Large Cases Units in the Nordic countries: Similarities and Differences

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Abstract

The rise of Global Value Chains (GVCs), largely driven by Multinational Enterprises (MNEs), has introduced significant challenges for official statistics. The fragmentation of production across multiple countries and continents makes it increasingly difficult to measure economic activities accurately. Since MNEs account for a disproportionately large share of most national economies, inaccurate reporting from these enterprises can severely compromise the quality of business statistics and, by extension, National Accounts.

To address these challenges, many National Statistical Institutes (NSIs) have established Large Cases Units (LCUs), ie. specialized teams dedicated to understanding the complex structures of large MNEs and improving the quality of their data submissions. In recent years, the creation of LCUs has been actively encouraged and supported by international organizations such as the United Nations and Eurostat.

The organization and functioning of LCUs vary considerably across countries. This paper focuses on the Nordic countries, where Denmark, Finland, Norway, and Sweden all have well-established LCUs. It will explore key questions:

- Why and when were these LCUs created?
- How are they organized and integrated into production processes?
- How do they create value for internal and external stakeholders?
- What innovative practices have they introduced?

The paper concludes by comparing similarities and differences among Nordic LCUs and discussing the challenges facing them.

Keywords: Globalistion, Multinational enterprises (MNEs), Large Cases Units (LCU), quality, innovation

1. Introdoction

In 2012, a UNECE-led expert group on the impact of globalisation on national accounts recommended that the activities of large multinational enterprise groups (MNEs) should be examined on a *case-by-case* basis, drawing inspiration from “pioneering” units established in the statistical offices of Ireland, the Netherlands, Sweden and Finland. The challenge behind this recommendation was the fact that inaccurate or incomplete reporting by just a small number of large MNEs can severely compromise the quality of official statistics. This is particularly critical for key macroeconomic outputs, where mismeasurement at the enterprise level can lead to significant distortions at the aggregate level (UNECE 2011).

Since then, the establishment of such units – now commonly referred to as Large Cases Units (LCUs) – has been repeatedly recommended in international reports as a response to the statistical challenges posed by the global activities of large and complex MNEs.

Eurostat (2024) describes LCUs as “specialised organisational units that observe and analyse large MNE groups operating on national territories”, noting that they “have proven to be an efficient response to the challenges of globalisation, not only to get the multinational enterprise group structures correctly delineated but also to ensure that the data on MNE groups are recorded and disseminated in a consistent way.” Since 2018, Eurostat has continuously supported capacity- and skills-building activities aimed at establishing and further developing LCUs, and in 2024, 18 EU Member States confirmed that they had an operational LCU in place.

LCUs differ in their activities and responsibilities, which are adapted to national priorities and institutional arrangements. As a result, LCUs are integrated in different ways into the statistical production processes. Nevertheless, most LCUs undertake one or more of the following core activities:

- **Maintaining relations with MNE groups:** Large and complex MNEs often face difficulties translating their global organisational structures and cross-border transactions into national statistical concepts and reporting requirements. Dedicated LCU contacts allow for more detailed explanations, targeted follow-ups and continuous dialogue, thereby improving both data quality and reporting efficiency.

- **Profiling:** Establishing the institutional units and ownership structures of MNE groups is fundamental for understanding their legal, operational and accounting frameworks. Profiling activities typically include the delineation and classification of statistical units, the identification of special purpose entities, and the analysis of global production arrangements. These activities are essential for sound statistical data collection and for ensuring consistency across statistical domains.
- **Data consistency analysis:** Systematic comparison of reported data for individual MNE groups across different statistical domains has proven to be an effective tool for improving data quality at an early stage of the statistical production process. By confronting similar or related variables across domains, LCUs help detect inconsistencies, enhance accuracy and reduce the risk of large ex-post revisions to official statistics.
- **Data collection:** In some countries, LCUs are responsible for data collection, validation and correction for selected statistical domains and for the largest MNE groups.
- **International cooperation:** LCUs may also contribute to international statistical cooperation, including participation in Eurostat initiatives such as the Early Warning System, MNEnet, the LCU Consortium, European Profiling activities, and the EuroGroups Register (EGR).

This paper focuses on the LCUs in four Nordic countries – Denmark, Finland, Norway and Sweden. It draws on country-specific descriptions of each LCU prepared by members of the respective LCUs and presented in full in *Appendix I*. Based on these descriptions, the paper addresses a set of analytical questions:

1) Why and when were the LCUs established?
2) How are they organised and integrated into national statistical production processes?
3) How do the LCUs create value for internal and external stakeholders?
4) What innovative practices have been introduced?
5) What are the main challenges faced by the LCUs?

The paper concludes by comparing similarities and differences among Nordic LCUs and discussing the challenges facing them.

