United Nations

Economic and Social Council

Economic Commission for Europe

Conference of European Statisticians

Group of Experts on Business Registers
Twelfth session
Paris, 14-15 September 2011
Item 6 of the provisional agenda
The role of business registers in industrializing the production of statistics

Statistical Business Registers as a backbone for business statistics

Note by Eurostat

Summary

The coherence of statistics is enhanced by using a common business register, standard population definitions, classifications, questionnaires, editing, -imputation and estimation methods. The most effective means of ensuring integration and consistency is through a holistic redesign of data collections (surveys and administrative data) that would minimize inconsistencies through the use of common concepts, integrated surveys and one central business register. Eurostat would like to streamline and improve the efficiency of European statistics and modernize it in such a way.

This paper outlines some ideas on how statistical business registers could be used more consistently in EU Member States:

- as the guardian of statistical units,

- as a vehicle to support the statistical production process,

- in providing targeted services to the statistical compilers,

- through access to their data for users outside their national statistical institute (NSI).

The views expressed in this document are fully consistent with the vision of the High-Level Group for Strategic Directions in Business Architecture in Statistics, endorsed by the Conference of European Statisticians at its 59th Plenary Session in June 2011 (ECE/CES/2011/1 and ECE/CES/2011/CRP.1).

Please recycle

I. Consistent and coordinated application of statistical units

- Statistical business registers shall become the place in the NSI where the statistical units are maintained and produced for all business related statistics.

- Statistical compilers shall only refer to those units which are maintained in the statistical business registers.

- Statistical compilers shall apply the units in the register without any further modifications.

1.   The statistical units on businesses in economic statistics are:

(a)   The enterprise unit for analyzing the performance and interactions of autonomous entities engaged in economic activities contributing to the GDP;

(b)   The local kind of activity unit (establishment unit) for analyzing the production for national and regional accounts.

A. The enterprise unit and the business register

1. The enterprise unit is the core statistical unit in the business register.

2.   At present there is an absence of guidelines in EU legislation on how to derive enterprise units from the observable legal units. This leads to different practices in NSI and has impact on the consistency of business statistics (consistency between countries and between statistical areas). In particular different approaches exist on the criteria to identify an enterprise as an autonomous actor in the economic world.

3.   The one–to-one relationship between a legal unit and an "autonomous" enterprise unit is not valid for an increasing part of the economy. The economic world changed and some crucial points are not any more sustainable now. Moreover, the connection between the global worldwide structure of the enterprise group and the national statistical units is crucial now and had no sense 20 years ago.

4.   Therefore a top-down approach should be applied starting with analysing the enterprise group structure for deriving meaningful enterprise units:

(a)   Enterprises should be first created at the global level of the group and, if the group is multinational, the truncated national enterprises are derived from the global enterprises for statistical purposes.

(b)   If a multinational or national enterprise group organise their activities in different "operating segments" or "business lines" that are observable (their existence are proved in the reporting system of the group), they are the starting point to identify and delineate the "autonomous" enterprises.

Steps to be followed for deriving the enterprise units:

Is the legal unit bound together with another one through control?					
No		Yes			
Is the legal unit engaged in economic activities contributing to the GDP?		Create enterprise group			
		Is it a multinational enterprise group?			
No	Yes	No		Yes	
		National profiling		International profiling (needs coordination with profilers in those countries where the group is active)	
		Can the group be divided into several units which are autonomous in respect of financial and investment decision-making, as well as authority and responsibility for allocating resources for the production of goods and services?		Can the group be divided into several units which are autonomous in respect of financial and investment decision-making, as well as authority and responsibility for allocating resources for the production of goods and services?	
		No	Yes	No	Yes
Not relevant for business statistics	Legal unit = enterprise	The group = enterprise	Group comprises more than one enterprise	One global enterprise and its corresponding national enterprises	Several global enterprises and their corresponding national enterprises

5.   The preconditions for deriving meaningful enterprise units are:

- Cover in the statistical business register high quality data on "enterprise group units". Enterprise groups are the essential starting point for deriving consistent enterprise units.

- Apply "profiling" in order to establish enterprise units within enterprise groups (manual procedure for complex groups, light profiling, automated procedures) and cooperate with other countries in international profiling in order to derive the enterprise units taking into account the global structure of the group.

