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Addressing the challenges of Globalisation: ESBRs Business Architecture, European Profiling and other related developments

Globalisation and the increasing complexity of multinational groups make more difficult for the national statistical institutes (NSIs) to produce business statistics and evaluate the weight of multinational groups in the national economies. That is why especially in the last decade Eurostat and the European NSIs have significantly worked together to implement a cross-border, relevant and consistent view of large multinational groups. On the one side the EuroGroups Register was set up to provide a coordination frame to EU countries for the production of consistent statistics on globalisation. On the other side NSIs have committed to looking beyond the purely legal definition of the legal unit, capturing instead the 'enterprise' in the economic meaning. Profiling was proposed to implement this growing focus on the 'enterprise' as well as a cooperative approach among NSIs on the multinational groups in their national economies. In 2013, the European Statistical System (ESS) embarked on building a genuine and efficient European system of statistical business registers (ESBRs).

In this paper, we present the initial situation in 2013 (AS-IS state) when the ESBRs project was launched, and the high level conceptual proposal of 'what' the future target situation could be in 2020 (TO-BE state), including national and European profiling and the improvements that both can bring to better monitor the impact of multinational groups and more in generally the issues of globalisation on statistics.

1. Globalisation challenges

Economic globalisation and the way multinational enterprise groups (MNEs) organise themselves have led to increasingly complex organisations and to a growing gap between their legal and economic structures.

MNEs value chains and production networks across national boundaries create challenges to the existing statistical concepts and frames that are based on the national representation of the economic activities. Recent cases in the EU illustrated the impacts on business and economic statistics due to reallocation of intangible assets between legal units of the same group across different countries.

This situation requires increased efforts and cooperation across the ESS and at global level to collect and share information on cross border activities of the MNEs to correctly measure the economic reality.

This paper describes the recent efforts put in place by Eurostat and the European NSIs to work together and implement a cross-border, relevant and consistent statistical infrastructure to have a better view of large multinational groups, their statistical units, activities and worldwide location.

2. The European System of interoperable Business Registers (ESBRs)

In 2013, Eurostat launched the European system of business registers (ESRBs) project¹ to address three main shortcomings affecting the quality in European business statistics due to globalisation:

- Inconsistencies in business statistics due to different practices as concerns the use and role of national statistical business registers;
- Lack of harmonised approach to business statistics in describing cross-border phenomena and in particular when it comes to delineating the statistical units to be stored in the national statistical business registers;
- Inefficiencies in data exchange and processing and duplication of work due to a lack of harmonised processes, of the use of standards, IT tools, and remote access facilities.

The ESRBs project focuses on the statistical business registers (national and EuroGroups Register) that with their infrastructural role (backbone role) could contribute to produce more consistent business statistics. In particular the EuroGroups Register (EGR) aims to be the backbone for statistics on globalization (Foreign Affiliates Statistics – FATS and Foreign Direct Investments statistics – FDI) in the EU.

In order to achieve this objective the ESRBs project plans to deliver (by 2020) a modernized and consistent system of interoperable² national and European statistical business registers to support and facilitate the cooperation and the exchange of cross – borders confidential micro data among Members States and an agreed methodology to profile the largest groups according to a cooperative approach.

2.1 The approach

The ESRBs project was split into a number of deliverables and was based on a Business Architecture (BA) approach.

The business architecture approach guides the process of modernisation in a structured way and provides guidance to the ESS governance bodies³.

It describes the situation at the beginning of the project (AS-IS state) in 2013, analyses the statistical user needs and the current shortcomings, and designs 'what' the future target situation (TO-BE state) should be to solve them.

The ESRBs business architecture is complemented by a Road Map showing the incremental changes to be accomplished every year to reach the target in 2020⁴ and by a ESRBs Interoperability Framework (IF) containing details on the 'how' the TO-BE state should be implemented.

¹ The ESRBs is part of the ESS Vision Implementation Programme (VIP) for 2020.

