DISCUSSION PAPER SERIES

REMITTANCE FLOWS IN THE TRANSITION ECONOMIES: LEVELS, TRENDS, AND DETERMINANTS

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Remittance Flows in the Transition Economies:
Levels, Trends, and Determinants [1]

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Abstract

Migrant remittances are an increasingly important source of income for the transition economies. For many of these economies, remittances are the largest type of international financial inflow and are larger than either capital inflows or official development assistance. These remittance inflows have allowed domestic consumption and investment to be substantially higher than what would have been possible otherwise and have contributed significantly to the developmental prospects of the transition economies. In addition, the outflow of labor from these economies has helped to relieve chronically high unemployment which has characterized many of them since the transition process began in the early 1990s; given these labor market conditions, the opportunity costs of this migrant outflow has therefore probably been quite low. This paper begins by describing the magnitude of these flows and their trends over time for the different transition economies; next, the differences and similarities between remittances flows to the transition economies and to the other developing and emerging markets are explored. The use of migrant labor and their ability to transfer funds safely and efficiently back home raises a number of policy issues that are also discussed. A number of policy recommendations are provided in order to improve the efficiency of the entire process, increase its developmental impact, while also addressing some welfare and equity issues regarding the migrants. Next the geographical source and destination of the remittances of the transition economies explored. Some new empirical relationships are uncovered. The accuracy of official estimates for remittance flows that appear in the balance of payments statistics have been questioned by numerous experts, and the analysis of these flows in the transition economies suggests that these problems are likely to be similarly important for the transition economies. Some new procedures are discussed for improving this data and a new technique for estimating the level of remittance inflows for the CIS economies is presented.

## I.   Remittance Flows to the Transition Economies: Levels and Trends

Remittances to the developing and transition economies have been increasing quite rapidly and have more than doubled over the last decade and are estimated by the Work Bank in 2007 to have been over $256 billion or almost 2 per cent of their GDPs (WB Database, July 2008).[2] As recently as 1990, remittances to these economies were only about 1 per cent of GDP. With official development assistance just over $100 billion, remittances are over twice the size of aid flows. As recently as the mid-1990s, remittances to these economies were smaller than the three other main financial flows -- foreign direct investment, official development assistance (ODA), and private capital flows; however,

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[1] An earlier version of this paper was presented at the United Nations Department of Economic and Social Affairs (DESA) Conference on "Strengthening Integration of the Economies in Transition into the World Economy through Economic Diversification". Geneva, April 2008. The authors express their appreciation for comments received from conference participants.

[2] The UN International Fund for Agricultural Development (IFAD, 2007) estimates that they are even larger at over $300 billion.

remittances were significantly larger than either private capital flows and ODA during 1998-2003 and are currently still twice as large as ODA.[3]   For all of the economies in transition including the current 10 New Member States of the European Union (NMS-10), remittance inflows are estimated to have been $52 billion in 2007 or almost a fifth of all remittance inflows to the developing and transition economies.[4] Of this amount, half, or $25.7 billion were inflows to the 10 EU New Member States, $15.5 billion were inflows into the 12 CIS economies, and the remainder, or $10.8 billion were to the 6 south-east European economies (SEE-6). More detailed country level remittance data including their percentages of GDP are provided in appendix table 1. The significant of remittances (as a percentage of GDP) varies considerably within each of these three groups. For example, in the NMS-10 remittance inflows are quite low in several of the central European economies including the Czech Republic, Hungary, Slovakia and Slovenia where they are below one percent of GDP while they are quite significant in the two poorest economies, Bulgaria and Romania where they are above five percent; in Poland and the three Baltic economies they are in the range of two to three per cent of GDP. In southeast Europe, the two EU candidate economies, Croatia and Macedonia have remittances in the three to four per cent range which is somewhat comparable to the NMS. The remaining economies in SEE have remittances that are quite large being above ten per cent of GDP. In the CIS, the five richest economies whose per capita incomes (PPP) are above $5,000, have relatively small remittance inflows of below one per cent of GDP, while the poorest six have remittances of more, most considerably more, than five per cent of GDP. The remaining CIS economy, Azerbaijan is on the border in terms of both per capita income ($6,273) and remittances (4.1 per cent of GDP). Remittances in the transition economies along with others in the wider-European region are presented in figure 1 where larger remittances are represented by darker blues.

Figure 1
**Remittances as a Percentage of GDP in the Wider-European Region**

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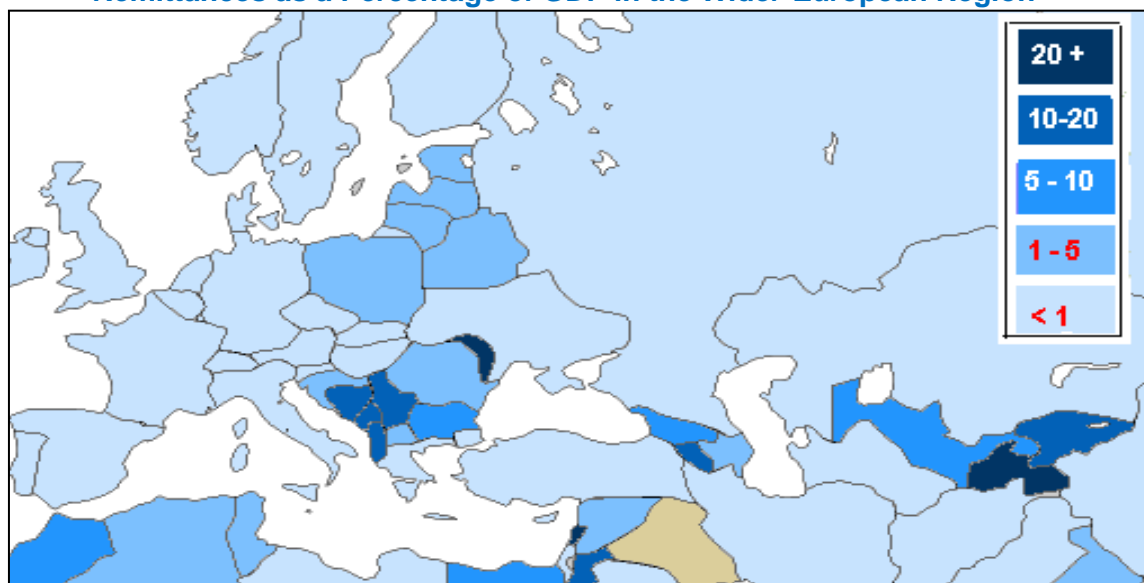
[3] The relative importance of remittances is really a return to a previous historical pattern since during most of the 1980s remittance flows to developing countries were greater than either official aid, FDI, or other non-FDI private capital inflows. Nevertheless the magnitude of remittances relative to developing countries' GDPs has increased substantially from just slightly more than .5 per cent of GDP in the 1980s to almost 1.9 per cent now.
[4] These figures are from the World Bank Remittance database except for the values of Turkmenistan and Uzbekistan which discussed in a later section of this paper and have been estimated using the procedure of Shelburne and Palacin (2007).

Although there is significant variation, these remittance inflows into some of the transition economies are rather large. Given that remittances as a percentage of GDP for all developing countries are 2.0 per cent and that they are considerably larger for many of the transition economies gives rise to the obvious question as to whether remittances to the transition economies are atypically large. The economic situation of the transition economies might suggest that migration and remittances might be greater for them than for comparable economies. This is due to the economic collapse that occurred with the transition process and the corresponding high rates of unemployment that appeared, a generally liberal migration framework within the CIS and Europe, and the more general fact that transition workers had relatively high human capital but comparatively low wage levels due to the inefficiencies in their economies and thus there was a reason to expect higher wages if they left. Empirically, however, the story is more complicated. A cross-sectional examination of remittance inflows into all countries reveals that their relative importance as a percentage of GDP is strongly associated with the per capita income of the country. Basically, the richer the economy, the lower is the percentage of GDP of remittances. Thus any cross-sectional comparison of remittances must control for this variable. Given the income levels of the transition economies, they would be expected to have remittance levels greater than the advanced economies but smaller than the poorer developing economies. In figure 2 remittances as a percentage of GDP are plotted against per capita GDP; technically the horizontal axis is the natural log of per capita income which results in a wider dispersion of the observations in the lower ranges so as to make the chart more visually appealing. Comparing all the transition economies to all the remaining economies while controlling for per capita income does not suggest that there is anything fundamentally atypical about them as their values appear to be fairly evenly scattered amongst those of the other economies.

