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Towards the 2025 System of National Accounts: Globalisation**What really matters lies beneath the national level:
FIGARO-REG and the trade exposure of regions**Prepared by Joint Research Centre¹*Summary*

The document presents the use of the FIGARO-REG database to produce for the first time a single exposure indicator at regional level. It shows for a specific region the relevance of its exports via third countries and maps its dependence with respect to other regions and non-European Union (EU) countries such as China, Russian Federation, etc. Such information is interesting to policymakers in order to understand the exposure, dependence and vulnerabilities not only for countries but also for regions.

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I. Introduction

1. Since its inception (Leontief, 1936, 1941), applications of the input-output models typically require national data and provide results at the national level. This is particularly evident when assessing the impacts of shocks and disruptions, determining inter-industry linkages, identifying vulnerabilities and economic dependencies, as well as determining the value added in trade, its source, and decomposition. Input-output analysis and input-output modeling are versatile and useful approaches for evaluating the socio-economic (employment) and environmental consequences of globalization. Therefore, it is necessary to have databases capable of providing the necessary information for their compilation, allowing for the explanation of economic structures, social and/or environmental events, or specific features of an economic area.
2. However, the increasing volume and complexity of global trade in goods and services, as well as the concentration or distribution of economic activities within a single country, could alter the perception of economic, social, or environmental performance when considering subnational territories. This is particularly true when examining the economic flows of regions within countries.
3. As a result, considering the diverse intra-country economic structures of regions within the same country, and having the necessary breakdown of information, could lead to useful disaggregation of the results. This allows for the distinction of the singular elements that shape the economic reality of each individual country, and the observation of its consequences in terms of linkages, weaknesses, dependencies, or potential improvements in economic performance.
4. To achieve this, detailed databases containing a wide range of information, such as national-wide units and economic data (including industrial activities, institutional economic sectors, final demand, value added, and trade), are necessary to support this type of analysis. This is the primary objective of the project developed by Eurostat and the JRC several years ago, known as FIGARO².
5. FIGARO, as other multiregional input-output (MRIO) databases, such as the Inter-country Input-Output (ICIO) tables published by the OECD (Ghilhoto, Webb, & Yamano, 2022) or WIOD (Timmer, Dietzenbacher, Loss, Stehrer, & deVries, 2015), are typically constructed at national level and the estimates of domestic or foreign value added or regional (supranational) exports and final use are obviously focused on national level.

II. From FIGARO to FIGARO-REG

6. The FIGARO tables³ (Rueda-Cantuche & Rémond-Tiedrez, 2019) are global inter-country supply, use and input-output tables published by Eurostat as official statistics since 2021, with a country coverage of 27 Member States, its 18 main non-EU trading partners, and a rest of the world region, for the period 2010-2021, as released in December 2023. Eurostat and the European Commission's Joint Research Centre compile the FIGARO tables every year with contributions from national statistical offices of the EU countries and other data provided by the OECD and non-EU countries, under a set of common definitions and methods to make them comparable (i.e. 2008 SNA, 2010 ESA and EU Transmission Programme).
7. Among other future developments of the FIGARO project in the form of previous year's prices tables, national accounting matrices and the incorporation of the primary and secondary income allocation accounts as well as the financial accounts, the European Commission's Joint Research Centre is also working on the subnational version of the FIGARO tables, in collaboration with Eurostat. The resulting database is denoted as

² <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/edn-20210526-1>

³ <https://ec.europa.eu/eurostat/web/esa-supply-use-input-tables/information-data#figaro>

FIGARO-REG and allows us to have a regional view of the national economies, and analyze both intra-regional and inter-regional effects.

8. As noted earlier, the scope of FIGARO at national level encompasses the EU 27 countries, its 18 main trading partners and a rest of the world region as an additional group of countries. The national supply and use tables are broken down by 64 product and 64 industry categories (CPA/NACE Rev.2) and it is completely aligned with countries' National Accounts official statistics. The FIGARO tables can be considered as a picture of the world GDP and its main economic aggregates, broken down by industries and countries and the different components of the final use and value added (see Figure 1).

