i>Total</i>	<i>Slovakia</i>	<i>Total</i>	<i>Ukraine</i>	
Number of persons	10,439	7,704	100,908	84,125	98 594	57,674	209,941
Wages and salaries, gross	43,663	59,603	32,009	22 958	24,645	18,958	28,443
(-) Employees' social contributions	-3,506	-5,458	-7,450	-4 001	-2,870	-3,080	-2,370
(-) Taxes on income	-4,250	-8,012	-12,358	-5 032	-2,623	-3,107	-1,887
Wages and salaries, net	35,907	46,133	12,201	13 924	19,152	12,770	24,187
Individual consumption expenditure	16,884	17,206	7,182	7 471	4,666	4,220	6,482
of which:	3,659	4,297	1,792	1,837	1,286	1,261	1,647
1.Food, non-alcoholic beverages.	1,911	2,218	860	880	618	600	799
2.Alcoholic beverages, tobacco	1,458	1,797	348	339	252	241	358
3.Clothing and footwear	4,369	2,961	1,987	2 220	879	570	1,585
4.Housing, water, electricity, gas, etc.	524	597	182	182	107	103	163
5.Furnishings, household equip., etc.	166	183	79	83	48	45	69
6.Health	510	305	614	640	394	375	506
7.Transport	135	19	122	138	64	47	96
8.Communication	2,027	2,359	192	173	88	49	234
9.Recreation and culture	27	0	36	36	18	16	27
10.Education	258	264	587	564	727	748	637
11.Restaurants and hotels	1,840	2,206	383	380	185	165	362
12.Miscellaneous goods, services	19,023	28,927	5,019	6,453	14,486	8,550	17,705
"Savings" per month							

Estimates are based on information on their section of economic activity (according to NACE 2) and the item "net lending/net borrowing" (B.9) in the respective section. The main weakness of this approach is that entrepreneurs can invest in their countries of origin instead of the Czech Republic, so their net lending may be larger than the average for the activity category, and the amount available for remittance abroad correspondingly higher. Moreover, some may be only token entrepreneurs, in practice working as employees; some may be students. Their registration as entrepreneurs is often motivated by the need to obtain a long-term visa to stay in the Czech Republic, which is easier if they claim to be entrepreneurs (in which case the amount available for remittance abroad may be lower than the approach would indicate).

#### **Estimates of expenses for final consumption of foreigners working in the Czech Republic**

**11.3.6** The expenses for final consumption of foreigners working in the Czech Republic are estimated in a combined structure according to groups of countries, type of stay (long-term, short-term, and illegal) and 12 COICOP classification groups. The data are based on family accounts statistics. Unfortunately, these statistics capture only expenditure by Czech households. The data concerned are therefore corrected individually for each group. The resulting aggregate data for each group are then compared with the income data in the same group. Table 11.3.1 shows the estimated expenses broken down by the major groups of countries from which the migrants come. Net

income and savings left for any remittances to the countries of origin are included for convenience.

**11.3.7** This approach has its weakness in a relatively arbitrary correction as the CSO lacks reliable information on consumption habits of some groups of foreigners (e.g. migrants from Vietnam and Ukraine).

#### Estimates of remittances of foreigners working in the Czech Republic

**11.3.8** Estimates of savings left for remittances to the country of origin vary considerably among different groups of foreign workers (see table 11.3.1). At an exchange rate of 26 CZK to the euro, amounts range from €250 to €600 per month.

**11.3.9** However, the estimate of remittances does not imply that the funds are transferred in the calculated amount and specified period. The actual money transfer is usually influenced by a number of other factors connected with the purpose of the stay in the Czech Republic and the link to the country of origin. The transfer may be postponed or there may be no transfer at all. The worker may make the remittances regularly, from time to time or at the end of his or her stay. Or no remittances may be made if he or she obtains a permanent residence permit. For these reasons the actual transfers are estimated, for example, at only 10 per cent of the estimated savings in the case of Slovak

citizens, and 90 per cent in case of managers from the euro area. For the short-term and illegal stays (of non-residents) it is expected that actual remittances are as calculated.

#### Foreigners' labour and remittances captured in national accounts

**11.3.10** The primary categorization of foreigners into residents and non-residents based on the duration of their stay is essential for correct quantification of all flows to be captured in national accounts. Table 11.3.2 shows the resulting figures for foreigners working in the Czech Republic in 2006. (Some data items are included to illustrate the calculation of remittances in table 11.3.2; they are not explicitly shown in the national accounts.)

#### Conclusion

**11.3.11** The procedure to estimate foreigners' labour in the Czech Republic and remittances to their countries of origin described above has a number of weaknesses, and many assumptions are not supported by firm data. This applies particularly to the estimates of expenses and remittances made. Nevertheless, the development of a general estimation procedure covering all required outputs can be looked upon as a first step to measure the relatively new, yet very significant, phenomenon in the Czech economy. The procedure is expected to be improved by the use of specially designed one-

**Table 11.3.2 Calculation of remittances from the Czech Republic, 2006**

*CZK millions*

	<i>Non-residents: employees (legal)</i>	<i>Non-residents: employees (illegal)</i>	<i>Residents: employees</i>	<i>Residents: entrepreneurs</i>	<i>Economically inactive foreigners</i>	<i>Total</i>
Number of persons	69,235	7,117	133,589	95,889	62,650	368,480
D.11 Wages and salaries	16,239	1,110	40,644	NA	NA	N
D.12 Employers' social contributions	5,521	NA	13,821	NA	NA	NA
D1 Compensation of employees	21,760	1,110	54,465	NA	NA	NA
(-)D.51 TaNAes on income	-1,721	NA	-5,220	NA	NA	NA
(-)D.6111 Employers' actual social contributions	-5,521	NA	-13,821	NA	NA	NA
(-)D.6112 Employees' actual social contributions	-1,949	NA	-4,877	NA	NA	NA
(-)D.611 Actual social contributions	-7,470	NA	-18,698	NA	NA	NA
(-)P31 Individual consumption eNApenditure	-3,949	-343	-12,040	-15,619	-2,155	NA
B.9 Net lending(+)/net borrowing(-)	NA	NA	75,558	NA	NA	NA
Savings usable for remittances	8,620	767	18,507	59,939	-2,155	85,678
Remittances, total	8,620	767			16,938	26,325
Remittances, as per cent of savings	100%	100%			22%	31%
Monthly remittances per person (in euro)	399	345			95	229

off statistical surveys. In order to identify the optimum approach, the CSO has set up a task force comprising representatives of different institutions

dealing with the issues related to foreigners in the Czech Republic.

## Annex 11.4

### The Bulgarian experience in developing estimates for remittances

**11.4.1** In Bulgaria, data on remittances are very important for policymaking, analysis and research purposes. Receipts of remittances are an important and stable source of external financing. (For most developing countries these receipts are the second most significant external funding channel after FDI.)

#### General information

**11.4.2** The Bulgarian National Bank (BNB) has been responsible for compiling the balance of payments since 1991. Article 7 of the Foreign Exchange Law states that: *"For the needs of the balance of payments statistics, registers shall be kept of each transaction and payment between a resident and non-resident, as well as in relation to each cross-border transfer and payment amounting to a sum determined by a regulation, issued by the BNB, but not less than BGN 5,000 as follows:*

- (a) by commercial banks and the BNB;*
- (b) by ministries and government agencies;*
- (c) by the Central Depository and issuers of registered securities on the capital market, with regard to which the existing legislation provides for registration with the Central Depository;*
- (d) by investment intermediaries, insurers and pension funds;*
- (e) by notaries, registrars, respectively."*

#### Data sources and estimation procedures

**11.4.3** Remittances represent household income from foreign economies, arising from the temporary or permanent movement of people to those economies, covering cash and in-kind flows from labour earnings, transferred through both formal and informal channels.

**11.4.4** Until March 2010 the main source of data on remittances in Bulgaria (especially from permanent migrants) was the International Transactions Reporting System (ITRS). Banks reported also transactions of money transfer operators (MTOs) on a net basis. The information from MTOs was indirectly derived from the ITRS. The BNB plans to start direct reporting from MTOs, which since February 2008 have been subject to licensing and supervision by the BNB, in the near future.

**11.4.5** In March 2010 the BNB introduced a new methodology for estimating remittance inflows. The methodological issues concerning cross-border flows of permanent emigrants are described in two recent (March 2010) publications of the Statistics Directorate of the BNB, *"Model for estimation of item workers' remittances, credit"*, and, for cross-border flows from temporary emigrants (compensation of employees in the balance of payments), *"Changes in the methodologies for estimation of certain current account items"*. Both methodologies are based on the results of the border survey of Bulgarian and foreign travellers, carried out by the BNB through an external agency in the period August 2007-July 2008.

#### Residence criteria - regulatory framework and practice

**11.4.6** In compiling the balance of payments, the BNB broadly complies with the definitions set out in the BPM5.

**11.4.7** Data on remittance inflows until December 2006 came mainly from the ITRS, which remains the source of remittance outflows. Regulation number 27 on balance of payments statistics, in force since 2003, introduced a statistical declaration used by the commercial banks in classifying their clients by residence. Although the legal basis complies with the BPM5, keeping the register up-to-date is often a difficult task. Physical persons are asked to define their status. Banks are obliged to keep records on their own account and on behalf of their customers of all transactions above a threshold of BGN 100,000 (about €50,000) between residents and non-residents, and to report them twice a month to the BNB on a transaction-by-transaction basis. BNB staff regularly visit the banks and check the quality of their records. The improved ITRS, operational since 2006 (previously the data were reported in aggregated form), has improved the quality of the information and enabled the high standard to be maintained (including for data on (property) income flows).

**11.4.8** Data on remittance inflows since January 2007 have been estimated following the new BNB methodologies mentioned above, in which the application of the residence principle is discussed in detail.

### Seasonal and border workers (compensation of employees)

**11.4.9** The data source for the debit item (payments to foreign non-resident workers) is the ITRS. The credit item is based on an estimate of the number of Bulgarian residents employed abroad short-term (for less than a year) multiplied by average earnings for each foreign economy. Data from the BNB border survey and from the national statistics office are used. The methodology is available at the BNB's website:

[www.bnb.bg/Statistics/StMethodologicalInstructions/index.htm?toLang=\\_EN](http://www.bnb.bg/Statistics/StMethodologicalInstructions/index.htm?toLang=_EN)

### Long-term emigrants (workers' remittances)

**11.4.10** The data source for the debit item (remittances abroad by foreign workers resident in Bulgaria) is the ITRS. The estimates of credits are based on the product of the number of Bulgarian emigrants transferring money to their relatives and the amount of the average transfer. Such calculations are made separately for official and unofficial transfer channels. The sum of the money transferred via those two channels is recorded as the amount of workers' remittances to Bulgaria. Data from the State Agency for Bulgarians abroad, Bulgarian embassies, Eurostat and the BNB border survey are used. The methodology is available on the BNB website (as above).

### Estimation of compensation of employees (data to December 2006)

**11.4.11** High unemployment in some areas of Bulgaria and the opportunity to stay in most EU countries for three months without a visa triggered unofficial migration. Its nature - short-term (within the permitted three months' stay) and shuttled (repeated unofficial employment for another three months) - seems to have led to an inflow of funds to Bulgaria via unofficial channels.

**11.4.12** Compensation of employees comprises wages, salaries, and other benefits (in cash or in kind) earned by individuals in economies other than those in which they are resident for work performed for and paid by residents of those economies. Employees, in this context, include seasonal or other short-term workers (less than one year) and border workers, whose centre of economic interest remains their home economy (BPM5, paragraph 269).

**11.4.13** There are several problems in collecting data on compensation of employees:

a. The practical implementation of the concept of residence.

b. The high threshold applied by the countries with settlement-based balance of payments collection systems. The threshold applied by the BNB until end-2006 of BGN 5,000 (approximately €2,500) allowed most of the remittance-related transactions to be recorded properly, but the recording was confined to flows through official channels.

c. The diversity of methods for transferring money. Along with transfers through banks and MTOs, there are significant informal transfers.

**11.4.14** Flows arising from unofficial employment are estimated by multiplying the number of residents working unofficially abroad and their incomes and expenditures per capita. The number of workers is an estimation based on (i) the number of Bulgarian citizens leaving the country giving travel as their reason for departure (border police data), (ii) a survey among Bulgarian tour operators on the number of Bulgarians who bought package holidays and made reservations for travelling abroad, run by the BNB at the end of 2005, and (iii) a separate survey of households.

**11.4.15** The model allows estimation of monthly incomes and expenditures, by country of employment. The incomes are included on the credit side of compensation of employees, and the expenditures are included in travel debits.

**11.4.16** The incomes are estimated by multiplying the number of workers and minimum wages in the respective country of employment. As the workers are unofficially employed, it is assumed that they receive the minimum wage in the respective country and do not pay any taxes, insurance, etc. The source for the levels of minimum wages is the report "*Minimum Wages 2005 - Major Differences between EU Member States*", Eurostat, August 2005.

**11.4.17** The expenditures are estimated by multiplying the number of workers and the cost of living in the respective country. It is assumed that Bulgarians unofficially employed abroad stay for three months and then return to Bulgaria (the legally allowed period to stay for tourist purposes is three months). However, in practice estimated expenditures may be lower, as most of the shuttle employees can rely on the support of Bulgarians already working abroad.

**11.4.18** The unofficial status of these employees leads them to transfer income through informal channels. Most carry the money with them, or use bus drivers, relatives and friends to do so on their behalf.

**Future plans**

**11.4.19** The BNB plans to start direct reporting from MTOs in the near future. A new methodology

for estimating outward flows of remittances is also planned.



## Annex 11.5

### Estimating remittances in the Netherlands

#### Introduction

**11.5.1** This annex<sup>55</sup> describes some recent work by the central bank and Statistics Netherlands to improve estimates of outward remittances using data of payments abroad reported by money transfer operators (MTOs) (€0.6 billion in 2009). The reported amount is corrected for (estimated) non-remittance transfers, and then for (estimated) remittances through other channels. The results indicate that in 2009 some €1.5 billion was remitted abroad, about one-third via MTOs. The list of beneficiary countries in 2009 was headed by Surinam, Turkey and Morocco, recipients in total of over €500 million. Although the results appear reasonable, uncertainties remain in the absence of surveys among immigrant households in the Netherlands or mirror data from their home countries.

**11.5.2** As globalization and world-wide labour movements have increased, remittances have become increasingly significant for the Dutch balance of payments. In October 2009, the Netherlands had 3.3 million persons of foreign origin or with parents of foreign origin (20 per cent of the total population). Immigrants originate mainly from Turkey (380,000), Morocco (350,000), Surinam and the Netherlands Antilles (together almost half a million). During the 1995-2009 period, annual migration to the Netherlands fluctuated around 115,000 persons. In 2009, the inflow was 146,000 persons. Most migrants came from Germany, the Netherlands Antilles, the United Kingdom, Belgium, Turkey, the United States, Poland and Morocco. The growing numbers of immigrants have in recent years had a net upward effect on outward remittances.

#### Estimating outward remittances

**11.5.3** Estimates of outward remittances are based on transfers made through MTOs, the only regularly updated source of figures that presumably relate largely to remittances. An indication for this is the correlation between, on the one hand, the numbers of, and amounts involved in, MTO transfers to several countries and, on the other, the numbers of resident households originating from those countries. This is illustrated for the year 2009 by chart 11.5.1.

**11.5.4** In 2006-09, an annual average of €660 million was transferred abroad in 1.7 million transactions. Plotted against numbers of immigrant households from various countries of origin, both amounts and numbers of transactions were highest for countries having low GDP per head (represented in chart 11.5.1 by smaller dots; for similar numbers of households, the smaller dots lie usually above the larger dots, which represent richer countries).

**11.5.5** The fact that not all transfers made through MTOs are remittances calls for a downward adjustment. Conversely, upward adjustments must be made because remittances are not made only through MTOs, but also through bank transfers, in cash, etc. These latter factors vary from country to country, and statistics are not available. Therefore, both downward and upward adjustments are made indirectly, by breaking the total amounts for each country down into a few components on which information is available, making it easier to demarcate them and to also derive limits for the total amounts.

**11.5.6** For each country, three components/criteria play a particular role:

- a. The total average amount donated to relatives abroad by households that actually do make remittances whether via MTOs or otherwise.
- b. The percentage of this amount which is transferred through MTOs.
- c. The households from a country, as a percentage of all households from the country, that do, in fact, make remittances.

**11.5.7** For each of these components, an upper limit has been assumed. Multiplication of the three upper limits yields an upper limit on the average amount remitted through MTOs by all households from a particular country. These upper limits may now be compared to the actual amounts reported by MTOs. By capping as needed (to allow for the fact that MTO transfers may be for purposes other than remittances), and by grossing up (because remittances will also be made through other channels), a total estimate of remittances is obtained. For instance, if no more than one in four of the households from a particular country sends money home, for an average amount not exceeding some €4,000, and if probably half of these remittances are made through MTOs, then

<sup>55</sup> The annex is based on de Nederlandsche Bank, 2010.

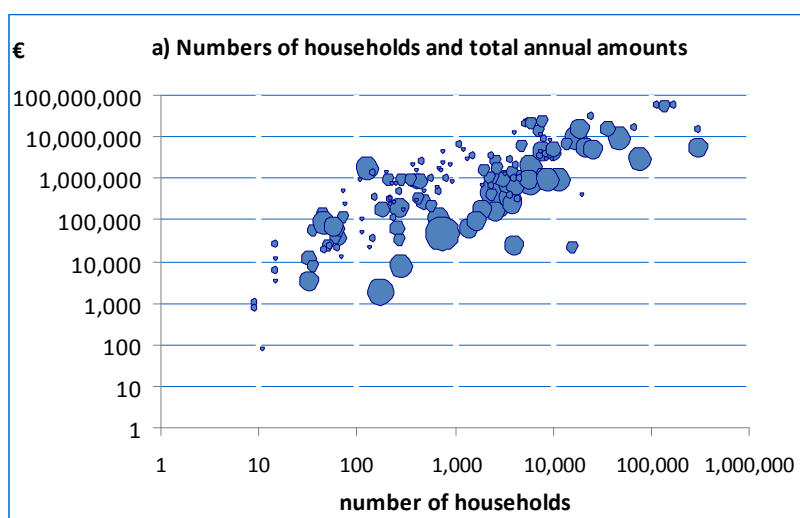
the MTO average for all households from that country should not exceed some €500, the product of the three maximums: €4,000 × ½ × ¼. Actual average MTO remittances per household of €800 a year would then reduce (cap) the MTO amount to 5/8 or €500. Next, the €500, which concerns only MTOs, may be grossed up, that is, multiplied by a certain factor, to yield the total remittances to the country in question. Here the scaling factor is at least 2 (because the MTO share of transfers is no more than one half).

**11.5.8** Capping prior to grossing up prevents overestimation of an already uncertain total

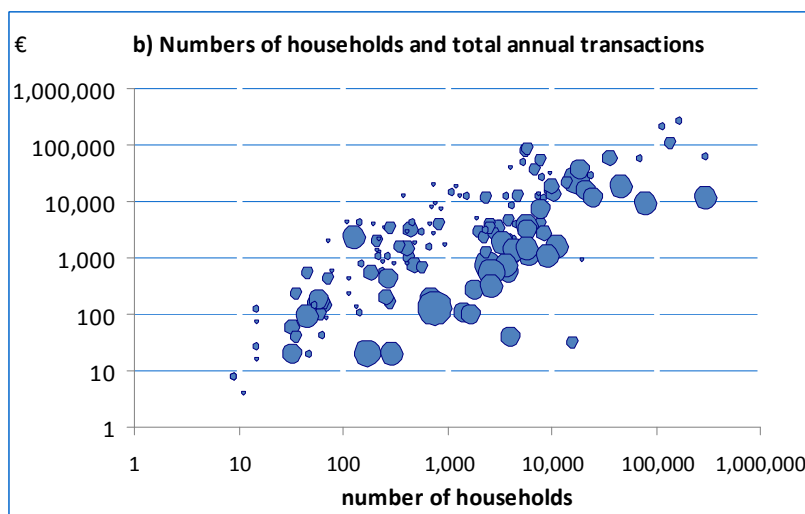
amount, as MTO figures may also include non-remittances. The new method involving capping and grossing up has been fine-tuned for each country by relating the ceiling to a country's development and prosperity level (see box 11.5.1 at the end of this annex).

**11.5.9** For some countries, average MTO amounts per household, instead of being unusually high, are surprisingly low, especially in the case of Germany and Belgium. Remittances by immigrants from those countries, where relatives live comparatively close by, are likely to be made in cash rather than through MTOs. Yet even to Japan

**Chart 11.5.1 MTO remittances to and immigrant households from several countries (2009)**



Dots plot countries by MTO remittances received from the Netherlands (vertical axis) and by immigrant households in the Netherlands (horizontal axis)



Dot size varies with a country's per capita GDP in 2008 (source: IMF).

MTO remittances are relatively low. In order to obtain more plausible results, the MTO amounts for such countries are first brought into line with the - also comparatively low but less improbable - averages for other, similar countries, before they are multiplied by the assumed scaling factor. This adjustment is omitted only in cases where remittances may be assumed actually to be unusually low, on account of special circumstances such as war or civil unrest.

**11.5.10** Like the average MTO amounts, the average number of MTO transactions per household may also point to purposes other than private remittances, even if the amount per household does not (i.e. high average numbers of transfers are offset by lower average transaction amounts). In assessing the number of transfers, it should be taken into account that not all households make remittances. An average number of six transactions per year found for all households may not appear out of the ordinary at first glance, but is indeed unusual if only some 10 per cent of households actually do transfer income, since it would imply that households in that subgroup go to their MTO to make transfers no fewer than 60 times a year. Average transaction amounts may also be unusually high. This is why in addition to MTO amounts per household, numbers of MTO transactions per household and average MTO amounts per transfer are assessed.

**11.5.11** A numerical example may make this clearer. The figures relate to annual amounts in euro.

1. Given: Total amount transferred through MTOs to country A.: 800,000
2. Wanted: Total remittances (current private transfers) to country A: ?
3. Number of immigrant households from country A (source: Statistics Netherlands): 1,000
4. Average amount per household transferred through MTOs (1 divided by 3): 800
5. Of which qualifying as remittance: 500
6. Minimum scaling factor (MTOs not the only channel): 2
7. Total average remittance per household ( $5 \times 6$ ): 1,000
8. Total remittances to country A ( $3 \times 7$ ): 1,000,000
9. Maximum average amount transferred through MTOs (for all households) based on the following, assumed, upper limits ( $10 \times 11 \times 12$ ): 500
10. The maximum percentage of households making remittances through MTOs and otherwise: 25%
11. Maximum total remittances by a household making remittances: 4,000
12. The maximum share of this transferred through MTOs (inverse of minimum scaling factor): 50%.

**Box 11.5.1****Assessment criteria for MTO amounts and MTO transaction numbers per household**

1. *Total annual remittances by the households that actually make remittances.* The annual amount remitted by immigrant households from a particular country of origin depends on numerous factors. One major factor, in all probability, is the level of prosperity of relatives at home, to which migrants are likely to adjust the amounts they remit. This level of home country prosperity may also be an indicator of the migrant's level of education and thus of the income available for remittances. The higher this income, the higher the amounts that may be transferred. Taking this into account, a ceiling has been imposed on the total annual remittances, whether through MTOs or other channels, which ranges from some €3,000 for migrants from low-income countries to over €6,000 for households from the countries having the highest per capita incomes. These upper limits (applied to averages) imply that it is especially remittances to the poorer countries that serve as compensation for low income levels – up to four times a country's GDP per head. Note that these are upper limits: actual amounts are often considerably lower, as World Bank estimates also indicate.

2. *The MTO share in remittances.* The ratio of total to MTO remittances (a grossing up factor) is assumed to range from 1+ for immigrants from the countries with the lowest per capita incomes to 5+ for the richest countries. A higher ratio seems likely for at least countries of origin with a well-developed banking industry, because households from those countries will mainly use that channel, the more so since MTO transfers are more costly than bank transfers. By contrast, households from less developed countries are likely to use mostly MTOs to transfer income, because few relatives in such countries have a bank account at all. For simplicity's sake a country's per capita GDP has provisionally been taken as a proxy for the level of development of the local banking industry.

3. *The share of households making remittances.* According to Statistics Netherlands, one in four immigrant households sends money abroad. A 2006 survey on this topic targeted a few large immigrant population groups numbering many households that have lived in the Netherlands for several years and whose ties to their country of origin may have become weaker over time. Among more recent arrivals from similar countries, the share of households making remittances could be considerably higher. The same applies to immigrants from poorer countries (not covered in the survey), who may be more likely to continue lending income support to their less prosperous relatives at home. Taking this into account, it is assumed that the share of households making remittances may be as high as 90 per cent among immigrants from the very poorest countries. Households from more prosperous countries are assumed to make fewer remittances for the purpose of remedying relatives' poverty. It is assumed that no more than some 20 per cent of these make remittances.

4. *The number of MTO transactions per household that actually makes remittances.* The average annual number of MTO transactions per household making remittances may be related to the home country's level of development. In countries with a less developed banking industry, MTOs are used more often than elsewhere for receiving remittances and for other transactions. This is also suggested by the higher number of transactions per household for groups of immigrants from countries where per capita GDP is lower, which may be associated only in part with a possible preference for more frequent but smaller transfers. It is therefore assumed that the number of MTO transfers per household declines as the home country's per capita GDP increases, and that as MTOs are used less often to remit money, other channels are used more frequently, about 12–15 times (maximum) per year. The assumption is that regular remittances are usually made after each monthly payday in the Netherlands. This implies a ceiling on the number of MTO transactions of about 10 for households from the very poorest home countries and of 2–3 for households from the more prosperous countries.

Added to the assessment criteria for MTO amounts and MTO transaction numbers per household is a criterion for the average MTO amount per transaction, as this may be unusually high, pointing to non-remittance transfers. The average transaction amount is assumed to vary (with the home country's prosperity level) between €500 and €900. The €900 ceiling was determined by a simple outlier analysis.

## CHAPTER 12

# Second homes abroad

### Introduction

**12.1** In recent years the ownership of homes abroad by non-residents has increased substantially, especially in European countries. This phenomenon has a significant impact on the tourism industry and the wider economy of certain regions. Nevertheless, there is still little practical experience of measuring the phenomenon and recording it in the national accounts. For many years, tourism statistics and analyses have focused on visitors staying in hotels or other forms of collective accommodation. Use of private accommodation was considered marginal, with little importance for policy and analysis.

**12.2** Since 1990 many more residents have acquired second homes abroad. Among the reasons are:

- a. General growth in household income.
- b. More leisure time and longer holidays.
- c. Liberalization of capital flows.
- d. Cheaper and more efficient transportation.
- e. Relaxation of border controls, making it easier for people to move between countries.

**12.3** Stays in private accommodation, including the tourist's own vacation home, form an increasing share of overnight stays in European countries in all forms of tourism, and can no longer be ignored.

**12.4** In addition, a growing share of the population has access to two or more dwellings in different countries for work reasons. This reflects increasing labour movement within Europe. This situation is a challenge for the compilation of national accounts, as it can be difficult to determine the country of residence of these mobile workers (international labour movements is the subject of Chapter 10, and is not further discussed here).

**12.5** There are many obstacles to the measurement of all aspects of second home ownership by non-residents. The difficulties are on both the supply and use sides, and affect flows and stocks in the balance of payments and international

investment position and in national accounts. This chapter discusses the main principles for consistent recording in the balance of payments/international investment position and national accounts, and describes the practical difficulties. It also suggests how estimation methods can be developed through close cooperation among statisticians working in these areas, and with specialists in tourism statistics. Annexes to the chapter present country studies which describe the measurement obstacles and how they are tackled.

### Background

**12.6** With regard to second homes abroad, three fundamental questions should be kept in mind when discussing the recording of stocks and flows in the national accounts and balance of payments/international investment position:

- a. What economic values are involved?
- b. What economic transactions are taking place, and what events or actions affect them?
- c. Who are the economic agents or transactors involved?

**12.7** The economic value of interest is that of the dwelling and the subsequent provision and consumption of dwelling services. The transactions are the buying and selling of dwellings. The economic agents involved are the owner of the dwelling and the occupier, who are often the same.

**12.8** Any dwelling is regarded as an economic asset or factor of production in its capacity of contributing to the production of dwelling services consumed by its occupiers. This output occurs in the country where the house is situated. In the national accounts, any occupied housing unit, whether owner-occupied or rented, is a non-financial asset producing such a flow of services. This convention enables economies with different ratios of home ownership to rented accommodation to be measured in a comparable way with respect to wealth and measures of output and income such as GDP and GNI. Although the International Standard Industrial Classification of All Economic Activities (ISIC) does not recognize owner occupation as a productive activity, output

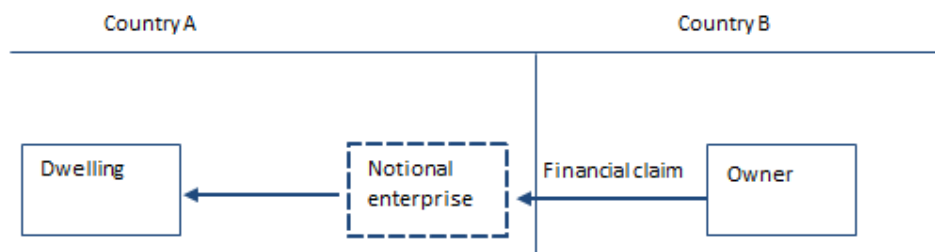
from which contributes to own-account consumption, it is recognized as such in macroeconomic statistics, and reflected in the weights of the consumer price index (CPI), and in measurements of welfare and poverty.

**12.9** Non-residents do not own homes located in another country directly. Rather they are deemed for statistical purposes to own a notional entity (a quasi-corporation) resident in the country where the property is located, which in turn owns the property. Production capital (the property, viewed as a producer of housing services) situated abroad is thus recorded in the national accounts of the owner's country of residence as a financial asset (equity in the quasi-corporation) representing a claim on the rest of the world. This is illustrated in chart 12.1.