2. Large Cases Units in Four Nordic Countries

Four Nordic countries have established LCUs. Based on the country descriptions in Appendix I, the similarities and differences are discussed below according the analytical questions set out in the discussion above.

2.1 Why and when were the LCUs established?

Established in 2004 and 2010 respectively, the Large Cases Units (LCUs) of Sweden and Finland are pioneers not only within the Nordic region; worldwide, few other countries have similar legacies. In Denmark and Norway, designated LCUs were established in 2018.

The different dates of establishment, notwithstanding, all four LCUs were established to target two overall challenges:

1. Profiling of large and complex MNEs.
2. Data quality issues stemming from large MNEs in general and their global activities in particular.

These two overall purposes underpin how the LCUs are integrated into and how they provide value added along the statistical production chain.

2.2 How are they organised and integrated into statistical production processes?

Despite common challenges, how the LCUs are organized and work differ across countries. In Denmark, Finland and Sweden, LCU teams working on both issues – profiling and data consistency – were established. All three LCUs were situated in close connection to primary statistics and the business register, but outside national accounts departments. And all three works with an (almost) fixed portfolio of selected MNEs.

In Norway, two separate teams were set-up – one on profiling within the Business Register Unit (the “Profiling team”) and one on data quality and consistency (the “LCU group”) within the division of National Accounts. This was done with the explicit expectation that the two groups were to work closely together on “problematic” MNEs. Contrary to the other Nordic countries, the Norwegian LCU work does not have a fixed portfolio of MNEs, but focus on enterprises with identified profiling or data consistency issues.

The Nordic LCUs are integrated in the production processes in different ways. In all countries profiling, including European profiling, is a part of the overall LCU work. In Denmark, Norway and Sweden, this includes delineation of the statistical unit “enterprise” with a view to identify and implement complex enterprises – that is, enterprises comprising more than one legal unit – in the business register. In Denmark and Finland, the LCU also participates in sample selection, data collection, and data processing for “LCU MNEs”.

Consistency analysis is a core function of all Nordic LCUs. In all countries, this entail the identification of data issues through use of consistency checks, dialog with relevant statistical domains and “misreporting” MNEs. This work regularly results in revisions to already published data. In Norway, for example, a “light” benchmark revision of National Accounts and Balance of Payments implemented in 2022 based on the LCU work led to a more than 50 per cent upward revision of net exports in 2019.

In Finland, the LCU is part of a new matrix team, which inter alia calculates enterprises’ output, intermediate consumption, and value added for the national accounts annual flash estimate. The LCU is responsible for MNE dominated industries in what could be called a “macro”-consistency approach.

2.3 How do the LCUs create value for internal and external stakeholders?

LCU experts know a little bit about a lot! This is one way they provide value along the statistical production chain. Knowledge of MNEs structure and production setup combined with accounting skills and knowledge of how statistical domains, including national accounts, are interconnected help LCUs to identify and often provide probable explanations for data inconsistencies. Knowledge sharing through for example internal courses and newsletters increase the institutional awareness of how large MNEs affect different statistical domains and the importance of data coherence.

Maintaining relations with contact persons in MNE groups creates a mutually beneficial situation. The LCU facilitates dialogue with an MNE built on already established knowledge and rapport. The MNEs experience a more coordinated dialogue and gain a better understanding of the statistical data requirements.

All four LCUs participate in international statistical cooperation on MNEs. European Profiling – a feature of all the LCUs – improves the recording of MNE structures in national business registers and the EuroGroup Register. Denmark and Sweden have been part of the Eurostat supported LCU Consortium since its start in 2018. The Consortium also encompasses LCUs in Belgium, Germany, Ireland, Netherlands and Spain. It facilitates ESTP courses and provides support to LCU activities across EU member states – Sweden and Denmark have supervised LCU implementation in Austria, Greece, Hungary, Poland, Portugal and Spain.

2.4 What innovative practices have been introduced?

Underpinning all LCU work is the realization that relatively few large MNEs have an outsized impact on key statistics and need special attention. This more case study oriented approach is in itself an innovation *vis-a-vis* traditional statistical production processes relying on “the law of large numbers” where individual data points are largely expected to average out in the aggregate.

Today internal knowledge sharing and coordination between statistical domains about specific MNE cases may seem trivial but while internal silos remain in place the shared understanding that strict silo thinking is incompatible with the production of consistent, high-quality official statistics is a direct and novel result of LCU work in all four Nordic countries.

Another important change introduced by the four LCUs is coordinated and more cordial relationships with MNEs in contrast to fragmented and often enforcement-driven interactions. This enables a dialogue build on mutual trust and understanding, which in all countries has shown to improve data reporting.

2.5 What are the main challenges faced by the LCUs?

All four LCUs have their day-to-day challenges: highly dynamic and continuously evolving MNEs, uncooperative MNEs, frequently changing contact persons, and staff turnover within the LCU itself.