- Cooperate with other countries on the exchange of micro-data referring to the foreign part of enterprise groups (e.g. in the EGR network).

- Cooperate with statistical compilers that the enterprise units are accepted and the collection of statistical data is ensured accordingly.

- Liaise with national accounts in order to keep the "enterprise unit" and the "institutional unit" for the corporate sector identical.

2.   The local kind of activity (establishment) unit and the business register

6.   Partitioning enterprise units into more homogenous units as regards their activity and their geographic location is requested by the System of National Accounts (SNA2008).

The European System of Accounts (ESA 95) defines for that purposes the local kind of activity units[1] (e.g. for supply and use tables).

7. Several questions arise about the necessity to maintain this unit in the statistical business register:

- Is it an observable – identifiable and/or reporting unit?

- Is it a meaningful unit as it is difficult to follow the definition regarding the value added, because a local unit is a centre of cost, not a centre of profit, so Value Added cannot be computed?

- Is it sufficient to keep the local unit in the register?

8. EU Member States apply in general two different approaches for deriving information on local kind of activities:

- Local unit surveys: local kind of activity units are derived from particular surveys addressed to local units. The units are maintained in the statistical business register.

- Enterprise surveys: enterprises for which it is assumed that they have different activities and/or several locations more detailed activity/geographical breakdowns on their statistical results are requested. Often a size threshold is applied in order to capture the economic relevant units. The secondary activities of the enterprise are taken for defining the kind of activities. Sometimes the regional breakdown is requested on NUTS3 level and not on the local unit level.

9. In the latter case the statistical business register should maintain all the characteristics/breakdowns of the enterprise unit as regards their kind of activities and the locations (regions) where these activities are carried out. Those characteristics should be supplemented at least with employment figures. The relationship between secondary activities and kind of activity units should be made unambiguous and transparent within the NSI.

10. Recording and maintaining at least the "local kind of activity" characteristics of an enterprise in the business register would foster the role of business registers as the only gathering place for all relevant information on statistical units.

II. Accompany the statistical production process

11. Statistical business registers should be a building block in the statistical production process and play a strong coordination role:

(a) For the preparation of surveys: all business survey populations are drawn from the same register, so their population frames are complete and consistent. For sample selection, stratification, imputation and estimation the same information is used and standard methods can be applied. All sample surveys are selected from the business register and all administrative data are matched to it, so all business records take the classifications that have already been assigned to them on the register. This contributes to the coherence of economic statistics by ensuring that unit models and classifications are applied consistently to all business data that feeds into the national accounts, regardless of the source.

---

[1] ESA 95 point 1.29: A local KAU groups all the parts of an institutional unit in its capacity as producer which are located in a single or closely located sites, and which contribute to the performance of an activity at the class level (4 digits) of the NACE rev. 1.

(b)   For the coordination of surveys: survey coordination should be strengthened in NSIs and the reference database should be the business register. The register shall contain information on units participating in other surveys or in historical surveys; business registers shall determine how different sources (e.g. administrative, commercial, survey, accounting) are converted to statistical units; the role of profilers as the central contact point in the NSI for the enterprise belonging to a multinational enterprise group has to be strengthened; business registers shall allow to merge different sources and to exploit them for different purposes via a unique single identifier.

(c)   For the summing-up of survey results: statistical business registers should allow to complementing/ weighting survey results in order to avoid biased results (e.g. non response). The role of the business register in ensuring consistent data deliveries from one enterprise (for different statistical domains) has to be strengthened (e.g. with the assistance of profilers or the unit responsible for the consistency of data).

12.   Statistical business registers have to provide in time the information to the statistical compilers. Often business registers release a frame when it is considered by the register staff of sufficient quality. As administrative data are sometimes only quite late after the reference period available (e.g. some tax information or balance sheet data) the population frame is released only after those data are integrated. However, such a release might be too late for the preparation of survey and the sample selection. Hence, statistical compilers prepare this important step without the assistance and coordination of the business registers and they might use the register data only at a later stage when summing up the survey results. In order to accompany and assist the entire survey process it is recommended that business register switch from a production-related approach to a client-related approach. Business registers should be the place in the statistical office where at any time the best available information on the business population frames is available. The mandatory use of the business registers in carrying out the different statistical surveys should be defined and agreed within each statistical office.