**12.12** Furthermore, the dwelling services supplied in country A must be matched by consumption of the same services, whoever the occupier is. If the occupier is a resident of country A, i.e. the dwelling is rented to a local tenant, the use is recorded as household final consumption expenditure in the national accounts of country A. If the dwelling is rented by a producing unit for subletting, the matching use will be intermediate consumption of the producing unit.

**12.13** If on the other hand the occupier is a non-resident of country A, the matching use is not household final consumption of a resident in country A, but an export of travel services by country A, with a corresponding import of travel services by country B, matched by household final consumption in country B. This is regardless of whether the occupier is the owner resident in

**Chart 12.1: Ownership of second homes abroad**



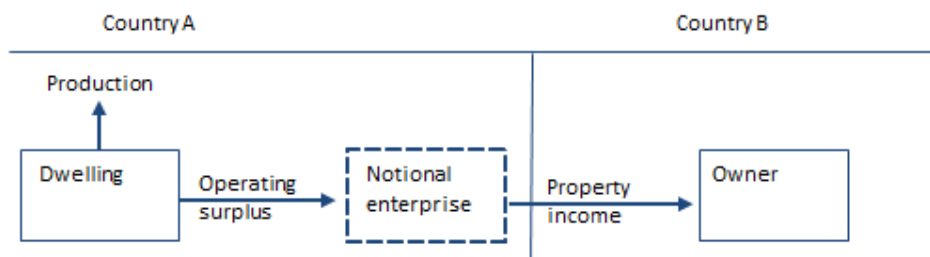
**12.10** Where the owner in country B sets up a legal entity (e.g. a property company) in country A to own the dwelling, an actual enterprise unit will replace the notional enterprise unit in chart 12.1.

**12.11** The next question concerns the economic processes or transactions to which the dwelling is subject. The dwelling is a factor of production which generates income for its owner. If the owner is a non-resident, an income flow from the producing country A to the owner country B is recorded in the balance of payments and the national accounts as in chart 12.2.

country B, or a tenant. This is illustrated in chart 12.3.

**12.14** Finally, an important question is whether production or output (and consumption) of dwelling services takes place regardless of whether the dwelling is occupied or not. A second home by definition is not occupied full time by its owner, and may often not be occupied by tenants when the owner is not there. There are two aspects to consider in this matter: generation of income to the owner is possible only if production of dwelling services takes place; and there can be consumption

**Chart 12.2: Generation and distribution of income from second homes abroad**



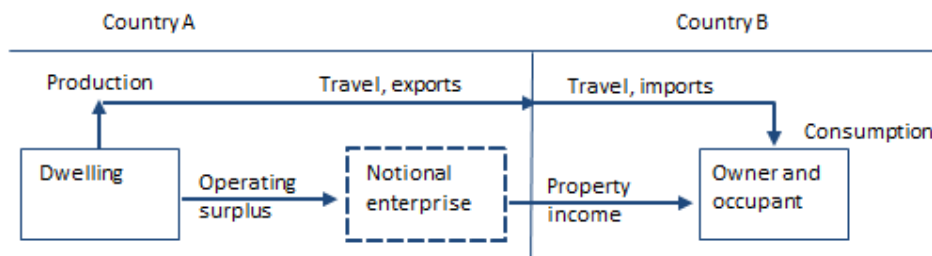
of dwelling services only if production takes place.

**12.15** These questions are relevant not only for the estimation of flows connected with second homes, but for output of and income from dwellings in general. The national accounts should follow the same principles for cross-border ownership of dwellings as for the production and consumption of housing services in general (2008 SNA, paragraph 24.52).

of a household. The declaration by a household of which is its main dwelling may be based more on tax considerations than on duration of stay. Additional difficulties arise from the growing ease of moving from one dwelling to another (due to the provision of cheap transportation by low-cost carriers), and the ease of cross-border capital movements.

**12.19** These considerations underline the

**Chart 12.3: Generation, distribution and use of income from second homes abroad**



**12.16** European Commission Regulation (EC) No 1722/2005 requires the output of holiday homes to be based on the annual average rental of similar facilities, the calculation of which takes into consideration the proportion of the year for which properties of this type are actually occupied (paragraph 1.4.2).

### Statistical treatment

**12.17** From the supply side, the measure of the stock of vacation homes and its change over time is estimated using administrative data or any other available source. This estimate should be complemented by an estimate of the imputed rental, which corresponds to imputed household final consumption of housing services (or, where the owner is not resident in the country where the vacation home is located, an export of travel services and a corresponding import by the country where the owner is resident, matched by household final consumption of housing services there - see paragraph 12.13 above). Assigning the flows relating to vacation homes requires additional data. Finally, timeshare dwellings – see the extracts from BPM6 in appendix A to annex 12.1 - represent a specific type of vacation home ownership requiring special treatment.

**12.18** From the demand side, experience has shown that reliable information for the imputation of rental cannot be collected from a survey of visitors. It is difficult to distinguish between a vacation home used long term and a main dwelling

benefits to be gained from a joint approach by compilers of tourism statistics, balance of payments and national accounts, to compile an inventory of the underlying issues and the available information, and to identify satisfactory solutions which can be shared.

### The treatment in the International Recommendations for Tourism Statistics

**12.20** Tourism statistics consider visits to the second home for any purpose except as a base for local employment as tourism. Thus the new *International Recommendations for Tourism Statistics 2008* (IRTS 2008) state: “*Tourism is defined as the activity of visitors, that is, of individuals as they take trips outside their usual environment for less than a year for any main purpose (business, leisure, or other personal) other than to be employed by a resident entity in the place visited*” (paragraph 2.8).

**12.21** The determination of a person’s “usual environment” is crucial to the definition of tourism. For this reason, IRTS 2008 explains what the usual environment is, and that definition is related to that of vacation or holiday homes, as they are frequently visited by their owners or long-term renters. The definition used is the following:

*“Each household has a principal dwelling (sometimes also designated as main or primary home), usually defined with reference to time spent there, whose location defines the country of*

*residence and place of usual residence of this household and of all its members. All other dwellings (owned or leased by the household) are considered as secondary dwellings.*

*A vacation home (sometimes also designated as a holiday home) is a secondary dwelling that is visited by the members of the household mostly for purposes of recreation, vacation or any other form of leisure. Trips should not be so frequent and the duration of the stay so large so as to turn the secondary dwelling into the principal dwelling of the visitor.*

*Trips to vacation homes are usually tourism trips.... As the use of innovative types of vacation home ownership under timeshare arrangements presents additional challenges in terms of their classification, measurement and analysis, countries are encouraged to document the treatment of trips to vacation homes and include this description as part of the tourism statistics metadata ...” (paragraphs 2.26 – 2.28).*

**12.22** According to this description, not all secondary dwellings are vacation homes. Some households may own another residence than the one in which they usually live for other purposes, for example to rent it out for additional income, or to occupy it for work purposes. Only those dwellings intended to be seasonally occupied by their owner for vacation or recreational purposes are considered to be vacation or holiday homes and relevant to the present discussion. However, stocks and flows related to second homes abroad should be recorded irrespective of the purpose of the dwelling.

**12.23** The treatment of vacation home ownership in the *Tourism Satellite Account: Recommended Methodological Framework, 2008* (TSA) is similar to that recommended in the IRTS 2008 as the TSA aims at consistency of tourism statistics with the national accounts generally. The treatment of vacation home ownership and the imputation of a rental that is generated by the dwelling and consumed by tourists are consistent with the treatment recommended in the 2008 SNA and BPM6.

## Measurement issues

**12.24** In order to measure the flow of services generated by vacation homes and to include them in domestic consumption and the export of travel services associated with inbound tourism, it is necessary to estimate the total number of dwellings used as vacation homes and the value of the imputed production and use of housing

services to which they give rise, and then to determine how far the vacation homes are owned by non-residents.

## The number and characteristics of vacation homes, and identifying those owned by non-residents

**12.25** Establishing the number of vacation homes, and the number owned by non-residents, requires a combination of different sources: censuses, surveys and administrative data.

### Housing censuses

**12.26** Housing censuses are not only used to establish the actual number and physical characteristics of housing units, but also the form of occupancy (here, specifically, use as a vacation home). Nevertheless, as censuses are usually held when people are present in their main residence, it is difficult to collect reliable information on properties used as vacation homes, in particular whether their owners are resident in the country or non-resident. Housing censuses must be supplemented by other statistical procedures (complementary surveys conducted at the time of the census, and on other occasions, to provide additional information and record changes over time). Administrative data can be used to further extend the period and coverage of the census and survey data.

**12.27** In 2008, as many countries were preparing their population census, the World Tourism Organization (UNWTO) requested national statistical offices to use the census as an opportunity to collect information on vacation homes owned by households for purposes of tourism statistics.

### Housing surveys

*Surveys conducted at the same time as a census*

**12.28** Cost considerations may limit the scope of the main census. Surveys conducted simultaneously with or very shortly after a census (on a relatively large sample) are designed to collect additional information to complement census data. On vacation homes, however, it is doubtful whether more detailed information can be collected in this way, as many vacation homes are likely to be vacant when the survey is conducted, preventing the collection of useful information on the form of ownership and country of residence of the owner, and of other data relevant to the estimation of the value of the property and the imputed rental to which it gives rise. One possible source of this kind of information



is neighbours, or managers in the case of grouped housing units.

#### *Other housing surveys*

**12.29** Other housing surveys are usually conducted outside census periods, in order to collect follow-up data on the stock of housing units and their characteristics.

**12.30** Countries or regions where tourism is important, but also those experiencing a housing shortage alongside many vacant units, can develop special surveys to learn more about the characteristics of housing classified as vacant and identify the country of residence of the owner. The design of such surveys will allow for the fact that vacation homes are not uniformly spread over the territory.

#### **Use of administrative data**

**12.31** In some countries, administrative data can be used to identify and reveal characteristics of second homes owned by non-residents. The experience of France is interesting in this respect.

**12.32** In France, the *Fichier des Logements par Communes* (FILOCOM) file<sup>56</sup> comprising all dwellings classified by municipality has been used to determine the number of dwellings that are not the main dwelling of a household, to identify the place of residence of the owners of such dwellings, and to provide an estimate of imputed rental. The FILOCOM file is constructed and managed by the Direction Générale des Impôts (National Tax Administration) by merging different files (the property tax, income tax, and the file of property owners). It is updated in line with the source files. Strict confidentiality of individual information is preserved. The file covers all housing units subject to the housing tax, and housing units which are rented out and subject to the professional tax instead.

**12.33** The information covers the characteristics of the housing units, including variables relating to their rental value, the mode of occupancy, and the characteristics of the occupiers and owners. Changes of ownership are recorded.

**12.34** Using FILOCOM, it is possible to determine those housing units that are not the main residence of their occupiers, and as the place of residence of the owner is known (the address that is declared for tax payment purposes), it is possible to establish those owned by non-residents of France.

Most of these secondary residences are vacation homes.

**12.35** The benefit of using exhaustive sources is that there is no need to make the assumptions about the number and distribution of vacation homes in a region that would be necessitated by the need to design a survey, since the information is complete.

**12.36** Making this source compatible with census data is a significant and important step towards producing reliable and consistent data.

#### **Other types of sources**

**12.37** Other sources of information must be found for timeshares and other innovative forms of vacation properties. The sources will depend on the legal status of the properties, and in particular on whether they are considered dwellings, as in traditional types of timeshare arrangements providing private accommodation, or collective forms of accommodation such as condo hotels or private clubs. A separate registry of these types of unit may exist, or at least of the businesses that manage them, which can be used to provide the required information on the number of units, their characteristics, and their owners.

#### **Imputed rental**

**12.38** The principle of valuation of the flow of imputed rentals is set out in the 2008 SNA, paragraph 6.117: “... *the output of the housing services produced by owner occupiers is valued at the estimated rental that a tenant would pay for the same accommodation, taking into account factors such as location, neighbourhood amenities, etc. as well as the size and quality of the dwelling itself. ... In many instances, no well-organized markets exist and other means of estimating the value of housing services must be developed.*”

**12.39** This principle is the same whether the owner is a resident or a non-resident of the country concerned.

#### **Estimating the imputed rental**

**12.40** In national accounts, the usual approach to estimating services produced by owner-occupied dwellings has been self-assessment. Owners are asked to estimate a potential rental for their property. The major difficulty with self-assessment is subjectivity; and the growing importance of owner-occupied dwellings means that the significance of the possible error in national accounts estimates has increased.

**12.41** Given the high and growing relevance of owner-occupied dwellings in some European

<sup>56</sup> The comments that follow are based on Direction des Affaires Economiques et Internationales, 2001.

countries, in 1985 the European Commission legislated for a stratification method as the best approach. A new version of the legal act making explicit reference to gross national income (GNI) followed implementation of the 1995 ESA (Commission Regulation (EC) No 1722/2005).

**12.42** The stratification method uses information about actual rentals from rented dwellings to obtain an estimate of the rental value of the stock of dwellings. The broad aim is to impute to an owner-occupied property the same rental value that would be paid for a similar property in the market rental sector.

**12.43** The method is based on two elements:

- a. A categorization or breakdown of the housing stock into various strata or types of dwellings.
- b. Information about actual rentals paid in each stratum.

**12.44** A stratification of the housing stock is required because rentals can vary, and change over time, very differently across the market. The average actual rental per stratum is then applied to all dwellings in that stratum. How this is done in Spain is described in annex 12.1 to this chapter.

**12.45** Of particular relevance to vacation homes, Eurostat recommends basing the estimate of the output of holiday homes on the annual average rental of similar facilities, adjusted for the proportion of the year the property is occupied. The Norwegian and Irish case studies in annexes 12.2 and 12.3 describe how this is done.

### **Tourism as an internationally traded service and the particular case of importing and exporting own account vacation home services**

**12.46** Data on UK ownership of second homes in Spain from UK sources and data available from Spanish sources are different, but give consistent messages: a significant increase of vacation home ownership by UK residents in Spain (UK sources) accompanied by an increased use of vacation homes owned by UK residents (Spanish sources). More detail is given in annex 12.1 to this chapter. As might be expected, more information is available from the country where the vacation home is located, because it is possible to combine data on stocks of vacation homes and information provided by the visitors themselves on their stay.

**12.47** The national accounts, balance of payments/international investment position and TSA should reflect similar data: (i) an ownership of

vacation homes in Spain, considered as direct investment of residents of the United Kingdom in Spain, equal to the value of these vacation homes (after deducting the corresponding capital consumption) and (ii) a flow of imputed accommodation services provided by these vacation homes and acquired by tourists. The imputed production of housing services contributes to GDP in Spain, but the imputed flow of property income to the UK owner of the vacation home (via a notional quasi-corporation in Spain, as described in paragraph 12.9 above) means that Spanish GNI is unchanged. The Spanish balance of payments shows an export of travel services matched by a debit in investment income. In the UK national accounts, by contrast, GDP is unchanged, but the notional receipt of property income raises GNI. In effect, the UK owner of the vacation home has spent the property income on housing services provided by the vacation home in Spain, a part of final consumption expenditure. The UK balance of payments shows an import of travel services matched by a credit in investment income.

**12.48** All entries in the accounts are imputed. Accurate imputation of the relevant values is important for both countries, as it affects their GDP or GNI.

### **Moving the second homes agenda forward**

**12.49** The phenomenon of owner-occupied second homes owned by non-residents is growing. It is another sign of globalization and interrelationships among economies in the field of recreation and other household-related issues.

**12.50** The estimation of the imputed rental corresponding to owner-occupied vacation homes in general, and in particular in the case of timeshare property, presents measurement difficulties for national accounts and tourism statistics. This difficulty is more relevant for tourism statistics, because of its bigger relative importance, but it is present in both frameworks. For the TSA, the phenomenon of owner-occupied vacation homes is so important that a specific tourism product and a tourism activity have been created in order to show the data separately.

**12.51** When secondary dwellings have been identified, there are increasing difficulties in drawing a clear line between a vacation home and dwellings owned for other purposes, such as for work or as an investment.

**12.52** Given that the stock of dwellings used as vacation homes can be established, it is difficult to

estimate the imputed rental using the so-called stratification and similar methods when no relevant and explicit rental market exists for dwellings of this kind. In certain regions, in particular rural areas, such markets seldom exist.

**12.53** From the perspective of the country of origin of the owner, the difficulties are even greater as there is no stock to be observed, and the stratification method cannot be applied.

**12.54** European authorities have been suggesting for some years as a practical solution to this lack of information an agreement about the number of non-resident owners between the member states concerned. However, progress is limited.

**12.55** A more difficult issue relates to timeshare properties. Since for the same accounting period such a property may be “owned” by residents of different countries, a direct allocation to the country of origin is extremely difficult.

**12.56** Going beyond tourism, the measurement of imputed rentals arising from secondary dwellings is difficult in the national accounts. At least two major difficulties concern measuring the stocks of second homes abroad, and the correction for average occupation time.

**12.57** All these considerations show the urgent need for cooperation among tourism statisticians, and balance of payments/international investment position and national accounts compilers.

**12.58** What should the future roadmap look like? Initiatives could focus on an inventory of available data, metadata and procedures in use in different countries, and proposals for a set of common internationally accepted statistical methods.

**12.59** The first stage would be the compilation of an inventory of the information (data and

metadata) about the estimation of imputed rentals, and specifically those on dwellings owned by non-residents, from contributions by national statistical offices with help from central banks. In Europe, this initiative could use information on GNI methodologies periodically provided to Eurostat.

**12.60** The second stage would be the elaboration of a reference guide listing methods and recommended statistical practices. Second homes owned by non-residents require a combination of efforts both in supply and use statistics. Estimating the stock of second homes by country can only be done by combining data sources: population and housing censuses, and different administrative data sources (fiscal, local, etc.). In this regard, the Spanish experience described in annex 12.1 can provide the basis for international recommendations.

**12.61** Sources such as surveys of tenants, tourism surveys, etc. are also necessary to collect data on the period for which vacation homes are occupied, and on expenditures linked to them.

**12.62** A more ambitious project would be to make bilateral comparisons between relevant countries. It should be possible to record and analyse asymmetries in TSA or national accounts data for non-resident dwellings. This would be an application of the mirror statistics procedure for dealing with asymmetries in international trade developed in the European Union.

**12.63** Through common and improved sources and methods and the comparison of mirror data, more reliable and internationally comparable data can be achieved. The result can be not only better estimates of the tourism statistics, but also improvements in the quality and reliability of national accounts data as a whole.

## Annex 12.1

### Vacation homes owned by non-residents in Europe

**12.1.1** Ownership of second homes by non-residents of the country in which the property is located has grown in importance. In Europe, many such properties are in France and Spain, and the owners are often resident in the United Kingdom.

#### Overall results

**12.1.2** Following the concern raised in the IRTS 2008 about the importance of private accommodation for tourists,<sup>57</sup> Eurostat, using data from EU member states, investigated the relative importance of different forms of accommodation used by tourists in two recent years.

**12.1.3** The aggregated results show that the use of vacation homes represented 13 per cent of overnight stays for domestic tourists,<sup>58</sup> and 3 per cent of overnight stays for those taking holidays abroad (see table 12.1.1) – in this case, residents of EU countries staying in their own vacation home abroad.<sup>59</sup> It would be useful to extend the study to cover more years so that the phenomenon can be

**Table 12.1.1 Holidays trips (4 nights or more), broken down by type of accommodation (per cent)**

	Total	Domestic	Outbound
<b>Collective tourism establishments</b>	<b>45</b>	<b>32</b>	<b>69</b>
Hotels and similar establishments	31	18	53
Tourist campsites	6	6	6
Holiday dwellings	6	5	7
Other collective accommodation	2	1	2
Specialised establishments	1	2	1
<b>Private tourism accommodation</b>	<b>55</b>	<b>68</b>	<b>31</b>
Rented accommodation	14	16	10
Second homes	9	13	3
Other(*)	32	40	18

Note: aggregate data are based on 19 EU member states (plus Croatia) for which full data are available for 2007 or 2008.

(\*) This item refers to people staying with relatives and friends: it is not possible to know if these are principal or secondary dwellings.

**Table 12.1.2 Geographical distribution of second homes owned by non-residents in France, 2003**

	Number of non-resident owners		Share of the four main countries of origin (per cent)			
	Number	Share* (per cent)	United Kingdom	Switzerland	Italy	Germany
Mediterranean region	100,300	12.8	1.7	1.6	3.4	1.7
Centre East	30,100	7.2	1.4	2.6	0.6	0.4
South West	26,400	7.3	2.7	0.2	-	0.9
West	24,600	5.2	3.2	0.2	-	0.7
Paris region	17,900	4.3	1.7	0.6	-	0.3
Ile de France	10,800	5.1	0.5	0.5	0.8	0.3
East	10,300	10.4	2.7	2.7	0.1	5.7
North	2,700	5.3	-	-	-	0.2
Total (Metropolitan France)	223,100	7.9	1.9	1.1	1.1	1.0

\* Share in the total number of second homes.

Source: Tourisme d'Aquitaine - Etudes et Tendances, *Les résidences secondaires appartenant à des étrangers en France et en Aquitaine*,

<sup>57</sup> See IRTS 2008, paragraphs 3.35-3.38.

<sup>58</sup> Domestic tourism...comprises the activities of a resident visitor within the country of reference, either as part of a domestic [tourism] trip or as part of an outbound [tourism] trip (IRTS 2008, paragraph 2.39).

<sup>59</sup> Outbound tourism...comprises the activities of a resident visitor outside the country of residence, either as part of an outbound [tourism] trip or as part of a domestic [tourism] trip (IRTS 2008, paragraph 2.39).

better understood and the results perhaps be used for modelling behaviour, and also to permit the situation in different countries (as destinations and as sources of tourists) to be compared.

## The case of France

**12.1.4** Many non-residents own second homes in France. Thus “in 2005, of the 2.9 million vacation homes within the territory of continental France, around 260,000 are owned by non-residents, that is, about 9 per cent. This share increased by 3 points between 1997 and 2005” (Direction du Tourisme, 2008).

**12.1.5** Table 12.1.2 shows the share of vacation homes owned by non-residents in France in the total number of vacation homes, by regions and main countries of residence of the non-resident owners. In the Mediterranean region, for instance, 12.8 per cent of vacation homes belonged to non-residents in 2003. For the whole country the share was 7.9 per cent. In most regions residents of the United Kingdom were the main foreign owners of vacation homes.

**12.1.6** In France, the information is derived at the level of municipalities, merging data extracted from the housing census with administrative data on the taxes levied at local level on the ownership of land and buildings and on usage of such assets.

## The case of Spain

**12.1.7** Similar developments are also found in Spain, where increasingly non-residents, mainly from the United Kingdom, purchase vacation homes.

**12.1.8** While French estimates come from administrative information on the place of residence of owners of secondary residences, data for Spain are based mainly on combining census information with data from a survey of inbound visitors, FRONTUR.

**12.1.9** Table 12.1.3 shows some data on second homes (called secondary dwellings) from the Ministry of Housing.

**12.1.10** Secondary dwellings accounted for 1.5 million, more than 37 per cent, of the large increase of 4 million in the total housing stock between 2001 and 2008.

**12.1.11** It is not possible to know how much of this increase was for speculative investment and how much for tourism use. Probably both were important. The geographical location of these dwellings may give some indication of intended use for tourism.

**12.1.12** Table 12.1.4 shows that about 58 per cent of the 1.5 million new secondary dwellings (or second homes) built during 2001-08 were located in the more specialized tourist areas (the Mediterranean coast and the Balearic and Canary islands).

**12.1.13** There are no statistics for the early years on how many of these new second homes were acquired by non-residents.<sup>60</sup> Available information (see the table in Appendix C) however shows the

**Table 12.1.3 Growth of the total housing stock and the number of secondary dwellings in Spain**

	1. Total dwellings		2. Secondary dwellings		3. Secondary dwellings increase/total increase (per cent)
	Stock (in thousands)	Annual growth rate (per cent)	Stock (in thousands)	Annual growth rate (per cent)	
2001	21,033.7	-	6,849.7	-	-
2002	21,551.6	2.5	7,019.8	2.5	32.8
2003	22,059.3	2.4	7,108.3	1.3	17.4
2004	22,623.4	2.6	7,232.8	1.8	22.1
2005	23,210.5	2.6	7,393.2	2.2	27.3
2006	23,859.0	2.8	7,590.0	2.7	30.3
2007	24,495.9	2.7	7,909.9	4.2	50.2
2008	25,129.1	2.6	8,382.0	6.0	74.6
<b>Total</b>	-	-	-	-	37.4

Source: based on Ministry of Housing data.

**Table 12.1.4 Distribution of new secondary dwellings between tourism areas and elsewhere**

	2001	2002	2003	2004	2005	2006	2007	2008
Tourist regions (*)	57.5	57.8	58.1	58.0	58.0	57.9	57.7	57.4
Other	42.5	42.2	41.9	42.0	42.0	42.1	42.3	42.6
<b>Total</b>	100	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(\*) Source: based on Ministry of Housing data.

proportion of visitors to Spain staying in vacation homes which they own (8.4 per cent), and the proportion of overnight stays which they accounted for (around 15.5 per cent), and indicates that, as expected, the average length of stay in owner occupied vacation homes is high (around 18 days - only stays in rented dwellings were comparably long).

**12.1.14** Data collected by the border survey (FRONTUR) concerning visitors staying in their own vacation home confirm the role of non-resident tourism in the Spanish housing boom. The geographical distribution of data from this source mirrors the concentration in the Mediterranean and island regions of new secondary dwellings shown in table 12.1.4.

information suggests that hotel or similar accommodation continues to take the largest share (in terms both of number of visitors – 57 per cent - and overnight stays, 44 per cent), it has declined in importance, while the proportion of UK visitors staying in their own vacation home has increased from 8 per cent in 2001 (or 11.5 per cent of overnight stays) to 11.5 per cent of visitors and 19 per cent of overnight stays in 2009 (January-November).

**12.1.17** According to *Housing in England* (an annual report from the UK Office for National Statistics with data from the English Housing Survey (EHS)), the number of households in England with a second home abroad has grown continuously in recent years, more than doubling from 125,000 in

**Table 12.1.5 Inbound tourism: visitors staying in their own vacation home (2009\*)**

	<i>Visitors (thousands)</i>	<i>Per cent</i>	<i>Per cent of visitors staying in their own vacation home, by country</i>	
United Kingdom	1,469.7	34.5	Ireland	11.8
Germany	822.9	19.4	United Kingdom	11.5
France	566.8	13.4	Switzerland	11.4
Nordic countries	266.0	6.3	Germany	9.7
Ireland	166.2	3.9	Nordic countries	8.6
Netherlands	145.8	3.4	Belgium	8.4
Belgium	127.0	3.0	France	7.6
Italy	123.8	2.9	Netherlands	7.4
Portugal	75.8	1.8	Italy	2.6
Switzerland	44.3	1.0	Portugal	2.4
Rest of Europe	311.2	7.3	Rest of Europe	10.9
USA	23.1	0.5	USA	2.2
Rest of America	45.0	1.1	Rest of America	3.1
Rest of the world	65.2	1.5	Rest of the world	5.1
<b>Total</b>	<b>4,243.0</b>	<b>100.0</b>	<b>Total</b>	<b>8.6</b>

(\*)January to November.

Source: based on data from FRONTUR.

**12.1.15** Table 12.1.5 shows that 97 per cent of visitors to Spain staying in their own vacation homes come from other European countries. The proportion of visitors from European countries who stay in their own vacation homes is mostly more than 7 per cent. Exceptions are Portugal and Italy, countries similar to Spain for whose residents owning a property in Spain may not be so attractive. The proportion of visitors from countries outside Europe who stay in their own vacation homes is very low.

### The case of the United Kingdom

**12.1.16** As shown in table 12.1.5, UK residents account for over one-third of all tourist visitors to Spain, and are among the most likely to stay in their own vacation home. Although other FRONTUR

1997/1998 to 270,000 in 2007/2008, mostly since 2003.

**12.1.18** Recent data on the location of second homes abroad acquired by households resident in England reveal the popularity of France and Spain. The chart shows that 27 per cent of households with a second home abroad have one in Spain.<sup>61</sup>

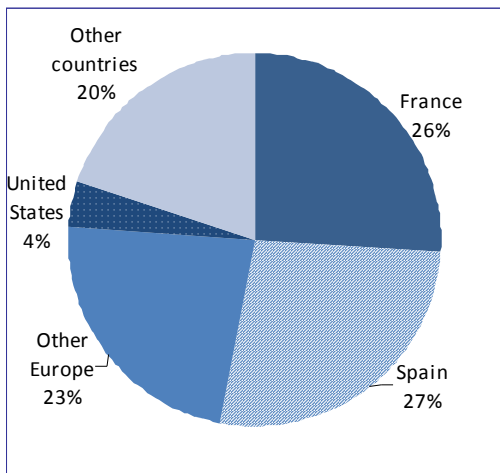
<sup>61</sup> From the different perspective of the number of households, 1999-2004 data show similar patterns and the importance of Spain as a location for UK residents' investment in second homes abroad (see Aspden, 2005). (Great Britain comprises England, Scotland and Wales; the United Kingdom consists of Great Britain and Northern Ireland.)

**12.1.19** While some of the reasons for choosing Spain to buy a second home may have been low interest rates and tax inducements, in recent decades the United Kingdom has in any case been the main country of origin of inbound tourism to Spain.

**12.1.20** Timeshare arrangements are of marginal importance in total tourism accommodation in Spain, but the United Kingdom is again, by some way, the largest source of visitors using this type of accommodation, accounting for about 60 per cent of the total in 2009.

**12.1.21** It might be added that UK tourists often stay in hotels during their early visits; many later stay in their own vacation home; finally they retire and become resident in Spain. It is difficult to identify statistically the moment when they change their status, which introduces additional difficulties for the measurement of tourism.