However, one overarching and more enduring challenge in all four countries has been to ensure adequate and consistent resource allocation. In Finland, the LCU has from the beginning faced unrealistic and sometimes conflicting expectations relative to steadily diminishing resources; in Denmark, two LCU staffer have left during the past year without being replaced: and in Norway, the resources since 2024 have been “close to zero”.

LCU work is inherently knowledge-based and iterative. An LCU staffer takes a long time to train; resolved MNE data problems often reappear, while new issues emerge. Lack of adequate and consistent resource allocation is thus inconvertible with high quality and sustainable LCU work.

3. Conclusion

The Nordic LCUs are internationally recognised as pioneers in their field with strong results:

- Better understanding of the largest MNEs structure and business models.
- More precise and up-to-date delineation of the structure of the largest MNEs in the SBR (and EuroGroups Register).
- Identification and implementation of complex enterprises in the SBR and in the statistical production processes.
- More consistent and accurate data reporting by large MNEs
- Improved relationships and communication with MNEs.
- Stronger internal knowledge sharing and coordination regarding MNEs data reporting across statistical domains

Internationally, institutions such as Eurostat and the United Nations increasingly promote LCU work and in a growing number of countries, these specialized teams are seen as essential in the statistical production process, while cross-border LCU cooperation is growing. Paradoxically, in the Nordic countries resources and support for LCU work are at the same time in steady decline.

Perhaps the greatest challenge to the Nordic LCUs are their own success. As problematic MNE cases are “solved”, the monitoring and “early-warning” role of LCUs may become less visible and the case for allocating resources to LCUs less obvious. However, LCU work is an iterative process and the disproportionate impact of large and complex MNEs remains a key constant and the quality of business and economic statistics remains highly sensitive to case-level reporting, decisions and judgement about relatively few but large data points. Internationally, LCU work is increasingly recognized as a key tool for addressing this challenge in an informed and consistent manner, driven in part by the pioneering work of the Nordic LCUs.

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Appendix I:

The Danish LCU
The Danish LCU was established 1 January 2018 following the conclusion of a two-year pilot project that explored the potential scope and organisation of large case work within Statistics Denmark (DST).

The pilot LCU project was essentially a merger of two existing initiatives: one focusing on data consistency and another on profiling. In this sense, the establishment of the LCU was a direct response to two overarching challenges:

1. Growing challenges to statistical quality resulting from incomplete and inaccurate reporting by a relatively small number of large MNEs which had led to large ex-post revisions of national accounts.
2. Increased focus on implementation of the complex enterprise as statistical unit in business statistics in order to comply with EU regulations from 1993.

These challenges continue to be reflected in the LCU's core responsibilities today, alongside a growing emphasis on international cooperation related to MNEs. The main tasks of the LCU are:

- Profiling, including participation in European Profiling
- Data validation and consolidation for *Business Accounts Statistics*
- Cross-statistical data consistency analysis, covering:
    - International trade in goods and services
    - Balance of Payments
    - Structural Business Statistics (SBS)
    - PRODCOM
    - Industrial Production Index (IPI)
- International cooperation, including:
    - European Profiling
    - MNEnet
    - Early Warning System
    - LCU Consortium

There are currently 31 Multinational Enterprise Groups (MNEs) in the LCU portfolio covering 650 Danish resident legal units. All but two of these MNEs are Danish-controlled.

Organisationally, the LCU is situated within the Business Dynamics Section of the Business Statistics Division at Statistics Denmark. In addition to the LCU, the Business Dynamics Section is responsible for, *inter alia*, Business Accounts Statistics, Foreign Affiliates Statistics (FATS), and Business Demography.

The LCU currently comprises three core staff members, reflecting a reduction from five members in 2024 and six in 2022. One staff member works full time in the LCU, while the remaining members split their time approximately 50/50 between LCU activities and other responsibilities.

The LCU works in close and continuous cooperation with the relevant primary statistical domains, the Business Register, and National Accounts in carrying out its core tasks, notably:

Profiling of enterprise groups aims to identify the entities and ownership structures within each individual group, to understand the function of each entity within the group, as well as the overall business model. An additional objective is the creation of complex statistical units (particularly complex enterprises) based on legal and administrative units. The LCU also participates in European profiling for selected enterprise groups in cooperation with the Business Register and other EU countries. Currently, some 40 complex enterprises have been identified and implemented in the Statistical Business Register (SBR).

The LCU is responsible for data validation and consolidation for the 31 MNEs in the LCU portfolio for the ***"Business Accounts Statistics"*** (largely corresponds to Eurostat's Structural Business Statistics). About 300 LCU enterprises are surveyed annually, of which about 200 belong to the 40 complex enterprises. The LCU also consolidates data for the complex enterprises by eliminating reported internal transactions. The LCU data are subsequently integrated with data from the non-LCU population, in close cooperation with the Business Accounts Statistics team.