13.   It is therefore recommended that business registers provide - in accordance with the compilers - as early as possible an initial frame (in the example below this frame is provided in November of the reference year). The initial frame has over- and under-coverage issues which should be clearly described to the statistical users; however, as said before, it is the best available information in the NSI at that moment in time. The ongoing data quality management will improve the frame and some time after the reference period a final frame can be released. Such an approach would allow statistical compilers to use the business registers during the entire compilation process.
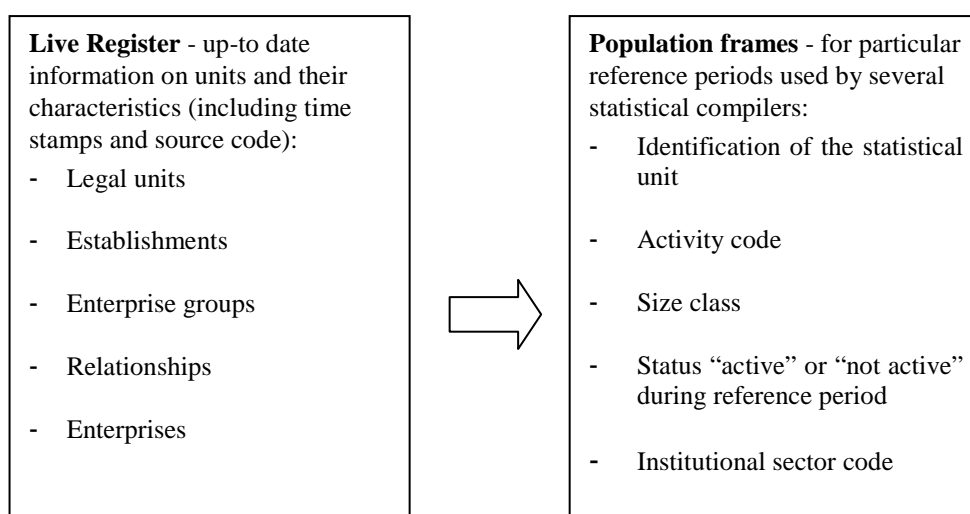
From initial to final population frame:
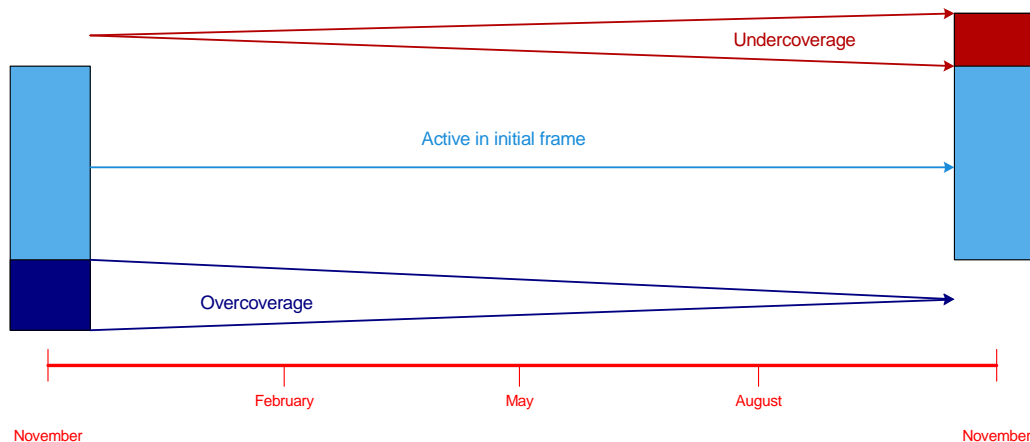
14.   In addition, through the analysis of over- and under-coverage issues some regularity might be detected. For example larger enterprise units might have a higher probability to be covered in the initial frame and in the final frame.

15.   Furthermore, statistical compilers might express their need for certain units or characteristics which they need early in the survey production process. Business register could prioritise in their data quality management (DQM) on such aspects.

16.   Beside the population frames for a particular reference period, the statistical business register should also provide access to a live register which shows the most up-to date situation at that moment in time. In particular contact and identification characteristics of legal units should be as recent as possible.

