Abstract

Since 2010 Statistics Netherlands has a department dedicated to delivering consistent micro data on large and complex enterprise groups (EG) for business statistics. One of the reasons to create the department were large inconsistencies between statistics that came to light when compiling the national accounts. These inconsistencies were often caused by inconsistent micro data for large EG. It was expected that by concentrating the work on these EG in one department inconsistencies could be detected and solved early in the statistical process and hence the quality of both individual statistics and national accounts could be improved.

The department deals with approximately 330 EG which account for 35% of the total value added. The department is responsible for maintaining the relations with the EG, profiling the structures, the processing of the micro data and eventually for delivering consistent micro data to the statistical departments. The department has proven its value, i.e. inconsistencies are indeed detected and solved or explained earlier, the quality of statistics has improved and there is a thorough knowledge of the EG’s and their operations.

This good knowledge of the EG is vital not only for deriving consistent figures, but also for establishing the right statistical units. These units have to be describable and recognizable for the EG, because otherwise it won’t be able to deliver meaningful figures, and simultaneously have to fulfil the needs of Statistics Netherlands. Therefore, interactive profiling of the EG is essential. It is an integrated part of the strategy to get consistent business data along the whole chain, from the maintenance of the business register till the compilation of national accounts. Since more than twenty years Statistics Netherlands has been using a top down approach in profiling. It starts with delineation of the EG in terms of legal units, then the enterprises are constructed. In the delineation of the enterprises information from the annual reports of the EG’s as well as information from the tax authorities is used. Where appropriate, EG’s are visited to discuss the enterprises proposed after profiling. Profiling is very important to reach consistent statistics. The other way round the occurrence of inconsistencies can be the trigger to reconsider the profiling of an EG.
Due to the open economy of the Netherlands, globalization leads to extra complications in the compilation of a correct statistical description of the national economy. As a consequence the department mostly deals with multinational EGs (MNE). In the profiling of these MNE the way the group organises itself internationally is also taken into account.

The paper will describe the work of the department for large EGs at Statistics Netherlands and the importance of profiling to obtain more consistent data from large EGs.

A separate department for large enterprise groups: why?

Some five years ago Statistics Netherlands started a major redesign of its system for economic statistics [Braaksma 2009]. The reasons behind this redesign were threefold: quality improvement, reduction of the response burden, and efficiency. With regard to the quality of the statistical results it was considered necessary to reduce the imbalances between the first and final estimates growth rate figures for the Dutch economy. Over the last twenty years the average adjustment of the growth rate was roughly + 0.5% of GDP. Differences between short term statistics and the annual production statistics were one of the causes behind these adjustments. As in most countries there is a strong pressure on the Dutch national statistical institute to reduce the response burden it causes on businesses. At the same time Statistics Netherlands was confronted with budget cuts, making it necessary to produce statistics in a more efficient way, i.e. with a reduced number of staff.

The creation of the dedicated department for large EGs was mainly the result of the need for an improvement of the quality of the output of Statistics Netherlands in the field of the economic statistics. Simply because of their size these EGs have an important contribution to the Dutch economy: the 330 largest non-financial EGs account for 35% of the total value added. This means that incorrect or inconsistent data for these EGs have a major impact on the outcome of individual statistics or even on the national accounts. Unfortunately until recently most inconsistencies between individual statistics showed up only at the compilation stage of the national accounts. At that moment the related statistics were often already published by the different departments of Statistics Netherlands, which tended to operate in isolation, as is illustrated in Figure 1. Consequently proposals of national accounts compilers to correct these inconsistencies came in such a late stage that they could not be processed anymore in the individual statistics. Moreover, at that point in time the reference period for which questions on the data arose was too far back in time to confront the EGs with these questions in good decency. Within the redesign programme it showed that it was feasible to solve inconsistencies in an earlier stage of the statistical process or even to prevent their occurrence. The best way to reach this aim was to concentrate all the work on the large EGs within one organizational department that would be responsible for delivering consistent data on those EGs and their enterprises to the statistical departments responsible for the compilation of the different statistics.

