**9th Meeting of the Advisory Expert Group on National Accounts,
8-10 September 2014, Washington DC**

Agenda item: 9.2

Statistical units in Supply and Use Tables and Institutional Sector Accounts

Introduction:
The rapidly changing nature of production and in particular the ways in which producers produce goods and services has cast a spotlight on the SNA's preference for the use of the establishment as the preferred unit to compile industrial statistics, and in particular, supply and use tables. One of the primary motivations for this preference reflected the view that establishments classified to the same industrial classification grouping shared similar characteristics in their production functions, and, so, were considered broadly 'homogeneous'. However the increasing international fragmentation of production, coupled with the growing emergence of new types of producers has weakened underlying assumptions of homogeneity. In addition to practical problems in implementing the concept of the establishment, this calls for a reconsideration of the statistical unit used in the supply and use framework.

Another discussion regarding statistical units relates to the interpretation of the SNA-definition of an "institutional unit" for the compilation of institutional sector accounts. Criteria such as autonomy of decision making or the ability to take economic decisions, and even the availability of a complete set of accounts, are interpreted in quite different ways, leading to a lack of an international comparable implementation. Sometimes, this may be caused by the availability of source data, in other cases it is a matter of interpreting the SNA differently. In practice, one can notice, for example, differences in the delineation of institutional sectors when it comes to the recognition of quasi-corporations. In other cases, one can observe the use of legal units, enterprises or even enterprise groups as being equivalent to institutional units, as a consequence of which for example unconsolidated data on debt differ substantially across countries. Another issue relates to the recognition of captive units as institutional units or not.

To address these and related issues, it is proposed to set up an International Task Force on Statistical Units.

Guidance on documentation provided
Not relevant.

Main issues to be discussed
The AEG is invited to discuss the following topics:
Does the AEG agree that, in view of the changing economic environment, the differences in interpretation of the 2008 SNA, and the increasing pressure to reduce the respondent burden, an International Task Force on Statistical Units should be set up, which would look into possible amendments and/or further clarifications of the SNA.

Statistical units in Supply and Use Tables and Institutional Sector Accounts

Introduction

1. In this note, some of the most prominently emerging issues in relation to the statistical units, as recommended in the 2008 SNA, are being discussed. These relate to a possible reassessment of the role of the statistical unit in the System of National Accounts, due to substantial changes in the economic environment in the last decades and the related difficulties of appropriately describing all relevant new phenomena in the accounts. They also concern a potential further streamlining of the current definitions of statistical units presently leaving quite some room for divergent interpretations. In the end, it is proposed to set up an International Task Force on Statistical Units, to look whether a reconsideration and/or further clarification of the units, including the classifications into industries and sectors, in the current international standards is needed.

2. Right from the start, it should be emphasised that these issues go well beyond the current international standards, and should be looked upon in the context of the research agenda for the future update of the System of National Accounts. Although the 2008 SNA has quite recently been agreed upon, and its implementation is now on its way, it is considered appropriate to start thinking about the elaboration of research issues that need to be addressed and possibly included in the revised or updated international standards of let's say 2023. An update of the standards, including all discussions and deliberations, takes quite some time. The discussions on the SNA 2008, replacing the SNA 1993, for example, started 6 – 7 years in advance of its endorsement in 2009. This timing issue most certainly holds for a discussion on and a possible reconsideration of statistical units and classifications, which not only directly affects national accounts but also many underlying source statistics.

3. In this note, first attention is paid to the statistical unit in the supply and use framework, followed by some thoughts on the classifications by industry. Subsequently, issues in relation to the "institutional unit", the statistical unit for the compilation of institutional sector accounts, is dwelt upon. The note concludes with some ideas on the terms of reference for the International Task Force.

The statistical unit in the supply and use framework

4. The rapidly changing nature of production arrangements and in particular the ways in which producers produce goods and services has cast a spotlight on the SNA's preference for the use of the establishment as the preferred unit to compile national accounts statistics by industry, in the supply and use framework. One of the primary motivations for this preference reflected the view that establishments classified to the same industrial classification grouping shared similar characteristics in their production functions, and, so, were considered broadly "homogeneous". As this was predominantly the case at the time of the setup of the System of National Accounts, the economic developments over the last decades have weakened the underlying assumptions of homogeneity. Especially, increased international fragmentation of production, coupled with growing emergence of new types of producers, in particular factory-less producers, processors, and a growing

share of output generated by foreign affiliates have led to more complex and dynamic structures of production, that can no longer be regarded as homogeneous.