Figure 2
Remittances as a Percentage of GDP Plotted Against Per Capita Income
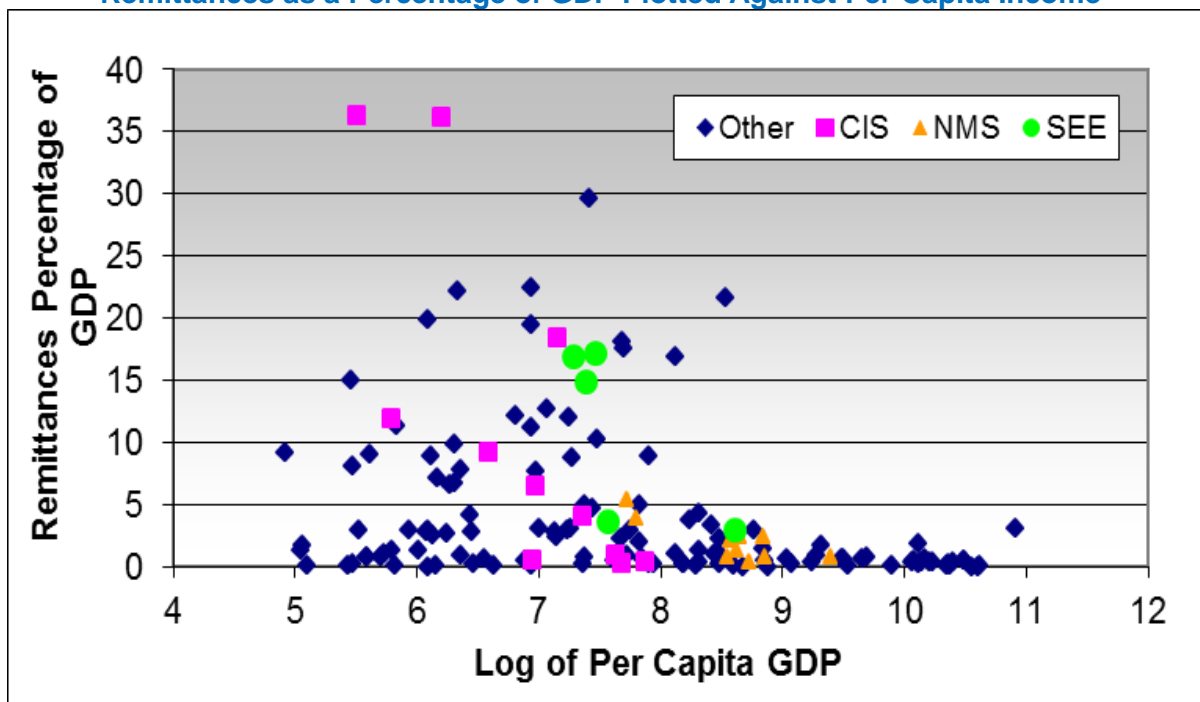
Technically, it is the case that a regression of remittances against per capita income for the transition economies would be more steeply sloped than the similar relationship for the remaining economies but this observation is not viewed to be economically important. This is due to the fact that remittances are significantly impacted by geographical distance, language similarities, and preferential migration agreements. A simple regression as above does not properly control for these additional factors and thus a simple regression is unable to provide a meaningful answer to the question of how typical the transition economies are. There is a well-established relationship between bilateral remittance flows and migration flows, so much so that the latter have been used to estimate the former. Empirical analysis also shows that migration flows can be described reasonably well using the gravity model framework which has become standard in trade analysis (Peridy, 2006). Therefore, it is expected that bilateral remittance flows should also be able to be reasonably described using a gravity model framework (Lueth and Ruiz-Arranz, 206). Therefore, the only way to appropriately address the question as to whether remittance flows to the transition economies are atypical or not would be to use a gravity model framework which included a transition economy dummy variable. Only if that variable proved to be statistically significant would it be possible to answer this question in the affirmative. Unfortunately, as will be discussed later, this bilateral information on remittance flows is generally not available or at least is not abundant enough in order to estimate a detailed gravity model of remittance flows which included a significant number of transition economies. Therefore until better data is available this question will remain unanswered.

Because of the large differences in the significance (and trends) of remittances in these three geographic/political groupings as well as within them, it is conceptually useful to re-group these economies into three new groupings which more accurately reflect their remittance inflows. These three groupings include the NMS plus the EU candidate economies of Croatia and The fYR of Macedonia, the five mostly prosperous CIS economies (Russia, Belarus, Kazakhstan, Turkmenistan, and Ukraine) for which remittances are quite low (below one per cent of GDP), and a final group of eleven remittance dependent transition economies (henceforth, RDT-11) made up of the four non-EU candidates in SEE and seven CIS economies with remittances greater than four per cent of GDP.[5]

Remittance inflows into these three groupings over the 1999-2007 period are provided in figure 3; overall they have grown at an annual rate of 26.6 per cent a year while remittances to all developing countries increased at only a 15.9 per cent annual rate. The NMS plus candidates group (NMS+) accounted for less than one third of total remittances of the larger group of transition economies in 1999 but after 2005 have accounted for over half. The Russia plus four group (Russia+4) accounted for over a fifth in 1999 but that has fallen to only a tenth by 2007. The RDTE-11 group began the period with almost one-half of the total but that has fallen to about a third by 2007. Corresponding to these changes in shares, are the higher annual growth rate of remittances to the NMS+ group of 35.6 per cent, compared to 21.4 per cent for the RDTE-11 and 18.0 per cent for the Russia+4 groups.

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[5] More specifically the RDT-11 consists of Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Kyrgyzstan, Moldova, Montenegro, Serbia, Tajikistan, and Uzbekistan. Note that in some cases data for Serbia and Montenegro are not available individually but only combined.
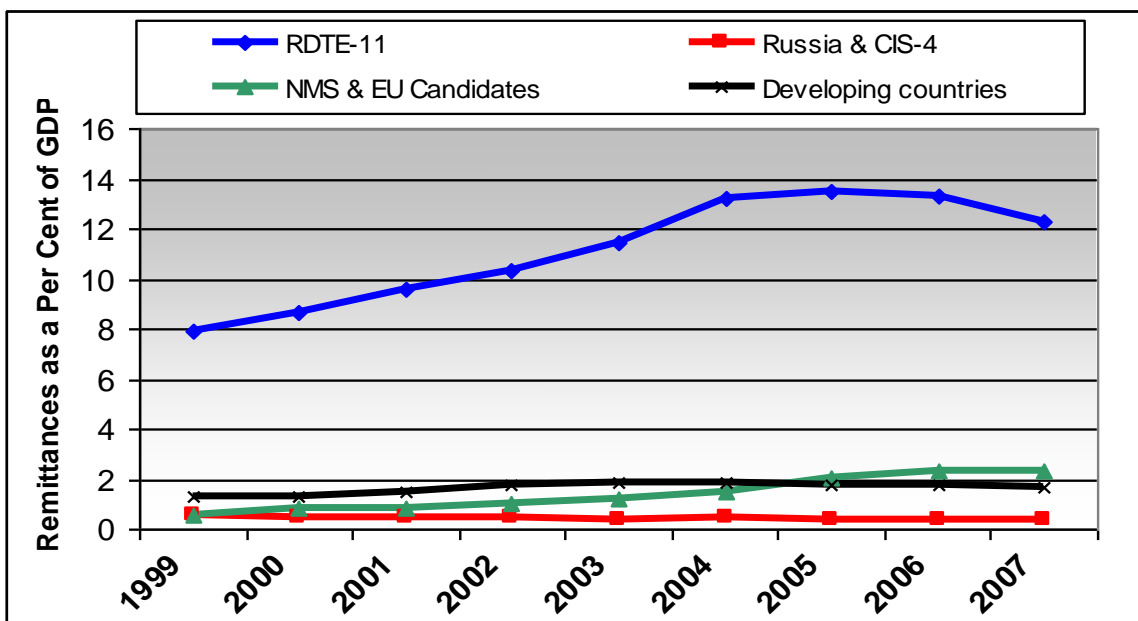
Figure 3
**Remittance Inflows to Transition Economies 1999-2007**
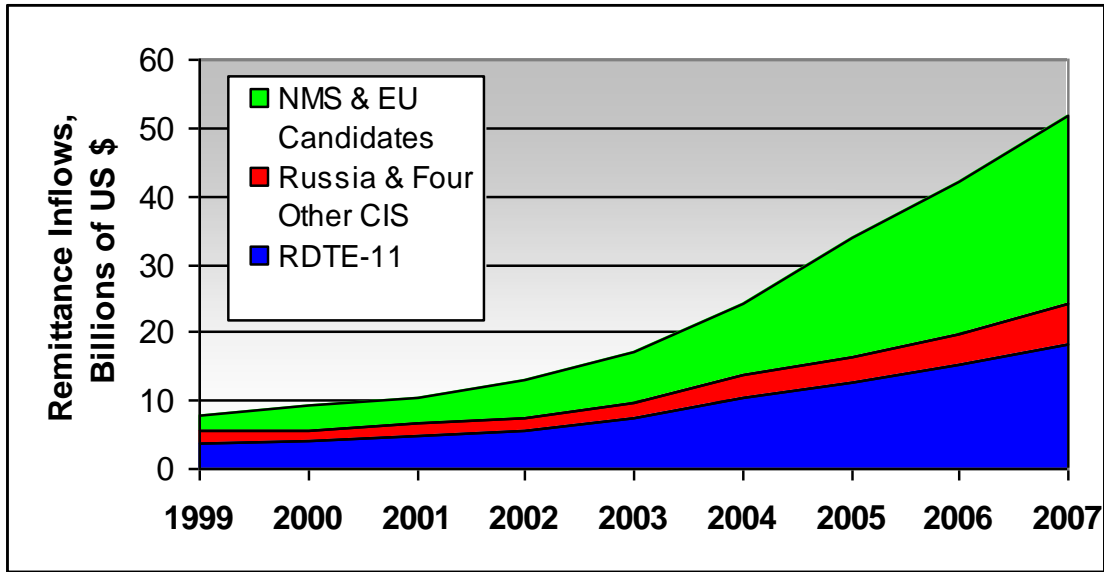
In figure 4 remittance inflows as a per cent of GDP are provided for the three groupings of transition economies over the 1999-2007 period. After adjusting for GDP, remittance inflows into the NMS have increased slightly over time and are now slightly above the developing country average and significantly above the levels for more advanced economies with incomes more similar to theirs such as the upper-middle income group (1.4 per cent of GDP) or the high-income non-OECD economies (0.9 per cent). Remittances into the Russia+4 group have declined over time as a per cent of GDP and at 0.4 per cent of GDP are low relative to almost any reference group except the high income OECD group. It is, however, the RDTE-11 that have remittance levels that stand out as remarkably high at 12.3 per cent of GDP in 2007 after peaking at 13.5 per cent in 2005.