² According to the European Interoperability Framework, interoperability means that "different organisations work together to achieve a common goal, on the basis of legal support and an agreed organisation, adopting an agreed semantic for concepts data structure and data exchanges, and using some shared solutions"

³ According to the ESS Enterprise Architecture Reference Framework (ESS EARF), an "enterprise architecture aims to create an environment which can change and support business goals. It shows what the business needs are, where the organization wants to be, and ensures that the IT strategy aligns with this. Enterprise architecture helps to remove silos, improves collaboration across an organisation and ensures that the technology is aligned to the business needs. This work will enable them to standardise their organisations".

⁴ The ESRBs Goals and Key principles have been approved by the Business Statistics Directors Group in June 2016. The Road Map has been approved in June 2017.

2.2 The AS-IS situation in 2013

As said, in 2013 the situation in ESS business statistics was still affected by several shortcomings.

On the one side, there was the EGR (Version.1.0) launched in 2008 on the basis of the EC Regulation 177/2008⁵ and allowing Member States⁶ to exchange data *"to ensure the quality of the multinational enterprise group information in the European Union"*⁷, but it was still missing a harmonised process, use of standards and IT tools, and the possibility for MS and EFTA countries to have remote access to data.

On the other side, in 2013 an ESSnet (European Statistical Network) of Member States and EFTA countries delivered an innovative methodology to internationally profile the largest MNEs, but it needed to be tested on the field. The ESSnet proposal was based on a top down approach and collaboration among European National Statistical Institutes having an interest to share the profiling of some multinational enterprise groups. The top down approach provides a better view from the global decision centre (GDC). on the complete legal, financial and economic structure of the MNEs and offers the possibility to the NSIs having affiliates in their countries to better delineate the relevant statistical units in them.

However in 2013 EGR and profiling activities were independently developed and carried out, without a harmonised process and governance, missing the possibility of sharing benefits one from each other and leaving many of the quality and inconsistency issues related to globalisation unresolved.

2.3 The TO-BE situation in 2020

The ESBRs project builds on the existing achievements of the EGR and profiling and aims to further address the challenges of measuring globalisation by improving the methodological and technological solutions already achieved.

The ESBRs stresses the need to better harmonize, standardize and automate the confidential data exchanges between the national and European business registers and to establish common governance for the whole process, including profiling. Those achievements should contribute to produce better statistical frames from EGR and ultimately increase the quality of statistics on globalisation based on them.

In terms of IT solutions, the ESBRs re-used and improved available solutions both at Eurostat and at NSIs level. At central level an improved version of the EGR (version 2.0) was released in 2015, including various modules for different activities (EGR Identification Service, EGR Interactive Module). One of the most relevant aspects of the EGR 2.0 for improving the ESBRs interoperability is the adoption of a common single⁸ identifier for legal units (LEID) that is aligned with official national identification systems⁹ and allows exchanging data efficiently reducing duplications and errors¹⁰.

⁵ According to the EC Regulation 177/2008 "Member States shall set up one or more harmonised registers for statistical purposes, as a tool for the preparation and coordination of surveys, as a source of information for the statistical analysis of the business population and its demography, for the use of administrative data, and for the identification and construction of statistical units"⁵.

⁶ In particular, they exchange data on legal units, control relationships between parent and subsidiaries legal units and enterprises that are part of multinational enterprise groups.

⁷ In future Regulation 177/2008 will be repealed by the Framework Regulation Integrating Business Statistics and also the Kind of Activity Units will be covered in the nSBR.

⁸ A single identifier is a numeric or alphanumeric string that is associated with a single entity within the ESBRs system. The single identifier makes possible to address that entity, so that it can be accessed and interacted with by all the various parts of the system. The same concept is sometimes referred to by the term unique identifier. In the ESBRs the term unique has been avoided on purpose to make clear

At national level NSIs will test some interoperability aspects by re-using existing tools, shared applications and best practises. The ESBRS aims to avoid duplication of activities in the ESS.

In terms of governance on the one hand NSIs should agree among themselves and with Eurostat about the roles and responsibilities when taking part in the ESBRS data exchanges and processes. On the other hand frames' producers (national and European statistical frames) should agree with stakeholders (in a Memorandum of Understanding) on how to use them to produce good quality statistics on globalisation.

A key element of the ESBRS is the successful implementation of European profiling of the largest multinational enterprise groups in the EU. Member States are expected to actively participate to the cooperative profiling activity according to a common programme and an agreed updated methodology. The results of the European profiling should be integrated in the EGR frame to increase quality.

