

**Economic and Social Council**Distr.: General
21 March 2019

Original: English

Economic Commission for Europe

Conference of European Statisticians

Group of Experts on National Accounts

Eighteenth session

Geneva, 10-12 April 2019

Item 5 of the provisional agenda

Data sharing to better measure multinational enterprise groups' activities**How European profiling could support the exchange and sharing of economic data in the future****Prepared by Eurostat¹***Summary*

EU profiling experience has developed the necessary strategy and skills to contacting and establishing relations with the MNEs Headquarters: how to approach them, what expertise is needed, what kind of language has to be used to discuss statistical needs and collect data. The existing network of European profilers and their capacity to work collaboratively across countries is an important asset that can be re-used in other domains that need to approach MNEs and will face the same challenges. The Interactive Profiling Tool, the secure platform of the Commission to share MNEs data shows that working collaboratively, according to structured governance, with assigned roles and responsibilities is feasible and produces benefits. The portrait of MNEs delineated with European profiling provides the best qualitative statistical basis on which other statistical production processes can be based. In the future three activities will further extend the capacity of European profiling to serve them: a European profiling programme, integration of the European profiling results into EuroGroups Registers, and linking functions of the European profiled MNEs with other administrative and statistical sources to derive wider sets of business and economic statistics related to them.

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I. Business Architecture approach

1. This paper follows the logic of a business architecture document: it describes how European profiling functions today, what the new needs are, and how European profiling could contribute to serve them in the future.
2. The Business Architecture approach supports organisations to design changes. It describes what the current situation is, what the drivers for change are, the new business needs and where the organizations want to be in the future. It analyses and describes the business capabilities that are needed in terms of legal frameworks, knowledge, IT systems, and resources in general to realise the change. Business Architecture is a useful method to communicate and agree on process changes when different domains or organisations are involved, as it can help assessing whether ideas and designs are in line with one and other and correct stovepipe models. It can trigger improving standardisation of processes and tools. It can identify flexible solutions also by re-using existing capabilities across domains, and in this way reducing costs and speeding-up innovations and improvements.

II. European profiling today

3. Profiling is a method to analyse the legal, economic and operational structure of an enterprise group in order to delineate the statistical unit 'enterprise'² in the best possible way and produce the most relevant statistics.
4. Profiling can be done at national level only or at European level. National profiling focuses on the analysis of the statistical units 'enterprise' in one country and their impact on the different national statistics. National profiling is sometimes run by or in combination with Large Case Units (LCUs) to ensure data consistency across domains. If a multinational group is analysed, national profiling deals only with the resident units in the profiling country.
5. Economic globalisation and the way the multinational groups organise their production chains across national borders poses the same challenges to statisticians in different countries because they cannot see the complete structure and activities of the multinational groups. At European level, profiling is a cooperative process among European NSIs that responds to the need to share data on multinational groups in order to get their complete structure. In European profiling one NSI collects top down information on the multinational group and its subsidiaries (often in cooperation with the group) and shares it with the other concerned NSIs. Only a limited set of core economic variables are collected, but they are treated according to an agreed methodology, and the result offers NSIs an overall view on the activities, size and geographical location of the multinational groups. Such global, high level view is not available in any other national statistical or administrative data source. European profiling is a process run according to a clear division of roles and responsibilities among NSIs and implemented using a shared secure application, accessible on-line by all NSIs. This paper will focus on European profiling only.

Legal framework

6. The current legal framework for European profiling are the Parliament and Council Regulation No 177/2008 and EP and Council Regulation No 223/2009. Council Regulation

² The enterprise definition is provided in Regulation 696/1993 and its implementation is proposed in the Operational Rules adopted by the Business Statistics Directors' Group and the Directors of Macroeconomic Statistics in June 2015.

177/2008 establishing a common framework for business registers for statistical purposes regulates the data exchanges on multinational enterprise groups. Article 10 of Regulation 177/2008 *allows* the exchange of confidential data between the appropriate National Authorities of different Member States (*"it may take place"*) to ensure the quality of the multinational enterprise group information in the European Union, exclusively for statistical purposes and in accordance with national legislations. All parties in the data exchanges receiving confidential data pursuant to Articles 10 shall treat information confidentially in accordance with Regulation (EC) No 223/2009.