The main objective of ***data consistency analysis*** is to identify and resolve large inconsistencies between statistical domains central to National Accounts, thereby improving data quality and reducing the risk of substantial revisions. The inconsistencies primarily stem from global production activities of large and complex Danish MNEs. To address this, the LCU combines and reviews data from different sources by use of consistency checks. Identified inconsistencies are assessed and prioritised based on their potential impact and are subsequently investigated by the LCU in close cooperation with the relevant statistical domains. Where inconsistencies cannot be sufficiently explained through internal analysis, they are discussed directly with the affected MNEs as part of the clarification and resolution process.

Identified and agreed data corrections are included in a quarterly (for the largest MNEs) or yearly LCU data deliverance. Ideally, the affected MNEs correct and resubmit the data report where necessary. In practice, however, retrospective corrections are often implemented by the individual statistical domains, while the primary emphasis is placed on ensuring that the MNE reports accurately and consistently going forward. The LCU closely supervises the implementation of agreed corrections and conducts systematic follow-ups with the relevant statistical domains where corrections are delayed, incomplete, or not implemented as agreed. This oversight function is essential to ensure that identified inconsistencies are effectively resolved and reflected in the official statistics.

In addition to the core tasks, the LCU is involved in various ***ad-hoc issues***, such as the impact of MNEs transfer pricing practises on monthly and quarterly statistics, large investment and construction projects, identification of non-resident units, and identification of Factory-less Goods Producers (FGPs).

Cooperation is a defining feature of the LCU. **International cooperation** is primarily anchored in participation in the Eurostat-supported LCU Consortium. Initially comprising the LCUs of Denmark, Ireland, the Netherlands, and Sweden, the consortium has since expanded to include Belgium, Germany, and Spain. The consortium has played an active role in supporting and supervising countries in the establishment and development of LCU work. In this context, the Danish LCU has supervised LCU implementation in Greece, Poland, and Spain. In addition, the consortium contributes to the development of Eurostat's LCU Guidelines, which are expected to be published in 2026, and facilitates annual European Statistical Training Programme (ESTP) courses dedicated to LCU work.

An essential part of the LCU work is ***cooperating with MNEs****.* It serves several purposes. A thorough understanding of an MNE's organisational structure, production set-up, and business model often requires information that only the enterprise itself can provide. Similarly, the resolution of data inconsistencies almost always requires coordinated communication with the MNE, ensuring that contacts are consolidated through the LCU and avoiding multiple, uncoordinated approaches from different statistical domains. In practice, many MNEs use the LCU as a point of entry for questions regarding data reporting to individual statistical domains. In some cases, the LCU has also assisted MNEs in the interpretation of published official statistics. Furthermore, the established LCU contact channels have been used to involve MNEs in policy-related discussions concerning official statistics at both national and European levels.

Overall, the LCU has established trust-based cooperation with multinational enterprises, as opposed to fragmented and enforcement-driven interactions, thereby enhancing data quality, consistency, and mutual understanding between Statistics Denmark and large MNEs.

Internal cooperation is at least as essential to the LCU as external cooperation. Ensuring that the structures of multinational enterprises (MNEs) are registered correctly requires close collaboration between the LCU and the Statistical Business Register (SBR). Coordinated communication with MNEs depends on effective cooperation between the LCU and the statistical domains. Likewise, agreeing on data corrections and ensuring their coordinated implementation across statistical domains requires a high level of internal cooperation—and mutual trust.

To strengthen internal cooperation and trust, the LCU facilitates regular internal meetings with key stakeholders at both managerial and expert levels.

Transparency is ensured through the systematic discussion and documentation of data corrections, both in meetings and in writing. Knowledge about LCU activities and individual MNEs is shared through a quarterly LCU newsletter and an internal LCU training course.

After around eight years of operation, the results of the Danish Large Case Unit (LCU) are well recognized:

- Better understanding of the largest MNEs structure and business models.
- More precise and up-to-date delineation of the structure of the largest MNEs in the SBR (and EuroGroups Register).
- Identification and implementation of complex enterprises in the SBR and in the statistical production processes.
- More consistent and accurate data reporting by large MNEs
- Improved relationships and communication with MNEs.
- Stronger internal knowledge sharing and coordination regarding MNEs data reporting across statistical domains

The final point does not imply that internal silos have been dismantled - they remain in place. However, doors have been opened and a shared understanding has emerged that silo thinking is incompatible with the production of consistent, high-quality official statistics. Arguably, this shift in mindset is the ***most important and innovative outcome*** of the LCU's work at Statistics Denmark, underpinning all of the unit's core tasks.