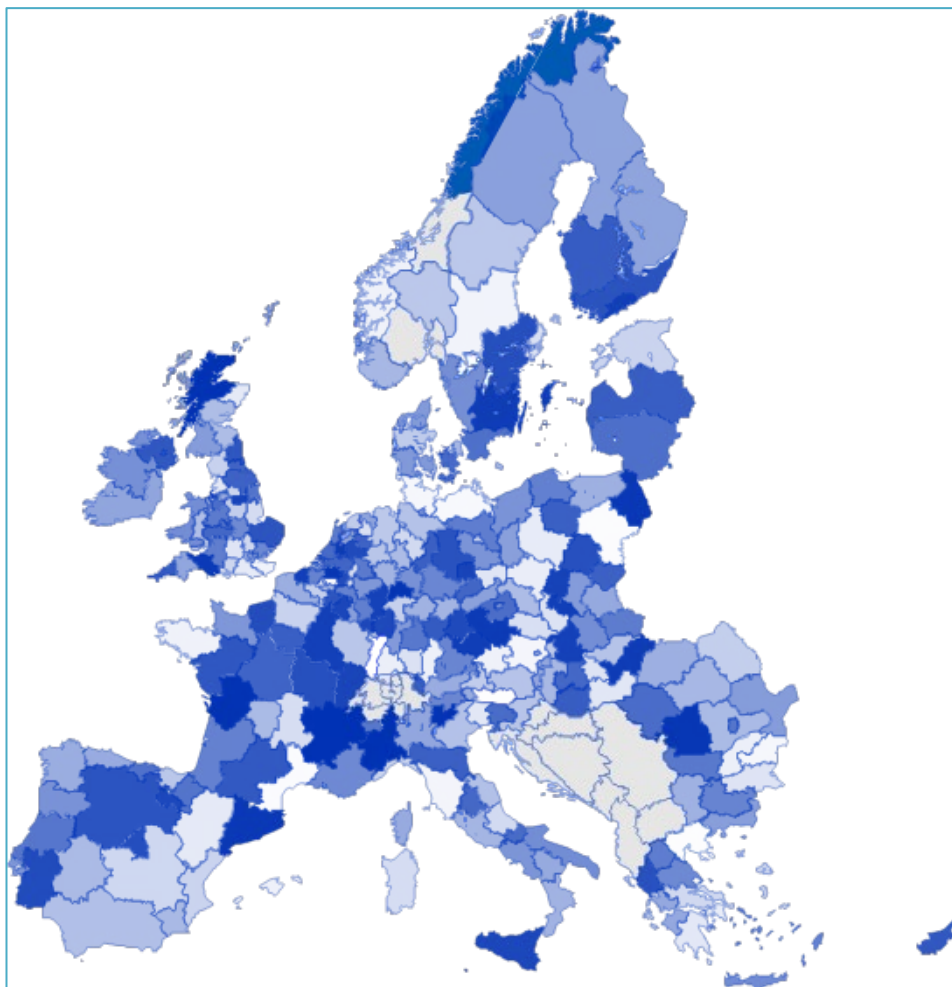
Figure 1
Structure of FIGARO-REG

FIGARO-REG			Intermediate use									Final Use				Output
			Region 1			...			Region 305			Government consumption	Households consumption	Gross Capital Formation	Changes in inventories	
			Industry 1	...	Industry 56	Industry 1	...	Industry 56	Industry 1	...	Industry 56					
Intermediate inputs	Region 1	Industry 1	DOMESTIC _{1,1}			TRADE _{1,...}			TRADE _{1,305}			G ₁	H ₁	GFCF ₁	CI ₁	X ₁
		...	TRADE _{...,1}			DOMESTIC _{...,...}			TRADE _{...,305}			G _{...}	H _{...}	GFCF _{...}	CI _{...}	X _{...}
	...	Industry 1	TRADE _{...,1}			DOMESTIC _{...,...}			TRADE _{...,305}			G _{...}	H _{...}	GFCF _{...}	CI _{...}	X _{...}
		Industry 56	TRADE _{...,1}			DOMESTIC _{...,...}			TRADE _{...,305}			G _{...}	H _{...}	GFCF _{...}	CI _{...}	X _{...}
	Region 1	Industry 1	TRADE _{305,1}			TRADE _{305,...}			DOMESTIC _{305,305}			G ₃₀₅	H ₃₀₅	GFCF ₃₀₅	CI ₃₀₅	X ₃₀₅
		Industry 56	TRADE _{305,1}			TRADE _{305,...}			DOMESTIC _{305,305}			G ₃₀₅	H ₃₀₅	GFCF ₃₀₅	CI ₃₀₅	X ₃₀₅
	Tax Less Subsidies on Products											TLS _G	TLS _H	TLS _{GFCF}	TLS _{CI}	
Value Added	Gross Operating Surplus		GOS ₁			GOS _{...}			GOS ₃₀₅							
	Compensation of Employees		D ₁			D _{...}			D ₃₀₅							
	Other Net taxes on Production		ONTP ₁			ONTP _{...}			ONTP ₃₀₅							
Output			X ₁			X _{...}			X ₃₀₅							

Source: Own elaboration

9. FIGARO-REG was developed to feed the RHOMOLO model (García-Rodríguez, et al., 2023), using for the first time the FIGARO national tables as a benchmark for the EU countries. RHOMOLO is a computable general equilibrium model used to assess the economic impact assessment of innovation policies (European Commission, European Union, 2024). The regional scope of the FIGARO-REG tables are 288 NUTS2 regions (United Kingdom and Norway included) plus 17 countries or groups of countries. FIGARO-REG comprises 305 economic areas with a breakdown of 55 products category. Due to data limitations and reliability reasons, FIGARO-REG has fewer industries (55) than the FIGARO tables (64), mainly fewer in industries with no relevant value added or total output in relative terms (see annex). The base reference year is 2017 and it is fully consistent with the FIGARO tables at national level. The regionalized structure at NUTS2 level is shown in Figure 1 and the process of elaboration of FIGARO-REG is described by Almazán et al. (2023).

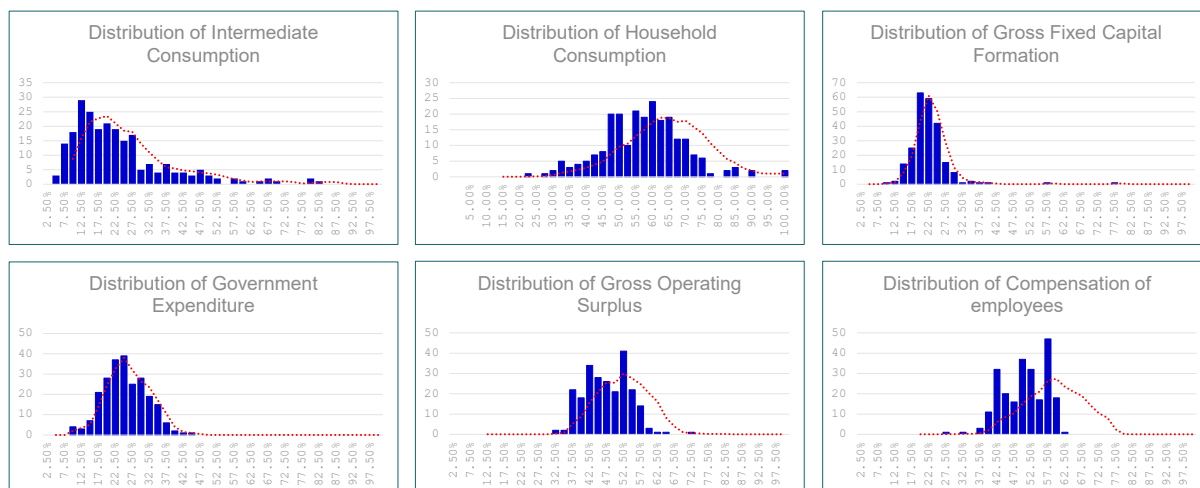
Figure 2
NUTS2 regions in FIGARO-REG



Source: Own elaboration

10. Additionally, we have run quality checks to the FIGARO-REG database. It is reassuring that the distribution of values resulted in a bell-shaped curve for final uses, value added and intermediate consumption (Figure 3). Intra-country consistency checks have also been carried out yielding that the sum over regions within countries are equivalent to the value of the country in all the variables analyzed.

Figure 3
Macro aggregates distribution in FIGARO-REG



Source: Own elaboration

11. In a preliminary analysis, Almazán et al. (2023) used FIGARO-REG to measure regional participation in global value chains (GVC) using indicators at NUTS2 level. They identified strong intra-regional linkages for the European Union. They suggest that, on average, the gross value added (GVA) that remains in each EU region is 65% of the value of their total exports.

12. Moreover, Rueda-Cantuche and Valderas-Jaramillo (2023) proved that using the Eurostat's FIGARO Input-Output tables, together with specific regional trade and regional accounts data from the regional statistical office, it is possible to estimate the value added content of regional exports (by trading partner) and the final demand of regions, too.