5. Indeed, the changes adopted in the 2008 SNA for the treatment of goods for processing have reinforced the need to consider whether establishments should remain the unit of preference in the System of National Accounts. It was at least in part as a consequence of these changes, and those pertaining to the ownership issue more generally, that led to the inclusion of the issue of establishments on the research agenda in the SNA 2008 (para. A4.21): *"At the present there are two reasons to have the concept of establishment within the SNA. The first of these is to provide a link to source information when this is collected on an establishment basis. In cases where basic information is collected on an enterprise basis, this reason disappears. The second reason is for use in input-output tables. Historically, the rationale was to have a unit that related as far as possible to only one activity in only one location so that the link to the physical processes of production was as clear as possible. With the change of emphasis from the physical view of input-output to an economic view, and from product-by-product matrices to industry-by-industry ones, it is less clear that it is essential to retain the concept of establishment in the SNA".* Although the SNA 2008 did retain the current preference for establishments, the above stresses the need for reassessing the use of these statistical units in the light of new economic phenomena.

6. In respect to the first reason mentioned above to have the establishment in the SNA, it can be noted that countries increasingly collect data in the first instance on an enterprise basis (rather than on an establishment basis). This is mainly caused by the fact that it has become increasingly difficult for enterprises to provide statistical offices with data on the basis of establishments. Whereas in the past flows could easily be ascribed to underlying establishments, the increased complexity of company structures and underlying flows hampers the possibility of recording all relevant flows on the basis of establishments. Data often require arbitrary (pro-rata) allocations of central services (and value-added and employment) provided by head offices and various ancillary services, either produced in-house or outsourced and centrally purchased. Importantly and increasingly, it also requires similar imputations for services related to intellectual property. Recording these flows between affiliated firms across international borders is challenging enough, but within borders the exercise becomes almost purely mathematical. Given the fact that knowledge based assets add to the value of any product, such allocations can significantly affect meaningful comparisons of value added to production ratios of establishments in the same industrial sector. Therefore, removing the preference for establishments and trying to better link to corporate own accounts may reduce statistical burdens for national statistical offices and also reporting burdens for respondents. This is an important consideration in view of the increasing pressure to reduce the respondent burden for enterprises. Next to that, it may improve data quality as less has to be relied upon mathematical recordings and comparability of outcomes increases.

7. Another argument why a reconsideration of the use of the establishment in the supply and use tables may be relevant is the increased importance of linking various phenomena. The financial crisis has pointed out that economic developments have become strongly intertwined and also have strong links with other social developments. From that viewpoint it has become increasingly important to describe economic developments in a broader context. A very important linkage in this respect is the link between the real economy and the financial economy. Using corresponding statistical units in the supply

and use tables and the institutional sector accounts would allow for a far better integration of the description of producing goods and services and the description of income and finance. Considering the increased role of income and finance in recent decades, in particular showing up during the economic and financial crisis, and the interaction between the "real" economy and the financial economy, such integration could significantly benefit research and policy. Also, for example, the part of domestic value added generated by foreign controlled enterprises, that in the end actually adds to the disposable income of residents could be analysed in more detail, thus adding to the analysis of, for example, Trade in Value Added.

8. Also, linkages to other domains that relate to the economy have become increasingly important, such as R&D, international trade, CO2 emissions, employment et cetera. The current use of the establishment in the supply and use tables makes it difficult to properly link the data as information on these phenomena are typically only available at the enterprise level. Therefore, the use of a statistical unit that is more in line with the units from which these types of data are being collected may help describe these developments in relation to one another. It may also provide the opportunity for creating coherent global information on and supply and use tables broken down by foreign/domestic ownership and/or broken down by units either or not belonging to a multinational, which is essential to be able to fully understand how production, investment and trade are linked. This would, for example, call for the enterprise as the statistical unit, as Foreign Affiliate Trade Statistics (FATS) and statistics on Activities of Multinational Enterprises (AMNE) are typically based on the enterprise unit. In this respect, it can be noted that the enterprise is also the preferable unit for linking trade and business registers.