Figure 4
Remittances as a Per Cent of GDP, 1999-2007

It is for these 11 transition economies that remittances provide an extremely important source of external finance and are allowing investment and consumption levels to be significantly above what they would be otherwise.   In figure 5 the three largest external financial flows – aid, FDI inflows and remittances - to these 11 economies are provided for 1999-2007.[6] Over this period, official development assistance (ODA) as a per cent of the recipients' GDPs has fallen by a half and now accounts for about 3.7 per cent of GDP. This is not an insignificant amount either in terms of these nations' economies or relative to the amounts received by other developing economies. In 2006, the average low and middle income economy (as defined by the World Bank) received slightly less than one percent (0.9) of their GDP in the form of ODA.[7] Thus the RDTE-11 economies received four times the amount of aid as that of a typical developing economy; however, a number of large developing countries receive little ODA while the sub-Saharan African economies received ODA valued at 5.7 per cent of their GDPs in 2006.   FDI inflows have fluctuated considerably over the 1999-2007 period for these 11 economies. At the turn of the century FDI was averaging about two per cent of GDP and increased to about nine per cent in 2003-2004 but has been declining since then, falling to only four per cent in 2007.   Portfolio equity investment has been extremely small in these economies, while debt has averaged several additional percentage points of GDP. In summary, for the RDTE-11 remittances are larger than all the other financial flows combined. Thus how these funds are used has extremely important implications for their development prospects.

Figure 5
External Financial Inflows to the RDTE-11, 1999-2007
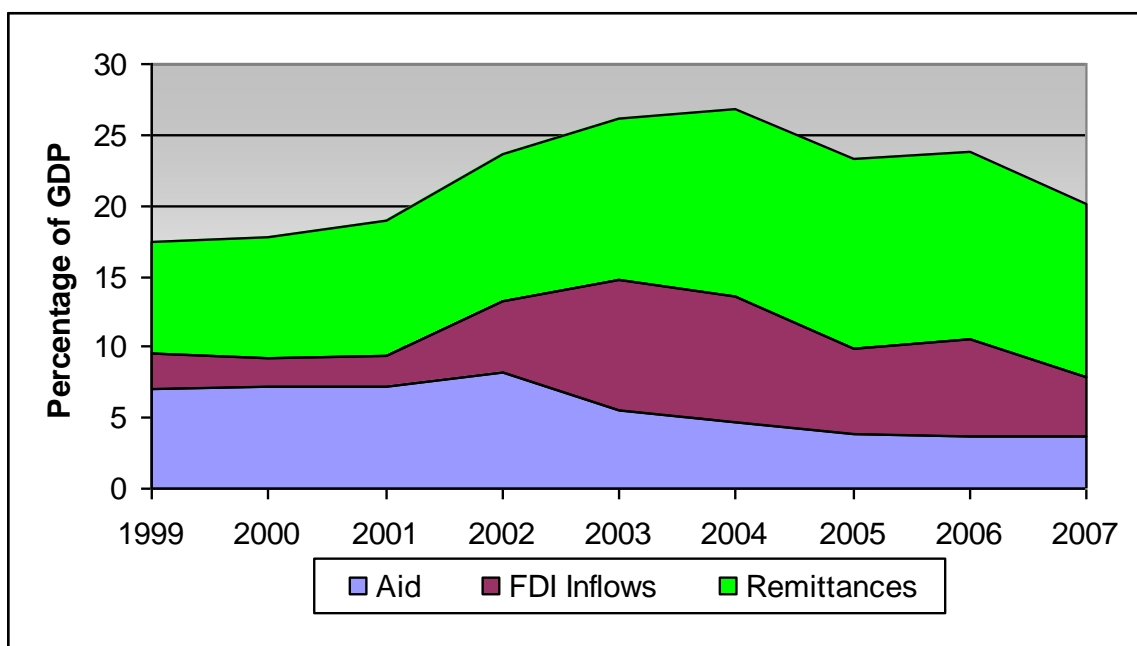
Some insight into how these remittances inflows into the RDTE-11 are being used from an external balance of payments perspective is provided in figure 6. That chart plots over the 1999-2006 period how the financial inflows partially described in figure 5 have

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[6] Data for ODA in 2007 was unavailable and is extrapolated from 2006 figures.
[7] Based upon ODA of $105 billion and a GDP of $11.68 trillion in 2006.

been used externally.[8] For these economies, the vast majority of these inflows have been used to import additional goods and services. These countries had a trade deficit of about 20 per cent of GDP during 2003 and 2004; this has declined significantly in recent years but was still almost 10 per cent of GDP in 2006. Whether this net inflow of goods and services supported increased investment or consumption cannot be determined from this data. As countries which have received some capital inflows over the last decade, it is expected that as a result they would pay interest or provide profit remittances on these inflows. These payments, however, are relatively small although they have increased from only one-half of a per cent of GDP in 1999 to almost three per cent in 2006. The other main use for their financial inflows has been to accumulate foreign exchange reserves. Up until 2005, their purchase of reserves amounted to only several per cent of GDP. However reserve accumulation increased from 4.0 per cent of GDP in 2005 to 9.8 per cent in 2006. Thus for the RDTE-11 as a whole they spent as much of their financial inflows in 2006 in purchasing additional international reserves as they did in purchasing additional goods and services. Although a larger stock of reserve assets may provide some additional stability it seems a somewhat wasteful use of these financial resources that could be better applied towards their development needs. This however, may be simply an undesirable necessity given the unstable international monetary system instead of reflecting economic mismanagement by these economies. Much of this reserve accumulation in 2006 is accounted for by only one country, that being Serbia and preliminary data suggest that Serbia did not continue with this large reserve accumulation in 2007. Since "excessive" reserve accumulation was not a characteristic of these economies prior to 2005, and considering the other caveats listed, it appears that the RDTE-11 generally have not devoted an "excessive" amount of their financial inflows to foreign reserve accumulation but have instead used these inflows to consume and invest at levels higher than would be possible otherwise. Thus from an external perspective, at least, it appears that these remittance inflows have been used in a manner generally supportive of developmental needs.

Figure 6
The Use of Financial Inflows by the RDTE-11, 1999-2006

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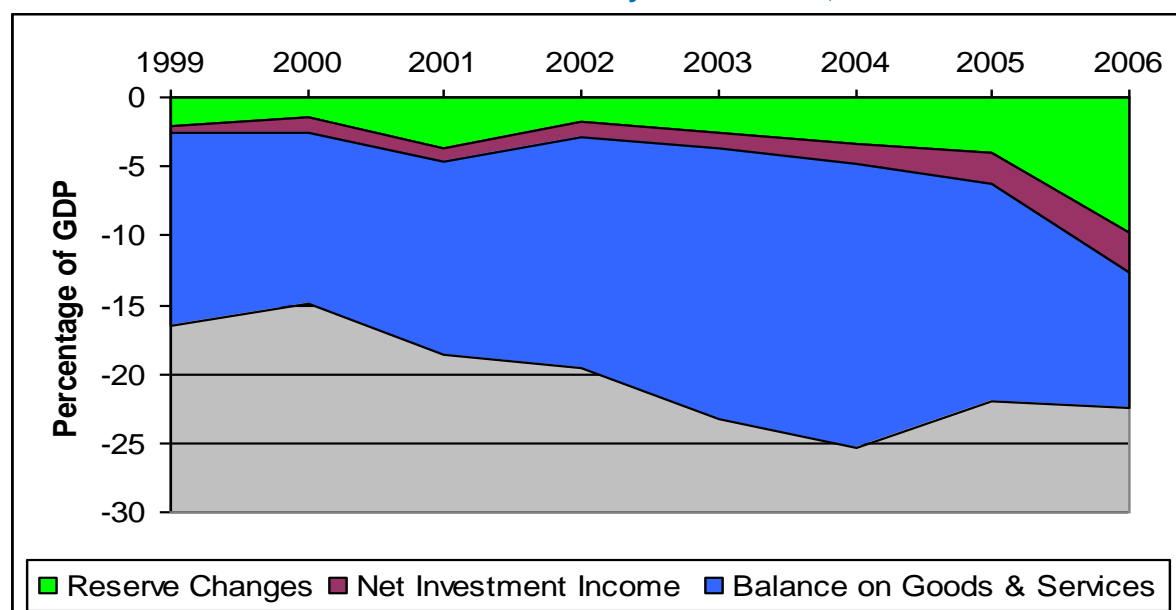
[8] Complete balance of payments data was not available in order to make these calculations for 2007.

II.   The Developmental Impact of Remittances

Although remittances might be intuitively viewed as a positive factor for growth and/or poverty alleviation, there are those that have hypothesized that these flows may actually reduce growth (Chami, Fullenkamp, and Jahjah, 2003; and Burgess and Haksar, 2005). There are any number of channels whereby remittances might have a negative impact on development such as through Dutch disease appreciation effects,[9] a brain drain,[10] or reduced incentives for family members receiving funds to work. The importance of a brain drain is dependent on local labor market conditions since when there is persistent unemployment, the loss of the labor resources may have very minor opportunity costs for the sending economy. Likewise there are numerous channels through which migration and remittances could promote development in addition to the obvious benefit of additional external financial resources; these include improved education and health for the impoverished families receiving them, improved job skills learned abroad, and increased commercial ties that could stimulate trade and investment (Herander and Saavedra, 2005). Broadly speaking, migrants reduce the information costs incurred in developing economic relations between countries and this information transfer is a significant ingredient of economic development. Remittances have been found to be less volatile than other sources of foreign exchange, and therefore they may reduce the chances of a financial or currency crisis. Remittances are generally large in countries that are considered to be a higher investment risk and have relatively poor access to international capital markets (as judged by low or non-existent credit ratings).[11] By improving credit ratings, remittances contribute to a better investment climate and can thereby attract other financial inflows. Undoubtedly the degree to which remittances can promote development is dependent on complementary domestic economic policies which channel these flows into appropriate activities while also addressing their macroeconomic implications (McCormick and Wahba, 2000; Taylor, 2006; Ballard, 2003). More recent econometric analysis has generally concluded that remittances have had no effect (IMF, 2005) or a positive and statistically significant impact on growth (Mansoor and Quillin, 2006; Ang, 2007) and/or poverty reduction (Adams and Page, 2003; Acosta,et al., 2007).