13. Banacloche et al. (2023) suggested a new exposure indicator (i.e. single exposure indicator) that provides a full bilateral picture of the exposure of countries to the foreign final demand of products or to their exports, by also taking into account transactions via third countries. López-Alvarez et al. (2023) used this indicator with FIGARO-REG to identify the strongest dependences and vulnerabilities of EU specific regions and industries. This is particularly useful for the design of regional economic policies.

14. This paper brings in the novelty that the analysis of global value chains can also be analyzed within clusters of regions and not necessarily within the regions of one single country. In this sense, the concept of domestic and foreign value added would refer to the selected cluster of industries and regions, keeping the level of disaggregation set up in the FIGARO-REG database and therefore, providing results that would not be visible otherwise. We analyze in this paper the decomposition of intraregional, interregional and feedback effects of the EU automotive industry, as an example.

III. Intraregional, Interregional and feedback effects

15. Another interesting application than can help us to understand better the economic performance of the economies in a regional perspective is the decomposition of multipliers proposed by Miller and Blair (2009). This methodology uses partitioned matrices of multiregional input-output tables to define a single region, a cluster of regions or even a cluster of industries across regions. This multiplier decomposition allows breaking down value added (or any other variable) into: intraregional effects (generated within the cluster of regions/industries), interregional effects or spillovers (generated between the cluster of regions/industries and others) and feedback effect (second round effects within the selected cluster of regions/industries).

16. The multiplier decomposition is a valuable tool for gaining a better understanding of the economic structures of countries (Sonis & Hewings, 1988). This model is used to describe the economic transaction flows within a specific area, where supply and demand of products and industries are balanced. The fundamental accounting relationship in the input-output framework is:

$$x = Ax + f \quad (1)$$

where x is the total output vector, f the final demand vector and A is the matrix of technical coefficients. The technical coefficients are defined as:

Z_{ij} , intermediate matrix of transaction flows from industry i to industry j

x_j , total output vector of industry j

So, it is possible to determine A through its matrix elements A_{ij} as:

$$A_{ij} = \left[\frac{Z_{ij}}{x_j} \right] \quad (2)$$

When adapting this framework to a MRIO table with the aim to obtain a multiplier decomposition, we need to define, first, the cluster of regions that should be considered as domestic (r) and the rest of regions that will be considered as foreign (s). The clusters of regions/industries can be defined by geographical and/or industrial level.

Then, equation (1) partitioned by domestic and foreign clusters is:

$$\begin{bmatrix} x^r \\ x^s \end{bmatrix} = \begin{bmatrix} A^{rr} & A^{rs} \\ A^{sr} & A^{ss} \end{bmatrix} \begin{bmatrix} x^r \\ x^s \end{bmatrix} + \begin{bmatrix} f^r \\ f^s \end{bmatrix} \quad (3)$$

Next, in order to separate intraregional and interregional effects, the technical coefficient matrix (A) is broken down into two blocs:

$$A = \begin{bmatrix} A^{rr} & 0 \\ 0 & A^{ss} \end{bmatrix} + \begin{bmatrix} 0 & A^{rs} \\ A^{sr} & 0 \end{bmatrix} \quad (4)$$

Then, it is possible to define \tilde{A} as a matrix of intraregional effects:

$$\tilde{A} = \begin{bmatrix} A^{rr} & 0 \\ 0 & A^{ss} \end{bmatrix} \quad (5)$$

To obtain:

$$(I - \tilde{A}) = \begin{bmatrix} I - A^{rr} & 0 \\ 0 & I - A^{ss} \end{bmatrix} \quad (6)$$

Using these elements, the Leontief inverse or matrix of multipliers associated to equation (3), denoted as M , can be broken down into three matrices, M_1 , M_2 and M_3 to obtain the different multiplier matrix decomposition effects. For the intraregional effect (derived directly from the Leontief inverse of equation (6)):

$$M_1 = (I - \tilde{A})^{-1} \quad (7)$$

For the interregional spillover effect (open-loop effect):

$$M_2 = I + (I - \tilde{A})^{-1}(A - \tilde{A}) \quad (8)$$

And for the feedback effect (close-loop effect):

$$M_3 = \left[I - \left[(I - \tilde{A})^{-1}(A - \tilde{A}) \right] \left[(I - \tilde{A})^{-1}(-\tilde{A}) \right] \right]^{-1} \quad (9)$$

where the total matrix multiplier (M) is (see Miller and Blair, 2009, p. 285 for the proof):

$$M = M_3 M_2 M_1 \quad (10)$$

The intraregional effects (M_1) refer to those occurring within the selected cluster of regions/industries, the interregional effect (M_2) is analogous to M_1 but considering those effects between the selected cluster of regions/industries and others (spillovers). The feedback effect M_3 is the induced interregional component that generates additional effects within the selected cluster of regions/industries (Round, 2001; Dietzenbacher, 2002; Hu et al. 2022; Hu et al., 2022).

This decomposition is suitable to be applied to different macroeconomic aggregates in terms of intensities per total output, e.g. value added coefficients. For such purpose, the GVA generated in each cluster of regions/industries will be broken down into intraregional, interregional and feedback effects as follows:

$$VA = \widehat{v} \widehat{a}_{ij} \widehat{x}^{-1} M \widehat{f} \quad \text{where } i = j \quad (11)$$

where the components $\widehat{v} \widehat{a}_{ij}$, \widehat{x}^{-1} , and \widehat{f} are diagonalized vectors.