An even better way would be to solve inconsistencies at the source of the data for the individual statistics, i.e. at the EGs themselves. If it would be possible for EGs to deliver consistent data there would be no need for Statistics Netherlands to solve inconsistencies. Unfortunately, a field trial yielded the conclusion that this aim, which would be ideal from the view of Statistics Netherlands,
was unrealistic and unfeasible for a number of reasons. Some of those are related to the way the statistical system in the Netherlands is set up [Vennix, 2012].

**Figure 1:** the place of consistency work in the statistical process until 2010. Vertically the statistical process from data collection to delivery to the national accounts is represented. Each “stove-pipe” represents an isolated individual statistics such as SBS, STS, etc.

**Globalization**

Another reason to concentrate the work on large EGs in one organizational department was the globalization of EGs and its consequences for the consistency of micro data on EGs. As is explained in [Pustjens and Wieser (2011)], the increasing globalization leads to extra complications in the compilation of a correct statistical description of a national economy. Globalization has influenced the way that enterprises organize themselves and carry out activities and has a big impact on the statistical outcomes. The UNECE’s multinational enterprises (MNE) project, which ran some years ago, showed that it can be very difficult to get a good fit of activities of large international operating businesses in national statistics. It is even more difficult to capture the data of MNEs in the national statistics of different countries in a consistent and comparable way, if it is possible to do so at all in a purely national approach. These difficulties surely apply to the Dutch economy: it is very dependent on international trade and investment, almost all large Dutch companies have one or more establishments abroad, and many foreign MNEs operate in the Netherlands. Statistics Netherlands thought that by concentrating the knowledge on these large MNE’s in one organizational department it would be possible to reduce the number of inconsistencies caused by globalization issues.
The scope of the department for large enterprise groups

The department for large EGs has effectively been in operation since mid-2010. It covers 339 non-financial EGs, consisting of some 2,500 enterprises and 11,200 legal units. Together these EGs accounted for 58% of the balance sheet total and 43% of the turnover of all non-financial EGs in the Netherlands in 2012. The EGs that are dealt with in the department were selected by size and complexity. Size was measured in terms of balance sheet total and employment. Complexity was determined not only by quantities as the number of legal units and the number of hierarchical layers in the structure, but also by the presence of international relations with foreign mother and daughter companies, because globalization issues are an important source of statistical inconsistencies. Finally a few EGs were included because the relation with Statistics Netherlands had been troublesome in previous years or caused large inconsistencies at National Accounts level but were not already in the population. Each year there is a check whether EG’s have to be added to the large and complex enterprise groups population or whether there are EG’s which don’t deserve the extra attention any more.

The aim of the department is to deliver good quality consistent data on the EGs in its scope and the corresponding enterprises for a number of variables, suitable for direct use in statistics, including national accounts. As can be seen in Figure 2 the work of the department is concentrated on the first part of the statistical process.

Figure 2: the current place of the unit for large enterprise groups in the statistical process
The statistical units in the Dutch Business Register

At the basis of the statistical system is the business register as maintained by Statistics Netherlands. The Dutch business register contains three basic units: the legal unit, the enterprise, and the EG. The legal unit is the smallest unit in the register.

The main statistical unit is the enterprise. It is defined as the smallest combination of legal units that is an organizational unit, producing goods or services, which benefits of a certain degree of autonomy in decision-making, especially for the allocation of its current resources [Eurostat 2003]. In general, an enterprise corresponds either to one legal unit or to a combination of legal units. In some cases, especially for public institutions and a few very large EGs, a legal unit is part of more than one enterprise. The enterprise is the statistical unit that is used for almost all business surveys, including the annual structural business surveys and the surveys for short term statistics. Its main characteristics are the economic activity, classified according to the Dutch, more detailed, version of the European NACE, and the size class, expressed in terms of employment.