9. In the above several reasons have been presented for reconsidering the use of the establishment as the primary statistical unit for the description of the production process. However, one must bear in mind that this may also have significant consequences for the compilation of regional accounts. Using, for example, enterprises as the statistical unit, one would need to consider methodologies for allocating output and value added of multiregional enterprises to regions. On the other hand however, several countries already have to deal with this kind of problems, given that they only have data available at enterprise level. Furthermore, also in the case of establishments, one may have to apply rather strong assumptions to allocate intra-enterprise services and company profits.

Classifications by industry

10. Due to the arguments that were raised in the previous section, one could also argue whether the current classification in the supply and use tables is still the best way for providing insight in the economy. The current classification into industries is presently entirely based on the kind of products that are being produced. However, for various types of analysis, classifications based on other characteristics may have gained importance. More generally, the input structures of enterprises producing similar types of products may be quite different across various types of enterprises, as a consequence of which it may indeed become more relevant to distinguish between these types of enterprises than having very granular breakdowns solely based on the type of goods and services produced.

11. In respect of the above, an obvious and rather general example relates to separately distinguishing foreign controlled enterprises, or more generally internationally operating

enterprises, from other enterprises in the description of the national economy. This is not only true for the detailed analysis of the production process in supply and use tables, but also for the analysis of income and finance as described in the institutional sector accounts. By separately distinguishing these corporations, one could analyse the behaviour of internationally operating enterprises, which in a national setting by definition only describe parts of (substantially) larger entities. Doing so, one would also arrive at an improved description of mainly domestically operating enterprises. A specific example, very much related to the above, is the recent discussion on the classification of factory-less producers.

12. In its classification of institutional sectors, the 2008 SNA already includes a breakdown of the corporate sectors into: (i) public corporations, i.e. controlled by government; (ii) national private corporations; and (iii) foreign controlled corporations; see SNA 2008, Annex 1, section B. However, one could go further. First of all, by considering the separate distinction of units belonging to multinational enterprises, either domestically controlled or foreign controlled. Secondly, by having a similar breakdown in the classifications by industry, if needed at the detriment of the granularity of the classification by activity.

13. Having data on units belonging to multinational enterprises at the national level would potentially also allow for the compilation at an aggregate level of worldwide consolidated data on multinational enterprises, consistent with the description of the national economies, and enabling a much more detailed analysis of multinationals. It may also improve the consistent recording of (international) transactions of multinationals, which countries currently predominantly survey and record at the national level, without an international exchange of data, for reasons of confidentiality, at the individual enterprise level.

The statistical unit in the institutional sector accounts

14. Another, in some respects related, discussion regarding statistical units concerns the interpretation of the SNA-definition of an "institutional unit" for the compilation of institutional sector accounts. Criteria such as autonomy of decision or the ability to take economic decisions, and even the availability of a complete set of accounts, are interpreted in quite different ways, leading to significant international comparability issues. In some cases, this may be caused by the availability of source data, in other cases however it is clearly a matter of differences in the interpretation of the 2008 SNA.

15. A recent example relates to the discussion, in the ECB/Eurostat/OECD Task Force on Head Offices, Holding Companies and SPEs, on the recognition of captive units as institutional units or not. Some participants had a preference for looking at the defining characteristics of an institutional unit from a purely economic substance point of view, giving far less consideration to, often rather quickly changing, legal and organisational arrangements. However, this idea of "economic substance" in relation to "autonomy of decision" may require a substantial discussion on the truly defining characteristics of an institutional unit. Present criteria, included in the 2008 SNA, such as "entitled to own goods or assets in its own right", "able to incur liabilities", "a complete set of accounts"[1],

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[1] SNA 2008, para. 4.2: An institutional unit is an economic entity that is capable, in its own right, of owning assets, incurring liabilities and engaging in economic activities and in transactions with other entities. The main attributes of institutional units may be described as follows:

may give much more room to "legalistic" interpretations than what one would typically consider as being "able to take economic decisions and engage in economic activities for which it is itself held to be directly responsible and accountable at law", and referring to units actually running the risks and receiving the rewards for performing a certain economic activity.