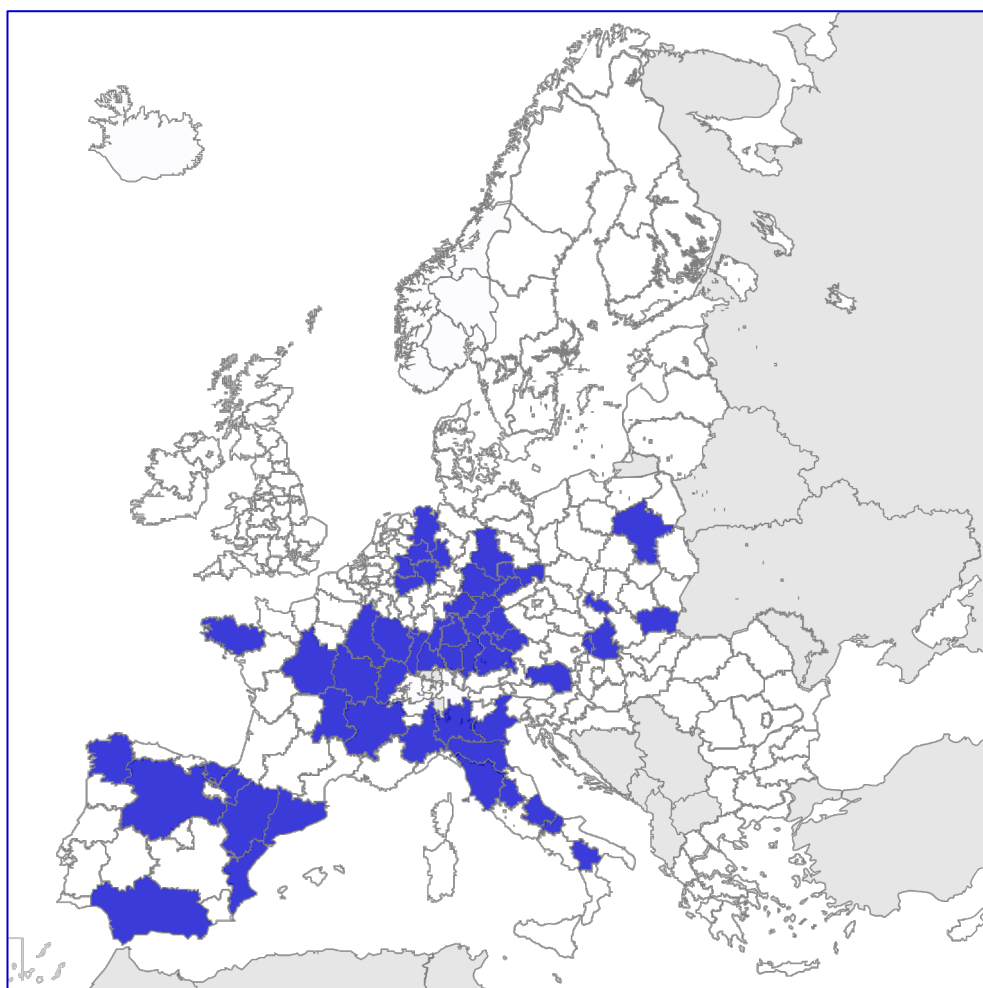
Let $\widehat{v} \widehat{a}_{ij} \widehat{x}^{-1} = \widehat{V} \widehat{A}$. Then, by using the Stone's (1985) additive decomposition and Miller and Blair's (2009, p. 288) derivation, equation (11) yields:

$$VA = \widehat{V} \widehat{A} (M_1 - I) \widehat{f} + \widehat{V} \widehat{A} (M_2 - I) M_1 \widehat{f} + \widehat{V} \widehat{A} (M_3 - I) M_2 M_1 \widehat{f} \quad (12)$$

IV. Results for the EU automotive industry

17. In order to illustrate the application of this methodology, we defined a cluster of regions leading the EU automotive industry. The automotive industry generates 7% of EU GDP and around 13.8 million people work on it. Directly or indirectly 3.5 million jobs depend on this sector and its importance is even greater when we consider the multiplier effects in supplier industries, such as the chemical or the steel industries, as well as other industries in downstream value chains like information and communication technologies, repairing services or transport activities (European Commission, 2024). Moreover, the automobile industry is called to lead the green transformation of the EU economy.

Figure 4
Automotive Regions Alliance

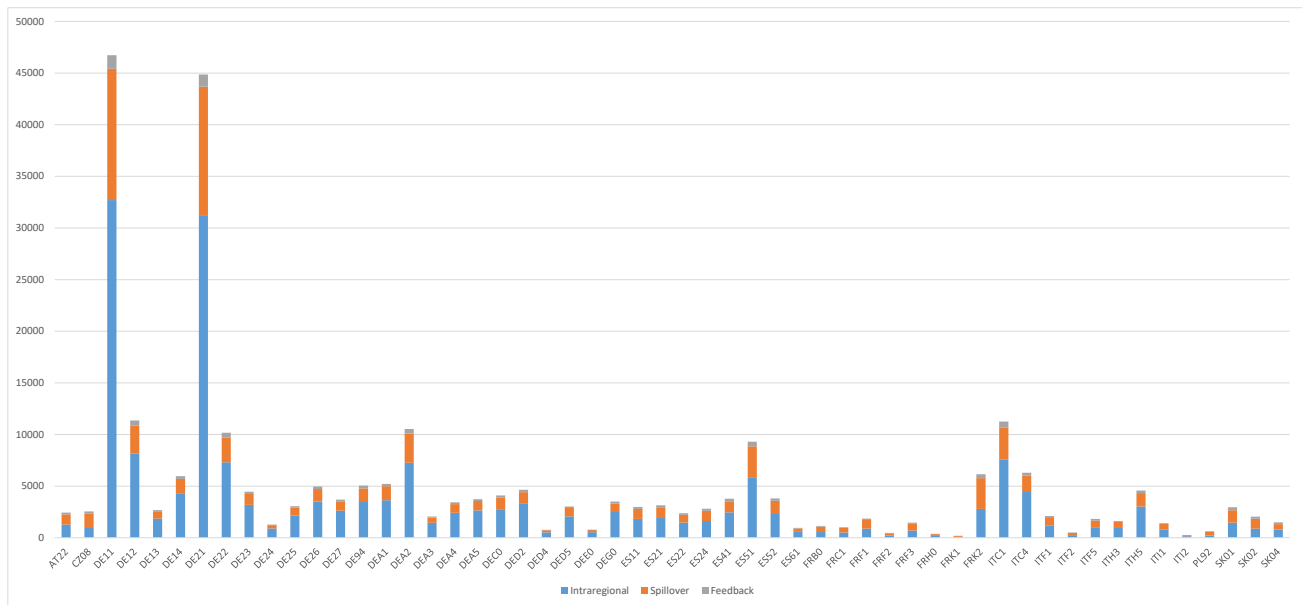


Source: Own elaboration

18. There is a strong initiative promoted by the EU Committee of the Regions to increase the synergies and visibility of those regions where the automotive industry is of greatest relevance in economic, social and environmental terms. This group of regions is known as the Automotive Regions Alliance, ARA (2024). This group of regions encompasses 58 NUTS2 geographical areas (see figure 4) that will be the target of this analysis (see annex).

19. The results have been focused on the automotive industry associated to the manufacture of motor vehicles, trailers and semi-trailers (NACE Rev.2, code C29). The aim of the analysis is to provide insights into the regional distribution of the GVA incorporated into the global final demand of motor vehicles. In particular, the amount of the GVA incorporated into the global final demand of motor vehicles retained within the ARA regions due to the regional trade among them and how much is due to the trade with other regions outside the ARA.

Figure 5
 Decomposition of multipliers in absolute terms in 2017 (million euros)



Source: Own elaboration.