The third unit in the business register is the EG, defined as an association of enterprises, bound together by legal and/or financial links. In comparison to the enterprise, which is autonomous with regard to the allocation of its current resources, the EG is an actor at a more strategic level, taking strategic decisions on behalf of and affecting all of its constituent enterprises [Eurostat 2003]. They are formed using control relationships between legal units, since an EG can also be considered as an association of legal units instead of enterprises. For multinational EGs only the part consisting of legal units that are resident within in the Netherlands is registered in the Dutch Business Register. The EG is the statistical unit for the survey on the finances of EGs, aimed at collecting data on the profit and loss account and the balance sheet and the annual mutations in it.

To profile or not to profile

Interactive top down profiling [Struijs, 2010] has a long tradition at Statistics Netherlands. For more than 20 years profiling is used to delineate enterprises out of EGs. It is an integrated part of the strategy to get consistent business data along the whole chain, from the maintenance of the business register till the compilation of national accounts. First an EG is formed with the use of control relations provided by the Chambers of Commerce and the tax office. Then we delineate the EG into ENTs. At Statistics Netherlands we distinguish three groups of EGs.

1) The large and complex enterprise group population

The largest and most complex EG’s are dealt with at the department of large enterprise groups. The right statistical units are a premise for good quality consistent data. But in order to be able to create the right statistical units it’s essential to have good knowledge of the EG. We must know how the business processes are functioning, even from a global viewpoint. Only when you know how the business processes are running you can explain to an EG/ENT which information you want from the EG and which not. For instance what belongs to the Dutch economy and what to a foreign economy. Only when you know what data you expect from an EG/ENT you are able to check whether the filled
in surveys meet your expectations. Inconsistencies in statistical outcome can be a sign that a profile action is needed. Profiling of these kind of EG’s is not the work of a profiler alone. It is teamwork, where each person has its own role. This will be explained further in the chapter about the Department of large enterprise groups itself. To show that profiling and account management is absolutely necessary, for these kind of EGs, to get good quality statistics a few examples

**Joint Ventures**

When two EG’s have a joint venture and this joint venture is not taken care of in the right statistical manner this can cause problems in the statistical outcomes. In most of the cases the joint venture cannot be linked to the enterprise group(s) because in our register we cannot link a legal unit to more than one EG. When we don’t profile this correctly the two EG’s can supply all of the joint venture outcomes in their survey, half, or none. When the Joint Venture gets a survey themselves, we can get the figures between zero and three times. Next to that the people who are working in the Joint Venture are mostly on the payroll of (one of) the partnering EG’s. The new IFRS 11 standard causes even more problems because the partnering EG’s may account for the Joint Venture in a different way. When the partnering EG is a foreign EG the difficulties might get even bigger.

**Financial Special Purpose Entities (SPE)**

Many EG’s with a foreign mother unit have a financial SPE mostly for tax reasons. Large flows of money can be involved, causing overestimation of the non-financial sector, when such a unit is not excluded from an ENT.

**Only activities abroad**

The EG’s in, for instance the oil and dredging industry, have legal units in the Netherlands which have only (or most of its) activities abroad. Only with good profiling and account management we can decide what belongs to the Dutch economy and what not. We have to make sure that only the Dutch part of the turnover, costs, investment and wages (Dutch employees working abroad together with local employees.) are filled in the survey.

**Economic Ownership**

The new ESA and BPM6 manuals put strong emphasis on economic ownership. EG’s and Ent’s have to fulfil their statistical duties differently whether the economic ownership is situated in the Netherlands or abroad. We need account management to get the right statistical data, and to explain why an ENT has to fill in a survey differently when the economic ownership changes.

**Merchanting**

When a Dutch EG buys something in Country A and sells it in Country B the goods may not cross the Dutch border, but the statistic on the finances of EGs will show these im- and exports giving large inconsistencies between this statistic and the international trade of goods statistic which measure border crossings. These (sometimes very large) inconsistencies are explainable, but only if we have good knowledge of the business processes. Luckily merchanting is now explicitly surveyed in the International trade of services statistic.
These are only a few situations where good profiling and account management is necessary to get good quality statistical data from the EG’s and their ENT’s. Only in this way we are able to describe the Dutch economy. Other examples may be Production Abroad, finishing of goods, and pay rolling. An additional effect of the top down profiling is that both the perceived and the actual response burden decrease, because it results in a tendency to have fewer and better recognizable enterprises per enterprise group.