7. The Framework Regulation Integrating Business Statistics (FRIBS) will contain similar provisions for the data exchange for statistical purposes (and will repeal Regulation 177/2008). In recent discussions many NSIs have expressed the need for a stronger legal framework enabling direct contact with multinational groups and collecting statistical data from them. In fact there are two methods for European profiling. The first one is called intensive profiling and it is based on direct visit or contact with the multinational group's representatives (often the head of accounting) to collect data. This is the best method for large and complex multinational groups, but it is possible only when the group voluntarily cooperates. The second one is called light profiling and it is based on desk research using the publicly available annual financial reports of the groups. It is normally sufficient for small to medium-size groups without complex activities. The Framework Regulation Integrating Business Statistics (FRIBS) is addressing this plea for stronger legal framework to a certain extent.

GDC and partnering countries

8. The European profiling process is initiated by the EU country where the Global Decision Centre (GDC) of a multinational group is located. The work of profilers in the GDC country can be summarised as follows:

1. checking the correctness of the country of residence of the group
2. collecting the perimeter of the group in terms of legal units
3. collecting and analysing the available consolidated information on the group
4. deciding on a preliminary structure of the global enterprises and of the national enterprises
5. organising the group interview to confirm, among others, the correct global enterprises, legal unit perimeter, group financial data
6. updating the group's global enterprises if needed, after analysing information obtained from the group interview
7. discussing with the national statistical users to confirm, among others, the correct national enterprises, consolidated data, etc.
8. proposing the delineation of the complex enterprises for non-resident legal units and the enterprises for resident legal units
9. passing the profiling results on to the participating partnering countries

9. The EU countries where affiliates of the groups are located participate in the process as partnering countries, however not all the groups profiled by the GDC countries are completely profiled also by the partnering countries as the activity is voluntary. The partnering countries delineate the national 'enterprise' and collect the respective variables,

including the consolidated turnover. The result of European profiling is the agreed GDC of the multinational group, its perimeter in terms of affiliated legal units and the set of core economic variables. Annex I lists all the variables collected and shared with European profiling. European profiling is currently done with financial support from the Commission and data can be used only for statistical purposes. Each NSI in EU and EFTA countries can view only data of multinational groups having at least one legal unit resident on their national territory.

The process and the Interactive Profiling Tool (IPT)

10. European profiling is an annual process. It starts in April of year (T) and ends in November (T). The multinational groups are selected from the EuroGroups Register, the European Register on multinational enterprise groups. In April (T) the reference year of the data is (T-2) and European profiling updates them at (T-1) using the Annual consolidated financial reports available between March and September of the year T for the reference year (T-1). The reference year is in line with Structural Business Statistics.

11. European profiling started in 2013, and by December 2019 will cover more than 500 multinational groups profiled.

12. Since 2015 European profiling uses a collaborative tool developed by Eurostat, the Interactive Profiling Tool (IPT). It is an on-line application allowing profilers from different countries to view the complete groups' structures edit their data (see variables in Annex I) and share them. IPT operates in the Commission secure environment for confidential data. Accessibility is secured by a strict procedure. On average every year around 80 groups are profiled by about 100 profilers working cooperatively in IPT. Eurostat supports the European profiling cycle with seminars, ESTP courses and Webinars. Profilers have the opportunity to meet, discuss, exchange experiences and propose ways to improve the activity.

Lessons learned from European profiling

13. The capabilities of NSIs on European profiling have been continuously growing over the last years. At the beginning the lack of adequate skills and know-how, together with the lack of experience to contact and negotiate with the multinational groups' representatives were considered among the main challenges and obstacles for implementing profiling.

14. Today specialised profiling teams are a reality in many NSIs, they have developed the expertise, and they have proven to be able to establish useful contacts with the multinational groups, to speak the language the groups understand and to discuss the data according to the statistical needs, concepts and definitions.

15. As already mentioned, because of the complexity of multinational groups, no NSI alone can have the complete picture and control the quality of the statistical data on which they have an impact. Using collaboration and sharing statistical data across borders, European profiling has demonstrated that more consistent statistics can be produced.

III. Drivers for change

European profiling shortcomings and the need for a more holistic view

16. European profiling provides qualitative and quantitative information on multinational groups and can ultimately contribute to improve the quality of business and macroeconomic statistics. In business statistics it can support the delineation of the national statistical unit 'enterprise' and allow better measuring the structure of the national economy in terms of enterprises' size, activities and location.

17. In macroeconomic statistics European profiling could support pilot exercises (like the GNI ones) for the verification of national aggregates, or provide support to studies on data asymmetries across countries, etc.

18. At the moment the experience of European profiling has proven the strength of the cross-country cooperation aspect and its feasibility, but its output is not fully used in statistics.