20. Figure 5 shows the multiplier decomposition of the total gross value added of the automotive industry of the ARA regions. German regions such as Stuttgart (DE11) or Overbayern (DE21) yield around 45 billion euros each one in 2017, equivalent to the 1.3% of the German GDP for the same year in each region individually considered, and represents 34% of total gross value added generated in the automotive industry of the ARA regions. These regions are followed by other German regions such as Karlsruhe (DE12), Niederbayern (DE22) and Köln (DEA2); Piemonte, in Italy (ITC1) and Catalonia, in Spain (ES51), with GVA around 10.000 million euros each one. In terms of distribution and concentration, only six regions accumulate 50% of the total gross value added generated in the automotive industry and 50% of the regions cumulate 87% of the gross value added⁴.

21. An interesting finding is that intraregional effects (among themselves) drive most of the GVA retained in the ARA regions. The decomposition of multipliers for each industry is shown in Table 1. On average, 61% of the ARA’s GVA of the automobile industry embodied in the global final demand of motor vehicles comes from the intraregional effects, i.e. among the ARA regions. The top-10 regions with greatest intraregional effects are German, some of them with values above 70% of the total GVA.

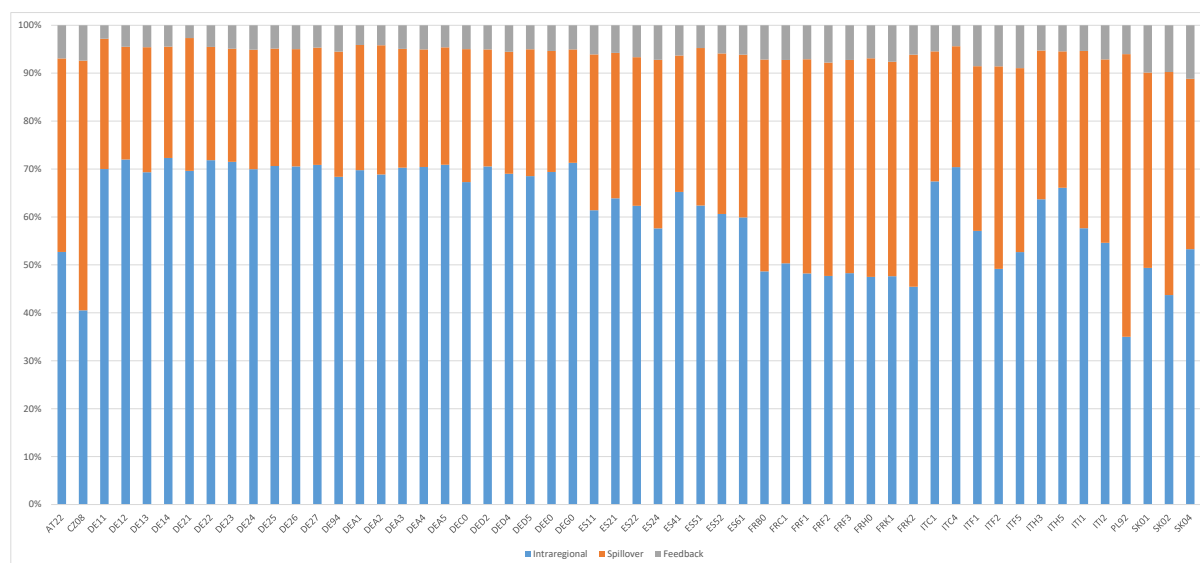
⁴ The Gini Index obtained is 0.65.

Table 1:
Top 20 multipliers decomposition ordered

Code	Region	Intraregional effect	Code	Region	Spillover effect	Code	Region	Feedback
DE14	Tübingen	0.72	PL92	Mazowiecki regionalny	0.59	SK04	Východné Slovensko	0.11
DE12	Karlsruhe	0.72	CZ08	Moravskoslezsko	0.52	SK01	Bratislavský kraj	0.10
DE22	Niederbayern	0.72	FRK2	Rhône-Alpes	0.48	SK02	Západné Slovensko	0.10
DE23	Oberpfalz	0.71	SK02	Západné Slovensko	0.47	ITF5	Basilicata	0.09
DEG0	Thüringen	0.71	FRH0	Bretagne	0.46	ITF2	Molise	0.09
DEA5	Arnsberg	0.71	FRK1	Auvergne	0.45	ITF1	Abruzzo	0.09
DE27	Schwaben	0.71	FRF1	Alsace	0.45	FRF2	Champagne-Ardenne	0.08
DE25	Mittelfranken	0.71	FRF2	Champagne-Ardenne	0.45	FRK1	Auvergne	0.08
DED2	Dresden	0.71	FRF3	Lorraine	0.44	CZ08	Moravskoslezsko	0.07
DE26	Unterfranken	0.71	FRB0	Centre — Val de Loire	0.44	FRF3	Lorraine	0.07
DEA4	Detmold	0.70	FRC2	Bourgogne	0.42	FRC1	Bourgogne	0.07
ITC4	Lombardia	0.70	ITF2	Molise	0.42	ES24	Aragón	0.07
DEA3	Münster	0.70	SK01	Bratislavský kraj	0.41	FRB0	Centre — Val de Loire	0.07
DE11	Stuttgart	0.70	AT22	Steiermark	0.40	ITI2	Umbria	0.07
DE24	Oberfranken	0.70	ITF5	Basilicata	0.38	FRF1	Alsace	0.07
DEA1	Düsseldorf	0.70	ITI2	Umbria	0.38	AT22	Steiermark	0.07
DE21	Oberbayern	0.70	ITI1	Toscana	0.37	FRH0	Bretagne	0.07
DEE0	Sachsen-Anhalt	0.69	SK04	Východné Slovensko	0.36	ES22	Comunidad Foral de Navarra	0.07
DE13	Freiburg	0.69	ES24	Aragón	0.35	ES41	Castilla y León	0.06
DED4	Chemnitz	0.69	ITF1	Abruzzo	0.34	ES61	Andalucía	0.06
...
TOTAL AVERAGE		0.61	TOTAL AVERAGE		0.33	TOTAL AVERAGE		0.06

Source: Own elaboration

Figure 6
Decomposition of multipliers in absolute terms in 2017 (million euros).



Source: Own elaboration.

22. Spillover effects are dominated by regions belonging to other areas in the EU outside the ARA. For regions such as Mazowiecki regionalny (PL92) and Moravskoslezsko (CZ08), their related GVA mostly come from regions outside the Alliance, ca. above 50% of the total effect.