**Chart 12.1.1 Location of second homes abroad, 2005-06 to 2007-08 (households with a second home outside Great Britain)**



Source: Housing in Eneland 2007-2008

### Estimating imputed rent: the Spanish methodology

**12.1.22** Following EU legislation (Commission Regulation No 1722/2005), for national accounts purposes the stock of dwellings in Spain is stratified according to:

- a. Geographical area.
- b. Size of municipality.
- c. Construction year.
- d. Dwelling size (in square metres).

**12.1.23** The main difficulty is the lack of data about rents in some strata, solved by applying regression techniques using average prices from the Household Budget Survey and the consumer price index (CPI).

**12.1.24** The 2001 census information for vacation homes is less complete than for main homes, and the detail on location (region, province, municipality, etc.) and on characteristics of the building (number of floors, rooms, when built, facilities, etc.) is limited.

**12.1.25** The estimation procedure is similar to that used for principal dwellings, with some additional specifications.

**12.1.26** Apart from the size criterion (with similar strata as for the principal dwellings), an additional stratification was considered, distinguishing between coastal and inland areas given the differences between them in the rent of holiday dwellings.

**12.1.27** The prices were taken from data on rentals of vacation homes used in compiling the CPI (with a necessary simplifying assumption about floor area).

**12.1.28** The occupancy rate was estimated based on data from the census and the border survey (FRONTUR).

## Appendix A

### Time-share arrangements in BPM6

The following extract from BPM6 sets out the recommended treatment of time-shares.

*“10.100 The term time-share covers a wide range of arrangements. They can be classified in the [following] three categories [as in table 10.3 in BPM6]:*

*(a) The acquisition of deeded ownership, or a similar arrangement, is equivalent to the acquisition of a notional direct investment enterprise. In this case, after deeded ownership is acquired, accommodation services provided to the owner should be imputed based on market prices, which in turn gives rise to direct investment income on equity. (An example of a similar arrangement is a long-term lease that is of such duration that it represents an effective change in ownership.)*

*(b) Payments for rights to use a property under a membership system time-sharing arrangement, where the right to use the time-share is not transferable (the third category shown in the table), is equivalent to prepaying for accommodation services (recorded in trade credit and advances). After initial acquisition, the prepayment is drawn down, and imputed accommodation services should be recorded in travel.*

*(c) A “right to use” time-share arrangement that carries a transferable right should be accounted for as prepaying for accommodation services (recorded in trade credit and advances), identical to the recording of a membership system time-sharing arrangement discussed above. However, if the right is resold, the difference between the selling price and the amount remaining in trade credit and advances (reflecting the value of the remaining prepaid accommodation services) should be recorded as a transaction in a non-produced non-financial asset, in the capital account.”*



## Appendix B

### Tourism statistics and the 2010 census of population

**12.1.29** The following text was disseminated to the national statistical offices of UNWTO member countries in July 2008.

*“1. Persons and households may own or rent a secondary place of residence and use it for holidays, leisure and recreation purposes. It is also useful to know whether the property is owned or leased. (This refers to properties leased on a longer term basis and used for leisure or vacation purposes. It is different from accommodation services purchased from hotels and similar types of establishments).*

*2. It must be understood that the term vacation or holiday homes covers the ownership and lease of homes, cottages, apartments, flats and condominiums time-share arrangements that allow the use of space for limited periods of time each year, under legal arrangements that vary from outright ownership to the purchase of points that provide access to accommodation located in different places within a country or in different countries of the world, as well as other new modalities (as deeded interests or other types of contractual arrangements including those operating like a club in which the membership gives the right to use any of the properties of the club, or of any other affiliated system, abiding by the rules that have been established, there are also new modalities such as condo hotels, fractionals and private residence clubs, hotel residences, etc.).<sup>63</sup>*

*3. Each country must decide what questions, if any, it can ask in their Population Census in 2010.*

*4. Ideally an answer to the following question would be useful*

*5. Does this household use another dwelling or dwellings, (owned, rented or for free) as a secondary residence for purposes of holidays, leisure and recreation?*

#### **Supplementary questions**

- *If yes, how many such dwellings does it use?*
- *Where are these dwellings located? Within the same municipality, within another municipality in the country, in another country.*
- *How many days within a year, approximately, are spent in the secondary residences used for holidays, leisure and recreation?*

- *Does the person or household own or lease the secondary residence used for holidays, leisure and recreation?”*

The text acknowledged the initiative by Spain to capture such information in the 2001 population census.

<sup>63</sup> See TSA 2008, paragraphs 3.18 and 3.20.

## Appendix C

### Visitors to Spain and overnight stays by type of accommodation<sup>64</sup>

Table 12.1.7

#### Visitors

Number of visitors (thousands)

	<i>Hotels and similar</i>	<i>Homes of friends or relatives</i>	<i>Owned vacation homes</i>	<i>Time-share</i>	<i>Rented dwellings</i>	<i>Other accommodation.</i>	<i>Total</i>
2005	35,168.9	7,282.9	4,658.5	501.5	4,397.1	3,672.7	55,681.6
2009	30,317.1	7,064.3	4,243.0	201.5	4,462.3	4,378.5	50,666.7

Shares (per cent)

2005	63.2	13.1	8.4	0.9	7.9	6.6	100.0
2009	59.8	13.9	8.4	0.4	8.8	8.6	100.0

#### Overnight stays

Number (number of visitors multiplied by average number of nights stayed) (millions)

	<i>Hotels and similar</i>	<i>Homes of friends or relatives</i>	<i>Owned vacation homes</i>	<i>Time-share</i>	<i>Rented dwellings</i>	<i>Other accommodation</i>	<i>Total</i>
2005	261.6	76.8	77.0	3.8	78.8	38.5	536.5
2009	226.6	80.5	82.5	2.0	73.6	35.1	500.3

Shares (per cent)

2005	48.8	14.3	14.4	0.7	14.7	7.2	100.0
2009	45.3	16.1	16.5	0.4	14.7	7.0	100.0

Average length of stay (nights)

2005	7.4	10.5	16.5	7.6	17.9	10.5	9.6
2009	7.5	11.4	19.4	9.9	16.5	8.0	9.9

2009 data relate to January to November.

Source: based on FRONTUR data.

<sup>64</sup> Arrivals figures measure the flows of international visitors to the country of reference: each arrival corresponds to one overseas trip. Overnight stays (or "guest nights") refer to the number of nights spent by non-resident guests (inbound tourists) in those establishments providing accommodation services for visitors.

## Annex 12.2

### Vacation homes in the balance of payments and national accounts of Norway

**12.2.1** In this annex, the sources and methods employed in Norwegian national accounts and b.o.p. statistics to estimate the stocks and flows related to second homes are discussed. The annex first gives a short resumé of the development of these statistics in Norway.

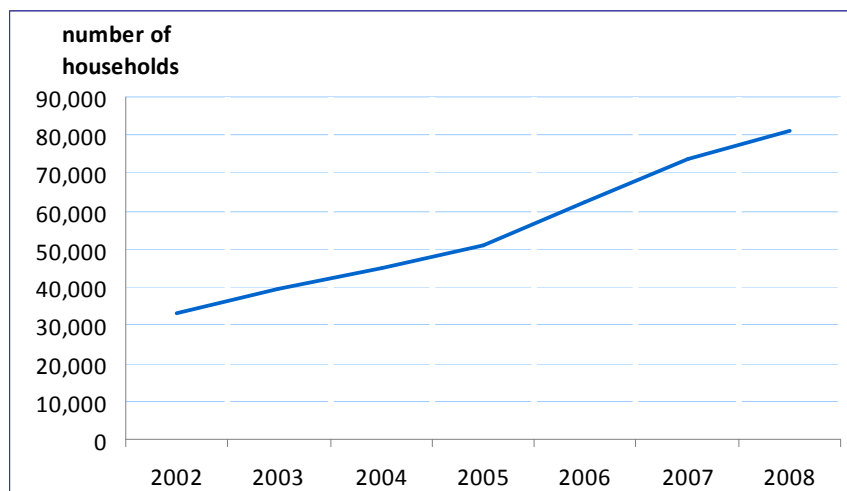
#### The development of Norwegian balance of payments statistics

**12.2.2** In Norway the balance of payments has been compiled and published as part of the national accounts almost from the start. When strict exchange control was introduced just after the second world war, information on payments was collected by Norges Bank (the central bank), as bank settlements statistics. The data were used for statistical purposes by Statistics Norway and published under the heading “Betalingbalansestatistikk” (balance of payments statistics). From the mid-1950s the name was changed to “Utenriksregnskap”, or “rest of the

together with customs-based external trade statistics and statistics on freight income and operating costs of the Norwegian merchant fleet, the basis for the compilation of the Norwegian balance of payments statistics. Together with the annual census of assets and liabilities with non-residents, established as early as 1919, users were supplied with a macro dataset giving a broad picture of residents’ transactions and positions with non-residents of Norway.

**12.2.4** Over time Norway experienced a substantial growth in the number and complexity of payment transactions with the rest of the world. Both the costs of collecting the data, but also their quality and consequently the quality of the settlements statistics, were questioned. The ITRS was accordingly discontinued from 2005. At the same time Statistics Norway was assigned the task of designing and running a new data collection system, initially covering all domestic sectors except banking institutions. Eventually banking

Chart 12.2.1 Estimated number of Norwegian households owning second homes abroad



world account” - integrating the balance of payments with national accounts statistics was highly unusual at that time.

**12.2.3** The bank settlements statistics of Norges Bank evolved over time into the International Transactions Reporting System (ITRS), and formed,

institutions were also included.

**12.2.5** For the household sector a new data collection system had to be established, using various sources and reporting channels. The collection of data on stocks and flows relating to second homes abroad was widened.

**12.2.6** The former ITRS of Norges Bank and the balance of payments statistics of Statistics Norway had put no real effort into estimating stocks of dwellings abroad, nor into imputing flows of property income relating to the ownership of such dwellings. As the ITRS was essentially based on payments or movements on bank accounts, the expenditures stemming from purchases of dwellings abroad were in principle included. There was however a real danger of including them indistinguishably with transactions recorded under the travel item.

**12.2.7** On the other hand, Norges Bank started in the second half of the 1990s to collect data on and estimate the value of stocks of second homes abroad for inclusion in the institutional sector financial accounts. This information was used in the new balance of payments statistics both as part of the international investment position and as a basis for estimating related income and expenditure flows in the non-financial part of the institutional sector accounts. The next sections show how these stocks and flows are estimated in the current balance of payments and national accounts statistics.

### Estimating the value of the stock of second homes abroad

#### The value of the stock of dwellings owned by Norwegians abroad

##### *Number and location of second homes abroad*

**12.2.8** The number of foreign properties owned by Norwegian resident households is based on yearly data collected by Statistics Norway, and an

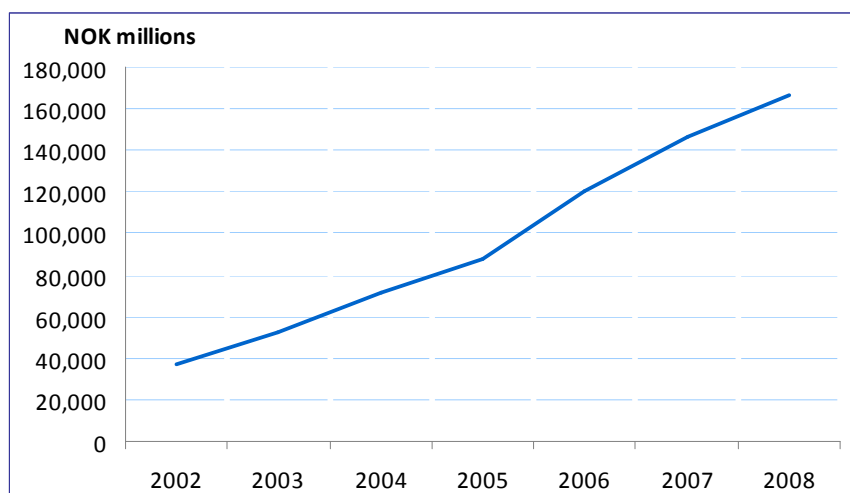
interview survey conducted in the second half of 2002 (Sentio, 2002). The interview survey found that 2 per cent of Norwegian households had holiday homes abroad.

**12.2.9** The number of Norwegian households owning a second home abroad in 2002 is used as a benchmark. Data for more recent years are projected by extrapolating the benchmark estimate with a volume index derived from data recorded in the tax return statistics (Statistics Norway), in which the number of persons who report ownership of property abroad is registered each year. Hence, the benchmark estimate from 2002 is extrapolated using the annual growth in persons reporting that they own property abroad.

**12.2.10** Chart 12.2.1 illustrates the growth in the number of households owning second homes abroad, estimated to be 32,900 households in 2002, increasing to 81,172 in 2008. It might be added that the tax return statistics show far fewer persons reporting ownership abroad, 14,045 and 34,670 respectively. The main source for the tax return statistics is the Directorate of Taxes' Register for Personal Tax Payers, which covers all individuals subject to tax assessment in Norway in the relevant fiscal year. By Norwegian law, ownership of foreign property is taxed. Some respondents may withhold information which would trigger a tax claim. The number of persons owning property abroad is therefore probably understated in the tax data. Data from the tax return statistics are accordingly used only as the basis for the volume index.

**12.2.11** In order to locate the countries in which investments take place, balance of payments data

**Chart 12.2.2** Stock value of Norwegian households' investment in foreign property (second homes)



based on the former ITRS are used.<sup>65</sup> Second homes are categorized into those located in Spain, Sweden, France, Denmark and other countries.<sup>66</sup> On the basis of these categories a frequency distribution is recorded: Spain contributes 50 per cent, Sweden 20 per cent, France 10 per cent, Denmark 7 per cent and other countries 13 per cent of total investment by Norwegian households.

#### *Average prices of second homes abroad*

**12.2.12** The stock value of foreign property is derived by applying average dwelling prices to the number of second homes abroad. Official average dwelling prices are used as a proxy for prices of holiday homes. The property market is split into the categories identified above from the ITRS. The average dwelling prices in Spain, France, Italy, the United States and the United Kingdom are derived from Reuters EcoWin (Thomson Reuters), while dwelling prices in Sweden and Denmark are obtained from Statistics Sweden and Statistics Denmark. The figures are then converted into Norwegian kroner at end-period exchange rates. Based on the frequency distribution deduced from the ITRS, the estimated number of households owning a second home abroad is allocated across countries. For each country, the estimated number of homes is then multiplied by the respective dwelling price calculated in Norwegian kroner. The total stock value of foreign property owned by Norwegian households is then the sum of stock values in each country.

**12.2.13** Chart 12.2.2 shows that from 2002 to 2008 total ownership of foreign property by Norwegian households increased by nearly NOK 130 billion. The stock is estimated at about NOK 166 billion in 2008. From 2005 to 2008 the value of Norwegian household property abroad more than doubled.

#### *Transactions of Norwegian household investment in foreign property*

**12.2.14** The flow of investment in foreign property is derived from the change in the estimated stock of property owned abroad. The difference between the current and previous stock is equal to the sum of transactions and revaluation effects. Revaluation effects reflect changes in the market value of property resulting from movements in exchange rates and prices.

$$(1) \quad E = X + Y,$$

$$(2) \quad Y = E - X$$

where

E = difference between the current and previous stock

X = foreign property investment transactions

Y = revaluation effects

**12.2.15** Foreign property investment transactions are calculated by subtracting the number of Norwegian households that own foreign property for the previous period ( $N_{t-1}$ , country A) from the estimate for the current period ( $N_t$ , country A) for each country. This change is then multiplied by the average price of second homes for the current period  $P_t$ , country A.

$$(3) \quad X_{\text{country A}} = (N_{t, \text{country A}} - N_{t-1, \text{country A}}) \times P_{t, \text{country A}}$$

**12.2.16** The transactions are calculated for each country, and their sum is then total foreign property investment transactions.

$$(4) \quad X = X_{\text{Spain}} + X_{\text{Sweden}} + X_{\text{France}} + X_{\text{Denmark}} + X_{\text{Other countries}}$$

**12.2.17** The transactions are subtracted from the change in stock level between the current and previous periods to derive the revaluation effects.

#### **Stock value of dwellings in Norway owned by non-residents**

**12.2.18** The number of non-residents who own property in Norway is registered each year in the tax return statistics. Average purchase prices for second homes are registered quarterly in data on the transfer of properties (Statistics Norway).

**12.2.19** The stock value of dwellings owned by foreigners is calculated as the product of the average price of second homes and the number of foreigners owning property in Norway. In order to estimate the value of transactions, the difference between the current and previous number of foreigners who own property in Norway is first derived. This is then multiplied by the current average price to estimate the value of transactions. The revaluation effect is then the difference between transactions and the change in the value of the stock in the current period.

#### **Estimating cross-border income flows**

##### **Property income from abroad**

**12.2.20** The imputed property income generated by secondary homes abroad is estimated by employing the same rate of return to the dwelling

<sup>65</sup> The data series were not continued after year 2004.

<sup>66</sup> The category "other countries" consists of the USA, Italy and the UK.

stock abroad as is applied to the total dwelling stock in Norway<sup>67</sup> for national accounts purposes.

$$(5) \quad \frac{O_A}{S_A} = \frac{O_N}{S_N}, \text{ where}$$

O<sub>A</sub>= operating surplus of Norwegian-owned dwellings abroad

S<sub>A</sub>= stock value of the Norwegian-owned dwelling stock abroad

O<sub>N</sub>= operating surplus of the dwelling “industry” in Norway according to national accounts

S<sub>N</sub>= stock value of dwellings in Norway estimated for national accounts purposes

**12.2.21** For example, for the year 2002 operating surplus in the Norwegian dwelling “industry” was NOK 49 billion, while the value of the total dwelling stock was NOK 1,180 billion, giving an annual rate of return of 49/1180 = 4.2 per cent.

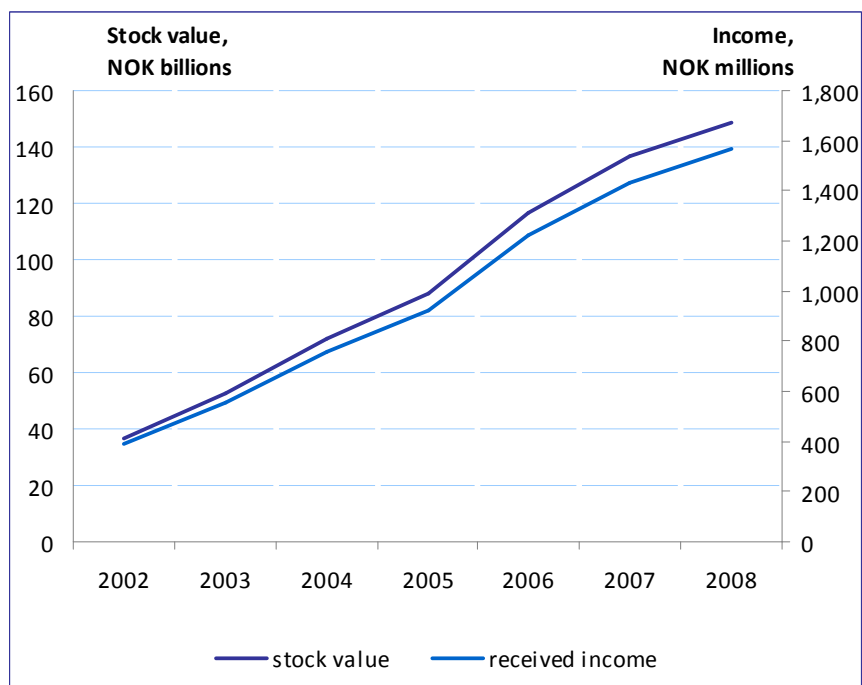
**12.2.22** It must, however, be kept in mind that

the year, because otherwise the person could be regarded as a resident of the country where the second dwelling is situated. In the absence of information on time spent in the second home abroad, the owner is assumed to stay there one month a year. In addition it must be taken into account that the dwelling can be used by others than the owner. The average occupier rate or occupation time is assumed to be 25 per cent of the year, and consequently operating surplus is generated 25 per cent of the year.

**12.2.23** Given the estimated stock value of secondary homes abroad (see chart 12.2.2) and applying the rate of return and occupier rate derived above, the estimated operating surplus (dividends) from abroad in 2002 is estimated at NOK 37 billion x 0.042 x 0.25 = NOK 388 million.

**12.2.24** The financing of a dwelling abroad must often give rise to interest costs, at least partly payable abroad. Ideally these flows should be estimated and recorded in the balance of payments

**Chart 12.2.3** Estimated stock values of and received income from Norwegian second homes abroad



operating surplus is generated only when production of dwelling services takes place, which is only when the dwelling is occupied. The owner of a dwelling abroad must stay there less than half of

and national accounts. Here however they are ignored; NOK 388 million is recorded as property income, i.e. dividends, from abroad.

**12.2.25** Chart 12.2.3 shows estimated stock values of and income flows from Norwegian owned second homes abroad for the period 2002–08. Stock values are given in NOK billion, while income is given in NOK million.

<sup>67</sup> A better solution would be to use the rate of return on the dwelling stock in the various host countries, but this information is not available.

### Property income to abroad

**12.2.26** Previous paragraphs explained how income generated by Norwegian-owned second homes abroad is estimated. Dwellings located in Norway owned by non-residents will in a similar way generate flows of imputed property income from Norway to the rest of the world. The estimation of these flows follows the same principles as described above.

**12.2.27** Operating surplus is estimated using the same rate of return on dwellings owned by non-residents as is applied to the total dwelling stock in Norway.

$$(6) \quad \frac{O_B}{S_B} = \frac{O_N}{S_N}, \text{ where}$$

$O_B$ = operating surplus of dwellings in Norway owned by non-residents

$S_B$ = stock value of dwellings in Norway owned by non-residents

$O_N$ = operating surplus of the dwelling "industry" in Norway according to national accounts

$S_N$ = stock value of dwellings in Norway estimated for national accounts purposes

**12.2.28** Taking 2002 as an example, the stock value of dwellings owned by non-residents is estimated at NOK 21 billion. A rate of return of 4.2 per cent and an occupier rate of 25 per cent gives estimated income or dividend to the rest of the world of NOK 217 million.

### Estimating consumption expenditures abroad

#### Non-residents' consumption of dwelling services in Norway

**12.2.29** The Norwegian Tourism Satellite Account System (NTSA) is the framework used for calculating non-residents' consumption of own-account dwelling services in Norway. Within this framework non-residents' consumption expenditures in Norway, represented in total by the travel item in the balance of payments, are distributed over detailed consumption groups and then over detailed categories of goods and services, among them the item "Imputed dwelling services from holiday homes". These data are included in the core supply and use tables in the national accounts.

**12.2.30** The final figure for this service category stems from assessments and calculations based on data from two different sources: the imputed

services from owner-occupied dwellings as part of the estimation of the dwelling industry in national accounts, and information from budget surveys on non-residents visiting Norway.

**12.2.31** In the Norwegian national accounts, output of owner-occupied dwellings is estimated according to the stratification method where actual observed rents for dwellings in the various strata are used to estimate output in each stratum. For secondary dwellings or holiday homes a separate estimation procedure is employed. A benchmark estimate for output from secondary dwellings is calculated by taking the same output ratio to total output from dwellings as the ratio applied to the corresponding stocks,<sup>68</sup> i.e.

$$(7) \quad \frac{Q_S}{Q_N} = \frac{S_S}{S_N} \implies \frac{Q_S}{S_S} = \frac{Q_N}{S_N}, \text{ where}$$

$Q_S$  = output of secondary dwellings in Norway

$Q_N$  = output in total dwelling industry in Norway

$S_S$  = stock value of secondary dwellings in Norway

$S_N$  = stock value of total dwellings in Norway

**12.2.32** The stock value of secondary dwellings is estimated based on information from the 1991 Survey of Living Standards, which asked for a self-assessment of the value of respondents' secondary dwelling(s) or holiday home(s), taking into account the possibility that a household may own more than one holiday home.

**12.2.33** The total output of dwelling services from second homes in Norway must then be allocated to consumption by residents and consumption by non-residents, using information on visitors to Norway from various sources. Among the most important is a five-yearly sample survey conducted by a private research institute. Information from these sources suggested a ratio of 80/20 in allocating total output of dwelling services from secondary homes in Norway to final consumption by residents and final consumption by non-residents.

$$(8) \quad Q_S = C_R + C_N = 0.8 Q_S + 0.2 Q_S, \text{ where}$$

$Q_S$  = output of secondary dwellings in Norway

$C_R$  = consumption of dwelling services by residents from secondary homes in Norway

$C_N$  = consumption of dwelling services by non-residents from secondary homes in Norway

<sup>68</sup> This approach may seem inconsistent with the way income is estimated, as no direct assumption is made on the average occupation time. This may be an issue for improvement.

**12.2.34** A benchmark value for imputed dwelling services from holiday homes consumed by non-residents in 1992 has since been extrapolated in line with the growth of the stock of second homes. For 2002 this method resulted in an estimate of services from owner-occupied secondary dwellings in Norway consumed by non-residents of NOK 270 million.

#### Norwegians' consumption of dwelling services abroad

**12.2.35** To estimate final consumption of dwelling services by Norwegians from owner-occupied dwellings abroad, the ratio of services consumed to the stock value of dwellings is assumed to be the same as for owner-occupied dwellings in Norway owned by non-residents.

$$(9) \quad \frac{C_A}{S_A} = \frac{C_N}{S_N}, \text{ where}$$

$C_A$  = consumption of dwelling services from second homes abroad

$S_A$  = stock value of secondary dwellings abroad

$C_N$  = consumption of dwelling services from dwellings in Norway owned by non-residents

$S_N$  = stock value of dwellings in Norway owned by non-residents

**12.2.36** Consumption expenditure on dwelling services from secondary homes owned by Norwegians in other countries in 2002 is estimated at NOK 483 million.

### Conclusions

**12.2.37** The growth in ownership of secondary homes abroad has made it necessary to estimate stock values as well as income and consumption flows in the balance of payments and the rest of the world account of the national accounts. Table 12.2.1 summarizes the results in the Norwegian national accounts and balance of payments for 2002.

**12.2.38** Table 12.2.1 shows that the ratio between the stock value of dwellings owned by Norwegians abroad and by non-residents in Norway, and the ratio between the related economic flows, was almost 2:1 in 2002. This result seems plausible taking into account both Norway's position in the rankings for income per capita in different countries and the size of travel debits relative to travel credits in the Norwegian balance of payments<sup>69</sup>. However, it must be admitted that more relevant and accurate information is desirable to improve these results. In particular, improvements could be made if national accounts data from partner countries on dwelling activities could be obtained and used in the calculations.

**Table 12.2.1 Summary table, 2002**

	<i>NOK million</i>	
	<i>Norwegian-owned dwellings abroad</i>	<i>Dwellings in Norway owned by non-residents</i>
Stock value	36,936	20,629
Annual investment	10,985	988
Property income	388	217
Consumption of dwelling services	483	270

<sup>69</sup> In 2002 exports of travel services were NOK 18 billion, and corresponding imports NOK 41 billion.



## Annex 12.3

### The use of administrative data to identify and compile statistics on foreign owners of second homes in Ireland

#### Background

**12.3.1** In macroeconomic statistics the treatment of second homes is difficult. In general statistics relating to households, ownership and borrowing to finance second homes can either be obtained directly through household surveys or indirectly through money and banking statistics. However, there are limitations on the number of questions that can be included in a household survey, and it is difficult to add questions on topics like second homes. Money and banking statistics have the weakness (for the purpose of data on second

information is detailed enough to allow the necessary analysis and estimation of ownership of second homes in Ireland and related flow statistics.

**12.3.4** The tax is levied locally and collected by each of the 35 local authorities. However, the processing system for the records and management of these tax receipts has been developed centrally by the Local Government Computer Services Board.

**12.3.5** The CSO made an approach to the Local Government Computer Services Board, and after a number of clarifications about the relevant sections

**Table 12.3.1** The metadata supplied to the Central Statistics Office

<i>Local authority</i>	<i>Country</i>	<i>Reference code for the property</i>	<i>Property type</i>	<i>Ownership category</i>	<i>Total tax</i>
Identity of local authority	Country of the owner of the property	Code	Apartment, terraced, semi-detached or detached property	Individual (household) or corporation	Amount of tax levied

homes abroad) that it is generally unclear whether the funding has been obtained from a bank where the household is normally resident or in the country where the property is located. Moreover, the property can be financed by additional borrowing against the security of the normal residence of the owner. For these reasons, until recently, estimates relating to the purchase of second homes in Ireland by non-residents have been very difficult to make.

**12.3.2** The solution for some compilers has been to rely on mirror statistics, e.g. Spanish data on the purchase of properties in Spain by Irish residents. Although this may work for second homes purchased abroad by Irish residents, it does not help in compiling estimates on second homes in Ireland owned by non-residents.

#### The non-principal private residence tax

**12.3.3** However, a recent development in local authority finance in Ireland is the introduction of a tax in 2009 on second homes (the non-principal private residence tax), which is levied by local authorities on all second homes. The Irish Central Statistics Office (CSO) has found that the

of the Statistics Act (1993) that allow the CSO access to public records for statistical purposes, access was given to this dataset. The CSO identified the critical metadata that would be needed to make the best possible estimates. The data supplied to the CSO is described below.

#### Statistical estimations

##### Stock of properties

**12.3.6** This tax has been in place only since 2009. Nevertheless, the owners of second homes were quick to comply, perhaps reflecting the methods used by the local councils to identify these second homes and their owners. Consequently the table obtained from the authorities contains over 300,000 individual records (including both domestic- and foreign-owned second properties) and relates to the first quarter of 2010. Foreign ownership can be readily identified and allocated to each foreign country. Some 14,000 properties were identified as being owned by non-residents, mainly from the United Kingdom. The total figure is close to a separate census of population estimate of 325,000 second homes in Ireland.