2) Top 1900 not large and complex

These EG’s are profiled by profilers who are working at the register department. For the smallest we use a reactive strategy, which means that the EG is only checked and where necessary updated when input of administrative sources signals that something has changed. For the larger EGs we use active profiling. This means that we don’t only use signals out of the administrative world, but also information from newspapers, internet annual reports, the tax authorities etc. and information from the EG itself. We also actively profile an EG once every time period. The more complicate and important the EG the more often this EG is profiled actively.

3) Enterprise = Enterprise Group

One of the means to contribute to the goals of the major redesign of the system for economic statistics was to make more use of the data from administrative sources. By taking the enterprise group as a proxy for the Enterprise there was a better fit with the units of the tax office [Aelen et al, 2008], [Vaassen & Beuken, 2009]. This made the use of information of the tax office easier, thereby reducing the response burden, and creating more efficiency. Note that 90% of the EGs consist of only one legal unit. Therefore the ENT is automatically the same as EG. The changes in the statistical outcomes as a result of this were small, also because a lot of the other Ent’s in this group were already the same as the EG. By putting your effort only in the most important EGs you even win in quality.

The department for large enterprise groups

A pivotal role within the department is that of the account manager. There are now six account managers. Eventually the task of the account manager is to deliver consistent data on his EGs, but important conditions to reach this aim are a good knowledge of and good relations with the EGs. Therefore an account manager is expected to visit his EGs at least once every year. Another task is to inform or consult the statistical departments and National Accounts when major changes occur in the EG’s or their figures which have statistical impact.

The account manager works together with the profiler, who is responsible for maintaining the structure of the EGs, and their enterprises up to date in the business register. Together they are responsible that the company’s business and accounting structures relates to their reporting capabilities and to ensure that the Business register represents their corporate structures. These units in the business register have to be describable and recognizable for the EG, because otherwise it won’t be able to deliver meaningful figures, and simultaneously have to fulfil the needs of Statistics Netherlands namely good quality statistics. Next to that they have the duty to make sure that the (perceived) response burden of the EG’s is as low as possible by determining which
enterprises gets which surveys and which person is the best placed to respond the survey and that the statistical units are directly linked to their operations. Achieving an acceptable balance between reducing the response burden and getting data of good quality is very challenging. Each account manager also works closely together with two data analysts in the department. These data analysts analyse the SBS (annual production statistics), STS (short term turnover statistics), Prodcom (production in the manufacturing industry measured in quantities and values per sort and goods), investment statistics. All these statistics are based on the ENT. The analysts work directly in the production systems of the statistical departments that are responsible for the aforementioned statistics, which means that corrections that are made on the micro data are directly incorporated in the statistics. They also analyse whether these surveys are consistent with each other. Another group of analysts analyse the survey for the statistic on the finances of EGs. Contacts with the ENT’s or the EG’s on data issues can be input for the profilers. An unexpected rise in turnover, for instance, can be caused by a merger with another company. These issues can dealt with quick and easily, because they all work in the same department. While import and export are very important for the Dutch economy and there are a lot of globalisation issues in our EG’s the department also consists of two experts on the statistics of international trade of goods. In the near future we would also like to have one or two experts of the international trade of services in the department.

The consistency tool

The assessment of the consistency for an EG is facilitated by an automated consistency tool. This tool is fed daily with data from the different statistics involved and indicates both at the level of the EGs and that of the enterprises which consistency rules are violated. In practice an expected equality between two values is translated into a percentage to which the relative difference has to obey. For a chosen reference period the software supplies a consistency matrix at EG level that shows the value of variables observed at that level, for the sum of the enterprises as well as for the individual enterprises. This matrix usually serves to give the account manager a first impression of the degree of consistency of the EG and an indication where inconsistencies might stem from.