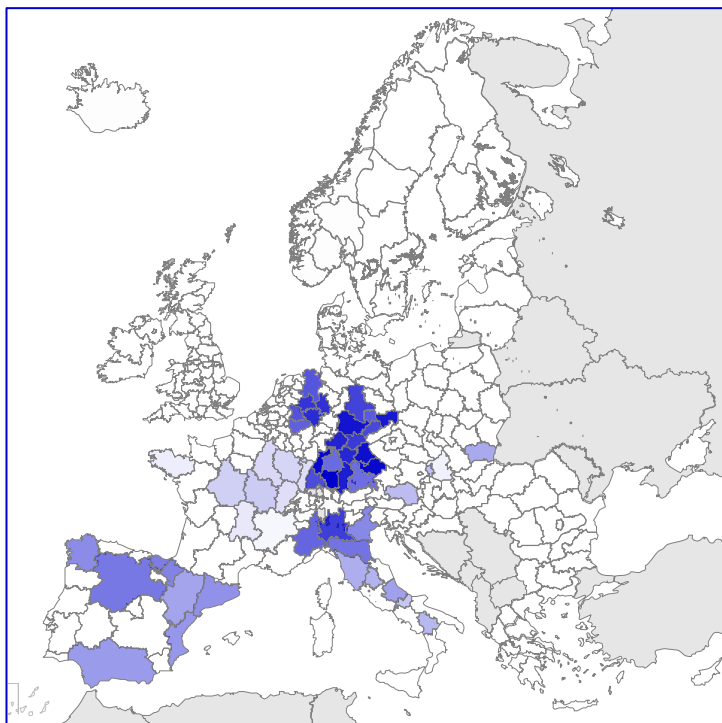
23. French and Italian regions also show high levels of spillover effects of around 40%, which highly determines the performance of their automobile industry with respect to global foreign final demand. Additional second round feedback effects are marginal in most of cases and evenly distributed, in relative terms across all the territories considered.

24. For intraregional value added, Figure 7 emphasizes the relevance of the domestic value added content of exports for the central and eastern European regions in the automotive industry. The internal market accounts for over 50% of the value of the regional multipliers.

This group of regions is heavily reliant on the domestic demand generated within the Alliance's regions.

Figure 7

Domestic Value Added content of exports (intraregional effect)

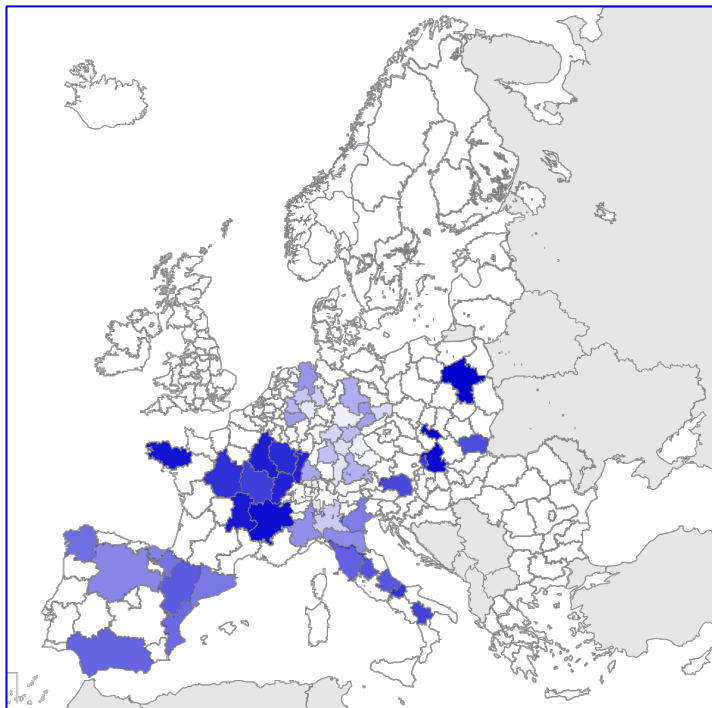


Source: Own elaboration

25. However, as Figure 8 shows, the automobile industry of some Mediterranean areas and regions in France benefit most from interregional spillovers with other areas around the world and to a lesser extent on the Alliance’s demand.

Figure 8

Domestic value added content of exports (spillover effects)



Source: Own elaboration

V. Conclusions

26. FIGARO-REG is a comprehensive database characterized by its unique granularity, enabling complex and thorough analysis of the economic structure at the regional level within a MRIO context, particularly for regional policy.

27. A key strength of FIGARO-REG is its benchmarking with the national FIGARO Inter-country IO Tables, an official statistical product of Eurostat that has been methodologically tested and is considered a national-level reference.

28. The database's granularity allows for a deeper understanding of regional data beneath the surface-level information observed at the national level. One application outlined in this paper involves the decomposition of multipliers into effects generated within domestic (intraregional) and non-domestic (interregional) regions. The database's flexibility permits the replication of any multiplier decomposition based on different cluster criteria.

29. The study of value added embodied in the automotive industries within the Automotive Regional Alliance, as a result of global final demand, reveals high levels of concentration in the industry, particularly biased towards German regions. These regions depend heavily on internal demand in terms of value added embodied in trade.

30. Conversely, peripheral regions within the Alliance and French regions embody more value added in trade derived from regions outside the considered cluster, indicating less dependence on internal markets due to higher value in spillover interregional effects. The feedback interregional effect is residual and equally distributed among all the regions, showing no significant differences in behaviour.

31. This case study is a sample of the various analyses that can be conducted using FIGARO-REG, including the determination of GVC indicators, employment impacts, and environmental considerations from a regional perspective using this MRIO database.

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Annex

NUTS2 REGIONS in FIGARO-REG (1)