Estimating the impact of remittances on economic variables such as growth and poverty is complicated by the statistical problem of endogeneity since during periods of low growth or high poverty more people may emigrate or those already outside may send more assistance home. Thus empirically, large remittances may be associated with economic distress. In fact, this counter-cyclical response of remittances to periods of economic distress is often cited as one of the important benefits of these flows as they smooth out pro-cyclical capital movements. In addition, several important channels such as increased education or health spending would only affect growth after a very long lag and would therefore not show up in standard cross-country growth regressions as they are typically performed. The degree to which emigration and remittances can reduce poverty is dependent to a significant degree on the skill composition of the migrants. Although migrants appear to come from the higher skilled groups and from those with extra motivation and energy, it is still the case that

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[9] Given that remittance flows are generally quite persistent, the nature of any Dutch disease effects may be different from the temporary effects often associated with cyclical changes in resource prices.

[10] The average skill level of migrant workers has been found to be above those of the general population of the source countries.

[11] The IMF (2005) finds that remittances are positively associated with an improved credit rating on sovereign debt.

remittances go to poor or liquidity-constrained households and appear to increase their spending on education and health. Some survey evidence shows that despite their higher spending, remittance receiving households also save more than other households. Ensuring that these savings are channeled into productive investment is one of the major policy challenges facing the transition economies. Even the poor that do not emigrate may benefit from the increased job opportunities that are opened up when the more skilled leave; although this effect may be weakened if skilled and unskilled labor are complementary instead of substitute factors. Generally, given the statistical problems involved, the positive impacts of remittances are more apparent in micro household studies than in cross-country growth analysis. Remittances have also been alleged to be a significant factor in local housing markets (i.e., Armenia) and are often correlated with construction activity (IMF, 2005) or housing price movements (Palacín and Shelburne, 2005). Overall, the economic implications of remittances in regard to a country's inequality, macroeconomic performance, and money supply are not well understood and require additional research.

Despite a number of unanswered empirical questions regarding the effects of remittances, the underlying evidence tends to suggest that the institutional environment especially the financial structure are important in determining the developmental impact of remittances. Thus the relevant policy questions confronting the transition economies concern what type of government policies can and should be implemented to best ensure that remittances contribute to productive investment and poverty alleviation. Whether the objective is investment or consumption for poverty reduction, there is a need to minimize the transaction costs of transferring these funds back home and eliminate the opportunities for thief or fraud. The prospects of high transfer costs negatively affect the decision to send funds home as these costs effectively diminish the amount that is received. In other words, inefficiency of the domestic financial sector acts as a tax on these financial flows.

There are essentially three options for transferring funds back home. The cheapest but most risky is to carry or mail the cash across the border. If the worker is not returning, relatives, friends or even transport workers like bus drivers can be used. Physically sending or carrying the cash is especially used by illegal migrants to avoid having to fill out any documents, those poorly educated and unskilled who are especially unfamiliar with banking and money transfer services, and those with limited knowledge of the local language or customs. The second option is to use a money wire service such as Western Union; currently this appears to be the most popular mechanism in the CIS. The fees are generally low amounting to only a few percentage points, there are usually several currency options, and the transfer is quick with the funds available in a day or two.[12] The third option is to transfer funds through the banking system. This option is generally more expensive and many migrants do not have bank accounts where they work nor do their families back home. Nevertheless, in the transition economies remittances are increasingly moving through official banking channels as the financial systems in these economies develop and as residents' confidence in the banking system is restored after falling during the banking system collapse following the 1998 Russian financial crisis. Overall, the availability, speed, reliability and transaction costs are the major considerations in determining which of these methods is used to transfer funds.

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[12] A study of the costs of sending funds from the U.S. to a number of the CIS including Azerbaijan, Belarus, Georgia, Moldova, and Russia found that it was similar to sending funds to other developing countries (Martinez, 2005). However, Ratha and Shaw (2006) calculate the costs of sending $200 to be rather high at 9.4 per cent from Kiev to Moscow and 4.3 per cent from Moscow to Kiev.

There are a number of initiatives these governments can take such as better regulating financial transfer companies to ensure that that are financially sound and provide consumers adequate (and honest) pricing information. It is often difficult for consumers to comparison shop between different services since they often use different exchange rates and pricing mechanisms. Improving the transparency of these different pricing structures can increase competition in the financial services industry and thereby lower prices for consumers. Some basic guidelines for improving the safety and efficiency of remittance services are provided in the recent 2007 BIS/World Bank General Principles for International Remittance Services. Many of these recommendations have yet to be adopted by a number of the economies in transition. At the same time it must be acknowledged that different countries have different needs and objectives, and that there are often trade-offs between making transfers cheaper and easier for consumers and the needs of governments to ensure the financial integrity of transfer enterprises and to properly limit illegal and terrorist transfers.

In order to ensure that funds which are not immediately spent are available to the home economy for investment purposes, it is basically necessary to keep them in the formal financial sector. Generally it has been found that if the funds are initially transferred by the formal financial sector then consumers have a tendency to keep (save) them in the formal sector as well. Unspent funds that were transferred by carrier or mail generally are not later deposited in the formal sector. Thus developing and properly regulating the transfer sector is an important step in ensuring that unspent funds will be kept in the formal sector and be available for investment. Therefore, progress in making domestic financial systems more competitive could serve to increase both the total amount of transfers and the share that circulates through formal channels, in effect raising the pool of resources available for future lending. In this way remittances could make a positive contribution to the growth of the capital stock either through its impact on widening the deposit base of the banking system or directly through financing business investments.

The formal infrastructure to channel remittances in the CIS is undergoing rapid transformation, spurred by the large amounts being transferred, the number of operators active in this business segment and the growing level of competition (Quillin et al., 2007). There is also some evidence that remittances have been used by some banks in recipient countries to build a customer base.[13] The transfer of remittances allows banks to gather information about their customers, which in turn facilitates cross-selling of other financial products. International experience provides a number of policy schemes that seek to channel remittances to specific uses, attracted on the basis of low or zero transfer fees and perhaps tax advantages aiming at investment in social and business projects. Governance issues will need to be addressed firmly before such projects are undertaken in the transition economies. Strengthening the financial system would appear to be a priority task to create the necessary framework conditions. Obviously all the normal policy advice for improving domestic financial markets by increasing access, improving corporate governance, eliminating unnecessary regulation, etc. are therefore relevant for improving the developmental impact of remittances. A possible extension of this institutional development would be involvement

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[13] A study of workers' remittances in Armenia shows that official channels are more widely used in transactions originating from Russia than from western Europe, due to much lower transaction costs, as banks have specifically targeted this type of business (Roberts and Banian, 2005).

of microfinance institutions in the remittance transfer process and the provision of financial services to recipients although this may require significant regulatory changes.[14]

The vast majority of funds sent home are used for consumption purposes and this has typically played a significant role in reducing poverty. These transfers may contribute to human capital investment in the economy if used to support education by paying fees or by reducing child labor. Improvements in diet and access to medical services can also upgrade the stock of human capital. There is increasing attention in the developmental literature about policy initiatives which can channel remittances into supposedly more productive activities. However, given the fairly low income of many recipient families, it is not clear that a reduction in their consumption levels in order to further enhance other types of investment would be optimal for the maximization of social welfare over time. It must be recognized that remittances are private flows and public policy should focus primarily on increasing the alternative uses available and lowering their costs so that families using their own preferences can maximize their welfare over time.

Finally, any discussion of improving the developmental impact of remittances must address the welfare of the migrant workers. In many cases they are exploited and denied basic rights afforded to domestic workers. Generally it is desirable if these migration flows occur within a regional or bilateral framework that safeguards the migrants working conditions and rights. Workers from the NMS have their employment rights outlined in their accession agreements and currently the CIS economies are in discussions about regulating migration issues. At a minimum it would appear that all countries should adopt ILO conventions 97 and 143 which address concerns such as migrant workers' rights to join unions, earn social security or their obligations to pay taxes; a number of the CIS economies have yet to do ratify these. In addition, complementary domestic legislation also needs to be considered.

III.   Remittance Definitions and Data

Remittances are generally defined as the sum of three entries in the standard presentation of the balance of payments, these are: 1) workers' compensation under the income account (of the current account) which includes income earned abroad by seasonal or short-term workers (foreign residents for less than a year), 2) workers' remittances under the current transfers (of the current account) which includes income earned abroad by migrants (foreign residents for over a year) and sent home, and 3) migrants' transfers under the capital transfers account (of the capital account) which includes the repatriation of financial assets when migrants return home.[15] Generally, individual transactions or transfers of this type are not officially recorded (as items such as imports) and must be estimated by various means. The inclusion of compensation of employees (working abroad) in remittances makes sense from a strict balance of payments sense where transactions are recorded between domestic[16] and foreign residents since domestic workers temporarily

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[14] A thorough discussion of various experiences in this area and the various policy dilemmas is undertaken Johnson and Sedaca (2004).

[15] These are IMF balance of payments standard presentation codes 2310, 2391, and 2431 respectively for inflows (credits), and 3310, 3391, and 3431 for outflows (debits).