**12.3.7** The next step was to estimate the market value of these properties. This was achieved by

*consideration and recorded under the appropriate headings". Accordingly any funding raised in*

**Table 12.3.2 Property values**

		<i>€ thousands</i>				
<i>County</i>		<i>1bed</i>	<i>2bed</i>	<i>3bed</i>	<i>4bed</i>	<i>5bed</i>
Dublin	City Centre	201	316	306	*	*
	North City	197	248	313	472	607
	South City	201	276	353	554	763
	North County	177	239	293	463	869
	South County	210	329	337	626	1,076
	West County	155	216	259	331	723
Leinster	Meath	120	185	224	305	470
	Kildare	134	181	233	351	493
	Wicklow	173	256	309	397	546

using a commercial property website which provides property values for each county and city council, sufficient to allow a correspondence with the more detailed local authority data. Table 12.3.2 is an extract from this website.

**12.3.8** Applying the market values to the units for each local authority area provided an estimate of the market value of these properties of almost €3 billion for the first quarter of 2010. Once a time series is established it will be possible to estimate transactions. BPM5 and the *Balance of Payments Textbook* (paragraphs 550-551) were understood to mean that this €3 billion should be offset by any liability that might have been incurred to acquire or build the house, and which would be imputed to the notional FDI enterprise deemed to be set up in Ireland to own the property (the methodology is discussed in Chapter 12 of this guide, paragraph 12.9). However, BPM6 has clarified the treatment of second properties. Paragraph 4.36 reads: *"The notional resident unit should also be treated as incurring expenses and taxes; payments by the nonresident owner to meet a loss arising from these costs therefore would be recorded as direct investment flows from the owner to the notional resident unit. Other transactions of the owner would not be attributed to the notional resident unit, for example, any borrowing or debt service."* BPM6 continues: *"As a result of the limited nature of notional resident units, making acceptable estimates for their operations is generally feasible when they are significant. It follows that when compilers are estimating these flows on second homes all the relevant flows are taken into*

Ireland is treated as lending to the non-resident owner rather than the imputed direct investment enterprise, and recorded in the balance of payments financial account in the category *other investment*.

**12.3.9** The CSO assumes that the 80 per cent of the mortgages are raised in the country of the owner of the property and as such do not need be taken into consideration for balance of payments purposes. The basis for this assumption is that second homes in Ireland are not generally marketed as holiday homes including financing packages unlike, for example, in countries with major tourist destinations on the Mediterranean coast. The CSO also makes the critical assumption that the houses are vacant when the owner is not in residence. This assumption is based on the relatively short summer season in Ireland (June-August).

#### **Imputed rent**

**12.3.10** EU member states must comply with Commission Decision 95/309/EC when making imputed rent estimations for holiday homes. Section 1.4.2 of the Decision says: *"Principle 9 .....To estimate the output of holiday homes the annual average rents of similar facilities shall preferably be used. The annual rent implicitly reflects the average occupation time....."*

**12.3.11** Imputed rent should therefore be calculated only for the period when the owner is in residence. Accordingly the following calculation was made:

Average period in residence: 6 weeks

Average rental for homes in Ireland: €760 per month

Annual imputed rent =  $(760/30) \times 44 = \text{€}1,115$ .

When this estimate is applied to all these residences, the total amounts to €15.6 million.

### **Conclusions**

**12.3.12** Estimations relating to second homes will always be tentative on account of the lack of detailed data on the stock of these properties, the time the owners are in occupation, and the

financing arrangements. This case study illustrates how the use of administrative data can resolve the fundamental question relating to the number of foreign-owned properties in Ireland. However, there remains the task of estimating the stock and flows relating to the imputed FDI enterprises. The assumptions used in the case of Ireland have been discussed and the basis for the resulting tentative estimates explained. Current account flows present similar problems regarding estimation of imputed rents and interest flows and other service costs.

## Annex 12.4

### Vacation homes and tourism in Mexico

#### Introduction

**12.4.1** Tourism is an activity of some importance in Mexico. It comprises various activities such as transport, accommodation, restaurants and bars, travel agencies, cultural services, sports and other recreational services. Included in accommodation are the housing services provided by second homes, either owned by the tourist staying in them (in which case the services are imputed) or rented (in which case the rental paid measures the value of the housing services). The tourist may be a resident of Mexico, or a visitor from abroad.

**12.4.2** To determine the contribution of tourism to the domestic economy it is necessary to have a system of integrated statistics in the form of a Tourism Satellite Account (TSA), as envisaged by the UN World Tourism Organization (UNWTO). The methodology described here for estimating the contribution of second homes for tourism purposes is principally based on the *Tourism Satellite Account: Recommended Methodological Framework* (TSA:RMF) prepared by the UNWTO and other international organizations.

**12.4.3** At present the Instituto Nacional de Estadística y Geografía (INEGI) of Mexico is developing a system of the TSA in accordance with the structure and principles of the 1993 SNA. The TSA is the statistical instrument for measuring the goods and services related to tourism, according to international standards, on matters of concepts, classifications and definitions, allowing comparisons with other branches of the economy and indeed between countries and groups of countries. Thus far the work has focused on the estimate of second homes for tourist purposes in Mexico by domestic and inbound visitors. A survey on the ownership and use of vacation homes abroad by Mexican residents, and related expenditures, is still pending. This annex explains briefly how estimates of the value of housing services provided by second (or vacation) homes are compiled in Mexico.

#### The approach

**12.4.4** The 1993 SNA (Chapter IX, *The use of income account*) indicates that the owners of occupied private housing should be treated as owners of unincorporated firms producing accommodation services which are consumed by the same household. Thus the value generated for

such services should be considered *“equal to the rentals that should have been paid in the market for accommodation of the same size, quality and type. The imputed value of the housing services is registered as final consumption expenditure of the owners”* (paragraph 9.58).

**12.4.5** In the case of imputed expenditure, it is important to stress that *“Since the buyers do not pay cash, or expect to pay cash, values have to be imputed for the expenditures using the appropriate prices of similar goods and services sold for cash on the market”* (paragraph 9.28). In short, the imputation, strictly speaking, refers to the *“value of the goods or services involved and not to the expenditure itself”* (paragraph 9.30).

**12.4.6** Following the framework of the 1993 SNA, the TSA:RMF manual offers two perspectives for imputing the housing services provided by vacation homes (these extracts are taken from the 2001 version; a revised version was released in 2008):

From the demand side: *“For the sake of the homogeneity of treatment between rented dwellings and those occupied on own account, the 1993 SNA recommends imputing a housing service on own account for all dwellings occupied by their owners. When this occurs, the housing services are estimated, based either on the characteristics of the dwelling or, when an active rental market exists for similar units, on the effective average market rental for similar units.*

*This recommendation not only applies to the main housing unit of a household but to all the housing units owned by households; thus, it also applies to second homes and in the case of the TSA to those used for tourism purposes on own account or provided free of charge to visitors. A housing service has to be imputed, both as a production activity for the owner and as a consumption activity of the visitor. A visitor could be either a member of the household or a member of another household who receives the service free of charge. The service is part of tourism supply and of visitor consumption. Note, however, that the consumption of these services must take place outside the usual environment, as defined in paragraphs 2.14 to 2.17 above. For conceptual reasons, own production of housing services within the primary home that are provided to visitors are excluded from visitor consumption”* (paragraphs 2.71-2.72).

From the supply side: “*The specific activity is of a peculiar kind, because the sole ownership of a second home for tourism purpose on own account generates a tourism service and an equivalent consumption: no visit by any individual to this housing unit is necessary to generate the service, because, as for any housing unit on own account, the flow of the service provided depends only on the existence of the housing unit and its inherent qualities, such as location, configuration, type of construction, size and equipment installed, and not on any quality of the visitor*” (paragraph 3.36).

### Application of the approach in the case of Mexico

**12.4.7** INEGI reviewed the experience of other countries in estimating housing services from second homes and decided to use as a starting point the method applied by New Zealand:

- The total number of holiday homes is calculated using data from the population census.
- The price of the imputed rental is calculated using data from the census and changes in the index of producer prices.
- The number of holiday homes is multiplied by the “price” of the imputed rental to calculate the total value of the service of the housing rental.<sup>70</sup>

**12.4.8** For Mexico, INEGI analyzed the research work that the Center of Higher Studies in Tourism (CESTUR, Spanish acronym) and the Autonomous Metropolitan University (UAM, Spanish acronym) carried out in 2004. Among other things the CESTUR-UAM study computed the market value of vacation homes used for domestic tourism or by foreign visitors. Using the study INEGI computed the demand for second homes, distinguishing between those owned by Mexican residents and by non-residents.

### Number of second homes in Mexico

**12.4.9** For domestic tourism, an earlier *Urban Survey of Domestic Tourism of Households* provided the percentage of households that reported vacation trips (39.4 per cent) and the percentage of these reporting that they stayed in a vacation home (owned or rented) (8.46 per cent). This information and projections for 2005 gave an estimate of 617,500 family stays at vacation homes in 2005. The study further suggests that only 8 per cent of these stays were in rented homes.

**12.4.10** INEGI developed the estimates for second homes using the information provided by the CESTUR-UAM study. The numbers for population, urban population and households were based on the results of the *2000 Census of Population and Housing* and the *2005 Count of Population and Housing*. The data for the intermediate years were projected. Taking into account that 39.4 per cent of households had vacation trips and 8.46 percent of them stayed in private housing, the following estimates for the number of second homes were calculated: 606,600 in 2003, 631,700 in 2004 and 642,200 in 2005.

**12.4.11** The CESTUR-UAM study also provided information on the percentages of inbound tourists by country of origin and place of stay. The information on stays in private housing, both owned and rented, is presented in table 12.4.1.

**12.4.12** The study suggested that 7.6 per cent of non-residents visiting Mexico on vacation stayed in second homes (owned by them, or rented) in 2003. Applying this ratio to the total number of tourists who visited Mexico provided the estimate of non-resident family stays in vacation homes. In order to estimate the number of second homes it was assumed that on the average two persons stay in the same accommodation. In total, it seemed that 5-7 per cent of all residences in Mexico were vacation homes.

**Table 12.4.1 Percentage of travellers who stay at home in private housing, by origin**

<i>Region or country of origin</i>	<i>House or apartment owned</i>	<i>House or apartment rented</i>	<i>Total housing tourism</i>
USA	2.7	3.8	6.5
Canada	2.1	7.9	10.0
Europe	1.4	5.1	8.5
Latin America	11.1	2.7	13.8
Others	1.9	3.9	5.8
<b>Global</b>	<b>3.5</b>	<b>4.1</b>	<b>7.6</b>

Source: *Study of Profile and Degree of Tourists' Satisfaction*. CESTUR, The survey covered 74,718 cases.

<sup>70</sup> Statistics New Zealand: Tourism Satellite Account, 1995 (published in 1999), page 41.

**Valuation**

**12.4.13** INEGI estimated the number of properties in “temporary” use (i.e., not occupied the whole time) from the *Count of Population and Housing*, 2005. This figure was broken down into occupancy by domestic and foreign tourists on the basis of the information on the number of household stays described in the previous section. According to this source about 1.4 million homes were used for tourist purposes in 2005, of which 589,000 by domestic tourists and 833,000 by foreign tourists.

**12.4.14** After analysis of available price information, INEGI decided to use the *National Survey of Income and Expenses of Households*,

which includes estimates of housing rentals for 2004 and 2005. The “price” of the rental for the previous and for more recent years was projected with relevant information from the consumer price index. Thus the average monthly rent for 2005 was estimated at 1,418 Mexican pesos, or 17,016 pesos for the year.

**12.4.15** Based on this later information, and the results of the earlier CESTUR-UAM research, INEGI estimates that the imputed rental of second homes in 2007 is 26.6 billion pesos, amounting to about 7.5 per cent of the total value of housing services estimated for Mexico.

**Table 12.4.2 Valuation of second homes**

<i>Denomination</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>
<b>Physical units</b>					
Second homes	1,399,225	1,414,616	1,421,689	1,414,581	1,414,581
Domestic tourism	689,225	630,616	588,689	602,581	602,581
Inbound tourism	710,000	784,000	833,000	812,000	812,000
<b>Rent</b> <i>(Mexican pesos)</i>					
Estimated rent per month	1,315	1,367	1,418	1,516	1,565
% increase		4.0	3.7	6.9	3.2
Estimated rent per year	15,780	16,404	17,016	18,192	18,780
<b>Valuation</b> <i>(Mexican pesos billions)</i>					
Second homes	22.10	23.24	24.19	25.73	26.56
Domestic tourism	10.87	10.34	10.01	10.96	11.31
Inbound tourism	11.20	12.86	14.17	14.77	15.24

## Annex 12.5

### Imputing the rental for owner-occupied vacation homes in the United States

**12.5.1** Housing services provided by owner-occupied dwellings have always been included within the production boundary of national accounts, and an imputation has been needed to measure their value (2008 SNA, paragraph 6.34). When well-organized rental housing markets exist, the imputation is generally based on the estimated rental that a tenant would pay for an equivalent housing unit, taking into account such factors as the unit's location, size, and quality (2008 SNA, paragraph 6.117). These same principles apply to imputing the rental for second homes, such as vacation homes, which are held for seasonal or occasional use (2008 SNA, paragraph 24.56).

**12.5.2** Vacation homes, however, may present some special measurement challenges. First, in imputing a rental for owners of vacation homes, account must be taken of the seasonal or infrequent use of these homes. Second, sometimes standard data sources, such as surveys or censuses of housing and population, provide less information for second homes than they provide for primary homes. For example, in the United States, the main housing surveys do not provide the same types of financial data for second homes as for primary residences. Third, vacation homes may be owned by non-residents, which will require the imputation of an external flow.

**12.5.3** This note provides examples to illustrate how statistical offices might address the first and second challenges in preparing estimates of the imputed rental for owner-occupied vacation homes. The third challenge - vacation homes owned by non-residents - is not addressed in these examples, but the 2008 SNA provides guidance on the treatment of these homes (see paragraphs 24.56-24.57 and 26.33).

#### Seasonal or occasional use of vacation homes

**12.5.4** The European Commission has given more specific guidance on imputing rent for secondary dwellings in its directives on how dwelling services should be measured in preparing estimates of GNI.<sup>71</sup> Zero rentals are to be recorded only for "empty dwellings," i.e., those secondary dwellings which are neither rented out nor used by the owner. Furnished owner-occupied dwellings are treated as being occupied because the existence of furniture

in them is evidence that they are not empty. Imputed and actual rentals for holiday homes are supposed to reflect the average amount of time that the dwellings are occupied.

**12.5.5** In some places, vacation homes are available for short-term lease. If data are available on these leased homes, then it may be possible to use the actual rentals paid for leased vacation homes for imputing the value of owner-occupied vacation homes. It is important, however, to recognize that vacation homes may not be leased for the entire year, and consequently the rental charged during the holiday season may be higher than for similar homes that are rented for the full year. Suppose, for example, that an investor can purchase for the same price either a home to lease for full-year use or a home to lease for holiday use. If the investor expects to lease the full-year home for twelve months at an average monthly rental of \$1,200 and expects to lease the vacation home for only six months a year, then for the investor to be indifferent between purchasing the two properties, the holiday home must have an expected monthly rental of \$2,400 during the half year when it is occupied. If average holiday home rentals are observed to be \$2,400 a month, then the proper annual rental value must recognize that this home will only be leased for six months a year. For an owner who uses a home only for part of the year, the imputation should be based on the higher rental that must be charged during the portion of the year for which such homes are usually leased.

#### Filling gaps in the data on valuation of vacation homes

**12.5.6** In the United States, major surveys of population and housing, such as the American Housing Survey, do not provide the same type of financial information for vacation and other second homes that they provide for primary residences. As a result, if these data sources are used for imputing the rental value of vacation homes, it may be necessary to use a different approach than would be used for primary residences. In particular, care must be taken to adjust for differences in location, size, and other characteristics of these units.

<sup>71</sup> See European Commission, 2005.

**12.5.7** According to the 2007 American Housing Survey,<sup>72</sup> about 5.7 per cent of housing units in the United States, or 7.34 million homes, are classified as “seasonal,” “for occasional use,” or as temporarily occupied by someone with “usual residence elsewhere” (see the categories shown in bold in Table 12.5.1). The Census Bureau refers to these units as “extra units,” and they include the units we have described as vacation homes. In contrast to year-round units, however, the American Housing Survey does not provide financial data such as median value or monthly housing costs for extra units.

**Table 12.5.1: Housing units in the United States by occupancy, 2007**

Characteristics	Number of units (thousands)	Per cent
Total housing units	128,203	100.0
Year-round	123,801	96.6
Occupied	110,692	86.3
Owner	75,647	59.0
Renter	35,045	27.3
Vacant	13,109	10.2
For rent	3,852	3.0
For sale	2,017	1.6
Rented or sold	1,080	0.8
<b>Occasional use or usual residence elsewhere</b>	<b>2,938</b>	<b>2.3</b>
Other vacant	3,222	2.5
<b>Seasonal</b>	<b>4,402</b>	<b>3.4</b>

Source: US Bureau of the Census, *American Housing Survey for the United States, 2007*.

**12.5.8** The following steps illustrate how data such as these might be used for imputing rental value for owner-occupied vacation homes. First, the portion of these extra units that are used as vacation homes by their owners must be estimated, as compared to the units that are held for investment purposes and are leased on a short-term basis. Second, it is necessary to adjust the average imputed rentals for year-round owner-occupied homes for the different characteristics of vacation homes. This example includes an adjustment for size, because vacation homes are smaller, on average, than year-round homes. In practice, it may be necessary to adjust for other important characteristics such as location of the

units. In the third step, the adjusted average rentals are used to infer the total value of these rentals for all vacation homes.

#### Step one

**12.5.9** While the American Housing Survey identifies extra homes that are vacant or are occupied by someone whose usual residence is elsewhere, it does not clearly distinguish between owner-occupied extra homes and those held by investors for short-term leasing. In part, this lack of distinction reflects the fact that some homes serve both functions; thus some owners may use an extra home themselves for holidays, and lease it out when not using it themselves. Nevertheless, for the national accounts it is important to distinguish between leased homes, which should be valued based on an estimate of the actual rentals, and owner-occupied vacation homes, which will need to be imputed. (Homes that are held for both purposes may need to be apportioned between owner occupancy and tenant occupancy.)

**12.5.10** The survey asks several questions which may help to identify leased units. For example, when asked why the extra unit is owned, 52.8 per cent of respondents said they use it for recreational purposes, while 12.9 per cent said they held it for investment purposes. The other responses to this question, however, include answers such as “inherited the property” that leave it unclear whether the owner primarily uses the property or leases it to others. A more informative question asks for the number of nights during the year that the extra unit was leased. Of those who responded to this question, 16.9 per cent reported that it was leased for eight or more nights. Using this as an estimate of the share of extra homes that are primarily leased out, the remainder (83.1 per cent of 7.34 million, or 6.1 million) provides an estimate of the number of owner-occupied vacation homes.

#### Step two

**12.5.11** According to unpublished data underlying the US national accounts, the average annual imputed rental for an owner-occupied home in 2007 (including manufactured homes, but excluding farm homes) was \$14,977. It would be inappropriate, though, simply to apply this value to vacation homes. According to the 2008 SNA, compilers of national accounts should taking into account “*factors such as location, neighbourhood amenities, etc. as well as the size and quality of the dwelling itself*” (6.117). In the United States, vacation homes tend to be smaller than year-round owner-occupied homes. For example, according to the 2007 American Housing Survey, 47 per cent of

<sup>72</sup> See US Census Bureau, *American Housing Survey for the United States, 2007*, <http://www.census.gov/hhes/www/housing/ahs/ahs07/ahs07.html>.



vacation homes had four rooms or less, compared to 10 per cent of year-round owner-occupied homes. For detached homes, the median size of an extra home was about 1,293 square feet (120 square meters), which was 69 per cent of the median size (1,876 square feet or 174 square meters) of a year-round owner-occupied home. Assuming that this difference in size is applicable to all vacation homes, \$14,977 multiplied by  $(1,293/1,876)$  gives \$10,325 as an estimate of the size-adjusted imputed rental for vacation homes.

**12.5.12** More generally, this approach of adjusting the imputed rental of owner-occupied year-round homes for differences in characteristics of vacation homes could be applied to several strata, thereby taking account of differences in several characteristics. (For example, in the case of the United States, an analysis of the public release microdata files from the *American Housing Survey* would permit strata to be formed on the basis of

characteristics such as region, whether the location is urban or rural, and more detailed dwelling characteristics such as the presence of a full kitchen.) If estimates of imputed rentals for owner-occupied year-round homes are not available for all strata, differences between strata in home values could be used as a proxy for the variations in imputed rentals across strata.

**Step three**

**12.5.13** The average imputed rental for a vacation home is multiplied by the number of vacation homes (\$10,325 by 6.1 million homes) to obtain an estimate (\$63 billion) of the imputed rental of vacation homes. If adjustments for characteristics were applied to several strata, the estimates could be applied to each stratum and then added up to obtain the national total.



## CHAPTER 13

# E-commerce

### Introduction

**13.1** International e-commerce, which involves cross-border transactions over the internet, shows every sign of continuing to expand rapidly. The potential savings of transaction costs from e-commerce are substantial. The most important cost-saving aspect of e-commerce is the reduction in travel, administration, communication and search costs. One consequence of such cost advantages is that many small cross-border transactions have now become economic. In addition, e-commerce has also made possible new kinds of trade in services.

**13.2** While the growth of cross-border e-commerce is widely acknowledged, it imposes measurement challenges for international trade statistics. This chapter begins with definitional and conceptual issues related to e-commerce, which falls into two transactional categories: products ordered and delivered via electronic means, and products ordered electronically but delivered physically.

**13.3** Various definitions of e-commerce exist. For instance, “electronic means” is a broad term that includes both the internet and a range of other computer-based networks. The statistical challenge of measuring e-commerce and how it may affect national accounts is the main topic of this chapter. The globalization aspect of e-commerce accounts for part of the measurement challenge. Before discussing the implications for different areas of national accounts and related statistics (international trade, consumer prices, transportation margins, etc.), the chapter considers what economic benefits lead firms and consumers to engage in e-commerce, and its economic effects.

**13.4** Annex 13.2 to this chapter describes initiatives on e-commerce by Statistics Netherlands. This country experience offers further insights into the practical difficulties presented by e-commerce to compilers of national accounts.

### Definitions

**13.5** Domestic e-commerce involves within-border transactions through the internet or other external networks, while international e-commerce relates to cross-border transactions. These transactions may refer to selling or buying goods and/or services which are then delivered online or physically.

**13.6** The transaction-based concept that restricts e-commerce solely to buying and selling makes it distinct from other forms of e-business. E-business includes all aspects of online business activity – purchasing, selling, marketing of new ideas and products and services, handling logistics, support services, inventory management, etc. For the purpose of this chapter, international e-commerce can be defined as consisting of transactions that involve online orders leading to the (import or export) delivery of goods and services. As will be seen, this general definition is consistent with BPM6, the *Manual on Statistics of International Trade* (MSITS 2010), and the definition used by the OECD.

**13.7** The most appropriate definition of e-commerce may depend on the question being investigated. Thus in academic literature e-commerce is broadly defined, as it refers to an activity that is part of more general information communication technology (ICT) activities. This is also true for policymakers who employ broad definitions emphasizing the impact of e-commerce on all aspects of the economy. At other times, narrower definitions can be used to address more specific policy areas such as intellectual property rights, taxation, outsourcing and trade. For instance, for an investigation into the impact of offshore outsourcing on employment, an appropriate definition would relate to e-commerce in newly tradable services. Examples of newly tradable services include the foreign relocation of US tax return assistance and call centres.<sup>73</sup>

<sup>73</sup> See, for example, Timmons, 2010, for a prediction that outsourcing of legal services to India will reach \$1 billion by 2014. An implication is that some firms will become substantial importers of services.

**13.8** Another important question is which type of e-commerce should be investigated. E-commerce (national or international) can be grouped into different categories. The most common are: business-to-business (B-to-B), business-to-consumer (B-to-C) and consumer-to-consumer (C-to-C) commerce. B-to-B commerce includes a broad range of intercompany transactions, including wholesale trade as well as trade in intermediate goods and services (examples include manufacturing parts and components, technology, services, and resources). Financial business such as in insurance, commercial credit and other financial assets may be included (Lucking-Reiley and Spulber, 2001). B-to-C commerce is a segment of e-commerce where firms sell goods and services to consumers (persons, or households). There is a general agreement that B-to-B is larger than B-to-C (for instance, Fraumeni, 2001; CBS (Statistics Netherlands), 2009). However, the B-to-C sector is experiencing much more rapid growth for three important reasons: increasing use of the internet, the emergence of specialized online shops, and globalization of the internet. The third category of C-to-C commerce relates to the selling of goods and services among consumers. In this market, specialized e-commerce firms (e.g. e-Bay, Amazon) act as intermediaries permitting households to transact in new and used goods and services. Advertising revenues, including charges to have a link appear on a web page, represent an important source of revenue.<sup>74</sup> While each of these different categories relates to a particular type of interaction between buyers and sellers, all have a major impact on data availability and measurement, with implications for national accounts, as further explored in paragraphs 13.24-13.31 below.

**13.9** E-commerce usually means that orders are placed over the internet. However, definitions vary, mainly with respect to whether e-commerce refers only to selling and buying through the internet or extends to other electronic networks, such as

electronic data interchange<sup>75</sup> (EDI), intranet and extranet.<sup>76</sup>

**13.10** In 1999, the OECD set up an international working group to compile a definition of e-commerce that could be used in policymaking and that was statistically reliable and feasible. The working group compiled two definitions of e-commerce with the following dimensions: the network used for e-commerce, and the business processes related to e-commerce. They are:

a. **Broad:** the sale or purchase of goods and services conducted over computer-mediated networks, including EDI but excluding intranet transactions.

b. **Narrow:** the sale or purchase of goods and services conducted over the internet, including web-enabled EDI and any other web-enabled application but excluding intranet transactions.

**13.11** The broad definition concerns the purchase and sale of goods or services via computer networks, covering all electronic transactions. The narrow definition differs in only one aspect, namely that the network used to order the goods and services is the internet.

**13.12** What are the shortcomings of the broad definition? The broader but more inclusive definition includes proprietary networks used, such as EDI, in addition to the internet. Where e-commerce has already been a regular feature of business activities for many years, as in the United States and Western Europe, this definition may be more relevant for capturing the full scope of such activities. However, taking into account differences in terms of the technological endowment across countries, the broader definition may be less relevant to smaller and less developed economies where the major network involved is the internet. For instance, Stare (2001) noted that improvements in the overall telecommunications infrastructure and internet access services would stimulate the diffusion of e-commerce in Central

<sup>74</sup> Online advertising is a form of promotion that uses the internet for the purpose of delivering marketing messages to attract customers. The selling of internet advertising is an important type of B-to-B transaction. In 2008, it was estimated that Google controls about 69 per cent of the online advertising market.

<sup>75</sup> EDI allows direct communication of standardized trading messages between computer systems. Before the internet, EDI systems were primarily used by large businesses and were strictly proprietary (conducted over private networks); with the emergence of the internet, some EDI systems were transformed into open networks.

<sup>76</sup> Intranet computer networks allow for communication solely within an enterprise, while extranet is part of intranet that is also accessible to selected users outside the enterprise, such as vendors and clients. Other technology that could be part of a computer-mediated network is enterprise resource planning (ERP) and customer relationship management (CRM). ERP concerns software that integrates data on planning, purchasing, logistic and production activities. CRM is especially oriented towards sharing information on sales and marketing data.

and Eastern European countries. For these cases, the narrower (internet) definition could be more applicable.

**13.13** A new definition of e-commerce proposed by the OECD solves some of the shortcomings previously stated. The OECD 2010 definition refers to *“...the sale or purchase of goods and services conducted over computer networks by methods specifically designed for the purpose of receiving or placing orders. The goods or services are ordered by those methods, but the payment and the ultimate delivery of the goods and services do not have to be conducted online ...”* This new definition is now used in data collection in most EU member countries. It includes orders placed on web pages, EDI and extranet, and excludes orders made by telephone, facsimile or manually-typed e-mails. A major change is that the proposed definition is no longer based on a narrow-broad distinction. Indeed, the new term “computer networks” no longer includes the networks distinction between internet and other e-commerce related electronic transactions. The underlying rationale of this new definition is that information can now be collected on the basis of either transaction mode. In addition, the term “computer network” is broadly defined to give the flexibility to accommodate future changes in how e-commerce is conducted. For instance, an attractive feature of open-source software for web servers and web browsers (e.g., Apache, Linux, and Firefox) is that anyone may develop or improve current software because source codes are publicly available.

**13.14** The OECD task force proposes that the specific transaction mode is captured in the form of a new questionnaire where respondents are given the choice between web sales, web purchases, EDI sales, EDI purchases, and other potential types of e-commerce, each of these e-commerce transaction models being defined. Evidence suggests that this will improve the response to data requests (OECD, 2010).

### Economic rationale of e-commerce

**13.15** E-commerce can be considered as a process that mediates transactions of selling goods and services through electronic exchange. It is widely accepted that e-commerce improves efficiency through cost reductions, more competition and a better organization of production processes, and widens choice. These mechanisms are discussed in turn. Electronic transactions through the internet avoid many of the operating costs related to processing an order. Lucking-Reiley and Spulber (2001) discuss these

savings at each stage. Before the transaction, internet technology reduces the costs of searching for suppliers and buyers and making price and product comparisons. During the transaction, e-commerce reduces the cost of communicating transaction details (travel costs, paper processing, etc.). After the transaction, e-commerce lowers the costs of monitoring contractual performance and permits inventory and supply management to be automated. While empirical evidence of these potential cost savings is limited, it is estimated that, depending on the industry, such cost reductions are of the order of five to ten times (Lucking-Reiley and Spulber) and range up to 80 per cent of total input costs (OECD, 2000; Garicano and Kaplan, 2001).

**13.16** Cost advantages, as a result of the automation of transactions, may mean lower prices which benefit consumers. A Goldman Sachs (2000) study estimated that an economy-wide price reduction of 4 per cent could be attained, although such estimates depend on numerous assumptions. The more elaborate study by Garicano and Kaplan estimates that in the wholesale auction market for used cars e-commerce reduces transaction costs by 80 per cent, or about 5 per cent of the commercial value, which in turn has translated into a reduction of 2 per cent in the price of used cars.