Live Register - up-to date information on units and their characteristics (including time stamps and source code):	**Population frames** - for particular reference periods used by several statistical compilers:
- Legal units	- Identification of the statistical unit
- Establishments	- Activity code
- Enterprise groups	- Size class
- Relationships	- Status "active" or "not active" during reference period
- Enterprises	- Institutional sector code

III.   Client oriented data quality management

17.   Data quality management should be based on user needs (i.e. improvements in quality is only necessary for those aspects which have priority for compiling statistics). This approach may conflict to some extent with the traditional view that the quality of a business register is determined by how closely its contents reflect reality (i.e. does it cover the whole economy). In brief, statistical business registers are not established for their own sake, but should be always seen in relation to their use in the statistical production process.

18.   There is a continuous need to review stakeholder requirements. In particular close working relations should be established with any surveys coordination department. Ideally the business register team knows quite in advance what kind of surveys will be drawn from the business register (and could also provide the platform for monitoring which units were/are surveyed and for what statistics). Register staff should provide helpdesk functions to the statistical compilers to all queries related to the target population, the population frame in the business register, and the statistical units. Business registers should also provide a setting for obtaining and discussing feedback with the stakeholders (during the survey and after the results of the survey are available). Those feedbacks should lead to the planning of the strategic DQM targets (medium – long term) and the implementation of operational DQM measures - those which should improve the data quality and/or work processes immediately.

19. A range of tools might be as well considered to strengthen the interactions with the statistical compilers:

(a) Identification service: During the statistical production process compilers may detect units which they want to have confirmed by the business register. However, they might have only partial identification characteristics for this unit. The statistical business register should provide a linking and matching tool (similar to this they may use for the integration of multiple data sources) and provide to the statistical compiler potential matching candidates together with the unique identification numbers of those units.

(b) Consult and update the business register: Statistical compilers should have a user-friendly interface to provide feedback to the business register. When ever they detect inconsistencies in the population (e.g. over- under coverage, miss-classifications) they should be able to propose this to the business register staff. If possible such a tool should be accessible remotely within the statistical authorities. Business register staff would assess the proposals and if acceptable include them in the register database.

(c) Design, coordination and summing up of surveys: Once the requirements for a particular survey are defined a user interface which interacts directly with the business register data base (i.e. with the population frame for that survey) could be established. Such a tool could contain tailor-made data tables, advanced search and sending queries. In addition such a tool could inform as well on significant changes in the population which might be considered via a frame error procedure.

IV. The exchange of register data

20. Statistical business registers store micro data which allow statistical units to be identified. They are therefore by their nature candidates for statistical confidentiality. Confidential data should be protected and used exclusively for statistical purposes.

21. Some countries handle all information in the statistical business register as strictly confidential and reserved only for use within their NSI. But the data are generally based on public available administrative data. Therefore, a broader access to micro data on business unit maintained by the NSI should be explored. Other potential users are for example:

- statistical authorities in central banks,

- statistical offices of other countries,

- administrative authorities,

- public bodies, enterprises, researchers, etc.

A. Exchange with other national statistical authorities

22. It is recommended that register data are shared at least with other government statistical authorities. National central banks are often important producers of official statistics and should apply the same protection measures for confidential data. It should be avoided that both institutions (the NSI and the NCB) establish independent lists of their economic operators in separate registers. Coordination and exchange of micro register data is required to make the national statistical system more efficient and consistent. Ideally, NSIs and NCBs would work on a single shared statistical business register at national level where they have the same understanding on the statistical units (i.e. they use the same data model). Furthermore, each institution could concentrate on particular DQM measures. Whereas the NSI is in general more advanced in monitoring the non-financial sector, NCBs could contribute to units belonging to the financial sector.

23.   In some countries customs authorities are responsible for compiling external trade statistics. As well in such cases an exchange of micro data is essential in order to match trade by business characteristics.

## B.   Exchange with foreign statistical authorities

24.   A more complex question is the sharing of micro register data with statistical authorities of other countries. Data are also used exclusively for statistical purposes and the disclosure of information to the public on individual statistical units is forbidden. However, micro data will fall under the confidentiality regime of the partner country. Such an exchange needs, therefore, close cooperation between the partners, similar rules to use and protect confidential data, a solid agreement between the countries, and above all trust that data are not misused.