Code	Description	Code	Description	Code	Description
AT11	Burgenland	DE50	Bremen	ES22	Comunidad Foral de Navarra
AT12	Niederösterreich	DE60	Hamburg	ES23	La Rioja
AT13	Wien	DE71	Darmstadt	ES24	Aragón
AT21	Kärnten	DE72	Gießen	ES30	Comunidad de Madrid
AT22	Steiermark	DE73	Kassel	ES41	Castilla y León
AT31	Oberösterreich	DE80	Mecklenburg-Vorpommern	ES42	Castilla-La Mancha
AT32	Salzburg	DE91	Braunschweig	ES43	Extremadura
AT33	Tirol	DE92	Hannover	ES51	Cataluña
AT34	Vorarlberg	DE93	Lüneburg	ES52	Comunitat Valenciana
BE10	Région de Bruxelles-Capitale/ Brussels Hoofdstedelijk Gewest	DE94	Weser-Ems	ES53	Illes Balears
BE21	Prov. Antwerpen	DEA1	Düsseldorf	ES61	Andalucía
BE22	Prov. Limburg (BE)	DEA2	Köln	ES62	Región de Murcia
BE23	Prov. Oost-Vlaanderen	DEA3	Münster	ES63	Ciudad de Ceuta
BE24	Prov. Vlaams-Brabant	DEA4	Detmold	ES64	Ciudad de Melilla
BE25	Prov. West-Vlaanderen	DEA5	Arnsberg	ES70	Canarias
BE31	Prov. Brabant Wallon	DEB1	Koblenz	FI19	Länsi-Suomi
BE32	Prov. Hainaut	DEB2	Trier	FI1B	Helsinki-Uusimaa
BE33	Prov. Liège	DEB3	Rheinessen-Pfalz	FI1C	Etelä-Suomi
BE34	Prov. Luxembourg (BE)	DECO	Saarland	FI1D	Pohjois- ja Itä-Suomi
BE35	Prov. Namur	DED2	Dresden	FI20	Åland
BG31	Severozapaden	DED4	Chemnitz	FR10	Ile-de-France
BG32	Severen tsentralen	DED5	Leipzig	FRB0	Centre — Val de Loire
BG33	Severioiztochen	DEE0	Sachsen-Anhalt	FRC1	Bourgogne
BG34	Yugoiztochen	DEF0	Schleswig-Holstein	FRC2	Franche-Comté
BG41	Yugozapaden	DEG0	Thüringen	FRD1	Basse-Normandie
BG42	Yuzhen tsentralen	DK01	Hovedstaden	FRD2	Haute-Normandie
CY00	Kýpros	DK02	Sjælland	FRE1	Nord-Pas de Calais
CZ01	Praha	DK03	Syddanmark	FRE2	Picardie
CZ02	Střední Čechy	DK04	Midtjylland	FRF1	Alsace
CZ03	Jihovýchod	DK05	Nordjylland	FRF2	Champagne-Ardenne
CZ04	Severovýchod	EE00	Eesti	FRF3	Lorraine
CZ05	Severovýchod	EL30	Attiki	FRG0	Pays de la Loire
CZ06	Jihovýchod	EL41	Voreio Aigaio	FRH0	Bretagne
CZ07	Střední Morava	EL42	Notio Aigaio	FRI1	Aquitaine
CZ08	Moravskoslezsko	EL43	Kriti	FRI2	Limousin
DE11	Stuttgart	EL51	Anatoliki Makedonia, Thraki	FRI3	Poitou-Charentes
DE12	Karlsruhe	EL52	Kentriki Makedonia	FRJ1	Languedoc-Roussillon
DE13	Freiburg	EL53	Dytiki Makedonia	FRJ2	Midi-Pyrénées
DE14	Tübingen	EL54	Ipeiros	FRK1	Auvergne
DE21	Oberbayern	EL61	Thessalia	FRK2	Rhône-Alpes
DE22	Niederbayern	EL62	Ionia Nisia	FRL0	Provence-Alpes-Côte d'Azur
DE23	Oberpfalz	EL63	Dytiki Elláda	FRM0	Corse
DE24	Oberfranken	EL64	Sterea Elláda	FRY1	Guadeloupe
DE25	Mittelfranken	EL65	Peloponnisos	FRY2	Martinique
DE26	Unterfranken	ES11	Galicia	FRY3	Guyane
DE27	Schwaben	ES12	Principado de Asturias	FRY4	La Réunion
DE30	Berlin	ES13	Cantabria	FRY5	Mayotte
DE40	Brandenburg	ES21	País Vasco	HR03	Jadranska Hrvatska

NUTS2 REGIONS in FIGARO-REG (2)

Code	Description	Code	Description	Code	Description
HR04	Panonska Hrvatska, Grad Zabreb, Sjeverna Hrvatska	NL41	Noord-Brabant	SE33	Övre Norrland
HU11	Budapest	NL42	Limburg (NL)	SI03	Vzhodna Slovenija
HU12	Pest	NO01	Oslo og Akershus	SI04	Zahodna Slovenija
HU21	Közép-Dunántúl	NO02	Hedmark og Oppland	SK01	Bratislavský kraj
HU22	Nyugat-Dunántúl	NO03	Sør-Østlandet	SK02	Západné Slovensko
HU23	Dél-Dunántúl	NO04	Agder og Rogaland	SK03	Stredné Slovensko
HU31	Észak-Magyarország	NO05	Vestlandet	SK04	Východné Slovensko
HU32	Észak-Alföld	NO06	Trøndelag	UKC1	Tees Valley and Durham
HU33	Dél-Alföld	NO07	Nord-Norge	UKC2	Northumberland and Tyne and Wear
IE04	Northern and Western	PL21	Ma?opolskie	UKD1	Cumbria
IE05	Southern	PL22	?i?skie	UKD3	Greater Manchester
IE06	Eastern and Midland	PL41	Wielkopolskie	UKD4	Lancashire
ITC1	Piemonte	PL42	Zachodniopomorskie	UKD6	Cheshire
ITC2	Valle d'Aosta/Vallée d'Aoste	PL43	Lubuskie	UKD7	Merseyside
ITC3	Liguria	PL51	Dolno?i?skie	UKE1	East Yorkshire and Northern Lincolnshire
ITC4	Lombardia	PL52	Opolskie	UKE2	North Yorkshire
ITF1	Abruzzo	PL61	Kujawsko-pomorskie	UKE3	South Yorkshire
ITF2	Molise	PL62	Warmi?sko-mazurskie	UKE4	West Yorkshire
ITF3	Campania	PL63	Pomorskie	UKF1	Derbyshire and Nottinghamshire
ITF4	Puglia	PL71	?ódzkie	UKF2	Leicestershire, Rutland and Northamptonshire
ITF5	Basilicata	PL72	?wi?tokrzyskie	UKF3	Lincolnshire
ITF6	Calabria	PL81	Lubelskie	UKG1	Herefordshire, Worcestershire and Warwickshire
ITG1	Sicilia	PL82	Podkarpackie	UKG2	Shropshire and Staffordshire
ITG2	Sardegna	PL84	Podlaskie	UKG3	West Midlands
ITH1	Provincia Autonoma di Bolzano/Bozen	PL91	Warszawski sto?eczny	UKH1	East Anglia
ITH2	Provincia Autonoma di Trento	PL92	Mazowiecki regionalny	UKH2	Bedfordshire and Hertfordshire
ITH3	Veneto	PT11	Norte	UKH3	Essex
ITH4	Friuli-Venezia Giulia	PT15	Algarve	UKI3	Inner London — West
ITH5	Emilia-Romagna	PT16	Centro (PT)	UKI4	Inner London — East
ITI1	Toscana	PT17	Área Metropolitana de Lisboa	UKI5	Outer London — East and North East
ITI2	Umbria	PT18	Alentejo	UKI6	Outer London — South
ITI3	Marche	PT20	Região Autónoma dos Açores	UKI7	Outer London — West and North West
ITI4	Lazio	PT30	Região Autónoma da Madeira	UKJ1	Berkshire, Buckinghamshire and Oxfordshire
LT01	Sostin?s regionas	RO11	Nord-Vest	UKJ2	Surrey, East and West Sussex
LT02	Vidurio ir vakar? Lietuvos regionas	RO12	Centru	UKJ3	Hampshire and Isle of Wight
LU00	Luxembourg	RO21	Nord-Est	UKJ4	Kent
LV00	Latvija	RO22	Sud-Est	UKK1	Gloucestershire, Wiltshire and Bristol/Bath area
MT00	Malta	RO31	Sud-Muntenia	UKK2	Dorset and Somerset
NL11	Groningen	RO32	Bucure?ti-Ilfov	UKK3	Cornwall and Isles of Scilly
NL12	Friesland (NL)	RO41	Sud-Vest Oltenia	UKK4	Devon
NL13	Drenthe	RO42	Vest	UKL1	West Wales and The Valleys
NL21	Overijssel	SE11	Stockholm	UKL2	East Wales
NL22	Gelderland	SE12	Östra Mellansverige	UKM5	North Eastern Scotland
NL23	Flevoland	SE21	Småland med öarna	UKM6	Highlands and Islands
NL31	Utrecht	SE22	Sydsverige	UKM7	Eastern Scotland
NL32	Noord-Holland	SE23	Västsverige	UKM8	West Central Scotland
NL33	Zuid-Holland	SE31	Norra Mellansverige	UKM9	Southern Scotland
NL34	Zeeland	SE32	Mellersta Norrland	UKNO	Northern Ireland