[16] In this paper the term domestic refers to the home or source country of the worker and the term foreign refers to the destination country in which he has moved to work. In terms of remittances, the source country is the foreign country (where the migrant works) and the destination (where the remittances are sent to) is the home country.

working abroad are still considered as domestic residents and thus their wages earned in the foreign country represent a payment from a foreign resident to a domestic one. However, in terms of some issues such as providing foreign exchange for the home country, the values for official remittances overstate the contribution of this factor since some of that income is used to purchase items, especially food and rent, in the foreign location. Survey estimates using workers in Russia from Tajikistan find that approximately one-half of foreign earned income goes towards living expenses in the foreign country (World Bank, 2006).[17]

Of these three components, using the unweighted average for the transition economies, over one-half of total remittance inflows are accounted for by worker remittances; compensation of employees accounts for approximately another third while migrant transfers represent slightly less than ten per cent. For remittance outflows, worker remittances and compensation each account for slightly over a third while transfers represent about a fourth. As shown in table 1 these percentages vary by country and somewhat by year. Although country circumstances vary and thus the significance of the different types of remittances will also vary, the large differences between countries probably significantly reflects the different reporting requirements and methodological procedures used to estimate remittances.

Table 1
Remittances by Component, 2006
(Percentage of Total)

	Inflows			Outflows		
	Remittances	Compensation	Transfers	Remittances	Compensation	Transfers
Albania	86.5	13.5	0	0	100	0
Bosnia & Herzegovina........................	71.2	28.8	0	75.0	25.0	0
Croatia...	55.9	41.4	2.8	9.9	14.2	75.9
The fYR of Macedonia........................	74.1	25.9	0	87.6	12.4	0
SEE Total	71.7	27.5	0.7	22.4	21.8	55.8
Armenia	11.6	87.2	1.2	12.1	84.3	3.6
Azerbaijan	81.5	15.8	2.7	49.7	41.5	8.8
Belarus	0	51.9	48.1	0	2.7	97.3
Georgia	31.5	64.9	3.5	16.7	79.2	4.2
Kazakhstan	38.9	5.7	55.4	65.9	31.7	2.5
Kyrgyzstan	98.9	0	1.1	30.3	13.2	56.5
Republic of Moldova	51.0	48.5	0.5	7.6	58.8	33.6
Russian Federation	24.8	53.3	21.9	40.1	52.8	7.1
Tajikistan	99.6	0.4	0	99.5	0.5	0
Ukraine	34.9	65.1	0	6.7	30.0	63.3
CIS Total..	46.8	42.5	10.7	45.9	46.9	7.3
Transition Unweighted Average	54.9	35.8	9.3	35.6	38.4	26.0

*Source:* IMF Balance of Payments Statistics Yearbook.

The distribution of remittances by component often follows a seasonal pattern. This can be seen in the quarterly remittance outflows from Russia to the other CIS as shown in figure 7. There appears to be more seasonality in current transfers than in compensation; intuitively the opposite might be expected. Current transfers, which are payments made by permanent (long-run) migrants in Russia back home to their families in the CIS, would not be expected to display that much seasonality. However, compensation of employees which are payments to short-term non-residents would be

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[17] Those goods that are consumed in the foreign location of work should ideally be included as imports in the domestic country's balance of payments, but this is not commonly estimated and included in official import statistics. In addition, taxes paid to the foreign government may also not be properly accounted for.

expected to peak in the summer and decline in the winter when there are fewer employment opportunities in sectors where the presence of migrants is particularly strong, such as construction, agriculture and retail informal trade.

Figure 7
Migrant Remittances from Russia, Quarterly Balance of Payments Data
2001 QI-2007 QI
(Millions of U.S. Dollars)
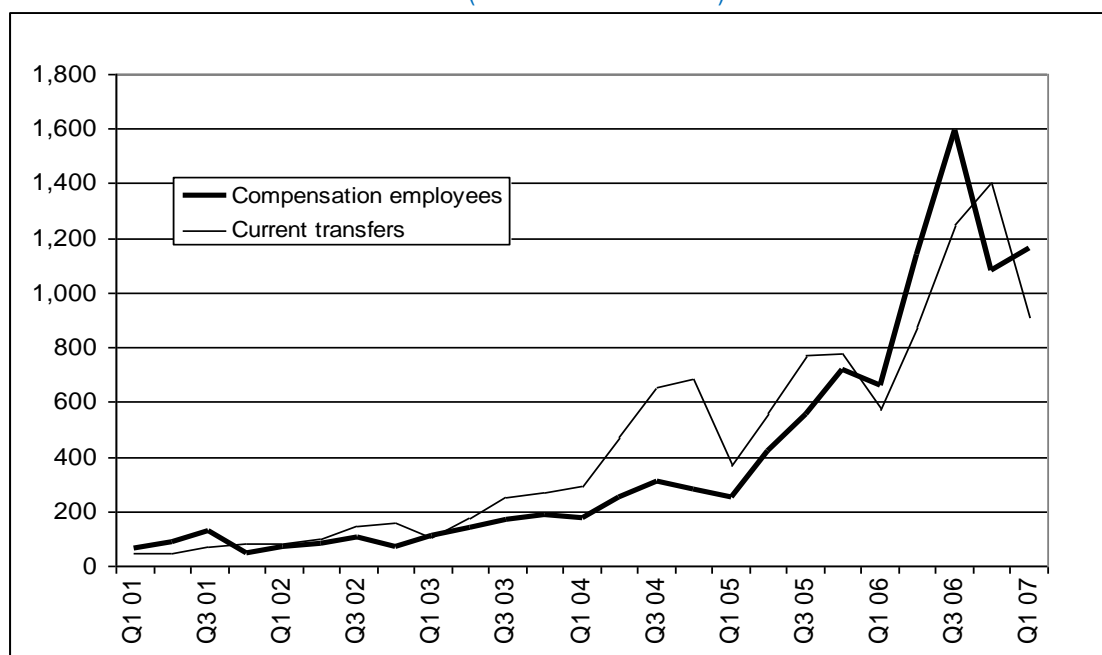
Source: Russian Central Bank.

## IV. Remittances at the Bilateral Level and Their Determination

Emigrants from south-east Europe and the European CIS primarily go to western Europe and the United States, while those from the central Asian CIS go to Russia and to a much lesser degree Kazakhstan. These trends are to be expected, the only small surprise might be the fact that remittance inflows to the European CIS such as Moldova and Ukraine are much larger from western Europe than from Russia.[18] Russian remittance inflows, which ten years ago came mostly from the other CIS, now come mainly from outside the CIS. Using financial transfer data as a proxy for remittances, the United States is the largest source country for Russian remittances followed by Germany, Italy and the United Kingdom.

Generally, remittances, like aid, primarily go in one direction, i.e., a country is either a remittee (destination country of financial flow) or a remitter (source country of financial flow). Russia, however stands out as somewhat unique in being both a major remitter (2nd in the world in 2007) and a remittee (23th in 2007). Nevertheless, overall outflows from Russia are much larger, and their relative size as been increasing through time as outflows have increased from 130 per cent of inflows in 2001 to 432 per cent in 2007. Within the CIS, Russian outflows have increased from 189 per cent of inflows in 2001 to 946 per cent in

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[18] Previously unpublished bilateral remittance data obtained from the central banks of Moldova and Ukraine are provided in Shelburne and Palacin (2007).

2007. Thus, as shown in figure 8, whether looking at Russian remittances to the world or to the CIS, outflows are now much larger than inflows.

Figure 8
Russian Remittances to and from the World and the CIS, 1995-2007
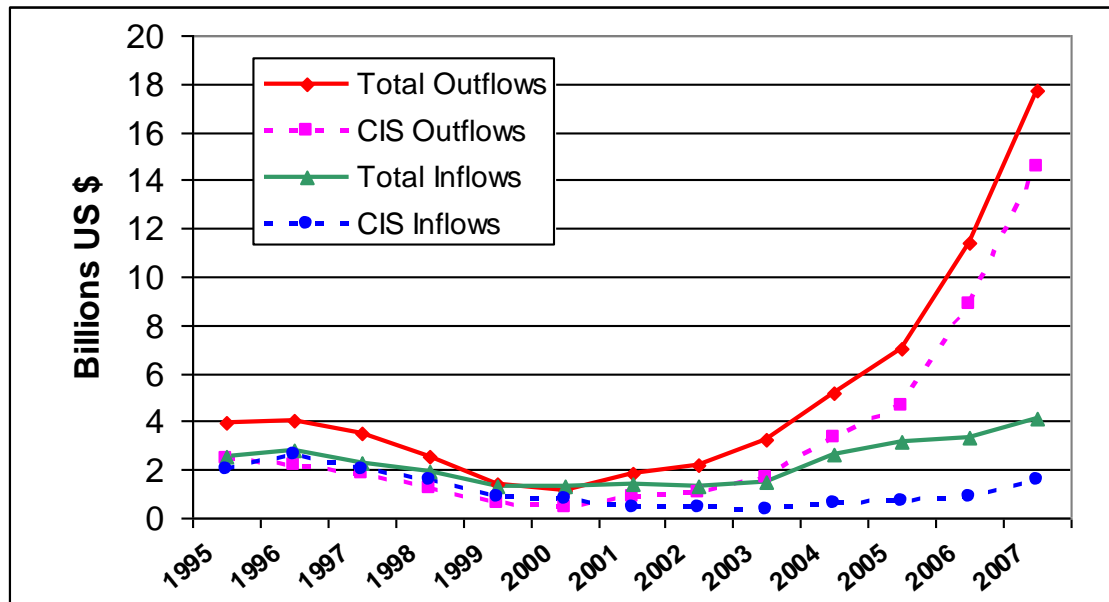

Source: Russian Central Bank.