The ESBRS business architecture analyses the 2013 AS-IS state and identified that the weakest element of the initial profiling methodology, especially for data collection aspects, was the lack of connection between the results of European profiling and the national profiling.

The ESBRS business architecture proposes that in the 2020 TO-BE state European profiling and national profiling should coexist and the two levels should work in synergy to maximize efforts and resources, in the spirit of European interoperability.

At national level Member States should organise their profiling activities according to national needs. In some countries this activity is carried out or strictly linked to the activity of the so-called Large Case Units (LCUs). LCUs are formal or informal organisational structures in the NSIs that are in charge to analyse all statistical data collected by different domains on the enterprises or their local units belonging to multinational enterprise groups and ensure their statistical consistency.

At European level Eurostat and NSIs are working to realise the goal defined in the ESBRS business architecture, namely the update of the methodology, the establishment of a common programme and the integration of the results into the EGR. A task Force is working on such elements since the beginning of 2017.

In short, the expected outcome should deliver by 2020 a programme of European Profiling including rules to select the largest multinational groups that NSIs want to regularly profile following a collaborative approach and according to an updated and agreed methodology. The methodological developments should then lead to create a platform to share confidential data in a secure environment (it could be a further development of the current Interactive profiling tool (IPT) or another one).

The European profiling should ensure the consistency of the results of national profiling and provide the top down view needed for that.

that each entity can receive multiple identifiers to allow linking with national administrative sources and with other systems. The single identifier is the primary key for the data exchanges between national SBRs and the EGR. The single identifier avoids the risk of duplicating the registration of the same entity in the different parts of the system. Target beyond 2020: the ESBRS should aim to adopt and use one common single identifier for statistical units regarding the production of global frame.

⁹ In addition, a set of identifiers, including in the future the Legal Entity Identifier (LEI), used in multiple sources should be maintained to enable in the national SBRs and in the EGR the linking of the legal units to the statistical units.

¹⁰ The LEID is assigned by a module of the EGR (version 2.0) called EGR Identification Service whose database contains 23 million legal units.

3. Profiling and Globalisation

3.1 National profiling and enterprise delineation

At the national level, in the last decades some large groups strongly restructured their legal organisation by creating new legal units. Equating the statistical unit to the legal unit led to believe that a lot of enterprises had been created, while nothing had changed in the reality. Furthermore, Structural Business Statistics (SBS) are often produced by NSIs from the tax declarations or surveys at the level of the legal units. This has brought biases in the series for non-additive variables. For example, in some sectors, non-additive SBS variables (such as turnover, purchases and sales) seemed to triple overnight just because of the legal reorganization of groups which created new legal units now billing sales together.

Confronted with this common problem, several European countries were determined to go beyond the legal definition of legal unit and to implement enterprises in the economic meaning, according to the Regulation 696/1993. According to this Regulation, *"the enterprise is the smallest combination of legal units that is an organizational unit producing goods or services, which benefits for a certain degree of autonomy in decision-making, especially for the allocation of its current resources"*.

This distinction between legal units and enterprises is done by national profiling. According to the *Eurostat Business Registers Recommendations Manual*: *"Profiling is a method to analyse the legal, operational and accounting structure of an enterprise group at national and world level, in order to establish the statistical units within that group, their links, and the most efficient structures for the collection of statistical data"*. These statistical units are the profiled enterprises.

As a result certain EU and EFTA NSIs developed national methods for profiling the largest and most complex enterprises in their national economy. Compared to the legal unit, the enterprise is far more relevant to analyse the economic structure:

- First, the enterprise provides a better view of the concentration of the economic structure. According to an estimation based on the 80.000 multinational groups of the EGR 2015, legal units with less than 20 employees represent two thirds of their employment. If we estimate the share of the same-sized enterprises (taking into account the groups' control links) this share comes down to 44 %;
- Second, the enterprise provides a better breakdown by industry sector. Manufacturing and construction groups include many legal units in their core business. However, they also often set up separate legal units whose principal activity is to perform their sales/marketing functions, as well as their support functions (holding unit, head-office activities, transportation, real estate activities, research, etc.). Profiling reallocates these tertiary sector subsidiaries to their manufacturing enterprises, thus increasing the share of manufacturing in the economy;
- Third, SBS performance variables are far more relevant for enterprises than for legal units. Thanks to profiling, non-additive variables (turnover, sales, purchases...) are now consolidated within the enterprise and reflect real market flows. Besides, profiling provides a real view of the economic performance. For instance, a survey showed that in France, a large amount of assets of manufacturing groups are held by legal units with a main activity in holding of real estate. As a consequence, in manufacturing industries, the balance-sheet total per employee increases almost three-fold compared to its level when using the legal unit approach! The share of export turnover in the manufacturing industry is also raised, labour productivity grows and margin rate increases slightly (Insee, 2015).

National profiling is largely considered the best method to delineate the enterprise but it can be costly and resource intensive and moreover it misses the cross border exchange of information that is important to achieve a global and consistent view. These shortcomings can be reduced by following the cooperative approach of European profiling as countries engaging in it have found some benefits.

3.3 European profiling and the collaborative cross-country approach

Large groups are very internationalized, in the way they have affiliates in different countries. As a consequence, cooperation between European NSIs is required to understand their business and structures. Bilateral collaborative processes have emerged as well. In 2013 an ESSnet (European Statistical Network) of Member States and EFTA countries delivered a methodology for European profiling and in the subsequent years NSIs had the opportunity to test it. As a result, by mid-2017 around 250 multinational groups have been profiled in cooperation between countries.

European Profiling is based both on dialogue with the accountants of the largest groups and the exchange of information between Eurostat and the profilers from different NSIs. This new method distributes different roles and responsibilities among the countries, according to the place where the global decision centre (GDC) of the group is located.

The profiling team of the country where the GDC is located (GDC country) has the following responsibilities:

- on the basis of available sources (EGR, national business register, statistical surveys, annual report of the group...) delineating the enterprise(s) within the group;"
- profilers of the GDC country delineate the "global enterprise(s) within the group. IFRS segments published in the annual report are used as a first source, but they are only a starting point. The GDC country delineates the enterprise(s) and updates their legal units' composition. This team also identifies the countries where the enterprise(s) operate(s) and their activities. It test the ability of collecting two Structural business statistics (SBS) variables, both at global and at national level: employment and turnover.
- the European countries where the group has affiliates but not the GDC are called "partnering countries". The profiling team of a partnering country updates the legal units for its own country. Together, with the GDC country, they validate the final group structure.
- The profiling data are exchanged through a dedicated secure and collaborative platform developed by Eurostat, IPT (see part 2).

3.4 Lessons learned and benefits from European profiling

By providing a consistent view on large multinational groups, ESBRS and European profiling strongly improve the monitoring of globalisation impacts and have already increased the quality of the data about multinational groups.

These improvements arise from the study of annual reports and discussions with group's representatives. They also arise from the exchanges between the profiling teams of different countries. Besides, within each NSI, profiling paves the way to discussions and reflections between the profiling team and their colleagues or users: business registers, FATS, SBS, national accountants.

The main results in terms of quality improvements are the following:

- consistency between the countries on the attributes of multinational groups across national borders: scope in legal units, distinction between owned and controlled legal units, agreement about the GDC (which determine the nationality of the group) and about the global group head (GGH);
- avoiding missing links of control across countries;
- dealing with special purpose entities (SPE);
- European profiling could reduce statistical burden both for groups and for NSIs, by working in synergy with the groups. The dialogue between statisticians and group's representatives may provide win-win solutions allowing the two parts to explain together their needs and their

constraints. This notably allows making the best use of the accounting system of the group to produce the required statistical data.