**13.17** A second potential benefit of e-commerce is a stimulus towards a more competitive environment. E-commerce can lower production costs for existing producers and the lower costs may be passed to consumers through lower prices without affecting profitability. Hitt and Brynjolfsson (1996) use firm-level data on IT spending by 370 large firms. The evidence shows that the adoption of the internet did not result in higher profitability. Similar evidence is found in the banking industry with the introduction of ATMs (Humphrey, 1994). Indeed, ATMs have helped to reduce transaction costs by 15 per cent. At the same time, transaction volumes more than doubled and the benefits went to consumers. While the ATM does not add any additional value to banks, the study concludes that it meets a strategic necessity for them.<sup>77</sup>

**13.18** Market imperfections may reduce competition and prevent lower production costs from being passed on to consumers. So far the empirical evidence is mixed, with some work suggesting lower, constant or even higher prices (see Visser and Lanzendorf, 2003, and OECD, 2000,

<sup>77</sup> However, an additional argument not explored in the paper is that the large volume of ATM transactions despite constant profits may reflect a firm's strategy to increase market share.

for a review of some of the empirical literature).<sup>78</sup> Other factors may also be important, although this is still subject to debate. For example, Schmitz and Latzer (2002) advance theoretical arguments and empirical evidence to challenge the widely held view that B-to-C commerce markets are strongly competitive, arguing that the goods sold in B-to-C e-commerce are heterogeneous composite goods, that market transparency in B-to-C e-commerce is lower than widely assumed, and that high endogenous sunk costs limit the intensity of competition in B-to-C e-commerce.

**13.19** The intensification of competition as a result of e-commerce does not always bring lower prices. The study of Goldmanis and others (2010) looks at three US industries, bookshops, travel agencies and new car dealerships, finding that the growth of e-commerce affects the structure of the industry through market reallocation, that is, larger firms grow at the expense of smaller firms. These results imply that the exit rate of especially small firms can be seen as an inefficient consequence of meeting growing consumer demands at lower search costs through e-commerce.

**13.20** A third mechanism specifies the efficiency impact of B-to-B commerce through a better organization of production processes. Because e-commerce may reduce transaction costs, as discussed above, firms may be led to reorganize the structure of their production network or supply chain. Better organization of production includes centralization of management and administration. As shown in the literature, B-to-B e-commerce encourages vertical integration and outsourcing of production and service-related activities (Lucking-Reiley and Spuller, 2001; Zhu, Kraemer and Xu, 2006). Another factor working in the same direction is the globalization of many enterprises noted elsewhere in this guide (Kraemer, Gibbs and Dedrick, 2002). Indeed, cross-country empirical evidence quoted in their study suggests that firms engaged in foreign activities have an extra incentive to adopt e-commerce, to help improve the integration of the value chain.

**13.21** While the discussion in the previous paragraph is especially true for B-to-B commerce in intermediate inputs, the globalization aspect may

also be relevant for transactions in final goods and services (B-to-C commerce). There is some reason to think that downstream activities such as marketing, sales and customer service are more locally dependent. With specific reference to B-to-C commerce, some empirical findings reinforce this expectation. For instance, Globerman, Roehl and Sandifird (2001) confirm that globalization is an important determinant for B-to-B commerce in the retail brokerage industry, while B-to-C is rather a driver to enhance a local competitive advantage. The more elaborate study by Kraemer, Gibbs and Dedrick found similar evidence across countries and industries. Much however may depend on the type of product. For more generic products such as electronic goods, software, clothing, books, and music, supply and demand is more cost-driven than determined by local tastes and habits.

**13.22** Another benefit of e-commerce is more variety in similar products. Product differentiation is a business strategy in which firms attempt to create and exploit differences between their products and those offered by competitors. These differences may lead to competitive advantage if customers perceive and welcome the difference. Greater variety benefits consumers through wider choice. Consumer e-commerce, such as internet shopping, can widen choice through access to a wider range of sellers; niche sellers of specialized products may then be able to realize enough economies of scale to become profitable.

**13.23** Thus four factors by which e-commerce improves efficiency have been discussed in this section: cost reductions, more competition, a better organization of production processes, and greater access to different varieties of products. The literature usually regards these as the most essential factors, without ruling out that other indirect effects of e-commerce might usefully be explored, including the impact of B-to-C commerce on consumption patterns, the reallocation of labour through the impact of B-to-B commerce, and macroeconomic implications.

## Statistical treatment in international standards

**13.24** Thus far the statistical guidance on e-commerce in international manuals has been very limited. As will be explained in the next section, solutions on how to treat the electronic supply of products are being sought, and such trade is now treated as international e-commerce in services.

<sup>78</sup> It is evident that transactions and cost reductions are likely to be different for various types of products. The OECD review covers some work with specific reference on B-to-C commerce. Some studies estimated that such costs for digitalized products (e.g., CD ROMs, books, airline tickets) tend to be on average 10 per cent lower than for conventional retail sales. Whether these cost savings benefit consumers is not investigated.

**13.25** The treatment of e-commerce transactions within the framework of BPM6 falls into two categories (see BPM6, paragraph 10.10):

- Goods and services ordered and delivered via electronic means.
- Goods and services ordered electronically but delivered physically.

**13.26** When items are delivered physically, the usual statistical treatment of transactions in goods and services is applied, and shipping charges are allocated in line with the “free on board” principle. In case of electronic delivery “*in general, charges for electronically delivered products are included in services ...*” and “*financial services associated with e-commerce are included in financial services*” (BPM6, paragraph 10.10) The definitions of goods and services in BPM6 are in line with the 2008 SNA treatment of goods and service transactions.

**13.27** Chapter 10 of BPM6 further describes the treatment of charges related to the use of intellectual property (section h) and the classification of telecommunication, computer and information services (section i).

**13.28** Table 13.1 shows when to record e-commerce as transactions in goods or services, based on the type of licence attached to the product (perpetual use, period licence, etc.) and

the method of delivery (physical or electronic). For instance, the purchase of software is recorded as purchase of a good if the purchase includes a perpetual licence to use the software, but as purchase of a service if the licence restricts use to a limited period. Information services which may include downloaded content that is not software (such as electronic access to a newspaper, or to audiovisual products), are all categorized as charges for the use of intellectual property, and so as purchases of a service, provided that, if appropriate, a licence fee is charged for use of the product for a specified period.

**13.29** The *Manual on Statistics of International Trade in Services* (MSITS 2010) uses the same definition as BPM6 for international e-commerce (see paragraph 3.62). The *International Merchandise Trade Statistics* manual (IMTS 2010) also discusses goods bought through electronic commerce (see paragraph 1.34), recognizing that data collection on exports and imports of e-commerce products is challenging (as for example when goods are shipped through parcel or courier services).

**13.30** There is a general recognition that the electronic delivery of international e-commerce services is covered by the General Agreement on Trade in Services (GATS), yet there is still no

**Table 13.1 International treatment of e-commerce**

<i>E-commerce goods and services</i>	<i>Classification</i>	<i>International treatment</i>
(a) Sale or purchase of goods over computer networks - delivered physically	goods	Merchandise trade as defined in IMTS 2010, BPM6 and 2008 SNA
(b) Sale or purchase of goods over computer networks - delivered electronically	services	
(c) Sale or purchase of services over computer networks - delivered electronically	services	
(d) Sale or purchase of computer-related services over computer networks - delivered physically (provided on physical media) - with right to perpetual use	goods	BPM6
(e) Sale or purchase of computer-related services over computer networks - delivered physically (provided on physical media) - with period licence fee	services	
(f) Sale or purchase of computer-related services over computer networks - delivered electronically or downloaded	services	

Note: the table summarizes the coverage, classification and corresponding source in international standards for the statistical treatment of e-commerce goods and services. The first block concerns goods and services that do not involve intellectual property rights; the second block relates to e-commerce in intellectual property products (software, telecommunication, audiovisual and other related services).

agreement on the modes of supply. The provisional solution is mode 1 – cross border trade, or mode 2 – consumption abroad, the distinction being that, while the supplier and the consumer are in each case resident in different economies, in mode 1 the service is delivered from abroad to the country of the consumer, whereas in mode 2 the service is deemed to be delivered abroad. For balance of payments purposes the residence of the supplier is the most relevant criterion, but because the country of residence of the supplier of an electronically delivered e-commerce service is often unknown, a clear distinction between modes 1 and 2 is not always possible. The MSITS 2010 also includes a discussion on these modes of supply for services (see paragraphs 5.23 and 5.38) and for simplicity recommends the use of mode 1 for statistical purposes.

**13.31** It might be added that the Eurostat Task Force on the Rest of World has recommended further work on the recording of e-commerce, noting that *“information from credit card operations will be highly valuable for the assessment of transactions, in particular at high frequency, notably for travel and e-commerce”*. Credit card data may give a useful indication of internet sales and provide relevant information for consumer price indices (CPIs).

## Measurement

**13.32** The extent to which international trade is affected by international e-commerce much depends on how it is recorded in the data. This section sets out some measurement challenges presented by e-commerce, especially for international trade statistics. Annex 13.2 describes some data initiatives by Statistics Netherlands, including the development of EU-harmonized ICT surveys. How activities related to e-commerce are treated in the national accounts will be covered in the next section.

## Classification, identification and coverage

**13.33** While the purchase order, including the search for the product or service, must be completed electronically for many products, it is only for services and digital goods that delivery is made online. The measurement of output of services has always been difficult (because of the need to identify a standard product); e-commerce, by encouraging trade in services, adds to the importance of the problem.

**13.34** Tables 13.1.1–13.1.3 in annex 13.1 provide some numerical illustrations. Service industries that have been affected by e-commerce include

transport and storage, IT, insurance, and other business services. Examples of e-commerce activities in these industries include online payments for travel arrangements (hotels and travel), insurance purchases, and software and other related services. In the case of IT products, it is difficult to measure the output of software directly (as well as related IT services), which in turn may affect the output of hardware. One notable outcome is an unusually large share of e-commerce in total turnover in the transportation and storage industry (see especially table 13.1.2); this industry includes airlines which make heavy use of online bookings.

## International e-commerce

**13.35** Digitalized goods with physical counterparts (newspapers, e-books, airline tickets, etc.) and the distinction between goods and services are crucial for international trade data collection purposes (Ruffles, 2001 and Kuhn, 2001), and, as will be discussed later, for national accounts and for measuring consumption and consumer prices. There is general agreement that the cross-border supply of digitalized products should be seen as a service which, for instance, permits the consumer to use digital information to make a product. As indicated above, recommendations exist with respect to classification of international transactions relating to international property products as well as other services which are internationally traded through the internet. However, gaps exist in international trade statistics concerning electronically-delivered products because the location of the supplier and the internet host may be uncertain.

**13.36** This latter point is part of a broader issue of allocating economic transactions in the form of services where intermediaries are involved in the marketing or billing for a service which may actually be supplied by a producer to a third country. For instance, a resident of country A (the compiling country) purchases a product (goods or services) from country B which supplies the product to country C. During this process the good or service does not enter or leave the compiling economy. This is a type of merchanting activity (see Chapter 6 above).

**13.37** It is clearer that products ordered and paid for through the internet, but delivered physically, should be considered as trade in goods. Such e-commerce is indeed included in merchandise trade statistics, though it may not be possible to identify it unless the method of ordering the good is recorded.



**13.38** The export side of service activities related to e-commerce could relatively easily be captured by surveying a population of specialized companies believed to be engaged in e-commerce trade in particular services (legal, accounting and financial services, etc.). However, imports of services related to e-commerce are harder to capture, because any resident enterprise or household may be involved.

**13.39** Since e-commerce pervades almost the entire economy, it is not an activity that can be found in a single industry. Some industries are, however, likelier to be involved in e-commerce than others. For example, in the new NACE classification (revision 2), the European standard for industry classifications, a category is introduced for *web portals* (code 6312) and *retail sale via mail order houses or via internet* (code 4791- previously this category covered only *retail sale via mail order houses*). Statistical data on these industries may provide an indication of e-commerce developments. However, more data on e-commerce is needed in other industries to enable conclusions for the entire economy to be drawn.

**13.40** Some additional problems related to e-commerce trade are listed below:

- Low-value exports – the value of transactions below threshold values may, with the increasing trend towards international e-commerce, aggravate the problem of undercounting. The problem of undercounting low-value transactions is especially prevalent in B-to-C commerce where many transactions are one-off and of low value.
- Underreported transactions – international e-commerce leads to an increase in many small-scale services which may fall below the threshold value set by statistical reporting systems.
- New products – e-commerce is merely another channel to reach customers with new products, e.g. e-books, e-newspapers, e-administrative support, displacing some current trade streams and leading to a fall in recorded trade flows unless the new business can be captured in surveys. This may be particularly true for B-to-B commerce which comprises the largest part of cross-border trade.
- Residents' online purchases are not captured in Intrastat, the system for recording cross-border trade within the European Union (see Chapter 9, annex 9.4); online purchases from outside the European Union are counted if

they exceed a threshold value and there is physical delivery.

### Additional data challenges

**13.41** E-commerce has the potential to cause understatement of exports of goods and services which in turn affects the accuracy of GDP estimates. However, other items in the national accounts may be affected as well. This section focuses on some additional implications of e-commerce.

#### Retail trade

**13.42** Statistics Netherlands measures spending by households in its monthly statistics on consumption expenditure. Part of this expenditure takes place in retail outlets. In its monthly statistics on retail trade, Statistics Netherlands monitors sales by various parts of the retail sector. Both statistics therefore give a picture of spending by households, one from the point of view of the consumer, the other from the perspective of the seller. The monthly statistics on retail trade, represented by the retail turnover index, are also an important source for monthly statistics on consumption expenditure. Monthly data on retail turnover provide an indicator of quarterly household consumption, which is the largest expenditure item in the national accounts.

**13.43** International e-commerce may give rise to some discrepancies between retail consumption expenditure within the national borders and gross retail sales. Gross retail sales, which include all sales of goods and services of domestic enterprises to domestic and foreign consumers (including e-sales), represent not only sales by firms included in business registers, which serve as the population base for the calculation of the index, but also by foreign firms which may have domestic VAT registration but are not included in the business registers.

**13.44** With specific reference to EU regulations (Nos 1165/98 and 1158/2005) defining the coverage of short-term business statistics (STS), the scope of turnover indices does not take into account domestic sales when the invoice is issued from abroad, although it includes exports from the domestic country (non-domestic orders). Non-domestic orders are split between orders from the euro area and orders from elsewhere. This distinction concerns only industry (annex A in the STS); retail trade (annex C) and other services (annex D) do not require the distinction to be made.

**13.45** The emergence of small retail trade e-commerce services in the form of electronically delivered products (media products, e-books, etc.), with domestic and foreign turnover, is a challenge for compilers of (quarterly) statistics on household consumption if the distinction between domestic and non-domestic markets is not made. While the *Household Budget Survey* (HBS) is the prime annual source for household consumption expenditure, “[the] retail turnover index covered by the STS regulation is a short term statistics on turnover where monthly data on retail trade provides an indicator of quarterly consumption in national accounts which is the largest element of expenditure” (Eurostat, 2006, page 81).

### Price indices

#### Consumer prices

**13.46** This section discusses potential bias in the CPI arising from e-commerce activities. The CPI reflects the change in the price of a representative basket of goods and services purchased or acquired by an average household for the purposes of its own final consumption. The prices recorded for the CPI usually are purchasers’ prices, including indirect taxes such as VAT and taxes on specific products, e.g. motor vehicles, alcohol and tobacco, and subsidies. Prices are collected from retail outlets of all kinds.

**13.47** The impact of e-commerce products on the CPI depends on two factors: the weight of e-commerce spending in household final consumption expenditure; and the price changes for e-commerce products (goods and services) compared to the changes in prices of consumer products purchased from traditional outlets. As an illustration, in the Netherlands in 2009 e-commerce purchases by households were estimated at almost €6 billion, more than 50 per cent more than in 2007.<sup>79</sup> This was some 2-3 per cent of total household expenditure. Table 13.1.4 in annex 13.1 shows some of the products that are purchased online.

**13.48** The question whether internet trade is sufficiently important to be included in the CPI requires more attention. Whether e-commerce leads to lower prices is unclear (see paragraphs 13.18-13.19 above), though much points in this direction. In the Netherlands, about 50 per cent of respondents find the price advantage vis-à-vis traditional retail prices an important reason to buy online (CBS, 2009). In addition, the wide range of products and services available online from foreign

internet sites may bring lower prices to domestic consumers as a result of more favourable exchange rates.

**13.49** From a more general perspective, CPI compilers recognize the methodological challenge of introducing new and modified goods and services (substitution bias, quality change bias, new goods bias) and the emergence of new retailers (outlet substitution bias). For various reasons, e-commerce may be a source of measurement bias: e-commerce allows consumers to switch from traditional outlets directly to wholesalers and internet firms and facilitates introduction of new goods from abroad (especially for electronic products, e.g. iPhone, Microsoft Zune).

**13.50** Switching from traditional stores to cheaper internet sources is a new source of outlet substitution bias, which occurs when consumers switch to cheaper outlets for identical products between the reference period and the current period. The bias arises because the CPI is based on average changes in the prices charged by outlets which were selling in both the reference and current period. A number of studies in the 1990s indicated an upward bias in the CPI from outlet substitution of about 0.1 per cent per year. Because of more frequent updates of the samples of outlets and products and implementation of new calculation methods, the magnitude of any outlet substitution bias in most countries is probably now below this. With new e-retail stores replacing traditional outlets, potential outlet substitution bias could in principle be eliminated by adjusting the CPI by a factor reflecting the relative price levels. In practice, however, this will be difficult as e-commerce products are introduced gradually from month to month, and the statistical office may not always have the detailed product characteristics to control for any quality changes (differences in prices across outlets that reflect quality differences, including payment conditions, delivery charges, etc., should not be included in the CPI).

**13.51** To the extent however that the emergence of e-commerce sources leads to lower retail prices for goods and services from established outlets that are already included in the CPI basket, the CPI will provide a good measure of price developments, and it may not be necessary to establish separate price collection of goods and services in e-commerce.

**13.52** A comparison of price trends in e-commerce goods and services with price trends for the same goods and services in traditional outlets, based on a carefully constructed sample survey,

<sup>79</sup> Thuiswinkel Markt Monitor - see further CBS, 2009.

would help to resolve the question of whether e-commerce purchases should be included in the CPI. It would need to include reliable price information on new goods, and take account of the quality adjustment point relating to e-commerce.

**13.53** A final point to consider is the price implications of e-commerce products and services supplied from abroad. If e-commerce enables consumers to order goods from abroad, should those foreign prices be included in a country's CPI? The answer will partly depend on what concept the CPI seeks to measure. But even if the stated measurement concept is a cost of living index for residents, the main use of the CPI as a measure of domestic inflation argues against including foreign prices for goods ordered over the internet. A more practical reason for excluding these foreign prices is that their effect on the CPI may be very minor, or that competition from the foreign source may already have led domestic outlets to reduce their prices for similar goods and services (in quality adjusted terms).

#### *Producer prices*

**13.54** The term producer price indices (PPIs) covers both price indices of produced goods or services (output prices), and price indices of (intermediate) inputs into the production process.

**13.55** Output PPIs are commonly used; they include PPIs for goods for the domestic market and PPIs for goods produced for export (export price indices). Similar output PPIs for services are also compiled in many countries. The relevance of e-commerce to output PPIs concerns keeping up to date the sample of establishments and products (goods or services) in the index, and how new e-commerce products are included in the index.

**13.56** Existing producers already in the sample, or new producers entering the market, may offer products via e-commerce. These should in principle be included in the index following standard practice, e.g. that the product accounts for at least 10 per cent of the value of the establishment's production, or that the establishment itself has identified the product as economically important.

**13.57** If the e-commerce products are sold at different prices or exhibit different price trends from similar products sold via conventional channels, failure to include them in the PPI may introduce bias into the index. Even if e-commerce products are included, the way it is done may still introduce some bias. If a conventionally sold product and an e-commerce product can be considered as similar (close substitutes of essentially the same quality), the full price

difference should be reflected in the index. However, if the e-commerce product is linked into the index, only the price trend of the product will influence the index, while the difference in the price level between the conventional product and the e-commerce product will not be reflected in the index. To the extent that the difference in price levels is not reflected in the index, there may be a tendency of the index to overstate average price developments if e-commerce products in general are cheaper than similar products sold through conventional channels.

**13.58** On the other hand, price differences between otherwise similar conventional and e-commerce products may reflect quality differences in terms of e.g. product specifications, or payment or delivery conditions. In such cases the difference in the price level should not be included in the index, as it reflects a quality difference. Frequent update of the sample of establishments and products will help to reduce potential bias from e-commerce, and the index compilers may attach particular importance to sampling e-commerce products on markets where they are believed to have an influence on the general price development.

**13.59** Input PPIs include various types of building and construction price indices, and import price indices for goods and services. As discussed earlier, producers or importers may tend to substitute in favour of lower cost inputs where this is made possible by B-to-B e-commerce. If lower priced e-commerce products are not included in the index, there is a risk that the index may overstate the average development of input prices, much as a Laspeyres CPI may tend to overstate price increases for households.

**13.60** In many price surveys the respondents will be asked only to indicate the price of a specific product, irrespective of the source from which the product was acquired. In these cases, if the respondent shifts from conventional to e-commerce purchase, the price differences should be reported and included in the index. Thus any potential bias will much depend on national practices in updating samples, the methods used for inclusion of new products, and survey design.

**13.61** Import price indices provide a special challenge as substitution between establishments and products becomes more complex in the context of cross-border outsourcing. B-to-B commerce facilitates outsourcing of production and services-related activities (see paragraph 13.20) and also makes it easier and less costly for the importing establishment to substitute between

products and suppliers. If this type of substitution is not taken into account, the index will have a tendency to overstate the average price change from the viewpoint of importers. The size of possible upward bias in import price indices because of e-commerce is unknown and depends, as mentioned, on national sampling and survey practices. However, potential bias can be reduced by frequently updating the sample of establishments and products to better reflect actual market conditions.

**13.62** Enterprises may of course also switch from buying intermediate input from domestic suppliers to (cheaper) foreign suppliers. The resulting changes in costs will not be reflected in any single price index, as domestically produced and imported products are usually included in different price indices. Growth in the domestic producers' value added because of substitution of cheaper foreign inputs may therefore be identified as volume growth rather than attributed to price changes (see Houseman, 2008). As noted in Chapter 2, this effect applies in principle to all substitution between domestic and foreign suppliers, and is not restricted to e-commerce. E-commerce, however, may make this type of substitution more common, adding further to measurement problems.

### Challenges for national accounts

**13.63** This section discusses challenges presented by e-commerce from the perspective of national accounts.

**13.64** Five areas of difficulty emerge from the discussion above:

- Identifying B-to-C and B-to-B international e-commerce and its impact on GDP.
- Underreporting of small-value trade flows arising from e-commerce.
- The emergence of new products and more varieties of similar products.
- Possible bias introduced by e-commerce into price deflators and therefore into volume estimates in the national accounts.
- Issues related to the identification of the e-commerce supplier (resident or foreign).

**13.65** In the national accounts of the Netherlands there is currently no distinction between the part of GDP that is generated by e-commerce and that generated by sales through other channels; the distinction is difficult or even impossible to make. The absence of statistical information on e-commerce may indirectly lead to

bias in estimates of GDP and economic growth. For example, online purchases of music downloaded from foreign websites should be part of household consumption, and failure to include them may lead to errors in GDP. It might seem that both consumption and imports will be understated, with no net effect on GDP. But the household expenditure may be picked up by the HBS, with no indication whether the purchase is from a foreign or domestic provider. The effect may be to overstate GDP measured from the expenditure side.

**13.66** Another issue relates to the measurement of trade margins. A trade margin is the difference between the price realized when a product is sold and the price that would have to be paid by the distributor to replace it at the time of sale. It would be useful to distinguish between trade margins that are generated from the internet and those arising from regular trade, since they may differ. A measurement problem arises when firms employ a mix of regular and online channels; in the absence of a relevant question in business surveys, it is impossible to determine total sales margins.

**13.67** Other factors arising from e-commerce which are relevant to national accounts include price effects, consumer savings, consumption of new products, and effects on transportation and travel. The review of the literature by Visser and Lanzendorf (2003) explores these effects. It seems that B-to-C commerce results in an overall increase of both individual travel and freight transport. The increase of freight transport can be easily explained by more home deliveries. An additional effect of e-commerce may be that many traditional retailers close down, resulting in more car use for shopping and longer personal journeys.

**13.68** The majority of value added that can be attributed to e-commerce is probably captured in the national accounts. Online purchases and sales by domestic companies are included in their overall purchases and sales in the production statistics. All online B-to-B transactions of domestic companies are covered in the national accounts (although a distinction between online transactions and other transactions cannot be made).

**13.69** In addition, all online B-to-C transactions between domestic firms and domestic or foreign consumers are recorded in sales by domestic firms. A problem here though is that sales over the internet to foreign customers may be misclassified as domestic sales (and so be included in household final consumption) rather than as exports.

**13.70** Some purchases by domestic consumers from foreign websites may go unrecorded, in which case household consumption will be understated. If they are picked up by the HBS, households may not always be able to indicate whether the purchase is from a foreign or a domestic supplier.

**13.71** In the Statistics Netherlands survey on ICT use by households, B-to-C transactions are picked up through questions related to the frequency and size of internet purchases. However, no distinction is made between domestic and foreign purchases, which makes it impossible to calculate the total volume of the (domestic) B-to-C market. The absence of data identifying e-commerce purchases abroad may lead to an understatement of imports.

**13.72** An additional category of e-commerce is composed of C-to-C transactions. In the Netherlands a large amount of online trade consists of (second-hand) trade between consumers. For example, the total value of transactions on marktplaats.nl (an online marketplace for consumers) amounted to €4.7 billion in 2006. This was substantially more than the estimated amount of online sales by Dutch web shops in 2006 (€2.8 billion). While the transfer of goods between consumers is not part of household consumption and does not contribute to GDP, the fees and commissions paid by consumers to the companies that facilitate the sale and purchase of goods are part of household final consumption expenditure, and amounts spent on them should be recorded in the national accounts. If these companies are domestic, their revenues are picked up by regular statistics. If these firms are non-resident (like, for the Netherlands, ebay.com and Amazon.com) supplementary estimates for household consumption and imports of services should be made.

## Concluding remarks

**13.73** This chapter has discussed the definitional and conceptual issues related to e-commerce. The OECD has proposed a new definition which has the potential to solve many of the difficulties related to the supply of useful data. The statistical challenges for measurement and the implications for national accounts and related statistics (international trade, CPI, PPI, transportation margins) have also been discussed.

**13.74** Some work remains to be done on classifying e-commerce more explicitly. As for other types of products in the *Extended Balance of Payments Services Classification 2010* (see for example paragraph 3.274 onwards of the MSITS 2010), it could be useful to include an alternative grouping of transactions relating to e-commerce with a clear definition of what type of products should be covered.

**13.75** Obtaining better data relating to e-commerce is a challenge but would solve many problems in the national accounts. Some efforts are being made. Annex 13.2 describes the Statistics Netherlands experience in developing and collecting data on e-commerce, through surveys of domestic internet sales and purchases and also of transactions with other EU countries and elsewhere. Information on credit card operations will also be highly valuable for the assessment of e-commerce transactions.

## Annex 13.1

### Data relating to e- commerce in the Netherlands

**Table 13.1.1 Supply chain management (SCM), 2008 (1)**

	<i>Applies some kind of SCM</i>	<i>Method used SCM via websites</i>	<i>SCM via automated data exchange</i>
	<i>Per cent of the total number of companies</i>		
Total	13	8	5
<i>Sector of industry (SIC 2008)</i>			
Manufacturing	15	9	6
Electricity and gas supply; water supply; waste management	11	7	7
Construction	8	5	1
Wholesale and retail trade; repair of motor vehicles and motorcycles	21	12	11
Transportation and storage	13	10	9
Accommodation and food service activities	7	6	1
Information and communication	15	13	7
Financial institutions	9	8	7
Renting, buying and selling of real estate	6	4	2
Consultancy, research and other specialized business services	8	6	3
Renting and leasing of tangible goods and other business support services	7	5	2
Human health and social work activities	5	3	3
<i>Company size</i>			
10-19 employees	10	7	2
20-49 employees	12	7	6
50-99 employees	14	9	8
100-249 employees	24	15	14
250-499 employees	34	22	22
500 and more employees	41	31	29

(1) Companies with ten and more employees.

Source: Statistics Netherlands, *ICT Use by Enterprises, 2008*

**Table 13.1.2 E-commerce turnover by company size and sector of industry (SIC 2008), 2008 (1)**

	<b>2008</b> <i>Per cent of total turnover</i>
<b>Company size</b>	
10-19 employees	6.9
20-49 employees	7.9
50-99 employees	10.8
100-249 employees	13.0
250-499 employees	12.6
500 and more employees	14.1
<b>Sector of industry (SIC 2008)<sup>2)</sup></b>	
Construction	2.26
Electricity and gas supply; water supply; waste management	3
Renting, buying and selling of real estate <sup>3)</sup>	5.12
Consultancy, research and other specialized business services <sup>3)</sup>	5.12
Human health and social work activities	5.23
Renting and leasing of tangible goods and other business support services	7.38
Information and communication	7.75
Accommodation and food service activities	9.7
Wholesale and retail trade; repair of motor vehicles and motorcycles	13.84
Manufacturing	14.81
Transportation and storage	24.54
<b>Total</b>	<b>11.61</b>

(1) Companies with ten and more employees.

(2) Excluding financial institutions.

(3) "Renting, buying and selling of real estate" and "Consultancy, research and other specialized business services" are taken together.

Source: Statistics Netherlands, *ICT use by enterprises 2008*.