Results

In the years the department has existed we have showed that inconsistencies can be detected and solved or at least explained in an early stage of the statistical process and thus that the underlying micro data can be adjusted before statistics are published and before data are delivered to national accounts, leading to better quality statistics. In practice some inconsistencies can be solved inside Statistics Netherlands without consulting the EG, whereas for others information from the EG or enterprises is indispensable to understand why data are inconsistent or at least seem to be inconsistent. In fact EGs are generally cooperative and willing to supply the information that is necessary to solve or explain inconsistencies. It turns out that they appreciate it that their data are treated seriously and thoroughly by Statistics Netherlands and also that they can discuss matters with a counterpart with an appropriate level of knowledge and understanding. By documenting the conclusions after dealing with an inconsistency, either if it was solved or explained, the knowledge obtained by account managers, profilers and analysts is filed. In this way the information can be shared not only within the department for large EGs, but also with the statistical departments receiving the micro data and with the EGs themselves. The latter should help to assure that
inconsistencies that are solved once will not re-occur in the next reference period. The thorough knowledge of the EG, and the good relations with large EGs has also proven very useful in the revision 2010 project of National Accounts.

The existence of account managers for large EGs is not only useful to obtain consistent data for these EGs, but also for the introduction of new surveys or when conceptual changes in statistics have to be adopted. A recent example is the introduction of BPM6. The department started with consistency checks on the annual statistics, but the last two years we also did quarterly consistency checks. There are less data available at quarterly basis, but it showed that it is possible to detect and solve inconsistencies in this data and by doing so to prevent them from occurring in annual statistics. Quarterly consistency checks proved especially useful in detecting changes in the EG which needed profiling actions.

Conclusions and future challenges

In the last four years within Statistics Netherlands the existence of a department dedicated to the treatment of large EGs has shown its value. We succeeded in solving a number of inconsistencies in the data for these EGs, largely before publication of the statistics involved. Inconsistencies that are solved once generally don’t reoccur; those that are explained do not need to be explained again for the next reference period. As an effect the quality of the business statistics and the national accounts was improved. Profiling and account management is absolutely necessary to get good quality statistics as some of the examples showed in this paper. By combining account managers, profilers and analysts in one department we get knowledge from different angles about the EGs, which strengthens each other’s work. A good knowledge of the large EGs and good relationships with them not only help to improve the data on them, but can also facilitate the introduction of new surveys or of new concepts for existing surveys. The consistency process has increased through the years. Although the department has made a promising start, there are still some challenges ahead of us. The first one is globalization and all statistical problems arising from it. Globalization makes it ever more difficult to make a good statistical description of a national economy. Not only because multinational enterprises do not think or act nationally, but also for the very practical reason that sometimes administrations are no longer kept in the Netherlands but in some other country in Eastern Europe or Asia. A second challenge is the dynamics of EGs that is also related to globalization. If for some reason they change their internal or international organization this may affect national statistics, even if physically nothing has changed in for example the production of goods. For all national statistical institutes these often very rapid changes cause problems. Changing international guidelines such as ESA 2010 and BPM 6 can also have effect on the possibilities to judge the consistency and the quality of the data for an EG. ESA 2010 for example changes the way that production is recorded in SBS, but has no effect on Prodcom of international trade. In this way new guidelines introduce new sorts of inconsistencies.

Finally there is the challenge to prevent inconsistencies by improving our internal processes. This applies not only to the use of different definitions and concepts, but also to the logistic processes around the data collection of surveys. By applying a custom-made approach to large EGs as opposed to the cheaper generic approach that is now preferably used the quality of the data might also be improved.
The usefulness of a separate department dealing with the most influential and complex EG’s is also shown by the increasing number of countries having such a department or putting extra effort in the EG’s (for instance Ireland [Connoly, 2011], Sweden [Erikson, 2007], Finland [Pakarinen, 2013], Canada [Da Pont, 2014]) but also in the number of countries visiting our department to learn of it. Jason Attwell from New Zealand visited both Ireland and our department and wrote a paper discussing the similarities and differences between the two ways of working with the largest EG’s [Attwell, 2013].

References


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