ESBRs and European profiling could propose a better insight on some industries that can be useful for users dealing with sectoral analyses, globalisation and global value chains issues, for instance:

- In several industries, European profiling revealed that the same organizational models are shared by all the groups in the industry and are justified by managerial, economic or productive reasons. As an example, in the scope of the tests profilers in NSIs found that phone groups consist of one enterprise, because nowadays they are managed by a very centralized board and because they sell packages including mobile phone, fixed line and Internet access. In the same way, oil & gas groups located in Europe consist of the same combination of enterprises (or in some cases a part of them): upstream enterprise, (oil & gas exploration and production), downstream enterprise (refining, transportation), and sometimes enterprises in chemicals, or performing sales to customers;
- In other industries profiling can shed light on the important distinction between affiliates and franchises¹¹, an issue raised by National Accounts. In the case of a US controlled group operating in the food sector with both affiliates and franchisees, European profiling with the support of the GDC country having the headquarter in Europe was instrumental in providing a far better coverage of legal units and a clear distinction between affiliates and franchises in all the participating countries;
- Finally, in the airline industry European profiling has provided a better quality of the attributes of a relevant profiled group, including the correct share of employment and turnover by countries, which is not obvious to be collected in a correct way for such industries. These results have been established through intensive dialogue with the national accountants and with the group's representatives.

European profiling has been operating for several years with some key benefits. Nevertheless, it is still a work in progress and ongoing debate is taking place about the way to better connect it with national profiling. A key issue is that GDC of the multinational groups are concentrated in a few countries and this concentration could carry to their profiling teams an excessive burden. This is why the current reflections aim to increase the role of the partnering countries and to better meet their own needs. A task force is established with mandate to address these areas.

¹¹ Eurostat C1/NAWG/934 "Globalisation – conceptual issues": paper for discussion to the Meeting of the National Accounts Working Group, May 2017.

4. Other related developments

4.1 The Large Case Units (LCUs)

Another way for the NSIs to monitor the largest and complex groups was the implementation of "Large cases units" (LCUs). A large case unit is a dedicated team tasked with ensuring that data collected across different statistical domains from the largest and most complex MNEs is consistent. This is done through direct dialogue between the NSIs LCUs staff and the MNEs representatives. In recent meetings organized at Eurostat (11-12 September 2017) and at UNECE (UNECE, 31 May-2 June 2017) several national experiences of LCUs have been presented. The objectives of Profiling and LCUs converge. Both methods aim at a better monitoring of large and complex groups through direct dialogue between NSI's teams with groups' representatives.

4.2 The Early-warning System (EWS)

Recent economic decisions of MNEs regarding their place of incorporation, ownership of their assets and economic control resulted in sizeable revisions of European business statistics and National Accounts/Balance of Payment statistics. Recording such globalisation events in a timely and consistent way across all concerned Member States and consequently in European statistics is a severe challenge. A better coordination between the Member States affected by such globalisation events and Eurostat is therefore needed. A mechanism, Early Warning System (EWS), based on a network of national correspondents to address this challenge is currently being implemented. The EWS should allow NSIs to inform Eurostat as soon as possible when information about events that have a significant impact become available and the countries concerned and Eurostat discuss and evaluate the events based on public available information and consider the best way to reflect it in the statistics consistently across countries and domains. A repository of recommendations for a typology of events should be created and made available for the network of EWS correspondents.

All these examples show that dialogue between statisticians and groups' representatives, through profiling or LCUs, as well as cooperation across NSIs and statistical domains are the best way to monitor large MNEs and to understand their impact on our economies.

References (all available on Internet):

Council Regulation (EEC) No 177/2008 of 20 February 2008 establishing a common framework for business registers for statistical purposes and repealing Council Regulation (EEC) No 2186/93

Council Regulation (EEC) No 696/93 of 15 March 1993 on the statistical units for the observation and analysis of the production system in the Community

Eurostat: Business Registers Recommendations Manual: (2010 edition)

Eurostat C1/NAWG/934 "Globalisation – conceptual issues": paper for discussion to the Meeting of the National Accounts Working Group, May 2017

Eurostat, Enterprise Architecture Reference Framework

Eurostat: EuroGroups register, statistics explained

Eurostat, ESBRs, CROS, ESSnet deliverables (ESBRs business architecture; Profiling Methodology and Guidelines, finished projects)

Eurostat, Foreign affiliates statistics (FATS)

Eurostat, Structural business statistics (SBS)

Eurostat, European Business Statistics Manual (2017) – Profiling

Eurostat, European Business Statistics Manual (2017) – Statistical Units

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UNECE, Meeting of groups of Experts on National Accounts: Measuring Global Production, 31 May-2 June 2017