19. This can be due to three main shortcomings:

1. Due to its voluntary nature, European profiling is affected by differences in terms of countries' coverage and participation in the activity. Consequently, not all the largest and complex multinational groups in the EU have been profiled yet.

2. European profiling has remained a stand-alone process and its results have not really been integrated and made available in the main statistical infrastructures, i.e. the national business registers and the EuroGroups Register.

3. European profiling results are not yet systematically re-used in other statistical domains because the application requires changes to the existing statistical processes or because data collected is not sufficient and/or targeted to serve new user needs.

20. In order to fully exploit the benefit of European profiling and get a full return from the important investment made by NSIs and Eurostat, we are addressing those shortcomings and think how in the future they could be removed.

IV. European profiling in the future

21. Many statistical processes and output are impacted by multinational groups' data and the importance of interacting with them directly to derive the best possible data related to their economic structure and behaviour is widely recognised.

22. A holistic approach on multinational groups could be beneficial for the ESS for re-using developed capabilities, avoiding duplication of work and making synergies across statistical domains.

23. European profiling could be at the centre of this approach because it can cover the largest and most important multinational groups, provide a lot of skills and expertise already developed in many NSIs and a secure tool for data sharing.

The next paragraphs describe actions that could support this change.

European profiling programme

24. During the last years NSIs participated in European profiling with financial support from the Commission. This helped creating the necessary capabilities, skills and resources to contact the groups and negotiate with them as well as to test the methodological aspects of European profiling and the functionalities of the IPT. Not all European countries have participated to these tests and many economically relevant multinational groups with the GDC located in their territories have never been treated under European profiling, even though their domestic part may have been profiled at national level. Those multinational groups have a great impact on other countries and the respective NSIs could benefit to get them profiled also at European level.

25. The project on European System of Interoperable Statistical Business Registers (ESBRs, 2013-2020) has proposed to set up a European profiling programme to regularly profile a certain number of top multinational groups operating in Europe every year. The European profiling programme will aim to systematise European profiling over time, increase the coverage of groups by country, equalise the burden across the GDC countries and the partnering countries to the extent possible. Additional user needs related to MNE data could be embraced by the programme as well.

26. The Eurostat Task Force profiling is currently discussing criteria to select the multinational groups from the EuroGroups Register, taking into account their size (number of legal units, geographical presence, employment, turnover, complexity in terms of economic activities), the users' needs and the distribution of burden across NSIs. The criteria are being tested and they will be submitted to ESS stakeholders' consultations.

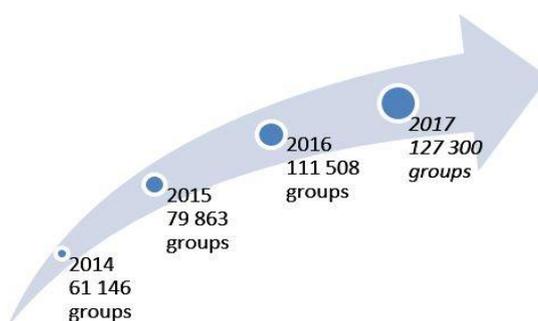
27. Indication of relevant multinational groups to be profiled from national/European statistical users could come from the GNI verification exercise that applies specific criteria based on value added, R&D and IPP assets, from the Early Warning Systems that detect restructuring of large multinational groups and from the LCUs that analyse consistency issues.

28. The European profiling programme responds to the need, expressed also by the UNECE Task Force on Data Sharing, to find *"ways to detect those MNEs and major changes in their activities that are central for the quality of official statistics"*, thus contributing to reduce or eliminate the first shortcoming in the current European profiling activity.

European profiling and EuroGroups Register integration

29. The EuroGroups Register provides the complete structure of the multinational groups in the EU, control relationships and core economic variables and together with the national statistical business registers and European profiling constitute the main reference infrastructure of multinational groups in the ESS (the ESBRs).

Picture 1
MNE groups recorded in the EGR



30. The results obtained from the European profiling activity should be systematically integrated into the EuroGroups register and then provided to the various statistical users, fulfilling in this way the so-called backbone or coordination role. At the moment there is no automatic feedback of the results of European profiling into the EuroGroups Register; some NSIs may integrate the results into the national business registers, but not systematically.

31. By 2020 the European profiling results will be integrated into the EuroGroups Register in the scope of the ESRs project. This integration will follow the basic EuroGroups Register principles (including the authentic store principle) and will not substantially change the current EGR production process. European profiling will be the data source for the EuroGroups Register with the highest priority. The Task Force profiling is discussing also about a long term integration solution (after 2020) that could envisage more significant changes in the European profiling and EuroGroups Register processes and business models.