Challenges nevertheless remain. Many of the typical day-to-day challenges of LCU work persist. These include highly dynamic and continuously evolving MNEs – set against the backdrop of a comparatively less dynamic statistical institution - as well as uncooperative MNEs, frequently changing contact persons, and staff turnover within the LCU itself.

However, one overarching and more enduring challenge has been an almost defining feature of the Danish LCU: a lack of consistency between managerial rhetoric and actual resource allocation. At the intersection of diminishing resources and expanding responsibilities - alongside shifting managerial priorities - LCU work has often drawn the shortest straw.

The Finish LCU

Since 2007, Statistics Finland has recognised a clear need to improve services for large data suppliers so that they would perceive the organisation as a unified entity. At the same time, there was a strong need to enhance cooperation and coherence across economic statistics, as domain specific statistics had been produced largely independently. These considerations led to the establishment of a working group on large enterprises in 2008 (1 FTE). However, the members of this working group were able to devote only very limited working time to the group's tasks during 2008–2009, which significantly slowed the achievement of the newly specified objectives. In addition, Statistics Finland decided to participate in the Essnet on Profiling project (11/2009–12/2013). For these reasons, a separate large enterprise team was created in 2010, and part time and full time coordinators were recruited between 2010 and 2013. In 2014, all part time coordinators became full time (4 FTE), enabling the LCU to expand its coverage to 20 multinational enterprise groups.

In 2020, an organisational reform took place. Several LCU members retired, changed employers, or moved to other positions within Statistics Finland, and no replacements were recruited. As a result, resources declined to 2.25 FTE, and the number of MNEs handled was reduced from twenty to fifteen. Current projections indicate that resources may fall below two FTE this year. At the same time, the LCU participates in the new tasks of the matrix team established at the beginning of the year, making it likely that the number of MNEs included in the large enterprise work will need to be reduced further.

During the early years, one challenge was the differing views within Statistics Finland regarding the focus of the team's work. Some expected the work to concentrate on a limited set of national statistical production processes, while others anticipated improvements in the quality of all national and international statistics and datasets in which large enterprises play a significant role. There were also differing opinions on which stages of the work were most critical for data quality and how much time each stage required. Consequently, the small team faced unrealistic and sometimes conflicting expectations relative to its available resources.

Collaboration with large enterprise groups also presents challenges. Statistical concepts are often unfamiliar to respondents, statistical surveys are not prioritised in their daily work, and interim reporting periods coincide with high workloads. These factors can delay data collection. Therefore, establishing and maintaining strong relationships with contact persons in multinational enterprises is essential. When successful, this creates a mutually beneficial situation: responses become more coordinated, contact persons can support data acquisition, response burden may decrease, and communication becomes easier, ultimately improving data quality. Cooperation with Nordic and other LCU networks—such as MNEnet, Nordic LCU, the Focus Group on LCUs—as well as with the SBR Working Group and task forces (EGR Producers, NSBR) supports the exchange of information and best practices.

Over time, certain core tasks have become established within the LCU. Coordinators have developed strong expertise in these areas, and centralising them within the unit has proven beneficial for the quality of statistics and datasets. The LCU has worked closely with the Business Register since its inception and continues to maintain and update the structures and classification variables of large enterprises in the Business Register, the Enterprise Group Register, and the EGR. For the same reason, it is responsible for both national and European profiling of the largest MNEs. In SBS, the LCU participates in sample selection, data collection, and data processing for MNEs. It also performs quarterly and annual consistency checks across SBS, STS, ITSS, ITGS, and NA. The LCU maintains contact with large enterprises, acts as Statistics Finland's single point of contact, and contributes to the tasks of the matrix team concerning large enterprises.

The LCU is part of the Economic and Large Enterprise Work group within the Data Resource Services department. At the beginning of 2026, a matrix team was established, consisting of LCU coordinators and statisticians from national accounts and SBS. The matrix team calculates enterprises' output, intermediate consumption, and value added for the national accounts annual flash estimate, and for the final release it also processes the corresponding variables in the national accounts and balance of payments information system. The LCU is responsible for industries where large enterprises have the greatest impact.

Work on LCUs has proven to be an effective way to ensure the quality and consistency of business and economic statistics. By focusing on the most economically significant MNEs, LCUs enable Statistics Finland to allocate resources strategically and ensure high quality data. Building on this success, a similar approach could be applied at the ESS level through the EGR. The perspective of the EGR and profiling processes could be aligned with the LCU ideology by prioritising only those legal units or enterprises of top tier groups that exceed a predefined threshold of economic significance, both within and outside Europe. This shift would move the focus from identifying active and inactive units within corporate structures to ensuring comprehensive coverage of entities most relevant to business and economic statistics. As a result, the EGR would better meet the needs of business and economic statistics by ensuring that all relevant legal units and enterprises are included with the required data.