25.   Member States of the European Union have started to share micro register data between each other in the frame of the EuroGroups Register network on units belonging to multinationals. Experience show that important quality gains can be reached in case the non resident parts of the enterprise group are validated by that country where the units are located. Nevertheless, statistical business register are not the only beneficiary in case of exchanging micro data between countries. Also other statistical domains affected by globalisation (e.g. external trade, FDI) could benefit from micro data exchange.

26.   It is therefore recommended that statistical information available in an EU Member State should be at the disposal of the whole ESS (so the "confidentiality fence" is at the ESS level instead of national) for statistical purposes.

C.   Interoperability between statistical business registers and other (administrative) registers

27.   Another question is whether all register data collected and processed within a statistical office fall under the confidentiality regime. Some countries have specific business registers which state that one of their functions is to serve all economic operators. Even where such regulations entrust the maintenance of these registers to NSIs, they do not define them as statistical registers. They are therefore not covered by general rules on statistical confidentiality. This is particularly justifiable where the reporting procedures under which the register data is compiled and updated are general legal obligations rather than statistical requirements. Such an approach does not impose in general any constraints on the publication of certain register information which is deemed to be public and therefore make it available. The following model could be implemented in the NSI:
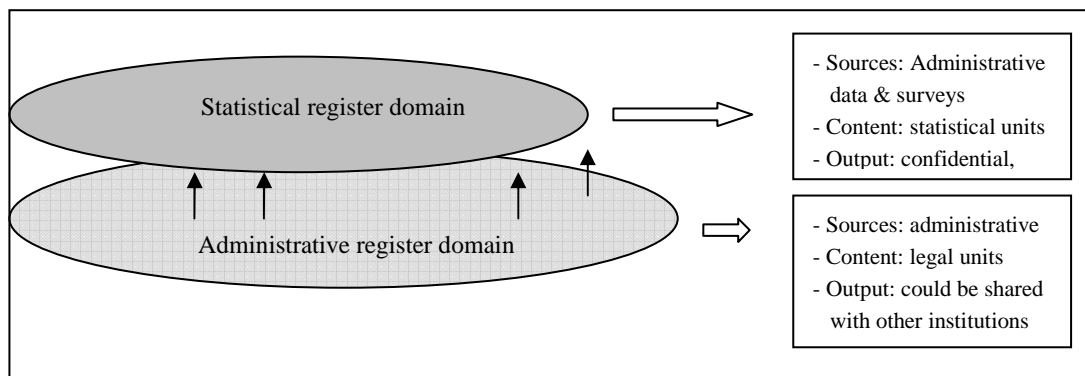
28.   Information on legal units - their name, address, legal form and sphere of activity - may be deemed non-confidential where the law requires these characteristics to be published. The same is often true, though not necessarily in all countries, of the locations where these legal units conduct their activities. Where legal obligations to disclose business accounts exists data referring to the same characteristics should be not considered as confidential.

29.   On the other hand, the grouping of legal units into enterprises and their register information about the size and principal activity can be problematic, particularly where this information has been gathered as a result of a statistical survey.

30.   In general data in the statistical business register are not considered as very sensitive and there are ways to make information even less sensitive:

- The disclosure of a unit size indicator is unlikely to embarrass enterprises, provided that it is not premature. In practice, it should be updated only once a year and should reflect a situation which is at least six months old.

- The disclosure of a code representing the principal activity of units causes no harm to enterprises, provided that it is in line with the activity reported to administrative sources. Thus, it can be updated from the results of statistical surveys. However, it should be clearly stated in the survey form that replies from enterprises may be used to update that information, and each enterprise should be given the option of refusing to allow such use and hence the disclosure of its activity code.

31.   It should be noted that increased access to the register can help to improve its quality. Feedback from external users can help with the early detection of address changes, site closures and other characteristics. It could also lead to some revenue if public register data would be provided not for free.

32.   Providing feedback to the data sources (e.g. administrative, commercial or the enterprise itself) on public available register information might in addition foster the cooperation and lead to quality gains.

33.   Administrative and commercial sources may provide their (non confidential, but restricted) data to the NSI only under the condition that it is used exclusively for national statistical purposes. It is recommended to discuss and agree with those sources on the units and characteristics which could be used by the NSI not only for statistical purposes, but feeds also the administrative data base and can be, for that reason, further disseminated on a detailed level.

———————