For those countries with significant inflows and outflows, based upon existing empirical analysis of remittance flows, there is an expectation that inflows will come from countries richer than the home country while remittances will be sent to countries poorer than the home country. This follows from the observation that richer countries pay higher wages and workers migrate so as to earn higher wages. The actual volume of remittance flows will depend on a set of factors which the gravity model framework attempts to estimate. However, with limited bilateral data it is difficult to conclusively determine if this is generally the case. Working around this data limitation, Shelburne and Palacín (2007) use available bilateral data on monetary transfers to and from Russia as a proxy for remittances and examine these two-way flows to 28 countries. They focus on the size of the net transfers (inflows minus outflows) and hypothesize that net flows should be positively correlated with the per capita income of the partner country. However, since the actual size of the net flow will depend on a number of variables such as country size or distance these must be controlled for in some manner. In order to avoid these complications the net flow is standardized by the size of the total flow (inflows plus outflows) and an index of net remittance intensity is thereby created. More precisely, a net remittance index (NRI) between countries *i* and *j* is defined by the following equation which is reminiscent of the intra-industry index used for trade analysis of two-way flows.

$$NRI_{ij} = ((RI_{ij} - RO_{ij})/(RI_{ij} + RO_{ij})) \times 100$$

Remittance inflows from country *i* to *j* is represented by RI_{ij} while RO_{ij} represents remittance outflows from *i* to *j*. This NRI index can vary from −100 to +100; it would have a value of zero for countries where inflows equal outflows and a negative value when outflows exceed inflows.

Figure 9
Relationship between Net Remittance Index for Russia and Per Capita Income
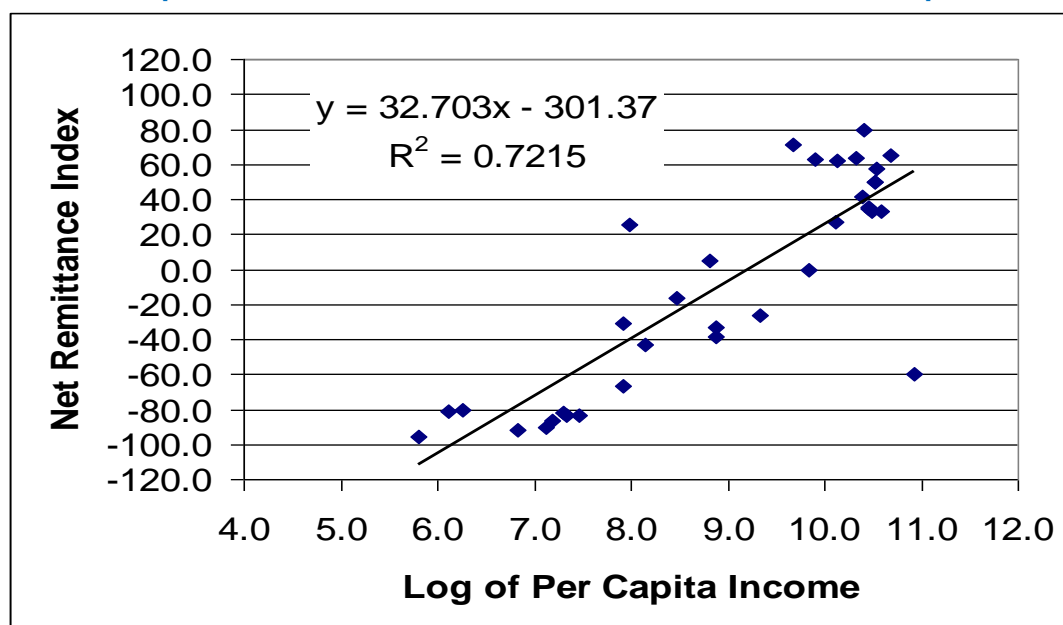
In figure 9 this remittance index (NRI) is plotted against the per capita income of the countries sending and receiving money transfers to Russia in 2006QII-2007QI. There is a strong positive relationship between the NRI and the per capita income of the partner country; the t-statistic is over 9 (statistically significant at the 99.9 per cent level) and the R-squared is .72. Thus Russia primarily receives remittances (technically money transfers) from countries richer than itself and primarily sends remittances to those poorer than itself. The one observation that stands out in figure 9 is Switzerland (lower right of chart); the unexpectedly high level of outflows is unlikely to be due to Swiss workers sending remittance transfers back to Switzerland. This observation suggests that the dataset used does contain some other types of capital flow but hopefully this contamination is limited. In addition there was data for only one quarter for Switzerland and it is probable that more observations would have resulted in a more normal or expected value for Switzerland.[19] If Switzerland is dropped, the empirical fit is much better with a t-statistic of over 12 and an R-squared of .84.

An additional transition economy with sizable flows of migrants both coming and going is Kazakhstan. Workers from central Asia are going in significant numbers to Kazakhstan (in addition to Russia) due to its closer location, less overt discrimination than in Russia, a more similar climate, and the similarity of the Kyrgyz and Uzbek language to Kazakh. In addition to the legal migrants, there are an estimated 400,000 illegal migrants (or 2.5 per cent of the population) in Kazakhstan today (Economist, 2007). Although immigration only recently began to exceed emigration, Kazakhstan has been a net remitter for some time as its emigrants have provided minimal remittance inflows. All of the remaining CIS are on net mostly recipients of remittance flows.

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[19] Several of the countries did not have data for all four quarters, but there would appear to be no real reason not to include them since the remittance index would not, in theory at least, be affected by the overall size of the flows.

V.   Statistical Problems in Estimating Remittances in the Transition Economies

An assessment of the impacts of remittances on the economic performance of the transition economies is significantly hampered by either limited data or data of poor reliability. Montenegro, Serbia, Turkmenistan and Uzbekistan do not provide balance of payments data consistent with IMF methodological procedures and their balance of payments (BOP) data do not appear in the IMF's *Balance of Payments Statistics* series,[20] nor do the latter two provide remittances data on their web sites or in other official documents. In some of the other transition economies remittance estimates are provided for only one or two of the three remittance categories. For example, Belarus does not provide data on the workers' remittances component, the Kyrgyz Republic does not provide data on the compensation of employees component (for inflows), and Tajikistan and Ukraine do not, in general, provide data on the migrants' transfers component. Tajikistan reports as remittances only those funds that go through official channels (World Bank, 2006). In addition, for some countries there are significant differences between what the authorities report in their balance of payment statistics from what they report in their national income accounts. For example, Azerbaijan's estimate of remittances in calculating their national income accounts for some years are almost twice what are reported in their balance of payments statistics (Damazo, 2007); the former are estimated from household survey data while the later are derived from largely from bank transfer data.

In the other transition economies which do fully report remittance flows there is a general sense that the official statistics underestimate the true magnitude of the flows; this is especially the case for the central Asian CIS. Data on remittances are generally difficult to obtain due to the fact that these are private flows that often move through unofficial and unmonitored channels which are not reported. When the income is transferred back to their home countries, it may be recorded if the transfer goes through a bank or wire service, however often the cash is physically carried over the border. Many of the migrant workers are illegal and thus do not report their earned income to their host country nor most probably to their home country for tax purposes. In some cases such as Georgia, remittances are subject to income taxes and thus there is an obvious incentive in concealing these flows (Martinez, 2005). Also since Russia taxes migrants (those working over a year) at the flat rate of 13 per cent and seasonal workers at 30 per cent, there is an obvious incentive for migrants to remain undocumented and avoid official money transfer services which could potentially report them to the Russian authorities.[21] The importance of tax avoidance is demonstrated by increase in recorded remittances inflows to Tajikistan from $4 million in 2002QI to $56 million in 2004QI after the elimination of a 30 per cent tax on remittance transfers.

Generally with trade data for instance, if a given country does not provide data, it is possible to estimate that missing data from the trade statistics of its trading partners. However, this procedure requires that the data be provided on a bilateral basis and official remittance data are generally not provided on a bilateral basis. For example none of the transition economies publishes remittances data on a bilateral basis. The degree to which it is calculated but unpublished on a bilateral basis is generally not made explicit in documentation provided by central banks concerning their statistical methodology. This is

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[20] The IMF nevertheless does provide estimates of remittance inflows for Montenegro and Serbia.

[21] Current legal initiatives under discussion envisage the convergence of rates at the lower level, as part of a general programme to discourage illegal immigration and to attract more skilled workers.

typical not just for the transition economies but for most economies, even the advanced ones. For example, an IMF request to see if there was any bilateral remittance data which was sent to 33 developing countries yielded data from only 11. However, three of those providing bilateral information were from the CIS -- Kazakhstan, Moldova, and Tajikistan. In addition, officially published Russian statistics provide a breakdown between remittances to and from two country aggregates – the CIS and non-CIS countries.[22] Thus the general absence of published bilateral remittance data eliminates the possibility of obtaining any missing data from another country or double-checking available data.

Although bilateral remittance data are generally unavailable, it has been found, using that bilateral data that were collected for the above mentioned IMF study, that bilateral remittance flows can be reasonably modelled using a gravity model framework (Lueth and Ruiz-Arranz, 2006). Empirically, it is found that flows are larger between larger countries and become smaller as distance increases. In addition, that study found that flows are larger as the source country (of remittances) becomes richer and the destination country becomes poorer.[23]

Given these shortcomings, the need to improve remittances data is widely recognized and alternative methodologies for estimating them are being developed. The G7 Finance Ministers established an international working group led by the World Bank, and the UN Statistics Division has a Technical Sub-Group on the Movement of Natural Persons which are examining these issues. The general conclusion of these groups has so far been that transfers should be defined in terms of residence and thus should be described as personal transfers instead of workers or migrant transfers. A so-called Luxembourg Group has been set up to examine compilation methods and this group has so far concluded that numerous data sources need to be incorporated into remittances calculations. In addition, they found that household surveys and modelling approaches may also be useful with the optimal use of these different techniques being dependent on individual country circumstances. A number of the CIS, including Azerbaijan, Belarus, Moldova, and Russia have recently implemented procedures or surveys to improve the reporting of remittances. More specifically, Belarus has been examining ways to measure remittances sent through relatives or in letters, Moldova conducted a household survey on remittances in September-October 2004, Azerbaijan has added a question about remittances to its household spending survey, and Russia has revised the reporting requirements of banking institutions (Martinez, 2005). In addition to more accurately collecting remittance data, there is a need for standardizing the definition of remittances. For example, should mortgage loans taken out in a country where a migrant works and invested back home in real estate be considered as a remittance? If this type of flow is included, then one of the major advantages of remittances, that is of not producing a future repayment obligation, would no longer apply.