The Norwegian LCU

Organisation within Statistics Norway

Being a small, open economy, Norway has a relatively large share of enterprises engaged in a global economy. In recent years studies have been initiated to look into conceptual and practical problems to capture correct and consistent data for MNEs and other companies involved in global production arrangements, see for example *Evensen and Halvorsen (2012)* and *Evensen (2015)*. Also in other industries than manufacturing, Norwegian firms are heavily engaged in international markets, like in ocean transport and services related to oil and gas activity where domestic legal units often are parts of MNEs and the capital (ships or rigs) may easily be moved to other territories. This may lead to pragmatic difficulties measuring domestic figures correctly on a micro level, with inconsistences between figures for domestic activity and net export. A minor project was put down in 2017 to discuss how issues related to MNEs could be worked with in a systematic manner with the aim to lead to better quality in source statistics, NA and BoP, of which evaluating organisation models and available resources.

Statistics Norway established a Large Case Unit (LCU) from January 2018, following the conclusion from the pre-project. It was decided to split the work related to profiling and establishing statistical units in one team, and other tasks related to data quality and consistency checks in another team. For internal use in Statistics Norway (and used in this paper), the first team is referred to as the profiling team, while the latter team has been referred to as the “LCU-group”. It was also pointed out that the two teams had to cooperate and discuss general principles as well as solutions regarding “difficult” MNEs, which has been followed up in the subsequent years.

The work on “new” statistical units, profiling and European profiling was located within the Business Register unit. 4 persons worked and still work with large MNEs, of which 1.5 fulltime equivalent persons related to global and national profiling.

The LCU- group was organised as a part of the Division for National Accounts, but with resources and expertise also from other divisions in Statistics Norway, of this external trade statistics, industry development (FoU, FATS, etc) and structural business statistics (SBS). For the first years six persons were included in the LCU-group, of which two dedicated persons and the other persons with 0.2 percent of fulltime. Over the years, the persons with LCU-tasks have increasingly more other tasks in addition to LCU -related tasks. Two persons have left Statistics Norway and were not replaced. From 2023 onward resources dedicated to explicit LCU-tasks have been close to zero.

Profiling and delineation of statistical units

The profiling team located within the Business Register in Statistics Norway in Kongsvinger, has had the responsibility for national and international profiling, and also the principles and rules to establish the statistical units enterprises (ENT), where enterprises might differ from legal units (LU). More specifically, ENT might be equal to on LU, or summed up by two or more LU units within the same enterprise group, where internal transactions between these LU are removed.

The European initiatives on profiling activities followed by stronger demands on following the regulation on statistical units activated several activities in Norway, starting already in 2014/15. It was early decided that, while profiling activities should only be performed on large and important Enterprise Groups, rules for complex enterprises and other statistical units had to be implemented for the entire SBR. The Norwegian SBR has a long history of identifying “special units” like ancillary units and holding companies. These types of units were marked in the SBR and given two sets of activity codes but they were not integrated in complex enterprises as such. Now was the opportunity to do something about this.

The first initiative on profiling was to perform automatic profiling on all Enterprise groups except for a few complex cases which were to be profiled manually. The rules for delineation produced homogeneous enterprises by sector an activity codes inside the Enterprise groups. Testing these Enterprises in a pilot study for the SBS in 2019 gave us two main results:

1. poor feedback from the responders who didn’t understand the units

2. trigged the macroeconomics statistics inside Statistic Norway to get involved

We had to take a step back and used the year 2020 trying to unify the different views inside Statistics Norway. It was important to reach a consensus across all statistical domains because the statistical units were to be used in all statistics under the EBS regulation.

The macroeconomics statistics view dominated the debate, and to make a long story short, the possibilities to join several legal units into one ENT were heavily restricted.

Today we have approximately 4 500 complex ENT which of 2 000 will have an impact on SBS and other Business statistics.

Profiling activities

In Norway we don't have a specific pool of Enterprise groups followed by a profiling team. We do however perform profiling activities, often initiated by SBS or LCU, mostly on groups in a specific activity like shipping or aquaculture. The main goals for the profiling activity are to understand the organization of the group activity, maintain activity codes and identify special units performing ancillary activity or SPEs. We do not aim to eliminate all internal flows inside the Enterprise group but focus on consolidating units only performing internal services or units only providing one production factor. These profiling activities are for the most part done on desktop basis.

The production system

The statistical units are integrated as a part of the SBR in Statistics Norway. The Enterprises and Kind of activity-units (KAU) are linked to the administrative units which are updated daily from administrative sources. Our goal is to also update the statistical units automatically but there are limitations in performing the automatic system on complex units and we do have control routines spitting out inconsistences from administrative sources updating units that form part of complex statistical units. Our Enterprise groups register is largely updated once a year and this update creates a lot of work maintaining the complex Enterprises.