**Table 13.1.3 Sectors of industry making most intensive use of electronic sales by company size, 2008 (1)**

	<i>Per cent of the total number of companies</i>
Total	25
<b>Sector of industry (SIC 2008)<sup>(2)(3)</sup></b>	
Accommodation	66
Travel agencies, reservation services and tour operators	65
Insurance	57
Wholesale	46
Information and communication	45
Renting of real estate	40
<b>Company size</b>	
10-19 employees	23
20-49 employees	27
50-99 employees	30
100-249 employees	32
250-499 employees	33
500 and more employees	36

(1) Companies with ten and more employees.

(2) Only sectors of industry with a high share of companies with electronic sales are listed.

(3) The figures in this table are based on more detailed breakdowns of sectors of industry than those quoted elsewhere in this chapter.

Source: Statistics Netherlands, *ICT use by enterprises 2008*.

**Table 13.1.4 Online purchases by type, 2005-2009 (1)**

	2005	2006	2007	2008	2009
Lottery or gambling	2	5	5	5	8
Groceries, cosmetics and cleaning products	4	5	9	8	9
Other purchases	6	4	4	4	11
Hardware	11	14	13	14	13
Shares, financial services, insurance	5	11	11	10	15
Household items <sup>2)</sup>	19	21	20	18	23
Software	15	21	22	22	26
Electronics	19	22	24	27	26
Film, music	21	25	24	25	30
Clothes, sports gear	28	35	37	39	43
Literature (books, magazines)	31	36	37	40	44
Tickets for events	22	33	36	37	45
Travel, holidays, accommodation	35	44	47	47	58

(1) Internet users who bought products online in the three months before the survey.

(2) E.g. furniture, washing machines, toys.

Source: Statistics Netherlands, *ICT Use by Households and Individuals, 2005-2009*.



## Annex 13.2

### Measurement of e-commerce in the Netherlands

**13.2.1** This annex briefly describes the Statistics Netherlands experience in developing and collecting data on e-commerce, highlighting some data gaps and other outstanding problems. To date, Statistics Netherlands' activities on e-commerce data collection are divided into three categories: business statistics, ICT and automation surveys, and household surveys.

#### Survey of automation and ICT

**13.2.2** The automation survey (currently called the survey on ICT in enterprises) started in 1982. The rapid developments in ICT in the last two decades have made it necessary to update the survey regularly. During the first years, the questions focused on the costs of automation, computer personnel, and the ownership of computers. The emphasis has shifted to the use of external networks like the internet. Total e-commerce sales have been included in each yearly survey since 1999.

**13.2.3** The first EU harmonized survey started in 2001, initially as a pilot. Among the questions were some related to electronic commerce in the year 2000; these have been incorporated in the *Automation Survey 2000*. Since 2002, an annual *Community Survey on ICT Usage and e-Commerce in Enterprises* has been conducted on the basis of a Eurostat questionnaire list. From 2001 to 2008 data can be compared across some (later all) EU countries. In 2008, questions covered the shares of turnover generated via a public website, automated data exchange or other private systems; the proportion of purchases generated via electronic networks; and total e-turnover, split between the Netherlands, the rest of the European Union, and elsewhere.

**13.2.4** In addition to questions related to the quantity of e-commerce, there are also questions on the usage of diverse ICT components such as website, CRM (customer relation management) and SCM (supply chain management).

#### The Statistics Netherlands definition of e-commerce

**13.2.5** Statistics Netherlands publications refer to a Eurostat definition of e-commerce:

*"Placing or receiving orders for goods or services through electronic networks, regardless of delivery and payment methods, excluding orders by telephone, fax, or conventional e-mail."*

**13.2.6** This definition includes e-commerce turnover via the internet and other networks such as EDI/ADE, with a distinction between "public" e-commerce (via the internet/a website, including B-to-B and/or B-to-C) and "private" e-commerce, meaning sales media such as EDI/ADE (B-to-B via intranet and other private networks).

#### Business statistics

**13.2.7** Business statistics (sometimes referred to as production statistics) include questions related to e-commerce turnover generated via the internet. The questions are limited to retail, and travel and wholesale, and there are recognized weaknesses in both the questions and the responses. The questionnaires and samples should probably be modified in the interests of consistency and better coverage.

**13.2.8** A provisional conclusion is that at present the production side does not provide a complete picture of e-commerce.



## CHAPTER 14

# The way ahead and a research agenda

**14.1** The focus of national accounts is national data to meet national policy needs. Even in a monetary union like the euro area, where data must be aggregated across countries for the use of the single monetary authority, national accounts retain their importance for individual countries for other policy purposes, and the IMF and others continue to monitor national developments using national data complying with international statistical standards.

**14.2** The emphasis in this guide has been on the difficulties presented by globalization, and in particular on the challenges arising from the transactions of multinational enterprises (MNEs). Many of the issues discussed would however be difficult even if enterprises continued to be mostly autonomous national entities engaging in cross-border transactions. In this concluding section, a distinction is drawn between statistical difficulties which arise from recording cross-border transactions irrespective of who conducts them, and the challenges of recording MNE transactions in national accounts.

**14.3** Some transactions, or features of them, are difficult to record accurately, whoever undertakes them. The transactions include the following:

- a. The consistent application in the new international standards of the change in ownership principle when recording a transaction. This means that merchandise trade statistics, as currently compiled, cannot be used as the source for goods for processing and merchanting, because the merchandise trade statistics generally record movements of goods across the national frontier, irrespective of ownership changes. Goods sent abroad for processing cross the border but remain the property of the enterprise sending them, while goods being merchanting are acquired by the merchant and pass into his possession but do not enter the country in which he is resident. Enterprise surveys are likely to be the best source of information on processing and merchanting transactions, but the problem of excluding goods sent for processing from the merchandise trade statistics remains.
- b. Under the international standards in the 1993 SNA, BPM5 and 1995 ESA, most intellectual property products (IPPs) are treated as produced non-financial assets. The fruits of R&D are an exception, being considered a non-produced asset. Under the 2008 SNA and BPM6, they are treated as produced assets, in turn generating a stream of services which contribute to GDP and whose economic benefits accrue to the economic owner. A transaction in an IPP is thus a transaction in a produced asset, affecting capital formation. The use of an IPP constitutes the purchase of a service. But there are borderline cases depending on the terms of the license to use the IPP. In practice, it seems that fees for the use of IPPs are often recorded under property income, as if the IPPs were non-produced assets.
- c. Although outsourcing is often associated with the activities of MNEs (see further below), even small companies which are not part of an MNE may commission entities abroad to manufacture products to their design and specification. It may then be difficult for the value added generated in the process as a whole to be measured, appropriately treated for statistical purposes, and correctly allocated to the two economies in which the parties to the operation are located.
- d. The recording of transactions relating to the cross-border movement of labour is complicated by the distinctions between migrant workers who are treated statistically as resident in the host economy, and those who continue to be resident in their country of origin. Similar complications arise from the distinction between workers with an employment contract with an entity in the host economy and those without. Those without an employment contract are treated statistically as providing services to the host economy, and not as receiving wages and salaries.
- e. Measuring cross-border transactions related to residential property presents many practical difficulties, especially for the country in which the owner of the property resides.

f. Cross-border e-commerce can be difficult to record, even if the goods supplied are delivered physically as opposed to being downloaded, like electronic books or music.

**14.4** Another aspect of globalization adds to the difficulties for those compiling national economic statistics. This is the growing importance of MNEs and cross-border transactions within the enterprise. MNEs feature large in the difficulties of measuring the following types of transaction or activity:

- a. FDI, in particular the treatment of retained earnings.
- b. Transactions between affiliates which do not have ownership links with each other.
- c. International transactions in IPPs between affiliates.
- d. Transactions of special purpose entities (SPEs).
- e. Global manufacturing.

**14.5** An MNE will seek to organize their business in the most efficient way (having regard to production and transport costs), which may mean shipping goods back and forth between specialized processing units. It may not be clear which entity in the MNE at any particular stage in the process owns the raw materials, semi-processed goods, components and in due course the finished product. The goods may not be valued at market prices at the points at which national statisticians need to record them. This may be because the resident unit does not know the market price, or because the goods move around within the MNE at transfer prices which, within legal limits, minimize its tax burden. IPPs can be developed in one country and then made available for use throughout the enterprise, free of charge or at transfer prices which do not represent arm's-length prices. Staff may be switched from one entity to another in a different country, while being employed and paid by an entity in a third country which deploys specialist staff on behalf of the MNE as a whole. The growing concentration of business in MNEs complicates the measurement and allocation of value added and the recording of economic activity generally in the national economy.

**14.6** What can statisticians do about the challenges described in the previous paragraphs? At present they collect data from, or in respect of, resident institutional units and assemble national accounts and other economic data from these sources. This approach is supported by national statistical legislation; indeed it may be the only

possible approach using national legal instruments. But it depends on the resident institutional unit being able to provide the information which will enable its national economic activities to be measured and classified. This condition may not be met when the unit is part of an MNE which conducts much of its business across national frontiers.

**14.7** In addition to the IMF's new Coordinated Direct Investment Survey (see below), three main initiatives point a way forward.

- a. The United States collects data on the global activities of MNEs with a US parent. These data help compilers of national US data, because an overview of the operations of the MNE as a whole can throw light on appropriate recording of that part of the activities which properly contributes to value added in the US economy.
- b. The European Union compiles statistics for the euro area (currently 17 countries) and the union of 27 countries as a whole. Initiatives such as the EuroGroups Register and the FDI Network mentioned in Chapter 3 take an EU-wide view of the activities of large enterprises.
- c. Several national statistical offices have established units on large enterprises to ensure that transactions of MNEs are treated consistently across all areas of national accounts and national economic statistics. These separate national initiatives may not be able to address the problem that the resident entities lack the information to enable a correct allocation of value added and classification of activities on the national territory to be made. They are nevertheless an important step in the right direction.

**14.8** The financial crisis has given an impetus to viewing the transactions and positions of global enterprises as a whole. The research agenda set out in Annex 4 of the 2008 SNA suggests something similar: *"Many enterprises operating within an economy are linked with other enterprises by complete or partial common ownership and a shared management structure to form an enterprise group. Enterprises also often share common ownership and management with foreign affiliates. It is common for enterprises within an enterprise group to trade with each other, sometimes exclusively, as when they perform an intermediate stage in a vertically integrated production process, and share the outputs and costs of ancillary production. They may also share the outputs and costs of research and development activities. Given their close ties it may be sometimes*

*desirable to consider an enterprise group as a single entity and to consolidate the accounts of its members. Members of an enterprise group are usually engaged in different activities and sometimes in more than one sector, and so consolidation could affect aggregates, such as industry value added and sectoral balance sheets. It is therefore probable that the most likely way forward would be by way of supplementary tables. Separate consideration needs to be given to the case where some parts of the group are non-resident."*

**14.9** Earlier chapters of this guide point in the same direction – for example, to trace FDI through SPEs back to its original source (and forward to its destination), and to establish when an economic transfer of IPPs has occurred, and at what price. Earlier chapters also indicate the importance of establishing the nature of operations within MNEs – for example, the distinction between merchanting and the sending of goods abroad for processing, where the statistical treatment is different. These needs are probably best served by direct surveys of MNEs, rather than surveys of those parts of them that happen to be locally resident.

**14.10** This guide in no way questions the need for the current standards on residence and sector classifications. But data collected from national entities which may have an incomplete picture of the MNEs contribution to the national economy may not be enough to enable good quality national data to be compiled. It may be better to supplement this information with a bird's-eye view of the MNE. This requires a change in the way national statisticians work, and a need for more international cooperation.

## Suggestions for further work

**14.11** Earlier chapters contain many specific suggestions for further work. This section summarises them in the following broad groups: continuation of initiatives already started; conceptual issues; measurement issues; practical steps in the areas of data collection and presentation and exchange of data and best practice.

### Continuation of initiatives already started

**14.12** Work relevant to the issues raised in this guide is under way:

- a. The introduction of the IMF's Coordinated Direct Investment Survey, and the preparation of a Guide for compilers, is very likely to improve the quality of data on foreign-controlled enterprises,

increase international comparability of results, and provide a wealth of mirror data for use in bilateral comparison of individual country results (Chapter 3).

- b. An OECD Task Force on IPPs has examined various aspects of statistics relating to them, and has developed new surveys on MNEs including questions on their balance sheets (Chapter 7).
- c. Work on improving remittance and related data continues at the international level. At their June 2008 summit, the G-8 announced the creation of a Global Remittances Working Group. Subsequent proposals include a new technical working group to promote global and regional efforts to improve remittance data, with the provision of technical assistance, the exchange of metadata and bilateral data, and a website to serve as a global repository for detailed metadata, bilateral data, and research results.
- d. The Suitland Working Group was formed, also in 2008, among other things to develop household surveys as a tool for collecting remittance data and to measure migration. Areas of focus include creating a draft module on migration and remittances to be included in nationally representative household surveys, linking administrative data with survey data, addressing data quality issues, and developing an online repository of household survey questionnaires. These initiatives should address issues arising in the areas of labour movements (Chapter 10) and remittances (Chapter 11).

### Further conceptual work

**14.13** Several earlier chapters raised analytical or conceptual points. The major ones are as follows:

- a. Global manufacturing: There is need of additional research on the distinction between "traditional", contractor/processor, and outsourcing producers. Further guidance is necessary especially in the case where an entity undertakes the R&D underlying a product and organizes its manufacture, but does none of the actual manufacturing. Where production is outsourced, it is also important to distinguish between the "goods for processing" treatment and the "merchanting" treatment. The different treatments have major implications for recorded trade in goods and services, and uncertainty about the underlying nature of the transaction(s) may introduce discrepancies between national data (Chapter 8).

- b. Transactions in IPPs within MNEs: It may not be easy to identify the source of the R&D and other intellectual property underlying the products, and the organizational and managerial input to the production process, and to record the corresponding value added where it arises. The fact that goods and associated services may move around within the MNE group at transfer prices which do not reflect market prices adds to the difficulty for national statisticians. The distinction between economic and legal ownership of IPPs, and how transfers of IPPs within an enterprise group, perhaps for tax reasons or organizational convenience, should be treated statistically where the benefits of ownership in effect remain with the unit which devised them, deserve further attention (Chapter 7).
- c. Merchanting of services through outsourcing facilitated by innovations in telecommunications and web-based (internet) services also deserves more investigation (Chapter 6). BPM6 recognizes the issue of merchanting of services, but proposes no distinct treatment for such transactions. The question arises of which is more appropriate: the gross approach, where the services being merchanting are recorded as an import of services by the country in which the merchant is resident, followed by an export when they are sold on; or the net approach, like that for merchanting of goods in the new standards.
- d. There is need for further work on harmonizing the definition of SPEs. This would improve the comparability of SPEs across countries, and enable entities with SPEs in more than one economy to be treated in the same correct way by all statistics compilers (Chapter 4).
- e. Recording of international labour movements in labour force statistics, and links between labour statistics and national accounts (with possible further development of the social accounting matrix), merit attention (Chapter 10).
- f. Second homes: Should the property be deemed to produce housing services continuously, or only when it is occupied? International and European standards are not consistent on this point (Chapter 12).
- g. E-commerce raises (among the measurement issues discussed below) a challenge for price statistics to do with quality adjustment (the issue of non-comparable imports, and how to link the prices of products that had been purchased domestically with those of products that have begun to be imported). A similar issue is mentioned as a consequence of outsourcing in Chapter 2, where imports replace domestically produced goods.

### Measurement issues

**14.14** Other issues present measurement problems:

- a. Developing price deflators in the context of the new treatment of goods for processing, and measuring inventories held abroad (for processing, in the course of merchanting or otherwise in connection with global manufacturing), and recording movements in the prices of inventories held abroad (Chapters 5, 6 and 8).
- b. Import substitution, which may be a challenge for some price statistics. Even if the conceptual issues of quality adjustment can be addressed, price statisticians still face the difficulties of collecting the detailed information on the characteristics of imported commodities which is needed for all methods of quality adjustment (Chapters 2 and 13).
- c. The challenges that statisticians face when using administrative data to estimate economic activities in the context of the complex enterprise structures and multi-stage production and distribution processes that are typical under globalization need further investigation. Quasi-transit trade is an example where trade in goods entering a customs union apparently acquire more value while passing through one or more countries en route to a customer. The most important issue is to establish where the value added reflected in the price increase and a corresponding merchanting transaction (or provision of branding services) should be recorded (Chapter 9).
- d. Work on remittance-related issues has already been undertaken. However, the practical problem of recording (or estimating) remittances deserves further attention, particularly emerging transfer methods and changes in the demographic profile of the remitting population (Chapter 11). Research should be conducted at the national and regional levels to capture both country-specific developments and regional changes.
- e. There are major difficulties concerning measurement of the stock of second homes abroad, and – given its relevance – the correction for average occupation time. Once secondary dwellings have been identified, and occupation

time established, a line must be drawn between vacation homes and dwellings owned for other purposes (with implications for especially tourism statistics). Then, once the stock of such dwellings is established, it is difficult to estimate the imputed rental using the so-called stratification and similar methods when – as in some regions, and in particular in rural areas – no relevant and explicit rental market exists for dwellings of this kind. Since a time share property may be “owned” by residents of different countries, a direct allocation of the housing services it provides to the country of the owners is extremely difficult. Statisticians in the country of origin of the owner of property abroad face greater problems as there is no stock to be observed, and the stratification method cannot be applied. Chapter 12 suggests that these conceptual (and also practical) problems merit further work.

### Data collection and presentation

**14.15** The challenges posed by globalization and the new international standards will require further work on survey questionnaires and data collection.

**14.16** One of the suggestions noted above in the context of labour movement and remittances (Chapters 10 and 11) concerns more *intensive use of household surveys*. Chapter 13 on e-commerce suggests more use of household surveys particularly where, as for cross-border business-to-household e-commerce, (national) business surveys cannot help. Chapter 13 also notes the possible use of credit card data as a source worth exploring.

**14.17** Several earlier chapters suggest that more use of (or additional questions on) *national business surveys* might help to resolve difficulties arising from globalization, in particular to collect information on business-to-business e-commerce, measurement of IPPS, etc. The main long-term solution is however seen to be surveys on MNEs, since many of the difficulties stem from cross-border transactions within them.

**14.18** It is recognized, though, that household surveys may not be capable of providing a reliable solution to some of the problems for national accounts stemming from (notably) labour movements and e-commerce, and also that there may be limits in some countries to extra reporting burdens on business. In some areas fuller use of *administrative sources*, including tax authorities, may be possible.

**14.19** Chapter 5 suggests separate coding within *merchandise trade statistics* of goods for processing, so that balance of payments compilers

can exclude them. While this would be a good first step, a longer run goal should be to have trade declaration documents that would allow the compilation of data both on physical flows and economic transactions.

**14.20** Other suggestions include the presentation of national accounts with and without SPEs (Chapter 4); and additional analytical tables for international labour movements (Chapter 10).

### Exchanges of data and of best practice

**14.21** Exchanges of data among countries are seen as helpful in various contexts: FDI (Chapter 3), labour movements and remittances (Chapters 10 and 11), and second homes abroad (where they may in particular help to fill gaps for statisticians in the country of residence of the owner of property abroad) (Chapter 12). Because cross-border movement of labour is often a regional phenomenon, the sharing of data within a regional group can highlight asymmetries between major partner countries, which the countries concerned can then examine within the context of the larger region. The development of a centralized remittances database, either publicly available or restricted, would promote data sharing, and the development of a supply and use framework might facilitate analysis of the data. Chapter 12 notes that data exchanges between EU member states have been suggested for some years as a practical solution to the lack of information on cross-border ownership of property, with little progress so far. More ambitious would be bilateral comparisons between countries, to record and analyze asymmetries in the Tourism Satellite Account or national accounts data concerning non-resident dwellings, much as mirror statistics are used to identify and reduce asymmetries in cross-border trade within the European Union.

**14.22** Finally, exchanges of best recording practice among countries are seen as potentially helpful in many areas, and could usefully be encouraged at a time when the new international standards are being implemented. The initiatives in the areas of FDI and remittances were noted in the paragraph on work already being undertaken. SPEs (Chapter 4) are a particularly difficult area, both in terms of capturing the necessary information, and of compiling national accounts and national balance of payments and international investment position data both with and, for purposes of analyzing domestic economic and financial developments, without them. Chapter 4 suggests that national statisticians should pay close attention to developments in the treatment of SPEs by other countries. Chapter 12 on second homes

suggests a reference database to which national statisticians would have access.



# Addendum: Impact of the financial crisis

## Introduction

A.1 Financial crises have caused severe suffering in the past. Between 1929 and 1933, the United States lost one-third of its GDP and industrial production halved; unemployment jumped from 1.8% of the labour force in 1926 to 24.9% in 1933. There have been many financial crises in the course of history. However, not all of them have spread to other countries like the recent one.

A.2 This addendum discusses briefly the origins of the financial crisis which broke in summer 2007 and reached a peak with the failure of Lehman Brothers just over a year later. Some features of economic and, especially, financial developments in the preceding years which may have fed the crisis had already led statisticians engaged in the review of international statistical standards to consider various improvements in the statistical treatment of financial corporations and financial instruments. While one cannot say that the review of international statistical standards was a response to these events, or that statisticians can claim to have foreseen them, the changes introduced in the 2008 SNA and BPM6 are timely in that many of the changes, once implemented, will improve the coverage of the financial sector and financial activities and do relate to the information needs revealed by the crisis. Those aspects of the review of international statistical standards that relate directly to the financial crisis are the subject of paragraphs A.5-A.53 of this addendum.

A.3 The financial crisis has provoked much thought about the institutional structure to support work on, in particular, financial stability, and given rise to intense efforts to identify and close statistical gaps which the events have revealed. The last part of this addendum (paragraphs A.54-A.71) concerns the main gaps in statistics (and measurement issues) exposed by the financial crisis. Two developments are accordingly reflected in this part: the Issing Committee report of March 2009; and the IMF/Financial Stability Board (FSB) report of October 2009 to G-20 Finance Ministers and Central Bank Governors, updated and elaborated in June 2010 (the G-20 report), which contains many recommendations for statistical work. While some of the recommendations of these reports and from other sources are rather remote from national accounts, and are accordingly

mentioned only briefly, others – and some of the related statistical enhancements on which international and European institutions and national central banks and statistics offices had already embarked – do concern economic and financial accounts and therefore are of interest to national accounts statisticians.

A.4 Beyond its main function to conduct monetary policy within the euro area, the European Central Bank (ECB) is closely involved in contributing to the stability of the financial system, and also in meeting the statistical needs of the European Systemic Risk Board (ESRB). Annex A.1 accordingly describes the main statistical initiatives relevant to the financial crisis already taken up or planned by the ECB, especially those which have some connection to financial stability, globalization and national accounts. The current position in the European Union concerning the treatment for purposes of government deficit and debt statistics of the measures taken in many countries to support banks and other institutions is summarized in annex A.2.

## Background: origins of the financial crisis

A.5 In the early years of the present century, economic conditions seemed mostly sound. Advanced economies at least experienced low inflation, and moderate and steady growth. Rapid development of some emerging economies, especially China, provided a positive supply shock, in the sense that they supplied the cheap manufactured exports that contributed to the low inflation elsewhere. Most central banks were able to meet their inflation objectives while keeping interest rates low. As some commentators pointed out, these conditions carried potentially dangerous consequences. The low interest rates encouraged a rapid growth of credit and money stock in many countries including much of the European Union which, though it did not raise prices of goods and services as it might have done in other circumstances, did raise asset prices. The combination of (in particular) rising residential property prices and low nominal interest rates encouraged people in some countries to borrow large amounts in relation to their income, and banks and other lenders to relax their credit

standards because the rising price of the collateral seemingly gave assurance that they would not lose out even if borrowers defaulted. Borrowers were relaxed about heavy debt because current servicing costs were low. All this was accompanied by strong growth in financial intermediation and financial activity generally. Thus in the five years 2002-07 (broadly, the years between the dotcom episode and the outbreak of the financial crisis), while world nominal GDP grew by 69%, the amount of debt securities outstanding rose by 83%, banking assets by 111%, and stock market capitalization by 157% (all in US dollar terms) (IMF, 2009c, table 3). But the financial activity that underpinned this development was not entirely of the conventional kind. Rather, especially in the United States, but also to some extent elsewhere, the originate and distribute model of financial intermediation gained ground. Other techniques also were developed or more heavily used for transferring credit risk from the original lender to others. The result was a rapid growth in securitization activity, and growth in the use of various types of credit risk derivatives, partly in association with securitizations. The initial purpose was twofold: to economize on the use of banks' capital; and to spread credit risk to those most willing to bear it. The result however seems to have been the development of complex and largely opaque interrelationships among financial institutions in which it became difficult to assess who was exposed to whom and to what risks.

A.6 It was fashionable to argue that financial markets had become more efficient and were able to deal with risk much better than previously. However, while the technology of risk management of financial institutions may have improved, new risks have emerged, for instance in the derivative market. Risks themselves were not always accurately assessed by markets and spreads and derivative prices tended to converge, almost independently of the underlying counterpart risk. Price setting tended to depend more on market volatility than on the assessment of borrowers' ability to redeem their debt. Instruments that might have expected to protect the holder from risk subsequently failed to do so when large parts of the global system came under threat.

A.7 The near-collapse of Long-Term Capital Management (LTCM) in 1998 showed how hedge fund activities could seriously harm financial stability, and that technical expertise may not be sufficient to anticipate all possible outcomes (Garbaravicius and Dierick, 2005). The subprime crisis and the ensuing liquidity and solvency crises with the loss of confidence among banks in the

years 2007-09 indicate that risk is very much present. The impact of the crisis has been massive: the sale of Merrill Lynch to the Bank of America; the bankruptcy of Lehman Brothers and of more than ten US banks; the near disappearance of the concept of investment banks in the United States; the nationalization of Fannie Mae and Freddie Mac; and the collapse or (whole or partial) nationalization of various European banks. Financial conditions remain unsettled.

A.8 There are various aspects to the financial crisis of the recent years. The burst of the real estate bubble in the US housing market in late 2006 and 2007 was the trigger. The failed mortgage products then led to a severe drop in value of assets, with financial institutions experiencing losses of about \$1.4 trillion (IMF, 2008). The business model of the US subprime market, built on the assumption that real estate prices would not significantly decrease, was not sound. The opacity of assets securitized and the misleading valuation of illiquid financial instruments led to the realization that the high rating of tranches of these instruments was not well justified. Widespread holdings of the damaged assets, and a severe loss of confidence in the interbank market, brought liquidity and solvency problems across large parts of the global financial system which had become increasingly integrated (Snower, 2008). Sovereign risk has become a major issue.

A.9 Central banks played a key role in supplying liquidity and overcoming the paralysis in key money and financial markets. But the non-financial sector faced tighter credit conditions and wider credit risk spreads as financial institutions scaled back their activity. Moreover, households and institutional investors lost confidence in many deposit-taking institutions, uncertainty spread, and households and businesses held off consumption and investment, again affecting the real economy. The crisis brought recession in the United States and many other economies (Siebert, 2009).

A.10 While the proximate causes of the crisis lie within housing and financial markets, the build-up of substantial global macroeconomic imbalances may have also contributed significantly. Growing current account deficits, especially in the United States and some EU countries, contrasted with large current account surpluses in some other EU countries, in the oil-exporting economies and in many East Asian economies, notably China (Astley, Giese, Hume and Kublec, 2009). In the United States and some EU countries, households ceased to save and accumulate (net) substantial financial

assets, instead incurring debt. However, it still appears that the Asian financial institutions were overall less exposed, and the crisis seems to have had a less serious impact there (Jacquinot and Straub, 2008; Calza, 2008).

A.11 Since the start of the financial crisis, government debt has increased strongly after a period of relatively low financing needs, bringing the ability of some countries to service their debt into question. To reverse the rapid increase in general government debt-to-GDP ratios and to limit the detrimental long-term impact on private investment and potential economic growth, many countries have embarked on fiscal consolidation.

### **Revisions to international statistical standards meeting needs revealed by the crisis**

A.12 Understanding the origins of financial crises in the context of globalization and financial innovation is seen as one of the main challenges for policy analysis, research and decision-making. It also significantly affects statistical work, as high-quality macroeconomic statistics are regarded as an essential for central banks and others responsible for macroeconomic policy. Financial statistics and - in a broader context - integrated institutional sector accounts reveal much about the structure of the economic and the financial systems and provide useful information for policymaking and research. Other datasets play a key role for policymaking and research in assessing risks to financial stability, e.g., financial market statistics or banking and insurance statistics aggregated on a group level.

A.13 Compared to the speed at which global financial markets move, reflecting new economic and financial phenomena in existing statistical standards takes a long time. Careful planning is essential when dealing with integrated systems of national accounts since such systems are closely interlinked and designed to comply with various (horizontal, vertical and stock-flow) identities and restrictions. Expanding the boundaries of assets and liabilities or increasing the coverage of institutional units must be carefully assessed before including new items in the system. In this respect statistical work is somewhat like the design of international financial reporting standards as, in both cases, economic and financial market developments have to be monitored and translated

into appropriate and generally accepted methodological frameworks.

A.14 The update of the System of National Accounts leading to the 2008 SNA started some time before the financial crisis. However, when dealing with aspects of globalization and of financial innovation, the framework was also set to better integrate new phenomena which are now seen as closely related to the crisis, and to reflect economic and financial vulnerabilities. In this sense, the 2008 SNA and associated changes (those incorporated in the IMF's new BPM6 receive separate mention at various points in this chapter) appear appropriate to ensure a sound and relevant analysis of national and regional economies.

### **Update of the System of National Accounts**

A.15 How can an international statistical standard underlying high-quality macroeconomic statistics and national accounts be kept up to date and in line with the changes in economies such as those due to globalization and financial innovation, and with advances in methodological research and evolving users' needs? In 2003, the United Nations Statistical Commission (UNSC) approved a work programme for updating the 1993 SNA with the assistance of an advisory expert group on national accounts (AEG), the work being coordinated by the Inter-Secretariat Working Group on National Accounts (ISWGNA). These groups recognized a need to identify the issues arising from changes in the economic and financial environment.