VI. Alternative Estimates of CIS Remittance Inflows

Given the acknowledged problems surrounding the reported remittance data, a number of central banks have begun to complement financial flow data obtained from the financial industry with information obtained through population surveys. Researchers have also explored new ways to estimate remittances including ways to estimate bilateral flows.

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[22] Ukraine provided a CIS/non-CIS breakdown up to 2005 but has now ceased to do so.

[23] Our summary of their results is based upon the discussion in their text, although this does not match the results presented in their Table 4; we assume the latter is mislabelled.

For example, the World Bank (Ratha and Shaw, 2006) has had an ongoing project to estimate bilateral remittances using the estimated stock of foreign migrants. This section summarizes and updates a procedure developed by Shelburne and Palacín (2007) to estimate the remittance inflows of the CIS-11 using a new data series provided by the Russian Central Bank of their cross border payments made through postal offices and money transfer companies. The major advantage of this data set is that it provides this financial flow data on a bilateral basis. The procedure essentially uses this money transfer data to determine the distribution of money transfers to each of the CIS-11 and then applies that distribution to Russia's reported remittance outflows to the aggregate CIS which it routinely reports. Combining these two pieces of data produces an estimate of Russian bilateral remittance outflows to each of the CIS-11.

In figure 10 reported Russian remittances to the CIS-11 are plotted along with Russian reported money transfers to the CIS-11. The relationship between the two series is quite stable and both have exhibited similar trends. Although these two series appear visually to have begun to increasingly diverge, the difference is due solely to their increasing levels. Therefore in the corner of the figure the natural logarithm is also plotted to better reveal this stable relationship.

Figure 10
Russian Remittances and Money Transfers to the CIS-11, 2001-2007
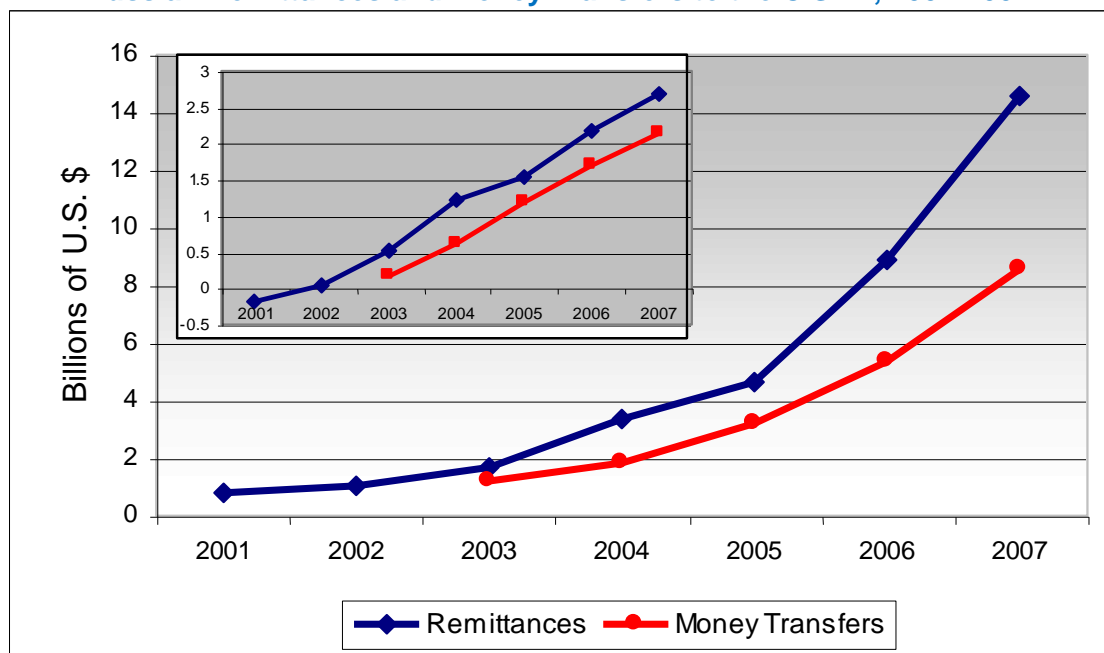
The distribution of money transfers amongst the CIS-11 are calculated from Russia's reported data and placed in the first data column of table 2 while reported Russian remittances to the CIS-11 are placed on the top data row of the table. The calculated distribution is then applied to the CIS-11 total to fill in the remaining (white) cells of the table. These data provide new estimates for remittances and are particularly important in that they provide some estimates of remittance inflows for Turkmenistan and Uzbekistan for which there are neither official data nor reliable estimates.

Table 2
Estimation of CIS Remittances from Cross-Border Payments from Russia through Postal Offices or Money Transfer Companies, 2000-2007
(Millions of U.S. Dollars)

	Distribution	2007	2006	2005	2004	2003	2002	2001	2000
Russian Remittances to the CIS-11	100.0	14,553	8,868.0	4,679.0	3,351.0	1,663.0	1,050.0	836.0	445.0
Armenia	11.0	1,600.4	975.2	514.6	368.5	182.9	115.5	91.9	48.9
Azerbaijan	7.6	1,109.9	676.3	356.9	255.6	126.8	80.1	63.8	33.9
Belarus	0.8	120.5	73.4	38.7	27.7	13.8	8.7	6.9	3.7
Georgia	6.5	947.0	577.1	304.5	218.1	108.2	68.3	54.4	29.0
Kazakhstan	1.5	212.1	129.3	68.2	48.8	24.2	15.3	12.2	6.5
Kyrgyzstan	8.3	1,213.5	739.4	390.1	279.4	138.7	87.6	69.7	37.1
Republic of Moldova	9.4	1,367.9	833.5	439.8	315.0	156.3	98.7	78.6	41.8
Tajikistan	19.0	2,771.4	1,688.8	891.1	638.2	316.7	200.0	159.2	84.7
Turkmenistan	0.3	49.2	30.0	15.8	11.3	5.6	3.6	2.8	1.5
Ukraine	16.1	2,337.0	1,424.1	751.4	538.1	267.0	168.6	134.2	71.5
Uzbekistan	19.4	2,827.4	1,722.9	909.1	651.1	323.1	204.0	162.4	86.5

Source: Calculation by the authors.

These estimates of Russian remittances to the CIS-11 can be compared to derived estimates of CIS-11 reported inflows from Russia in order to check for the consistency of the remittance data being reported. The CIS-11 however do not officially report their remittances from individual countries such as Russia but these can be estimated from several sources of information. Based upon a request of information by the authors of this chapter, the central banks of Kazakhstan, Moldova and Ukraine provided unpublished data on remittances and/or money transfers to their countries on a bilateral basis, which included flows from Russia.[24]

Table 3
Estimation of CIS-11 Remittance Inflows from Russia Based upon CIS-11 Data, 1999-2007
(Millions of U.S. Dollars)

|	2007	2006	2005	2004	2003	2002	2001	2000	1999
Russian Remittances to the CIS-11	8,004	5,691	3,618	2,374	1,530	835	539	417	349
Armenia	1,040	904	746	645	544	104	75	69	75
Azerbaijan	1,034	653	557	182	137	145	84	46	43
Belarus	169	150	79	65	46	22	14	4	6
Georgia	325	223	159	140	108	106	83	126	166
Kazakhstan	48	54	25	35	32	44	37	26	14
Kyrgyzstan	565	380	254	149	62	29	9	7	14
Republic of Moldova	626	508	373	207	102	82	61	45	28
Tajikistan	1,225	999	458	247	143	77	--	--	--
Turkmenistan	49	30	16	11	6	4	3	2	--
Ukraine	98	67	42	40	28	17	12	6	2
Uzbekistan	2,827	1,723	909	651	323	204	162	86	--

Source: Calculation by the authors.

The share of Russia's remittances of the total inflows of the other CIS-11 can be derived from miscellaneous central bank data or from published survey data. More specifically, this includes balance of payments data published by Belarus (NBRB, 2008), a central bank study by Armenia (Armenia Central Bank, 2007), EBRD surveys for Azerbaijan (B&A and EBRD-Azerbaijan, 2007), Georgia (B&A and EBRD-Georgia, 2007),

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[24] This data is discussed in detail in Shelburne-Palacin (2007).

Moldova (B&A and EBRD-Moldova, 2007), and an ADB survey for Kyrgyzstan and Tajikistan (ADB, 2007). Estimates were made for cases where there were conflicting overlaps and for years for which there was no information. The Russian share generally is in the range of one-half to three-quarters; however, the share is significantly below one-half for Kazakhstan and Ukraine. These Russian share estimates are combined with the remittance inflow data in appendix table 1 to produce estimates of remittance inflows coming from Russia for each of the CIS-11; these estimates are provided in table 3.

In figure 11 the estimated Russian outflows to the other CIS are plotted against the estimated inflows (from Russia) of the other CIS-11. Although the dollar value of the discrepancy between the two series has increased with their continued growth, a logarithmic plot (not presented) suggests that there has been a more stable long-run relationship with Russia on average reporting about 40 per cent more remittance flows to these economies than what they report. Nevertheless, over the shorter run, there has been a significant increase in the discrepancy with Russia reporting only 9 per more in 2003 but that has grown to 82 per cent by 2007. Without additional information, it is not possible to definitively determine whether Russia overestimates its outflows or whether the CIS-11 underestimate theirs; however, considering what is known about the statistical methodological procedures in the various countries and unofficial survey estimates, there is a reasonable basis for concluding that it is some of the CIS-11 that are underestimating their remittance inflows.