SBS with figures for new ENT and KAU were published in 2025 and implemented in NA in the 2024 benchmark revision of the NA and BoP. The revision process was delayed, so the publishing of revised figures was postponed to November 2025 (see *Evensen, 2025*, chapter 2.1.)

Tasks of the LCU-group

The aim of the work in the LCU group is to improve consistency and quality of data regarding large and complex enterprises in the NA and BoP source statistics, as well as in the NA and BoP. In Norway, Division for National Accounts in Statistics Norway do also have the responsibility to compile and publish Balance of Payments (BoP) and system and figures for BoP is integrated with the NA.

It is the work with companies that forms the core of the LCU group's work. Since all data reports and reports legally must be based on LE, the first automatic steps, like assembling data and first analyses, the starting points is the LE. However figures for LE are then analysed in the context of ENT and/or enterprise group.

The work with units can be divided into the following subtasks:

1. Selection of LE for assembly
2. Automatic comparison of data
3. Analysis of LE and ENT (finding reasons for any discrepancies)
    1. Internal analysis based on available data
    2. Dialogue with other sections, and possibly with the Tax Administration
4. Dialogue with companies
5. Suggestions for correction

The comparison of data (step 1 and 2) is done for all LE where such data are available, that is more than 3000 LUs. Further steps are taken for selected number of companies, where the criteria has been

- Size of observed inconsistency between reported total export (in external trade statistics) and reported sales incomes from abroad in notes in annual accounts

- Size of the company relative to macro figures

- Other reported problems in statistics

The number of analyses and further steps have varied between years, depending on available resources.

Among the LCU tasks is to get into dialog with selected companies (step 4), whereas the selection of companies is based on identification of consistency issues. One important source for inconsistency in the statistical sources we observe, is related to global production in general, and processing and merchanting in particular. From the beginning, information about export and import in relating to these production arrangements and consistent with 2008 SNA and BPM6 were incomplete or missing. The LCU-group took several steps to gain and register more information:

- Questions about export and import of goods related to production and sales of goods abroad (goods not crossing the Norwegian border) were included in the survey of external trade in services (ETSS) together with an explanation.
- Questions about production arrangements (with answers yes or no) were included in the SBS sample survey for manufacturing industries.
- LUs/ENTs and/or KAU with global production arrangements inward processing, processing abroad, merchanting and factoryless goods producers were marked in the business register, with different marks for the different arrangements.

From these more companies with global production arrangements were identified, the LCU made sure they were included in the sample survey of the ETSS and reported correctly. Companies are contacted when they clearly are misreporting and some companies have been followed up with meetings.

New and corrected figures for export and import related to global productions arrangements were implemented in a “light” benchmark revision of the NA and BoP published in November 2022 (see *Statistics Norway, 2022*). The LCU – group were also responsible for methods, calculations and implementation of the figures in the NA and BoP. As a result, net export were revised upward with more than 50 per cent for the year 2019.

So far the work in the LCU has focused on consistency between the compilation of national activity and reporting of international trade. However, analyses have also done for gross fixed capital formation and for employment and compensation of employees.

As written above, the LCU-group has also cooperated with the profiling team and SBS in establishing principles and methods to construct ENTs based on more than LU. To some extent, cooperation with other divisions in Statistics Norway and the national tax authorities has also taken place. The LCU – group has also been in charge of following international cooperation regarding work with MNEs, like the Eurostat MNEnet.

The work has also led to better knowledge om many MNEs and members of the group has contributed to calcualtions of more accourate figures on a micro level for specific issues, leading to better quality also on a macro level. Further, the group has contributed to international discussions regarding globalisation, leading to revisions of System of National Accounts.

Remaining challenges

MNEs and global production arrangements are not stable, but continuously changing. The structure of global enterprise groups, or even domestic part of enterprise group is also dynamic. That means that even though implementing better quality in the register and new figures in statistics, NA and BoP, this important quality work is not, and never will be, finished. To maintain quality in the statistics, including the NA and BoP, there is a need to follow up the work in both teams.

Already from the start, there has been a gap between the aims related to LCU-tasks and profiling on one side and resource allocation on the other side. Persons involved in these tasks are highly quailitied personell wanted for other tasks as well. Statistics Norway is in a process updating the IT-system to open source, of this reprogramming existing IT-programs into phyton. Together with generally tight budgets and turnover, the remaining resources to improve or maintain high quality in the statistics is tighter, and of this LCU-tasks have been given continually less priority the recent years.

From 2024 and onward there has in practice been little (close to zero), avvailable resources left for profiling and LCU-tasks. For 2026 and 2027 Statictics Norway has received grants from Eurostat to modify and develop the LCU consistency tool and after finalising the grant project, we hope to work more effenciently and with more dedicated resources in the coming years.