A.16 The update of the SNA was based on a list of 44 issues for discussion.<sup>80</sup> Many of them are linked to topics related to relatively new financial phenomena such as the treatment in the accounts of credit derivatives, repurchase agreements, non-performing loans, index-linked debt securities and employee stock options. During the review process, it emerged that trends such as globalization and financial innovation were considered important enough to be reflected in macroeconomic statistics. At the same time it was felt that, in the ten years since its adoption, the 1993 SNA had shown resilience in a changing environment and had proved to be a robust framework that had gained broad appreciation (United Nations, 2003).

### **Is globalization reflected in the 2008 SNA?**

<sup>80</sup> The 44 issues for discussion are listed on the UN website <http://unstats.un.org/unsd/sna1993/issues.asp>.

A.17 Earlier chapters indicate the consequences for national accounts of globalization. Often these consequences have presented statisticians with new challenges. Globalization has undoubtedly brought great benefits which go far beyond any statistical difficulties. Nevertheless, it carries certain risks. In a globalized economy, national inflationary developments affect world inflation and asset allocation. Monetary policy may contribute to asset price bubbles which spread, and, likewise, a national deflation may have international repercussions. Exchange rate crises may develop into an international systemic crisis. Financial crises move from the financial centre in one country to that of another. The cross-border links operate through many mechanisms, among them risk allocation across banking products, and contagion as a psychological factor or as a consequence of budget constraints on economic agents. This is why statistical initiatives relating to globalization are important in connection with the financial crisis.

A.18 The 2008 SNA deals with aspects of globalization and the derivation of relevant indicators when considering the relationships between corporations in the national economy and in the rest of the world. Foreign direct investment (FDI) has become a key factor in international economic integration – see in particular Chapter 3. Accordingly, regular analysis of FDI developments is an integral part of most macroeconomic and cross-border financial analysis. FDI positions represent an important class of investment made abroad and received from abroad. As a percentage of GDP, they also give one indication of the extent of globalization and the interdependence of economies. FDI transactions in the financial account show inward and outward investments with assets (acquisitions net of disposals or redemptions) and liabilities (borrowing net of repayments) presented separately by financial instrument. Direct investment income provides information on the earnings of direct investors and of direct investment enterprises. Further elaboration of the treatment of FDI is one of the features of BPM6. As explained in Chapter 3, BPM6 notes that the direct investment relationship extends to affiliated companies with a common direct investor even in the absence of cross-shareholdings between them.

A.19 A further development to which the new standards give attention is the increased use of special purpose entities (SPEs), including offshore holding companies. SPEs are often (in the terminology of BPM6) both direct investors and

direct investment enterprises. BPM6 (especially paragraphs 4.50-4.52, 4.87 and 4.134-4.137) and the 2008 SNA (especially paragraphs 4.55-4.67) discuss at length the statistical treatment of SPEs. The point of mentioning them here is their connection with FDI and because the new standards clarify their residence status and sector classification. Chapter 4 of this publication contains much material on SPEs in the context of globalization and national accounts.

A.20 There is also interest in analysing the increasing activities of multinational corporations which potentially cause many measurement problems for national accounts. Most chapters of this publication touch on some aspect of this development, including challenges presented by transfer pricing between affiliated corporations, the increase in toll processing, where goods are shipped across international borders with no change in ownership (goods for processing – Chapter 5), merchanting (Chapter 6), the trade and use of intellectual property assets across the world (Chapter 7), and international trading via the internet (both by corporations and households (Chapter 13)).

A.21 Work continues to ensure the consistency of the various sets of statistics cited in the publications on globalization mentioned above. In addition to statistics on the activities of multinational enterprises, statistics are also available for the wider group of corporations with links to other economies but without majority ownership (foreign affiliates).

#### **Is financial innovation reflected in the 2008 SNA?**

A.22 For a more complete picture of the SNA update in terms of financial innovation it is necessary to look at the issues addressed in the context of defining institutional units and sectors and of specifying categories for financial assets and liabilities. One of the central topics refers to questions of how to determine the relevant features of institutional units and how to group them into institutional sectors or subsectors. Closely linked to these questions is the issue of how to identify separately financial corporations involved in financial intermediation activities like securitization, securities lending, and repurchase agreements. As many of these activities are cross-border, a related issue concerns the criteria to determine the residence of a unit, to which the 2008 SNA, and more particularly BPM6 (paragraphs 4.113 to 4.145), devote attention. Various new

components have been included in the 2008 SNA to subdivide the financial corporations sector and to refine the current financial asset and liability classification.

A.23 There is always some reluctance to change substantially the system as a whole, since many users of the data wish to keep macroeconomic time series stable over a long period. Nevertheless, financial innovations must be incorporated as recommended in the 2008 SNA in order to keep the system up to date and relevant to policy and analysis, even at the cost of some adverse effect on continuity.

A.24 From a monetary policy perspective, and also for financial stability purposes, it is important to integrate new elements reflecting financial innovation into the wide range of statistics available to a central bank. These are brought together in the framework of integrated economic and financial accounts by institutional sector, which provides a consistent overview of the interlinkages among the transactions and positions of the various institutional sectors (households, non-financial corporations, financial corporations, and general government). These accounts require precise specification of the institutional units and their classification. Economic activities are reflected in both transactions and other changes in stocks (that is, changes in stocks which do not arise from transactions), and the architecture of the system is based on a complete sequence of accounts, including balance sheets.

## Subsectoring of financial corporations

### Classifying financial corporations

A.25 For financial statistics and national accounts, groups of institutional units form institutional sectors or subsectors for compiling macroeconomic statistics. A breakdown of the large and heterogeneous financial corporations sector meets monetary policy needs by tracing how monetary policy is transmitted, and also may contribute to financial stability analysis. In the 2008 SNA, the subsectors of the financial corporations sector have been substantially expanded to allow a more useful presentation of their activities in the context of financial innovation. The definition of which units make up the various subsectors of the financial corporations sector has been modified to reflect the nature of their output (financial services). Risk management and liquidity transformation have been added to financial intermediation as activities which better capture the activities of the various

financial corporations. Accordingly, the list of subsectors of the financial corporations sector has been expanded to accommodate the more detailed description of financial corporations. This change will help to meet concerns that financial accounts have presented the financial corporations sector at too high a level of aggregation to reveal some of the developments which lay behind the financial crisis (e.g. heavy borrowing undertaken by some subsectors but not apparent from data relating to the sector as a whole, accompanied by exposure to maturity risk) (Palumbo and Parker, 2009).

A.26 The 2008 SNA identifies nine financial corporations subsectors, compared to five subsectors in the 1993 version. Thus, in addition to the central bank and deposit-taking corporations, money market funds (MMFs) are identified – these three subsectors may then be combined, if appropriate, to form a monetary institutions subsector. Insurance corporations and pension funds (financial intermediaries dealing with the pooling of risks) are shown separately. The subsector financial auxiliaries has been more broadly defined than in the previous SNA. Institutional units in the old “other financial intermediaries (OFIs)” subsector are now classified in three subsectors: non-MMF investment funds, other financial intermediaries, and captive financial institutions and money lenders. Non-MMF investment funds include hedge funds covering a range of collective investment schemes, typically involving high minimum investments, light regulation, and a wide range of investment strategies, and also private equity funds. Some investment funds invest in other funds (“funds of funds”).

A.27 Efforts have also been made to clarify the classification of specific institutional units within the “other financial intermediaries, except insurance corporations and pension funds” subsector, which covers financial vehicle corporations engaged in securitization of assets (FVCs) and other financial intermediaries like security and derivative dealers, financial corporations engaged in lending and specialized financial corporations. FVCs are to be distinguished from financial institutions covered by the new subsector “captive financial institutions and money lenders”. These are financial corporations which are not engaged in financial intermediation nor in providing financial auxiliary services, and most of whose assets or liabilities are not transacted on open markets. When such entities do not bear market or credit risks, they are consolidated with their parent corporation if resident in the same

country as the parent; if set up outside the economic territory in which the parent corporation is located, they are considered resident in the country in which they are incorporated, even if they have little or no physical presence there.

A.28 Holding companies also belong to this subsector. Holding companies own controlling levels of equity in a group of subsidiary corporations. They do not provide administration or management or any other service to the businesses in which the equity is held. (Holding companies are thus different from head offices, which exercise some aspects of managerial control over their subsidiaries: head offices are classified as financial auxiliaries if the business is mainly financial, and as non-financial corporations if it is not.)

### **Financial groups, conglomerates and multinationals**

A.29 Instead of classifying entities in institutional sectors, a second approach, also described in the 2008 SNA but not recommended in national accounts practice where strict residence and sector boundaries must be observed, is to arrange institutional units in financial groups according to ownership or control, not on the basis of principal functions, behaviour and objectives.<sup>81</sup> Such groups are likely to comprise mainly financial corporations, but perhaps also some non-financial corporations, and to include both resident and non-resident units. Large financial groups, or conglomerates, may be created where a parent corporation controls several subsidiaries, some of which may control subsidiaries of their own.

A.30 Each individual corporation in such a group is still a separate institutional unit. Even wholly-owned subsidiaries are separate legal entities required by law and tax regulations to produce complete sets of accounts, including balance sheets. Such data may contribute to national accounts. For financial stability purposes, however, it is necessary to have information relating to a financial group as a whole, and data for this purpose are usually presented consolidated at a group level. When assessing risks and their possible spreading over institutions and markets, it is of key importance to know which unit is bearing risks wherever the relevant assets are held within the group/conglomerate. In case of failure of an institution or a whole group, it is also important to

be able to assess which other groups are exposed to the group, either directly on-balance sheet or indirectly through contingencies like guarantees, and would therefore become liable for losses. (With the exception of standardized guarantees, contingencies are outside the asset/liability boundary of the 2008 SNA and BPM6.)

A.31 For various reasons therefore financial group data used for financial stability purposes differ from sector data used in national accounts. The differences are further elaborated in appendix A.1 to this chapter, on ECB statistical initiatives. Groups are not easily identifiable in practice and it may be difficult to obtain data for groups whose activities are not closely integrated. Moreover, many conglomerates are much too large and heterogeneous to be treated as single units, and their size and composition may be continually shifting over time as a result of mergers and takeovers.

A.32 For multinational enterprises (MNEs), publicly available information may be provided only for the group as a whole, where relationships between corporations in different countries have been consolidated. In this case, national accountants would need to consult other sources for the required non-consolidated data. Difficulties encountered in incorporating data relating to (parts of) MNEs in national accounts are discussed in various chapters of this publication.

### **Increasing complexity of financial instruments**

A.33 Beyond the specification of monetary variables as a subset, some refinements of the various financial asset and liability categories have been added in the 2008 SNA. They refer to the clarification of the treatment of repurchase agreements (including where a borrower of securities sells them), gold swaps, and loans and deposits in gold. For securities, a more detailed breakdown is recommended than in the 1993 SNA. Equity is split into shares (listed and unlisted), other equity and investment fund shares or units. For debt securities (“securities other than shares” in the 1993 SNA), a more comprehensive specification is foreseen taking into account the development of security-by-security databases (see further below, and in annex A.1). Debt securities are described with breakdowns by (original) maturity, currency, and type of interest – another change which should make national accounts more relevant to predicting (and perhaps forestalling) financial crises. Concerning maturity, it should be noted that

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<sup>81</sup> Non-financial groups consist predominantly of non-financial corporations. See the 2008 SNA, paragraph 4.51 et seq.

the main focus remains on original maturity, but the concept of residual maturity gains importance.

A.34 Borderline cases between financial derivatives and securities are discussed. A distinction is made between options and forwards, while employee stock options are shown separately. Further breakdowns are suggested as supplementary items, like credit derivatives or embedded derivatives. The 2000 BPM5 supplement on derivatives is incorporated in BPM6, with some further elaboration.

A.35 The 2008 SNA gives rather detailed attention to the accounting treatment of insurance technical provisions. With reinsurance, specific financial transactions take place among insurance corporations, namely transactions in reinsurance technical provisions and transactions in financial claims with direct insurers (the ceding corporations). Reinsurance technical provisions due to reinsurance contracts are shown as the direct insurer's financial claims on the reinsurer. Reinsurance technical provisions are included in various subcategories of insurance technical provisions: they may have to be identified by type of insurance (non-life, life, or pensions) or by type of provision (unearned premiums, unpaid claims, insurance provisions).

A.36 Questions also arose in the course of the review as to whether all types of pension entitlements should be covered within the asset/liability boundary of the SNA. This question is closely linked to the issue of how far provisions, as shown in business accounting, should be treated as financial instruments. The decision was to include all pension entitlements under non-government schemes within the asset/liability boundary, but not most pension entitlements arising from defined-benefit schemes managed by general government (which however may be shown in a supplementary table). Another modification refers to the inclusion as assets of standardized guarantees as a form of credit insurance (see further below).

### Guarantees

A.37 Guarantees have a significant impact on the behaviour of economic agents, both by influencing their decisions on production, income, investment or saving and by modifying lending and borrowing conditions on financial markets. Some borrowers would have no access to loans in the absence of guarantees, while guarantees give others access to

funds at lower interest rates than they would otherwise pay. Guarantees appear in the households (for example, student loan guarantees) and corporations sectors, and are significant for general government and for the public sector, as government activities are often linked with their issuance or activation. Guarantees are typically activated in the context of economic or financial difficulties. In this context, an analysis of risk exposures incurred by guarantors as usually reflected in their off-balance sheet commitments is important to policymakers.

A.38 The 1993 SNA indicated that only guarantees classified as financial derivatives should be recorded in the standard accounts, with supplementary information to be provided where contingencies are important for policy and analysis. In the 2008 SNA, three types of guarantees are distinguished: credit default swaps (CDSs), standardized guarantees, and one-off guarantees.<sup>82</sup> CDSs are classified as financial derivatives, while one-off guarantees are still treated as contingencies (and are therefore off-balance sheet).

A.39 Some consideration was given to the accounting treatment of standardized guarantees. They are guarantees for which the probability of default can be established but which do not meet the definition of a financial derivative, and hence are related to an actual financial arrangement between the lender and the borrower. Common examples are export credit and student loan guarantees. The expected loss to be considered is a probability-weighted concept. Although it is hard to assess the likelihood that any individual borrower will default, experience with the scheme will indicate what proportion of outstanding guarantees will be activated. The estimated future payments are discounted and take account of any likely recoveries where payment under the guarantee gives the guarantor rights over defaulting assets or other collateral.

A.40 The guarantee may be contracted either by the creditor or the debtor, but the asset is always recorded in the balance sheet of the entity that holds the right to claim and receive funds from the guarantor. It is necessary to reroute transactions when the entity that pays the premium is not the one holding the asset. Given their similarity to insurance contracts (both rely on the spreading of risks over a large number of independent

<sup>82</sup> See also IAS 37 on *Provisions, Contingent Liabilities and Contingent Assets*.

contracts), standardized guarantees are treated as insurance technical provisions. The expected losses are recorded as imputed payments to the guarantor (as if the guarantor received premiums), who incurs a matching liability at the same time. (This is identical to the treatment of non-life insurance, where the insurance corporation receives premiums and – after deduction of administrative costs, etc. - records corresponding liabilities to policy holders in the form of technical reserves.) An equivalent asset is added to the balance sheet of the sector receiving the guarantee, i.e. that of the entity which granted the initial loan. It is recognized that this could imply an overstatement of its assets and net worth, since it may continue to record the loans guaranteed at full nominal value. (This situation may have already arisen in the 1993 SNA, when a lender buys a credit derivative for protection against a deterioration in the creditworthiness of the borrower.) Some additional information on loan provisioning made by the creditor in the case of non-performing loans will be provided as a memo item or in a set of supplementary accounts in the new SNA, to allow analysts to take account of this possible overstatement on the assets side.

### Securitization

A.41 The reference point here (and for issues of debt securities more generally) is the *Handbook on Securities Statistics (Part 1: Debt securities issues; Part 2: Debt securities holdings)* compiled by the BIS, the ECB, and the IMF. The Handbook provides a conceptual framework for the presentation of statistics on debt securities based on the 2008 SNA and BPM6. Securitization of assets or future income streams is a well-established process that has already operated for some decades. However, financial innovation has brought new financial corporations to facilitate the creation, marketing, and issuance of debt securities. Furthermore, securitization schemes have become increasingly complex and are driven by different considerations like cheaper funding, reductions in regulatory capital requirements, risk transfer and diversification of funding sources. Securitization results in debt securities for which coupon or principal payments (or both) are backed by specified financial or non-financial assets or future income streams.<sup>83</sup> A variety of assets or future

income streams may be used, including residential and commercial mortgage loans, consumer loans, corporate loans, government loans, credit derivatives, and future revenue. As noted earlier, it was in difficulties with this type of operation (securitization of sub-prime mortgages in the United States) that the financial crisis began.

A.42 Securitization schemes vary within and across debt securities markets. These schemes can be grouped into three broad types. The first type of scheme, usually known as on-balance sheet securitization, involves the issue of debt securities backed by an income stream generated by the assets which remain on the balance sheet of the debt securities issuer (the original asset owner), typically as a separate portfolio. The issue of debt securities provides the original asset owner with funds.<sup>84</sup> In the second type, true-sale securitization, the original owner transfers assets from the balance sheet to an FVC,<sup>85</sup> which issues debt securities to finance the acquisition. Interest payments and principal repayments on the loans meet the coupon payments and principal repayments on the debt securities.

A.43 Synthetic securitization, the third type of securitization, involves the transfer of credit risk related to a pool of assets without a transfer of the assets themselves. The original asset owner buys protection against possible default losses on the pool of assets using CDSs. The proceeds from the issue of debt securities are placed by an FVC on deposit, and the interest accrued on the deposit, together with the premium from the CDSs, finances coupon payments on the debt securities. If there is a default, the original asset owner continues to receive coupon and principal payments as some of these funds are redirected away from some investors to cover default losses. Synthetic securitization without an FVC occurs when the original asset owner issues credit-linked notes (CLNs). CLNs are structured as debt securities with an embedded CDS allowing a specific credit risk to be transferred from the issuer of the CLNs to investors. For example, if a bank makes a loan to a

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synthetic securitization (see <http://www.imf.org/external/np/sta/wgsd/hbook.htm>).

<sup>84</sup> The issuance of asset-backed securities in a (on-balance sheet) securitization is to be distinguished from the issuance of covered bonds. Covered bonds exist in several jurisdictions and in different format (e.g. Pfandbriefe in Germany). Covered bonds, unlike asset-backed securities, usually provide for the double recourse to both the pool of assets and the issuer in case of the default of the issuing financial institution.

<sup>85</sup> Elsewhere these entities may be called special purpose vehicles (see for example Chapter 4, paragraph 4.19). Other terms may also be used.

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<sup>83</sup> This definition of securitization in the *Handbook on Securities Statistics* is wider than the definition used in a recent ECB regulation (see annex A.1) which (broadly speaking) covers those securitization schemes described here as true and



corporation, the bank may in turn sell CLNs to investors. The proceeds from the CLNs would be invested by the bank in high quality assets, such as government debt securities. If no default occurs during the life of the note, the redemption value of the note is paid to investors at maturity. If a default occurs, the investors become the creditors of the defaulting corporation (annex A.1 describes recent work on securitization carried out in the ECB).

### The balance sheet approach

A.44 Compared to the more traditional examination of transaction data, the balance sheet approach focuses on the analysis of stock data in an economy's sectoral balance sheets, and its aggregate balance sheet, covering financial and (in principle) non-financial assets, liabilities and net worth. This approach to the analysis of financial stability involves an institutional sector approach as developed for the euro area (see appendix A.1). The innovative part is the focus of attention not solely on the activity and strength of the economy as a whole vis-à-vis the rest of the world, but also within the economy and in the interrelations between institutional sectors and subsectors. The sectors generally covered in the approach may be further divided into subsectors, such as various kinds of financial institutions, e.g., the central bank, deposit-taking corporations and other financial intermediaries, probably with further breakdowns by subsector as provided for in the 2008 SNA.

A.45 Alongside analysis of the quality and diversification of each sector's and subsector's portfolio of assets and liabilities, the balance sheet approach helps to identify weaknesses in the financial system, measuring exposure to sectoral financial risks, mapping the connections between the sectors, and assessing the dynamics between them at times of shock.<sup>86</sup>

A.46 The balance sheet approach has assumed increased importance in external statistics also. The IMF's Coordinated Portfolio Investment Survey (which has been conducted annually since 2001) is likely to increase from annual frequency. In addition, the IMF and a group of international agencies published *External Debt Statistics: Guide for Compilers and Users* in 2003. It is also significant in this regard that the full title of BPM6 is the *Balance of Payments and International Investment Position Manual*. Also, the intention, at least for

subscribers to the IMF's Special Data Dissemination Standard, is to increase the frequency of international investment position statistics to quarterly. The more recent changes in the collection of data on outstanding positions are at least in part because the financial crisis has highlighted the importance of such data and the links between institutional units, in terms of asset and liability positions, across countries (and also within them).

A.47 The framework for assessing balance sheet risks may focus on four types of balance sheet mismatches, all of which may affect a country's, sector's or subsector's ability to service debt in the face of shocks: (i) maturity mismatches, where a gap between liabilities due in the short term and liquid assets may leave a sector or subsector unable to meet its commitments if the market declines to roll over debt, or creates exposure to the risk that interest rates will rise; (ii) currency mismatches, where a change in the exchange rate leads to a capital loss; (iii) capital structure problems, where a heavy reliance on debt rather than equity financing leaves a firm or bank less able to weather revenue shocks; and (iv) solvency problems, where assets are insufficient to cover liabilities, including contingent liabilities. As pointed out in the Palumbo and Parker study on the adequacy of US economic and financial accounts referred to earlier, maturity mismatches, currency mismatches, and a poor capital structure can all contribute to systemic risk. Solvency risk can also arise from simply borrowing too much or from investing in low-yielding assets. Nevertheless, off-balance sheet commitments, usually treated as contingencies in the 2008 SNA, may exist which are not sufficiently reflected in national accounts.

A.48 From this perspective, a financial crisis could occur when there is a fall in demand to hold the debt of one or more sectors. Creditors may lose confidence in a country's ability to service its external debt, in the government's ability to service its own debt, in the banking system's ability to meet deposit outflows, in the soundness of other financial corporations, or in the ability of households or non-financial corporations to repay loans and other debt (Allen, Rosenberg, Keller, Setser and Roubini, 2002; Gray, Merton and Bodie, 2002; Mink, 2005).

A.49 Although the relationship with globalization and national accounts is slight, it might be mentioned here that Chapter 27 of the 2008 SNA (*Links to monetary statistics and the flow of funds*) explains how monetary aggregates may

<sup>86</sup> See, for instance, the IMF's *Global Financial Stability Report*, October 2009, and the ECB's *Financial Stability Review*, December 2009.

be embedded in from-whom-to-whom financial accounts and balance sheets.

### **Aligning the work between international accounting standards and statistical standards**

A.50 The previous sections bring together a broad range of topics considered in the context of globalization and financial innovation and which are in the process of being integrated into the 2008 SNA. It is important to align this work with the design and implementation of international financial reporting standards (IFRS). This has been clearly reflected in the various tasks of the working groups and committees contributing to the SNA review process. International initiatives should also be mentioned to align government accounting practices and international statistical standards, beginning with the release of the various IMF manuals and their implementation. Valuable work has also been done by the OECD/IMF Task Force on the Harmonization of Public Sector Accounting, which brought together government accountants and national accounts statisticians. Harmonization of international accounting standards and statistical standards to the extent possible will enable the same source data to be used for several purposes, contributing to the reliability of macroeconomic statistics while prospectively reducing the reporting burden for corporations.

A.51 The *International Accounting Standards Board (IASB) Framework for the Preparation and Presentation of Financial Statements* is particularly relevant for statistical standards. The framework sets out the concepts that underlie the preparation and presentation of financial statements for external users and deals with: (i) the objective of financial statements; (ii) the qualitative characteristics that determine the usefulness of information in financial statements; (iii) the definition, recognition and measurement of the elements from which financial statements are constructed; and (iv) concepts of capital and capital maintenance.

A.52 Accounting for financial instruments under the IFRS is complex. It is only possible to mention here IAS 32, IAS 39 and IFRS 7 as they are currently applied. IAS 32 (*Financial Instruments: Presentation*) deals with the classification of financial instruments, from the perspective of the issuer, into financial assets, financial liabilities and equity instruments; the classification of related interest, dividends, losses and gains; and the

circumstances in which financial assets and liabilities should be offset. The principles in this standard complement the principles for recognizing and measuring financial assets and financial liabilities in IAS 39 (*Financial Instruments: Recognition and Measurement*), and for disclosing information about them in IFRS 7 (*Financial Instruments: Disclosures*).

A.53 For national accounts, balance sheet items are mainly classified by type of instrument and maturity. Although some obligations in the IAS (e.g. provisions) are not always recognized as liabilities in the SNA, most of the national accounts instrument categories coincide with those of the balance sheet under financial accounting standards.

### **Main gaps in statistics and measurement issues identified by the financial crisis - the Issing Committee and G-20 reports**

A.54 This section draws on two main sources: the Issing Committee report and the G-20 report *The financial crisis and information gaps*. Other needs identified by the ECB, in its role of promoting financial stability and anticipating the requirements of the ESRB, are described in annex A.1.

#### **The Issing Committee report**

A.55 The recommendations of the Issing Committee report (see Issing and others, 2009) concerning statistical gaps centred on a risk map project “*comprising off-balance sheet entities as well as risk transfer instruments like CDOs [collateralised debt obligations] and CDS [credit default swaps]*.” The report continued “*In fact, available data bases are not prepared to capture these financial instruments, nor the international interconnectedness among large banking and insurance groups (LBIGs). Therefore, as a prerequisite for strengthening counter-cyclical policy measures (e.g. capital adequacy, and liquidity reserves), a coordinated effort to set up a suitable data base of the global financial interconnectedness (the exposure net) and its major risk factors (the risk drivers), is needed.*” (By counter-cyclical measures here the report means an approach which tightens capital requirements and otherwise discourages strong growth in lending when markets are buoyant, and works in the reverse direction when conditions are weak – see

the remarks earlier in this annex on the link between asset price bubbles, the value of collateral, and lending. The effect on lending via (apparent) over-sufficiency of bank capital when markets are strong may also be important.)

A.56 The Issing Committee report also sees deficiencies in data on individual securities and loans, proposing supranational databases on both. In this context, the report proposes a standardized credit register to monitor domestic and cross-border exposures simultaneously. Likewise, the advancement of a global securities register, itself closely related to the risk map project, should be continued in parallel, exploiting possible synergies. The existing Working Group on Securities Databases is mentioned in this context. This matter is taken up in annex A.1 describing the ECB's current and planned work, of which a securities database is an important part.

A.57 Further recommendations refer to the role hedge funds played in crisis transmission, due to their strong reliance on bank financing and maturity mismatch, and to rating agencies. Regulation of hedge funds is recommended, while the report considers that internationally active rating agencies should be registered and should explain their rating methodology better.

A.58 One aspect of the Issing Committee's concern about procyclicality has been mentioned. In connection with national accounts, the report focuses on the need for better cyclically-adjusted government revenue and expenditure data, e.g. to prevent a loosening of fiscal policy when the general government position improves for cyclical reasons in an economic upturn.

A.59 The Issing Committee report also advises central banks to take account of asset price bubbles in conducting monetary policy. This is a matter which monetary economists and policymakers have often debated. The crisis gives the discussion a new topicality. The relevance here is that in some way trying to prevent bubbles (or to burst them if they emerge) would inevitably give further significance to data on, in particular, residential and commercial property prices, and probably also to the inclusion of at least some non-financial assets in sectoral balance sheets (see further below and in annex A.1) – hitherto institutional sector balance sheets in most EU countries had included only financial assets (estimated holdings of residential property are now included in the balance sheet of the households sector in euro area accounts).

## The G-20 report

A.60 The G-20 report states that, while the financial crisis was not the result of a lack of proper economic and financial statistics, it exposed a significant lack of information as well as data gaps on key financial sector vulnerabilities relevant for financial stability analysis.<sup>87</sup> Key recommendations refer to data improvements related to risks, international network connections, sectoral and other financial and economic datasets, and to the communication of official statistics.

A.61 Broadly, the report sees a need to address information gaps in three main interrelated areas. The first is monitoring risk in the financial sector. Much of this concerns the type of supervisory data briefly described above. The second area identified by the G-20 report is international network connections, or cross-border financial linkages. Here the main national accounts matter is the Coordinated Portfolio Investment Survey (CPIS), at present conducted annually by the IMF, which is much used by statisticians in balance of payments and international investment position work. The third area identified in the G-20 report is sectoral and other financial and economic datasets, mainly concerned (as the report explains) with sectoral transaction accounts and balance sheets, more fully comparable government finance statistics, and information on residential and commercial real estate prices. The report recognizes that work is under way to produce a handbook on real estate price indices, led by Eurostat under the auspices of the Inter-Secretariat Working Group on Price Statistics (UNECE, ILO, IMF, OECD, World Bank, and Eurostat), and that the BIS and member central banks have collected a large number of real estate price indicators from various countries around the world (and the ECB has collected such data relating to euro area countries). The report also seeks data on groups of entities within an institutional sector or subsector (“distributional information”). These datasets may indicate the vulnerability of economies to shocks. A fourth area concerns improving communication of official statistics (the development of the Principal Global Indicators website noted below).

A.62 Further issues in the report relating directly to national accounts concern data on the stock of dwellings, together with the associated price levels and changes in them mentioned above, which are

<sup>87</sup> A progress report was presented to Finance Ministers and Central Bank Governors in June 2010; another will follow in June 2011.

critical for understanding household wealth, its evolution over time, and the vulnerability of households' financial position. Similar information on commercial property is relevant, not just for monitoring the wealth of the corporate sector, but also for financial stability more generally, given that commercial property accounts for a significant share of collateralized lending for many banks.

A.63 Other points raised in the G-20 report affecting national accounts concern government finance data, where (in the view of the report) the crisis has further highlighted data gaps and problems in comparability, with wide differences in coverage and definitions in national fiscal data, particularly for balance sheet items. The report notes that the World Bank, in cooperation with the Task Force on Finance Statistics (TFFS), is creating a database on general government and public sector debt statistics to make such data more widely available and to enhance their international comparability. The report mentions in particular better data on the maturity profile and classification (such as by currency and holder) of government debt.