32. The integration of the European profiling process into the EuroGroups Register will allow statistical users to retrieve the information compiled on the profiled multinational groups in the EuroGroups Register and this will contribute to improve the quality and availability of the EGR output. In this way it will remove the second shortcoming listed above and it create the conditions to remove also the third one.

Re-using European profiling results and capabilities

33. The third shortcoming of European profiling is the lack of sufficient and/or systematic re-use of European profiling results by business and macroeconomic statistics to improve the quality of their output.

34. Several examples of data exchange implemented by NSIs have demonstrated how they can help statisticians to better measure the economic structure and activity of multinational enterprise and provide more meaningful statistical data, because cooperation avoids or reduces inconsistent output. However each statistical domain has its own methods and goals and it is not possible with one tool to serve them all. The EuroGroups Register provides global statistical frames on the structure of multinational groups and delivers some important core economic variables (such as employment, NACE and turnover). European profiling focuses on the most complex ones to achieve the highest possible quality information on global group, global enterprise and national enterprise levels. This high quality set of core economic data can support and become the starting point for other statistical production processes at micro or macro level.

35. In business statistics the results of European profiling can be used for a holistic approach that starting from the global top down view on the global group, allows understanding the 'global activities' carried out (similar to the IFRS segments) and then narrowing down the analysis at national level helping partnering countries delineating the national enterprise that can be finally implemented in the national business registers and business statistics.

36. In macroeconomic statistics the results of European profiling can provide the basic information to further look on the impact of multinational groups on national accounts, international trade, and balance of payment statistics.

37. The experience of European profiling has shown that collecting and producing statistical information on multinational groups is a very burdensome task. The initial investment is very high and the returns from it come only after several years. In particular the human factor is crucial in profiling because specific skills, experience and know-how have to be built up. In the European profiling community, after several years of testing, there is a common knowledge among NSIs. Many of them have established trained and well equipped profiling teams that are able to professionally interact with multinational groups' representatives', use their own language and negotiate on the statistical needs in terms of concepts, definitions and statistical data. Thus, once the big investment is made, it is necessary to make synergies, re-use experiences and results, maximize the use of time and resources, especially taking into account the speed at which multinational groups act and change and the 'functional' time lag at which statistics follows and observe them. To further expand European profiling competencies, the wide experience of the LCUs on data consistency could be also added.

38. As an alternative to the official statistical infrastructures created at ESS level on multinational groups (the EuroGroups Register and European profiling) there are commercial databases offering wide sets of data collected from public administrative sources. Although they constitute a rich and useful source, even though the quality remains sometimes doubtful and in any case requires preliminary data analysis that each NSI or user has to perform individually, bearing costs alone and taking up resources. European Profiling allows for the EU countries the reaping of benefits from the activities carried out by partnering countries and in the end provides the best 'real' portrayal of the multinational group.

Data integration or data linking

39. To have more data available to analyse multinational groups from different perspectives and for different statistical purposes, the current situation consisting of statistical domains separated by barriers to data sharing should move toward an interoperable system exchanging consistent information. The EuroGroups Register and European profiling can be seen at the core of such system.

40. The Sturgeon Report on "Global Value Chains and Economic Globalisation" in 2013 considered data sharing and data linking *"the best possible solution"* for the future, *"making possible to create multidimensional cubes enriching data at macro and micro levels from which registers-based statistics on globalisation could be produced"*. Sturgeon called this solution an *International Integrated Data Platform "to link existing and new data in an easy-to-use statistical product that can rapidly deliver useful analysis in ways that protect confidentiality"*.

41. In the changing era of big data, run-time issues and data security integrating physical data into one Integrated Data Platform is not the only solution. "Data virtualisation" seems a promising research area for the future. It is based on the idea that technology allows new

opportunities for linking multiple sources of data (warehouses, data marts, and data lakes) without the need to physically integrate them. Linking data using the principles of authentic source allows also protecting data confidentiality.

42. In business statistics, using the EuroGroups Register and European profiling in their function as linking tools, it could be possible for instance to link micro available at national level data from other statistical domains such as trade, FATS, FDI, Prodcop, structural business statistics, Short term statistics to derive new information like in the following examples:

- measure the share of enterprises resident in one country belonging to multinational groups on the total population and classify them by NACE, size class, etc. to derive structural analyses on the of the economy.
- on the other hand, identify real independent SMEs that do not belong to any multinational group, etc.
- identify the enterprises resident in one country belonging to multinational groups that trade in goods or services, perform foreign direct investments and have affiliates abroad to derive analyses on their internationalisation, market shares, etc.
- identify the enterprises resident in one country belonging to multinational groups that trade within the same multinational group (as a basis to intra group trade) and for which share of their total turnover.