16. Whatever the case, in practice, one can observe quite different practices across countries. One example concerns differences in the delineation of institutional sectors when it comes to the recognition of quasi-corporations. Graph 1 shows some remarkable differences in the level of operating surplus as a percentage of value added. Further research showed that the delineation of household owned quasi-corporations is an important factor explaining, for example, the high level of the share of operating surplus in Italy. In this respect, Eurostat conducted a very useful survey among 21 countries, of which 18 responded, on the actual treatment of quasi-corporations, unincorporated businesses and sole proprietorships. In the note, differences in practice are shown, and possible more detailed decision trees for delineating quasi-corporations, based on the 2008 SNA and ESA 2010, are being discussed.

Graph 1. Operating surplus as % of value added at factor costs, non-financial corporations
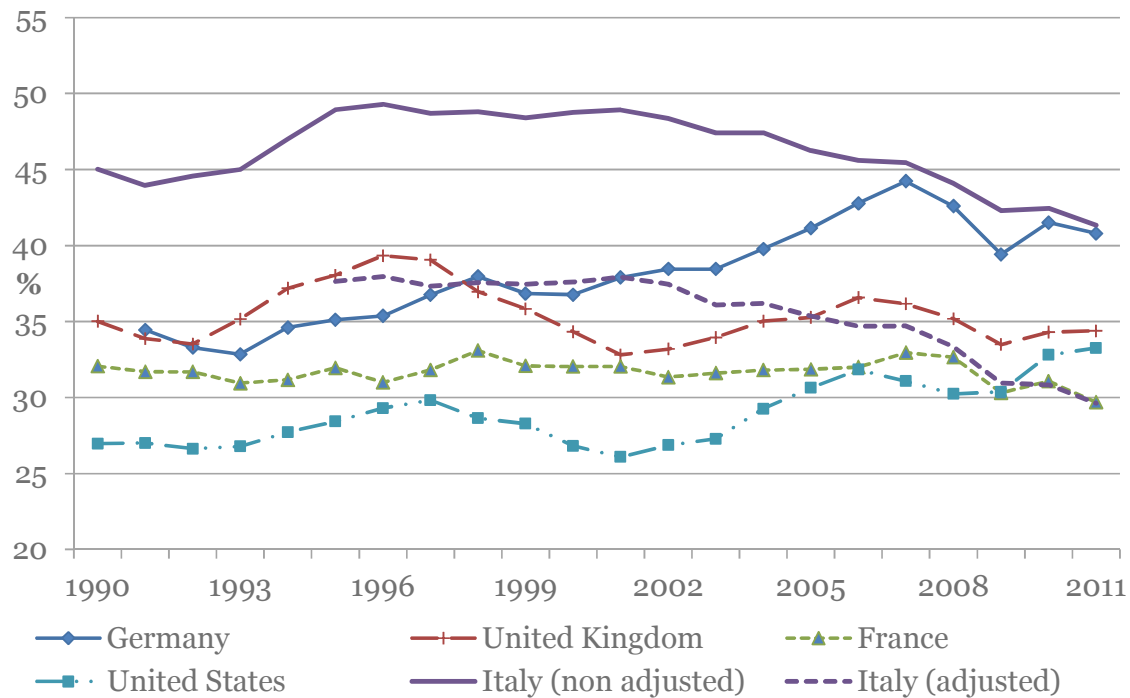
a. An institutional unit is entitled to own goods or assets in its own right; it is therefore able to exchange the ownership of goods or assets in transactions with other institutional units;
b. It is able to take economic decisions and engage in economic activities for which it is itself held to be directly responsible and accountable at law;
c. It is able to incur liabilities on its own behalf, to take on other obligations or future commitments and to enter into contracts;
d. Either a complete set of accounts, including a balance sheet of assets and liabilities, exists for the unit, or it would be possible and meaningful, from an economic viewpoint, to compile a complete set of accounts if they were to be required.