A.64 There is also concern about the lack of data on cross-border exposures of non-financial corporations. "Onshore" corporations, both financial and non-financial, have used offshore entities to raise finance and provide implicit guarantees; the activities of these entities have often not been recorded in the statistics. The residence status of such offshore entities, registered in some other country but often with no physical presence there, was not sufficiently clear in the old statistical standards. The new standards make it clear that registration or authorization is sufficient to establish residence, even in the absence of a physical presence in the territory – see Chapter 4 on SPEs. Although relevant to the concerns of the G-20, correct statistical treatment of these offshore entities following the new standards will not wholly satisfy the concerns of the G-20 report. Accordingly, statistical reporting needs to be amended to reveal the exposures of the onshore corporation through its offshore affiliates.

A.65 The G-20 report makes twenty recommendations. They include the further development of the BIS data collection on securities, the BIS-ECB-IMF *Handbook on Securities Statistics* and a communications strategy for these data (recommendation 7); a template for systemically important global financial institutions (recommendation 9); information on cross-border

exposures of financial and non-financial corporations (recommendation 13); a template for exposures of large non-bank financial institutions (recommendation 14); a strategy to promote the compilation and dissemination of the balance sheet approach, flow of funds, and sector data (recommendation 15); statistical work to compile and disseminate distributional information (such as ranges) (recommendation 16); and methodological and data aggregation practices on global and regional aggregates and implementing the Statistical Data and Metadata eXchange (SDMX) for the Principal Global Indicators website (recommendation 20 – see further below). As annex A.1 explains, the ECB is closely involved in these developments and has already carried some of them forward at the EU level.

### **Progress made since October 2009**

A.66 Work started immediately to address these recommendations. In some cases, closing the gaps will raise significant challenges. In others, the identified gaps relate to existing initiatives where the conceptual framework for capturing data is already well developed. Considerable progress has been made with several recommendations. Prioritization, coordination, and cooperation among international agencies and G-20 economies remain essential to a successful implementation of the work programme.

A.67 As noted earlier, the October 2009 report grouped the recommendations under four themes: (i) the build-up of risk in the financial sector; (ii) cross-border financial linkages; (iii) the vulnerability of domestic economies to shocks; and (iv) improving communication of official statistics.

A.68 Table 1, from the June 2010 progress report, summarises the 20 recommendations. The rows reflect the four themes mentioned in the October 2009 report while the columns show the status of the work.

**The Principal Global Indicators website**

A.69 One of the Working Groups following up the G-20 report is the Inter-Agency Group on Economic and Financial Statistics (IAG) which was established at end-2008 to coordinate work on the improvement of economic and financial statistics (methodologies and data collection) among international agencies. Members of the IAG are the BIS, the ECB, Eurostat, the IMF (chair), the OECD, the UN, and the World Bank.

emphasizing the comparability of data. In developing the site, the IAG has drawn on the experience in Europe with the Principal European Economic Indicators, and the UN data template for high frequency statistics. The main series covered at present on the PGI website are GDP and main expenditure components, consumer and producer prices, unemployment, industrial production and retail trade, external trade and the current account balance of payments, the international investment position (including external debt and official

**Table 1 Overview of the 20 recommendations**

	<i>Conceptual/statistical framework needs development</i>		<i>Conceptual/statistical frameworks exist and ongoing collection needs enhancement</i>	
	<i>Recommendation</i>	<i>Responsibility</i>	<i>Recommendation</i>	<i>Responsibility</i>
<b>Build-up of risk in the financial sector</b>	# 3 (Tail risk in the financial system and variations in distributions of, and concentrations in, activity)	IMF	# 2 (Financial Soundness Indicators (FSIs))	IMF
	# 4 (Aggregate leverage and maturity mismatches)	BIS and IMF	# 5 (Credit Default Swaps)	CGFS and BIS
	# 6 (Structured products)	IOSCO	# 7 (Securities data)	BIS, ECB and IMF
<b>Cross-border financial linkages</b>	# 8 and # 9 (Global network connections and systemically important global financial institutions)	FSB and IMF	# 10 and # 11 (International Banking Statistics (IBS) and the Coordinated Portfolio Investment Survey (CPIS))	BIS, CGFS and IMF
	# 13 and # 14 (Financial and non-financial corporations' cross-border exposures)	IAG led by BIS	# 12 (International Investment Position (IIP))	IMF
<b>Vulnerability of domestic economies to shocks</b>	# 16 (Distributional information)	OECD and Eurostat, in cooperation with the ECB	# 15 (Sectoral accounts)	IAG led by IMF
			# 17 (Government finance statistics)	IMF
			# 18 (Public sector debt)	World Bank IATFFS
			# 19 (Real estate prices)	ISWGPS, BIS, IAG
<b>Improving communication of official statistics</b>			# 20 (Principal Global Indicators)	IAG

Note: recommendation 1 concerned the June 2010 progress report.

A.70 In April 2009, the IAG launched the Principal Global Indicators (PGI) website.<sup>88</sup> This website is intended to reflect the needs of users in monitoring economic and financial trends for the G-20 economies, as systemically important countries. It gives prominence to cross-country indicators,

reserves), banking data, interest rates, share prices and exchange rates, confidence indicators and the oil price. The data are presented in a harmonized manner (e.g. "GDP growth" is the quarterly growth rate on the previous quarter in constant prices and seasonally and working day adjusted). The PGI website will make it clear how far work has progressed in implementing international statistical standards like the 2008 SNA, which are a necessary

<sup>88</sup> See <http://www.principalglobalindicators.org>.

but not a sufficient condition for reliable and comparable statistical data.

A.71 Various groups are working to expand the data on the website, including with residential and commercial real estate prices. Further

enhancements are expected to include, for selected indicators, aggregated data for the world, OECD countries and emerging economies. The IAG is also collaborating to further improve access to these data. It intends to broaden country coverage in the medium term.

## Annex A.1

### Recent and planned developments in ECB/ESCB statistics relating to the impact of globalization and the financial crisis<sup>89</sup>

A.2.1 The ECB had already in mind, or had recently introduced, some statistical enhancements which proved to be relevant to needs in present circumstances.

#### The development of euro area accounts by institutional sector

A.2.2 The first quarterly euro area integrated economic and financial accounts by institutional sector were published in May 2007 (annual accounts had been published a year earlier; the ECB had for some years published partial accounts covering the non-financial sectors in the euro area). These accounts, the result of a joint initiative with Eurostat (which is the source of the current and capital accounts), bring together all economic and financial transactions of the main institutional sectors in the euro area, with balance sheets recording financial assets and liabilities, and reconciliation accounts showing revaluations and other (non-transactional) changes in the volume of assets and liabilities. Estimates of dwellings owned by the households sector have recently been added to the balance sheet.

#### Euro area accounts for financial stability analysis

A.2.3 The crisis has given these euro area accounts a high profile. If further developed in the context of the 2008 SNA, the accounts are relevant to ascertaining (i) the vulnerabilities included in the balance sheet positions of general government, non-financial corporations, and households; (ii) conditions in markets to which several of these sectors are exposed, such as real estate; and (iii) the financial and real sector linkages within an economy.

A.2.4 An example of the present relevance of euro area accounts for financial stability analysis (although, as noted already, they were not devised with this use principally in mind) is a section of the ECB's *Financial Stability Review* for June 2009. Brief

extracts may give some of the flavour of the analysis. It said that data on the euro area financial accounts are used *“to construct a network of balance sheet exposures that connect the main sectors of the euro area financial system. Net financial wealth and its role in attributing sectors to the borrowers or lenders in the financial system also provides a link between the financial and the real accounts. Therefore, it allows an analysis of the transmission of ‘vertical’ contagion whereby shocks may spread from the real sector to the financial sector via the net lending positions of the different sectors... In other words, sectors with high debt relative to cash flows tend to be more vulnerable to asset price and cash flow shocks. This captures the ‘leverage effect’ of debt accumulation, which is an important concept in financial contagion literature...[Chart C.3] provides a measure of debt-to-asset ratios for the individual sectors...”*

*Three main observations can be drawn... The first is the overall increase in the size of balance sheet exposures in the first decade of Stage Three of Economic and Monetary Union [1999-2008]. The second is the crucial role played by the banking (MFI) sector in the euro area financial system..... The third observation is the growing role played by the OFI [other – non-monetary – financial intermediaries] sector over the past ten years, [which partly] reflects the expansion of securitisation transactions and off-balance sheet structures.*

*The fact that the euro area accounts provide a consistent source of leverage measures across different sectors makes it possible to construct time series for risk indicators at the sector level.*

*Analysis of balance sheet and risk networks is especially useful for macroprudential purposes, where attention should be paid to the vulnerabilities that arise from the interlinkages among agents in the financial system....”*

#### Enhancing euro area accounts

A.2.5 In-depth analysis of the strengths and weaknesses of the financial sector, within an economy and in interaction with other entities in the context of globalization, makes it necessary to develop the accounts further (and to undertake other statistical initiatives, as described later in this appendix). The ECB intends to enhance the euro area institutional sector accounts in various important ways. One is a direct consequence of the financial crisis and the likely needs of the ESRB: an

<sup>89</sup> The European System of Central Banks (ESCB) comprises the ECB and the central banks of the 27 EU member states.

extension of the aggregation from the euro area to the European Union as a whole, because the ESRB has an EU-wide remit. (The euro area accounts will of course be retained, because the euro area is the entity relevant to the ECB's monetary policy function for which the accounts were originally designed.) Incorporation of data for EU countries outside the euro area presents many practical challenges, notably in data coverage and consolidation/aggregation.

A.2.6 The other enhancements would have been made anyway to meet the requirements of ECB users. As noted earlier, residential property has recently been added to the balance sheet of the households sector. Adding commercial property is a priority here, and the intention is to introduce produced assets owned by euro area/EU residents generally.<sup>90</sup> The second major improvement is to widen the counterpart information in the financial accounts and balance sheets. The point here is that the basic accounts show the sectors which hold financial assets (but not the sectors on which the assets represent claims), and the sectors which have liabilities in the form of the various classes of instruments (but not the sectors which hold the instruments). For example, the basic accounts show debt securities acquired during the quarter (or held at end-quarter) by households, but not the debtor sectors on which they represent claims; and they show the amount of debt securities issued by non-financial corporations, but not which sectors hold them. This is a deficiency when, for example, there is a need to know how exposed the households sector is to financial and non-financial corporations. The euro area accounts already present from-whom-to-whom information for deposits and loans, but not for other financial instruments. Planned development of securities holdings statistics is relevant here - see also the section below on securities databases.

A.2.7 There are two statistical enhancements which will contribute to the accounts, or make them easier to understand, but which have other purposes also. For non-financial sectors, the ECB has introduced a survey of small and medium-sized enterprises (most of which will be in the non-financial corporations sector), since this group may behave differently from larger enterprises. The ECB has also recently introduced a survey of households across the euro area (the *Household Finance and Consumption Survey*) which will provide

information on households at different income and wealth levels, with different age profiles, family commitments, etc. The intention is to collect information at lower frequency which will improve understanding of the sector aggregates in the institutional sector accounts. This is a contribution to the need for better distributional data mentioned in the G-20 report, revealing developments that are likely to affect economic and financial conditions but may be hidden in data relating to the broader sectors and subsectors.

### **ECB/ESCB statistics related to financial institutions and markets from the perspective of filling data gaps**

A.2.8 Even without the prospect of the ESRB, the crisis would have led to a thorough appraisal of statistical provision, in view of the severity of the economic consequences and the ECB's statutory task to "*contribute to the smooth conduct of policies pursued by the competent national authorities relating to the prudential supervision of credit institutions and the stability of the financial system*" (Article 127, Treaty on the Functioning of the European Union). A preliminary point might be made here. Although many of the statistics regularly compiled by the ECB, usually to form euro area aggregates, have some relevance to the financial stability function (obvious examples are the monetary financial institution (MFI)<sup>91</sup> and other financial corporations' balance sheets, and the detailed information on MFI interest rates paid and charged to households and non-financial corporations in the euro area), they were designed largely with the monetary policy function in mind, and conform in definition, coverage, accounting conventions, etc. so far as possible to international statistical standards. For financial stability purposes the ECB has received, via EU financial supervisors, separate, lower frequency data designed to meet supervisory needs.

A.2.9 Other work affecting E(S)CB financial statistics relates to the gaps identified in the Issing Committee and G-20 reports. One area of work concerns the new emphasis on microdata held in securities databases and credit registers. The Issing Committee report in particular urges their further development towards a common supranational database. While the ECB is considering the use of credit registers as a good basis for detailed

<sup>90</sup> The ECB also has in mind fuller/more comparable data on other aspects of housing and construction, e.g. on housing starts and completions, and sales of houses.

<sup>91</sup> MFIs comprise (broadly speaking) central banks (including the ECB itself), what the SNA calls deposit-taking corporations (other than the central bank), and money market funds.



statistics and in-depth analysis, work had started much earlier on securities (issues and holdings) information and is much further advanced.<sup>92</sup>

A.2.10 While most recent work has been on macrofinancial statistics and institutional sector accounts, efforts are being made wherever possible to bridge data provided for supervisory purposes (aggregated and consolidated (on and off) balance sheet and income data) with data provided for statistical purposes, specifically for deposit-taking corporations, insurance corporations and financial vehicle corporations. They are not in fact easily reconcilable because of the differences in underlying concepts, coverage, etc. Another area of work deals with the development of asset price statistics by using market data, e.g. on interest rates, yields, and spreads.

#### Securities databases

A.2.11 The ECB already has a huge amount of information on individual securities. Its centralised securities database (CSDB) holds information for statistical purposes on almost seven million securities, including information on the sector and residence of the issuer, with up-to-date information on amounts in issue and prices, and on many other variables. For balance of payments and international investment position statistics, and also for investment fund and for financial vehicle corporation statistics, transactions and positions in securities are already reported security-by-security and processed using the database. Application of this approach to MFI balance sheet statistics is planned.

A.2.12 Several euro area countries already compile data on securities holdings more widely, usually through data received from domestic custodians. A subgroup of the ECB's Statistics Committee recently reported on a general (at least euro area-wide) collection of data on holdings of individual securities, which will, when implemented, permit the from-whom-to-whom information to be extended to all forms of securities. At the level of the euro area accounts, exposures of sectors and subsectors to other sectors could be compiled by strengthening the possible analysis of interrelationships. At the level of microdata, the database would reveal the holdings of sectors and subsectors vis-à-vis individual issuers.

<sup>92</sup> Not discussed here, because the link with national accounts is slight, is the work on credit risk transfers, looking through asset-backed securities, etc.

A.2.13 Information on securities had already become an international priority - collaboration between the BIS, ECB and IMF to produce a *Handbook on Securities Statistics* (covering both securities issues and holdings) being an important instance. These institutions, and some others, have formed a group to carry forward work on securities statistics. While the crisis has undoubtedly given a stimulus to these initiatives, they would probably have occurred anyway. This all concerns the need for fuller information on financial exposures and interrelationships highlighted in the Issing Committee and G-20 reports, at least so far as securities are concerned.

A.2.14 Some other initiatives might be mentioned. In connection with securities statistics, the ECB is keen that a world-wide securities reference data utility should be established – essentially a facility to provide standardized data on securities, the data to be provided at the time of issue and updated periodically as necessary. This would fit with other proposals for (for example) a global database on securities.

#### Credit registers

A.2.15 While a comprehensive credit register is a long-term objective, work is under way to further collect and harmonize data across existing credit registers. Some national central banks in EU countries maintain official credit registers; there are also private registers to which banks and other lenders contribute data and which they may consult. There are three main uses for the information in credit registers; (i) to enable bank supervisors to accurately assess credit risk in supervised financial institutions, and also to judge whether particular borrowers or groups of borrowers are over-extended; (ii) to support financial transactions by assisting credit institutions and other lenders in the evaluation of the risk of lending to potential borrowers;<sup>93</sup> and (iii) for economic analysis. However, experience shows that once the data coverage and availability of credit registers are improved, their content can also support additional needs such as macroprudential analysis and research and statistical uses, as well as market and credit risk analysis.

<sup>93</sup> Private credit bureaus are increasingly extending their service to customers by modelling consumer behaviour and/or assessing default probability by types of loan or class of borrower. Central credit registers are also developing credit risk models for supervisory purposes.

A.2.16 Because of legal constraints, the different operational goals pursued, or competition among private credit bureaus,<sup>94</sup> there has been some specialization in the various existing credit registers, e.g. positive (reporting on new and outstanding loans) versus negative (loan defaulting) reporting, or lending coverage, e.g. loans to non-financial corporations or loans to households for consumption or house purchase (with or without a mortgage). At present the scope and coverage of central credit registers and private credit bureaus vary considerably across countries. However, there is an increasing perception that credit register data are gaining momentum. Their coverage and quality may increase and they could also be used for purposes such as macroprudential analysis and research and as input to monetary and financial statistics, balance of payments statistics and financial accounts.

#### **Bridging national accounts and supervisory data**

A.2.17 The focus here is on national accounts, broadly defined – roughly, the data measured and recorded following the SNA, the ESA and related manuals. Since many of the gaps mentioned in the Issing Committee report and in the G-20 reports, however, relate to supervisory data and data meeting the needs of financial stability, it may be useful to explain briefly the difference. As well as accounting rules and a strict distinction between transactions and other flows (revaluations and other changes) relating to assets and liabilities, international statistical standards make clear distinctions between resident and non-resident and between institutional sectors. These standards are observed in integrated institutional sector accounts and in the banking and monetary statistics and other financial institutions and markets data compiled principally for monetary policy purposes. Thus, for example, national and euro area banking statistics, and the monetary aggregates derived from them, cover the balance sheets, transactions and other (non-transactional) flows of institutions classified as MFIs which are resident in the country concerned or the euro area regardless of where the head office is located, and they exclude the business of foreign branches of resident MFIs. Moreover, they exclude the business of subsidiaries of MFIs which are not themselves MFIs but (for example) leasing companies or consumer credit grantors – such entities are “other” (non-monetary)

financial intermediaries, and the statistics do not merge transactions and other flows or combine institutional units of different sectors or residency.

A.2.18 Statistical data used for supervisory and financial stability purposes focus on the business of the whole supervised institution. As explained in the main text in relation to the structure of financial groups, conglomerates and multinationals, the data are accordingly consolidated across national boundaries to include also the business of foreign banking branches, and they may be consolidated across sector boundaries to include the business of financial subsidiaries which are not themselves banks (or MFIs). The content of the information is also somewhat different. Although supervisors use the sectoral distinctions and the detailed financial instruments reported for statistical purposes, they are very much interested in measuring risks (such as counterparty credit or market risk). Many of the identified gaps, and the attempts by the ECB (and others) to fill them, relate to supervisory/financial stability-type data as identified in the G-20 report. All in all, data of the kind needed by the ESRB, preferably at quarterly frequency at least for large financial groups, may not relate very closely to the balance sheet data collected hitherto on MFIs and other types of financial corporations.

#### **Monetary and financial statistics**

A.2.19 New regulations on MFI balance sheets and MFI interest rates (the former adopted in late 2008, the latter in early 2009, but fully implemented only from mid-2010) split for some purposes the household sector into households (as generally understood) and sole proprietors, which in most countries form an important part of the household sector, but whose behaviour may differ from that of households viewed as individuals or family units – an instance of meeting the need for data on groups within an institutional sector. By allowing a more detailed breakdown by size of new loans to non-financial corporations, the new regulation on MFI interest rates will also provide further insights into the financing of small and medium-sized enterprises.

A.2.20 Another important feature of the new MFI balance sheet regulation is its requirement for information on securitization. As explained in the main text, in a true securitization the original lender (usually, but not always, a bank) packages together some loans and sells them to another entity, often an FVC set up for the purpose. This type of transaction attracted the attention of ECB

<sup>94</sup> A private credit bureau receives data from lenders, who can then receive information on consolidated data about credit applicants. Data received by the credit bureau are stored in a common database which all contributing lenders can access.

statisticians some years ago, because it risked distorting the MFI lending statistics, a critical element in monetary policy analysis. Thus true securitization would make it appear that MFI lending was being repaid, whereas in fact there was no withdrawal of credit from the borrowing sectors, who might even be unaware of the operation, since the bank would often continue to administer the loans. Accordingly the new MFI balance sheet regulation and a new complementary regulation addressed to FVCs, the usual counterparties of MFIs in securitizations, now provide full information about these operations and the subsequent history of securitized loans. This development coincides with a close interest in such operations from the perspective of financial stability. Given the role of MFIs as originators of loans, and also as loan servicers for many FVCs, an integrated reporting scheme for FVCs and MFIs is feasible and has the advantage of limiting the reporting burden. The new statistics also identify securitization of loans by MFIs which, following accounting standards, do not meet the conditions for removal from the MFI balance sheet (“derecognition”). Adequate treatment of synthetic securitization, where the credit risk in the loan is transferred but not the asset itself, remains however difficult. Moreover, while it closes an important gap in euro area statistics, reporting is mandatory only for FVCs resident in the euro area. Euro area MFIs report some information regarding transactions with non-euro area securitization vehicles, but fuller statistical information on securitization vehicles resident outside the euro area would be useful to complete the picture.

A.2.21 FVCs are only one of the categories of financial institution on which the ECB has recently improved, or is about to improve, its statistical coverage. At the start of monetary union, the priority was statistics on MFIs (including money market funds (MMFs)), the dominant financial intermediaries in the euro area, whose balance sheets provide almost all the information for the euro area monetary aggregates and counterparts. The ECB relied on a more informal approach for the collection of data on non-MMF investment funds, essentially relying on information collected by central banks under national arrangements. The first regulation addressed to investment funds was adopted in late 2007; the first data under the regulation became available in 2009.

A.2.22 Another major group of financial corporations, insurance corporations and pension funds (ICPFs), were not until recently included in the population from which the ECB was

empowered to collect statistics. In practice the ECB had obtained data on them from central banks on a best efforts basis. Because of the importance of these institutions, which is expected to grow as populations age, these data have recently been enhanced. The present position is that national central banks report quarterly data on total ICPF assets and liabilities, if possible broken down into the two subsectors insurance corporations and pension funds (as provided for in the 2008 SNA). The data should be at market value (except for deposits and loans which are at nominal value) and on a non-consolidated basis. In addition to the quarterly stocks (quarterly transactions are not yet available), NCBs report annually available data or best estimates of the split of household life insurance technical provisions and pension entitlements into the categories defined contribution, defined benefit and hybrid schemes. There are still areas for improvement, namely concerning transactions data, the longer-term maturity breakdowns (in particular for debt securities held) and the geographical and sector breakdowns of non-residents to allow better euro area aggregates to be compiled, in particular for debt securities held, unlisted shares and other equity, and life insurance entitlements.

A.2.23 Again, the initiative coincided with heightened interest in the activities of these institutions following the financial crisis. As in other contexts discussed above, the ECB data are provided essentially for statistical purposes, in this case principally to improve the data on ICPFs in the institutional sector accounts, and are not on the consolidated basis with information about risk exposures, etc. used by supervisors - for this purpose the ESRB will also rely on data provided by the European Supervisory Authority responsible for ICPFs. Nevertheless, the improvements are timely, and others are likely to follow, notably a split of the sector to show insurance corporations and pension funds separately.

#### **Data on interest rates, yields and spreads**

A.2.24 ECB interest rates are the rates paid by the Eurosystem<sup>95</sup> on the overnight deposit facility available to counterparties and the rates charged by the Eurosystem on its main refinancing operations and on its marginal lending facility. Other interest rates include a wide range of money market rates and yields on marketable securities. Money markets in the euro area are highly integrated, with

<sup>95</sup> The ECB itself and the national central banks of the 17 countries in the euro area.

largely standard financial instruments. They are important for monetary policy purposes, and also because they carry information about sentiment and conditions generally in financial markets. The ECB collects rate information very frequently, mostly from wire services. Data on rates and yields on longer-term marketable securities are also readily available from market sources. In addition, the ECB publishes statistics for EU member states on interest rates for long-term government bonds denominated in national currencies following an agreed framework, including the monitoring of the liquidity of the selected bonds. Where no harmonized long-term government bond yields are available, proxies derived from private sector bond yields or interest rate indicators are presented. The harmonized statistics are used for assessment of convergence (the readiness of an EU member state to adopt the euro), and so have an important administrative use.

A.2.25 Three innovations in financial markets statistics might also be mentioned. The Short-Term European Paper (STEP) initiative promoted by the Financial Markets Association and the European Banking Federation aims to foster the integration of European markets for short-term paper through the convergence of market standards and practices. The ECB began in September 2006 to publish monthly statistics on outstanding issues of short-term paper complying with the STEP standards, and in April 2007 daily data on yields, with breakdowns by initial maturity (up to a year) and sector of issuer. These daily data have contributed to the

rapid growth of the STEP market, and the related paper has become eligible for use as collateral in the Eurosystem's monetary policy operations. Since November 2009, the ECB has published daily statistics on aggregated amounts outstanding, and new issues broken down by sector, maturity, rating and currency on a weekly basis. Since October 2010, weekly data on outstanding amounts of papers by individual issuers have also been published. The second innovation, in July 2007, was the publication of daily euro area yield curves, plotting current par yields, spot interest rates and forward interest rates against remaining time to maturity (from three months to 30 years) for comparable euro area central government securities denominated in euro. One set of curves relates to securities of all euro area central governments; the other set comprises only those of governments with the lowest credit risk (AAA rating). The statistics on yield curves are updated daily on the ECB's website. The third development is a much improved database to store financial market information and enable it to be better used for monetary policy and financial stability analysis. A sizeable subset of this information is shared with a large number of EU central banks. Finally, considerable efforts have been put into improving information on prices and yields, either by filtering methods to check the quality of key financial data or by using data on options (for example, on three-month Euribor futures) to assess market expectations and attach probabilities to a range of outcomes.

## Annex A.2

### The financial crisis and government finance statistics in the European Union

An important function of the European Union's Committee on Monetary, Financial and Balance of Payments Statistics (CMFB) almost since it was established in 1991 has been to advise on the statistical treatment of various operations affecting, or potentially affecting, government deficit and debt. This is an important matter in the European Union because of the role of the 3 per cent government deficit (net borrowing) and 60 per cent debt ratios in the convergence criteria for adoption of the euro and in the Stability and Growth Pact thereafter. The measures taken by many governments to help individual financial institutions, guarantee deposits, and otherwise support the financial system give rise to recording questions. The position, as set out in an article in the ECB's July 2009 *Monthly Bulletin* (*The impact of government support to the banking sector on euro area public finances*) may be summarized as follows:

1. *Government guarantees represent contingent liabilities and are recorded off-balance sheet in the 1995 ESA framework, unless they are called or are very likely to be called. A call on a guarantee will usually result in a government capital transfer being recorded, which will contribute to the deficit.*
2. *Recapitalizations through purchases of new equity at market prices are recorded as financial transactions without an (immediate) impact on the government deficit. If the purchase price indisputably exceeds the market price, a capital transfer for the difference is recorded, contributing to the deficit. The purchase of unquoted shares in banks (for instance, preferred shares) is recorded as a financial transaction as long as the transaction is expected to yield a sufficient rate of return under EU state aid rules.*
3. *Loans are recorded as financial transactions as long as the financial institution has a contractual obligation to pay interest and to repay the loan. If there is documented evidence that the loans are very unlikely to be repaid (in full or in part), a capital transfer by the government is recorded.*
4. *Asset purchases involve the acquisition of impaired assets or loans, the market value of which is difficult to determine. Governments may decide to create a defeasance structure for purchasing the*

*impaired assets or loans. If the government has paid more than the market price for the assets, a capital transfer is to be recorded for the difference, at the time of purchase. If no market or auction price can be established, the book value of the assets (based on suitable business accounting principles) close to the time of the transaction or an independent valuation (founded on a market-based technique) may be considered an adequate approximation to the market value. If the government sells the asset in the year following the transaction, and if the market can be considered to be operating under similar conditions to those prevailing at the time of the original purchase, a capital transfer may be imputed if the selling price is lower than the original purchase price of the asset.*

5. *Exchanges (swaps) of assets of equal value and standard securities lending arrangements without cash collateral are, in principle, off-balance sheet operations affecting neither government deficit nor debt.*
6. *If the government agrees to cancel the debt of a financial institution to which it has made a loan or if the government assumes the debt of a financial institution, a capital transfer is recorded, contributing to the deficit.*
7. *The fees, dividends or interest payments the government receives from the banks as a result of its interventions are recorded as revenues and improve government net lending/net borrowing.*

*In some cases, governments have created new units to support the financial sector. It is important to determine the appropriate sector classification of these new units. If a new unit is classified within the government sector, its debt will add to government debt. When establishing the sector classification of a newly created entity, the first step is to assess whether it should be seen as a separate institutional unit. This requires that the unit has autonomy of decision in respect of its principal function according to the criteria set out in the 1995 ESA. These criteria are, however, subject to interpretation and the CMFB has not expressed a preference for any specific interpretation. On the other hand, the CMFB has issued an opinion that a new financial body which is deemed to be a separate institutional unit and whose equity stakes are mainly owned by non-government units should nonetheless be classified within the general government sector if the government predetermines its activities and assumes all or most of the risks associated with the body's activities (e.g. by granting a guarantee for all or most of the entity's*

*financing) or if the unit mainly provides non-market goods or services for the benefit of the whole community. Publicly owned corporations do not belong to the government sector in the 1995 ESA. However, if an existing public corporation undertakes a rescue operation, this operation may still be recorded in the government accounts. This is the case if the operation is considered to be carried out "on behalf of government". The CMFB considers that*

*such rearrangement of the recorded transactions can only be applied if there is clear evidence (such as a written instruction) that the government required the public corporation to carry out the rescue operation. Central bank liquidity operations to preserve financial stability are deemed to fall within the traditional remit of central banks and should, therefore, not affect the government deficit.*

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