43. This approach is also very useful because it helps identifying data gaps, like for instance the lack of information on intra-group flows (compared to flows with units outside the group), transfer pricing or economic ownership in business statistics, and thus support additional data requirements.

In macroeconomic statistics new administrative data could be become available following the BEPS Directive³. Fiscal data on multinational groups, rich of detailed economic information could be available at national level and then linked to the complete profiled structure of multinational groups to derive a wide range of useful detailed statistical information.

44. To increase data linking, legal, organisational, and semantical and systems' interoperability is required. The quality of the output of linking can be improved when input is better standardised (semantic), processes are aligned (organisation) and manual interventions to data are reduced to minimum (automation). According to the European Interoperability Framework, cooperation among different organisation on an agreed common and beneficial goal and the use of unique identifier, are the most necessary factors. Those factors are implemented in the ESBRS.

45. Interoperable systems, able to link data according to standards and secure channels, avoid proliferation of data integration initiatives. They are all destined facing similar problems and creating uncertainty in terms of quality of what the real pictures of the multinational groups are. European profiling overcomes this quality "ambiguity" because it asks and collects information directly from the multinational groups and can create the best truthful picture of them.

³ COUNCIL DIRECTIVE (EU) 2016/1164 of 12 July 2016 laying down rules against tax avoidance practices that directly affect the functioning of the internal market, linked to the OECD/G20 BEPS (base erosion and profit shifting) action plan.

46. European profiling approach, is also an excellent example of interoperability: it is based on a common enabling (not mandatory) legal framework, an agreement of different NSIs on a common beneficial goal, respect data standardisation, use unique identifiers, follow agreed methodology and organisational with clear roles and responsibilities and use a secure IT tool to share data.

47. European profiling integrated into the EGR production process could be in the future regarded as a reference around which extended projects could be built up.

48. The set of core variables compiled during the European profiling and the EGR are not sufficient to directly provide all globalisation measurements, but linking additional variables such as balance sheet totals, financial statements data, annual investments, reinvested earnings, dividends, stocks, imports, exports, purchases of goods and services, tangible and intangible assets, as needed by macroeconomic statistics could offer infinite possibilities of enriched analyses.

49. In a holistic approach, different statistical domains should access the same view on the multinational groups, share data that have been already collected and validated, re-use findings from other experts and built up on them, cumulate quality improvements by adding different pieces to the initial puzzle and contribute in this way to improve the picture over time.

European profiling seems to responds to many data sharing requirements

50. Looking at the **requirements** identified by the Task Force on Data Sharing, European profiling seems to respond many of them, because it:

- *"provides a concrete example and sharing of experience, develop guidance, tools and principles for the exchange of data that would enable the NSOs to maintain the quality of national accounts, balance of payments and related economic statistics".*
- *"takes into account confidentiality, respondents' trust and legal constraints".*
- *is based on "data exchange on MNEs among producers of official statistics, access to the necessary external data sources, including administrative and private data sources, technical, methodological and communicational aspects of MNE data exchange, good practices in analysing MNEs' activities in official statistics".*

51. European profiling's main findings, align very well with the conclusions of the Task Force Data Sharing and possibly already answer to some of the challenges reported there.

52. It would be interesting to further discuss and analyse how European profiling can serve in areas where progress is achievable, such as: coordination mechanisms, exchange of information and experience, developing of guidelines or technological tools.

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Annex I

Core variables collected with European profiling

Currently the following data is collected and shared within the process of European profiling:

Global enterprise group	GDC country	Legal units	Partnering countries
Name		Name	
ID		LEID ID	
Global enterprise	GDC country	National ID	
Name		Country	
ID		NSA ID	
NACE	year	Status	year
	source		source
Employment	type	NACE	year
	year		source
Turnover	source	Employment	type
	consolidated		year
	currency		source
	year	Turnover	currency
	source		year
Proposed Temporary enterprise	GDC country		
Name		Consolidation percentage	
ID		Enterprise percentage	
NACE	year	Validated enterprise	Partnering countries
	source	Name	
Employment	type	EGR ID	
	year	Status	
	source	NACE	year
Turnover	consolidated		source
	currency	Employment	type
	year		year
	source		source
		Turnover	consolidated
			currency
			year
			source