Figure 11
Comparison of Estimated Russian Outflows to the CIS-11 to CIS-11 Estimated Inflows from Russia, 1999-2007
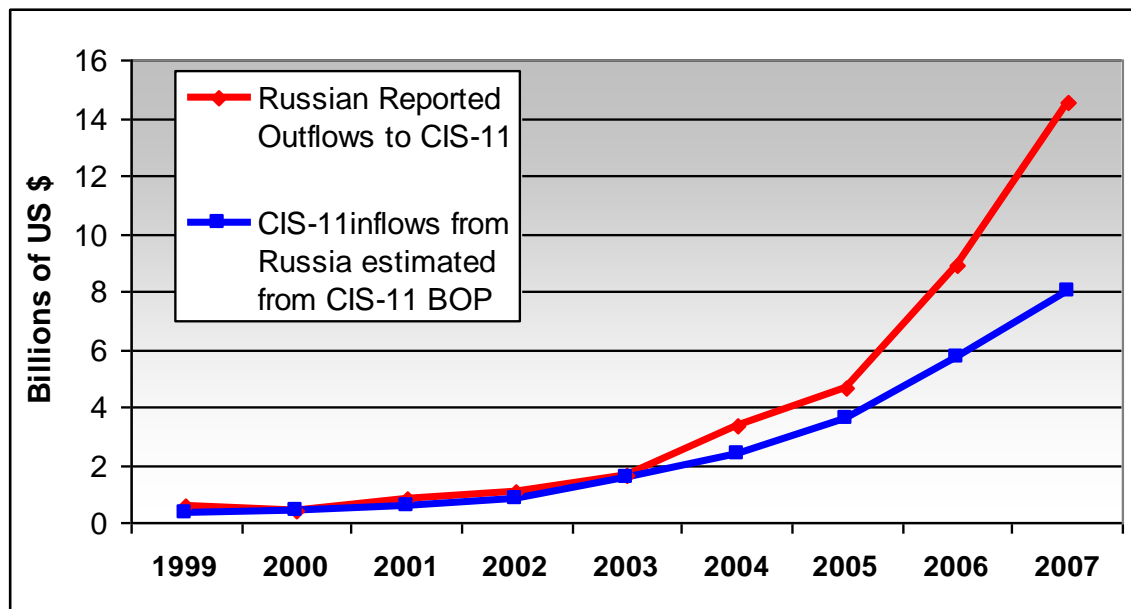
A country level examination of the discrepancy between the estimates derived from the Russian data and that derived from the individual CIS-11 countries reveals significant differences. Using the four-year average over 2004-2007 to even out any one year effects, the estimated Russia outflows are 60 per cent greater than the sum of the estimates of the CIS-11. However there is little discrepancy between the two sets of estimates for Armenia and Azerbaijan and of course none for Turkmenistan and Uzbekistan since these two were both derived from the same set of data. Assuming the Russian outflows are correct, Belarus

appears to overestimate its remittance inflows by a factor of two while Georgia, Kazakhstan, Kyrgyzstan, Moldova, and Tajikistan appear to underestimate theirs by about one-half. The Ukrainian estimate, however, is only five per cent of the estimate derived from Russian data.

Given the close integration of Russia and Belarus and the relative ease and safety of carrying cash between the two, and the fact that the Russian-based estimate relies heavily on money transfers, we speculate that the estimate of Belarus is probably not that inaccurate. The Ukrainian based estimate would appear to be grossly inaccurate; this is especially the case when one considers a number of factors likely to increase remittances such as a common long border, significant wage differences, and the relatively large population. Both of these latter two conjectures (i.e., Belarus and Ukraine) are generally supported by World Bank estimates of remittances based upon migration stocks. By making further adjustments in both sets of estimates for these two countries, it would possibly reduce the overall discrepancy between the two data sets in half so that the Russian based estimates would be only 30 per cent larger. Nevertheless, the basic conclusion from this analysis comparing Russian reported remittance outflows with CIS-11 remittance inflows is that there is some significant discrepancy in the data and it would appear that this is due to an underestimate of remittances by a number of the CIS-11. There have some other studies of transition economy remittances generally relying on survey data that have also concluded that remittances are under-reported in these economies by a factor of two. This includes a study of Albania by Korovilas (1999) and one of Armenia by Roberts and Banaian (2004).

VII. Conclusions

Remittances are an important source of financial resources for the transition economies. They have allowed these economies to consume and invest that higher levels than would have been possible otherwise. For most, they are considerably larger than aid flows, and for the less developed in the group they are even more important than private capital inflows. These conclusions are, however, also true for many developing countries and the analysis presented here was unable to determine if remittances are any more or less important for the transition economies than for developing and emerging economies more generally. Despite their significant, the empirical evidence is far from conclusive that remittances actually promote growth and poverty reduction. However, there are reasons to believe that cross-sectional analysis of this type is unable to fully capture the growth promoting and poverty reducing effects of remittances. Emigration of skilled workers can negatively impact the home economy in a number of ways, but given the very high levels of unemployment that were present in the transition economies due to the shocks of economic and political disintegration that occurred with the breakdown of economic planning, this loss of human capital resources has probably been of a minor consideration. For the transition economies, the binding constraint in using these financial flows to further their economic development appears to be shortcomings in their financial institutional architecture. Overall, a well-functioning banking system encourages remittances and their use for investment purposes but in the transition economies financial depth is low and capital markets are not well developed. Improvements in the level of development of their financial sectors would appear to be a major challenge in their ability to more fully capture the potential developmental impact of these flows.

All of the transition economies, except Russia, are primarily recipients of inflows. Russia, although it also receives significant inflows is on net a major source of remittances

for the other transition economies; in fact Russia is now the world's second largest source of remittances with the majority of these going to the other members of the CIS. An examination of the bilateral pattern of remittance flows of Russia reveals that they primarily come from richer countries go poorer countries. Workers in south-east Europe are migrating primarily to western Europe and the United States. There are a number of statistical problems and discrepancies in the remittance data of the transition economies. In this paper, a new approach of estimating remittances in the CIS is developed using new data on financial flows which has recently been published by the Central Bank of Russia. The basic conclusion is that a number of the CIS currently appear to significantly underestimate their remittance inflows.

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Appendix Table 1

Remittance Inflows by Value and Percentage of GDP, 2004-2007
(Millions of U.S. Dollars)

	Millions of U.S. Dollars				Percentage of GDP			
	2004	*2005*	*2006*	*2007*	*2004*	*2005*	*2006*	*2007*
Armenia	813	940	1,175	1,273	22.8	19.2	18.4	13.9
Azerbaijan	227	693	813	1,287	2.6	5.2	4.1	4.1
Belarus	256	255	340	363	1.1	0.8	0.9	0.9
Georgia	303	346	485	705	5.9	5.4	6.3	6.9
Kazakhstan	165	178	188	223	0.4	0.3	0.2	0.2
Kyrgyzstan	189	322	481	715	8.5	13.1	17.0	19.1
Republic of Moldova	705	920	1,182	1,498	27.1	30.8	34.7	34.1
Russian Federation	2,495	2,919	3,091	4,100	0.4	0.4	0.3	0.3
Tajikistan	252	467	1,019	1,250	12.2	20.2	36.0	37.3
Turkmenistan	11	16	30	49	0.1	0.1	0.2	0.2
Ukraine	411	595	829	1,170	0.6	0.7	0.8	0.9
Uzbekistan	651	909	1,723	2,827	5.4	6.4	10.1	14.0
CIS-11 Total	3,983	5,641	8,265	11,360	2.2	2.4	2.7	3.0
CIS Total	6,478	8,560	11,356	15,460	0.8	0.9	0.9	1.0
Albania	1,160	1,290	1,360	1,359	15.3	15.4	14.9	13.2
Bosnia and Herzegovina	2,072	2,052	2,157	2,514	22.2	20.4	18.9	18.6
Croatia	1,221	1,222	1,233	1,788	3.4	3.1	2.9	3.5
Serbia and Montenegro	4,129	4,650	4,703	4,910	15.6	16.4	14.2	11.3
The fYR of Macedonia	213	2727	267	267	4.0	3.9	4.2	3.6
SEE Total	8,795	9,441	9,720	10,838	10.4	10.3	9.4	8.6
Bulgaria	1,722	1,613	1,707	2,087	7.0	5.9	5.4	5.3
Czech Republic	815	1,018	1,186	1,300	0.7	0.8	0.8	0.8
Estonia	167	265	402	426	1.4	1.9	2.4	2.0
Hungary	307	280	363	363	0.3	0.3	0.3	0.3
Latvia	230	381	482	552	1.7	2.4	2.4	2.0
Lithuania	325	534	994	994	1.4	2.1	3.3	2.6
Poland	4,724	6,482	8,496	10,671	1.9	2.1	2.5	2.5
Romania	132	4,733	6,718	8,533	0.2	4.8	5.5	5.1
Slovakia	424	424	424	424	1.0	0.9	0.8	0.6
Slovenia	266	264	282	300	0.8	0.8	0.7	0.7
NMS Total	9,112	15,994	21,054	25,650	1.3	2.0	2.3	2.2
CIS and SEE Total	15,273	18,001	21,076	26,298	1.8	1.6	1.5	1.5
EiT-28 Total	24,385	33,995	42,130	51,948	1.6	1.8	1.8	1.8

Source: World Bank Remittances Database, IMF Balance of Payments Statistics Yearbook, Shelburne-Palacín (2007).