17. Another example is presented in graph 2, which is also derived from a Eurostat-study, showing the consolidation effect for liabilities in loans of non-financial corporations, in percentages of GDP. In some countries, this effect is very substantial, up to 90-100 % of GDP in Belgium, whereas in several other countries the consolidation effect is almost zero. This suggest that some countries use the legal unit, or at least substantially smaller units, as being equivalent to an institutional unit, whereas other countries use enterprises or even enterprise groups. It is not clear whether this is related to the kind of source statistics available, or whether this is (also) due to conceptual differences in the interpretation of what constitutes an institutional unit.

Graph 2. Consolidation effect for liabilities in loans of non-financial corporations, in % of GDP
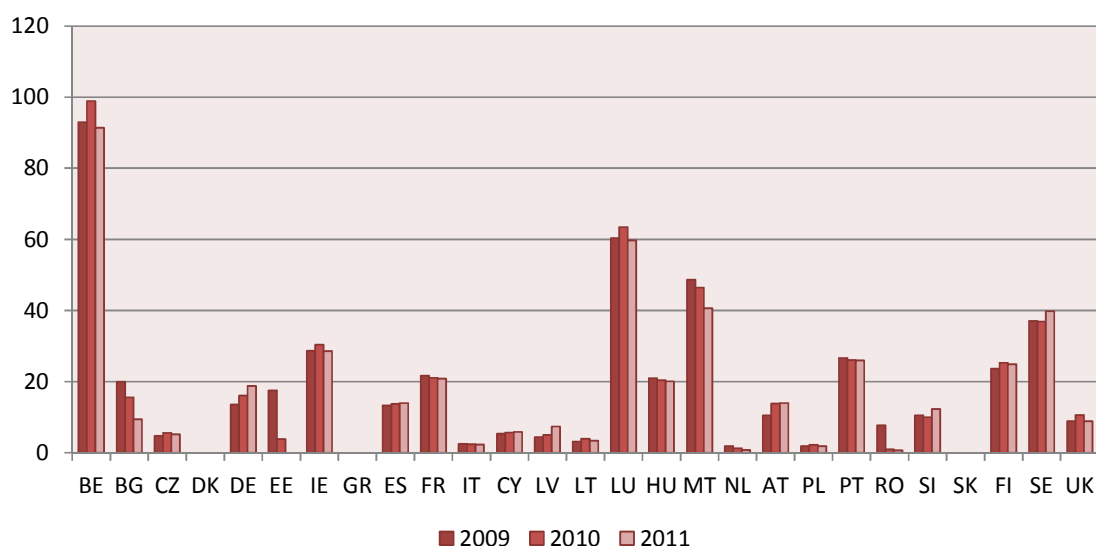
Proposal for establishing an International Task Force on Statistical Units

18. In view of the above, it is proposed to establish an International Task Force under the umbrella of the Inter Secretariat Working Group on National Accounts (ISWGNA). This Task Force is requested to come up with proposals on the following topics:
    - To (re)consider the statistical units that are presently recommended in the 2008 SNA, and – if the Task Force has the opinion that the SNA-recommendations should be changed in this respect – to come up with concrete and implementable proposals for changing the current recommendations.
    - To come up with concrete suggestions, e.g. regarding the criteria for the recognition of separate units, which would be instrumental to an (enhanced) internationally comparable implementation.
    - To come up with concrete proposals, if needed, for classification by industry and possibly by institutional sector.

19. The Task Force will report to the ISWGNA. The reports will be put forward to the Advisory Expert Group (AEG) on National Accounts, for discussion. In this respect, it is proposed to conduct the research in an iterative approach, first having a report with some

initial thoughts and proposals on the above-mentioned topics, and later having more elaborate proposals, thus not waiting with engaging the AEG and other fora until the final conclusions have been settled within the Task Force. The timeline is relatively flexible at this stage, with a first report on the progress in two years time (end 2016).

20. Regarding the participation in the Task Force, it is recommended to engage a broad group of countries, and also to involve, either directly or indirectly, specialists from outside the area of national accounts, e.g. business registers, enterprise statistics, and classification specialists.

21. *The AEG is invited to discuss the following topics:*
    - *Does the AEG agree that, in view of the changing economic environment, the differences in interpretation of the 2008 SNA, and the increasing pressure to reduce the respondent burden, an International Task Force on Statistical Units should be set up, which would look into possible amendments and/or further clarifications of the SNA.*