Industries in FIGARO-REG

Code	Description
A01	Crop and animal production, hunting and related service activities
A02-03	Forestry and logging, Fishing and aquaculture
B	Mining and quarrying
C10T12	Manufacture of food products, beverages and tobacco products
C13T15	Manufacture of textiles, wearing apparel and leather products
C16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
C17	Manufacture of paper and paper products
C18	Printing and reproduction of recorded media
C19	Manufacture of coke and refined petroleum products
C20	Manufacture of chemicals and chemical products
C21	Manufacture of basic pharmaceutical products and pharmaceutical preparations
C22	Manufacture of rubber and plastic products
C23	Manufacture of other non-metallic mineral products
C24	Manufacture of basic metals
C25	Manufacture of fabricated metal products, except machinery and equipment
C26	Manufacture of computer, electronic and optical products
C27	Manufacture of electrical equipment
C28	Manufacture of machinery and equipment n.e.c
C29	Manufacture of motor vehicles, trailers and semi-trailers
C30	Manufacture of other transport equipment
C31_32	Manufacture of furniture; other manufacturing
C33	Repair and installation of machinery and equipment
D35	Electricity, gas, steam and air conditioning supply
E36	Water collection, treatment and supply
E37T39	Sewerage; waste collection, treatment and disposal activities; materials recovery; remediation activities and other waste management services
F	Construction
G45	Wholesale and retail trade and repair of motor vehicles and motorcycles
G46	Wholesale trade, except of motor vehicles and motorcycles
G47	Retail trade, except of motor vehicles and motorcycles
H49	Land transport and transport via pipelines
H50	Water transport
H51	Air transport
H52	Warehousing and support activities for transportation
H53	Postal and courier activities
I	Accommodation; food and beverage service activities
J58	Publishing activities
J59_60	Motion picture, video and television programme production, sound recording and music publishing activities; programming and broadcasting activities
J61	Telecommunications
J62_63	Computer programming, consultancy and related activities; information service activities
K	Financial service activities, except insurance and pension funding, Insurance, reinsurance and pension funding, except compulsory social security, Activities auxiliary to financial services and insurance activities
L68	Real estate activities, Imputed rents of owner-occupied dwellings
M69_70	Legal and accounting activities; activities of head offices; management consultancy activities
M71	Architectural and engineering activities; technical testing and analysis
M72	Scientific research and development
M73	Advertising and market research
M74_75	Other professional, scientific and technical activities; veterinary activities
N77	Rental and leasing activities
N78	Employment activities
N79	Travel agency, tour operator reservation service and related activities
N80T82	Security and investigation activities; services to buildings and landscape activities; office administrative, office support and other business support activities
O84	Public administration and defence; compulsory social security
P85	Education
Q86	Human health activities
Q87_88	Residential care activities and social work activities without accommodation
R-U	Social work, Culture, Sports; Activities of membership organisations, Repair of computers and personal and household goods, Other personal service activities; Households as employers. Extraterritorial organisations and bodies

NUTS2 Automotive Regional Alliance

Code	Region	Code	Region
AT22	Steiermark	ES21	País Vasco
CZ08	Moravskoslezsko	ES22	Comunidad Foral de Navarra
DE11	Stuttgart	ES24	Aragón
DE12	Karlsruhe	ES41	Castilla y León
DE13	Freiburg	ES51	Cataluña
DE14	Tübingen	ES52	Comunitat Valenciana
DE21	Oberbayern	ES61	Andalucía
DE22	Niederbayern	FRB0	Centre — Val de Loire
DE23	Oberpfalz	FRC1	Bourgogne
DE24	Oberfranken	FRC2	Franche-Comté
DE25	Mittelfranken	FRF1	Alsace
DE26	Unterfranken	FRF2	Champagne-Ardenne
DE27	Schwaben	FRF3	Lorraine
DE91	Braunschweig	FRH0	Bretagne
DE92	Hannover	FRK1	Auvergne
DE93	Lüneburg	FRK2	Rhône-Alpes
DE94	Weser-Ems	ITC1	Piemonte
DEA1	Düsseldorf	ITC4	Lombardia
DEA2	Köln	ITF1	Abruzzo
DEA3	Münster	ITF2	Molise
DEA4	Detmold	ITF5	Basilicata
DEA5	Arnsberg	ITH3	Veneto
DEC0	Saarland	ITH5	Emilia-Romagna
DED2	Dresden	ITI1	Toscana
DED4	Chemnitz	ITI2	Umbria
DED5	Leipzig	PL92	Mazowiecki regionalny
DEE0	Sachsen-Anhalt	SK01	Bratislavský kraj
DEG0	Thüringen	SK02	Západné Slovensko
ES11	Galicia	SK04	Východné Slovensko