The Swedish LCU

The Swedish LCU was established, at first in a small scale, 2004 with the aim of improving the quality of National Accounts (NA). The work has been scaled up and today the Swedish LCU monitors around 40 MNEs. The main tasks of the LCU are:

- Coherence analysis/Consistency checks
- Profiling activities, including participation in European Profiling
- Coordination role (Quarterly Sample Frame, Harmonized Annual Frame)
- International cooperation, including:
  - European Profiling
  - MNEnet
  - LCU Consortium

The Swedish LCU is a part of the Economic Statistics Department and as a group we know a little about a lot! However, the different LCU-coworkers are experts in different fields such as Business Registers, EuroGroups Register, different Business Surveys such as SBS and also experts in accounting. When it comes to staffing, personal characteristics is important. An LCU-coworker must have a networking personality and needs to have social skills such as to be communicative, humble, responsive, prestigeless and to be patient.

There are currently 11 persons working with LCU-tasks and profiling, but not 11 FTE:s. Two are team leaders: one for the MNE consistency work and one for profiling activities and some of the coworkers work with tasks outside the LCU. Roughly counted the group consists of 9 FTE:s. The tasks and responsibilities for the LCU are to follow the MNE and its industry both internally at Statistics Sweden and externally in press releases, media etc. We build relationships with the MNE, handle questions from National Accounts and questions from primary statistics surveys.

A coherent analysis is produced on a quarterly and yearly basis. Every quarter, companies are reviewed and then LCU provides an update to NA where current cases are discussed. Other actors within the economic-statistical system are also invited to these meetings. The same holds for the annual analysis.

The following areas are important in NA calculations and hence important for our LCU work. The starting point is that NA require good consistency between different surveys that essentially measure and collect similar or related data. Both administrative data and survey data are used in the checks. Different surveys can be grouped within these areas to be analysed together. The consistency work is done on both quarterly and annual data.

The consistency areas are:
- Production;
- Consumption;
- Foreign trade export/import;

- Stock changes;
- Investment;
- Wages & salaries;
- Employment.

The purpose is to gather variables and/or variable areas from different surveys and administrative registers and compare them to test the consistency of the data so that they are similar or within a given range.

The system of economic statistics is a complex system of different statistical surveys that, together, gives the most complete picture of the Swedish business sector. If data from different sources are not coherent, the picture will be blurred and difficult to understand and analyse.

To support a systematic approach to consistency checking, a new IT-tool, SAMBI, has been implemented. The system meets the identified needs for Sweden, including access to detailed micro data, present data in a time series and handle different periodicity and different observation units. It also enables data export for further analysis and processing.

The analysis is based on aggregating and summarising data at the object level according to periodicity. The variables used in consistency checks can be decomposed to identify their underlying values, enabling the source of any inconsistencies to be traced. Data is analysed across longer time series simultaneously to discern patterns.

The essential part of our approach is the ability to establish links between observation units across different surveys. The Swedish SBR serves as the backbone for all our business statistics. The surveys all draw their samples from the quarterly coordinated sample frames, within which links between the statistical units are maintained. The LCU IT-tool SAMBI utilises this structure. In addition, there is the advantage of access to administrative data provided by external sources, such as the Swedish tax office, that also use the same unique identifier for the legal units (LEU) as we do.

Profiling of enterprise groups entails mapping and describing enterprise structures with regard to their organisation and control. The outcome of the profiling process is a structured description of enterprises using statistical units. The LCU is responsible for manual profiling of approximately 400 MNE in the non-financial sector. Profiling encompasses both national and European profiling activities.

Sweden has been part of the LCU Consortium since 2019 together with the Netherlands, Denmark and Ireland. Since the start, the consortium has expanded to include Belgium, Germany, and Spain. With the aim in supporting and supervising countries in the establishment and development of LCU work, the Swedish LCU has supervised LCU implementation in Hungary, Portugal and Austria. In addition to holding ESTP courses, cross-country exchange of experience also takes place in various constellations, such as Nordic meetings, MNEnet-meetings and so on.

Challenges that the Swedish LCU often faces has to do with resources and priorities within the NSI. The employees' skills may be needed in other investigations and projects, and therefore the level of ambition in the LCU-work sometimes needs to be adjusted. Since we also take on ad-hoc cases, these investigations can for a certain period take a lot of resources from the LCU-team. The quarterly coherence analysis is generally prioritized before the yearly coherence analysis.

The world around us is changing at an increasingly rapid pace, both within Statistics Sweden and in the globalized economy that we measure. This creates challenges for the LCU, that needs to remain up to date with new economic phenomena and changes in the surveys, in order to ensure high quality in the statistics.