

Statbus

Statistical Business Register System

Guidelines for subject matter implementation and adaption

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1 About this document

This document is a combination of a template and suggestions on how to create user guidelines when implementing a Statbus business register system. The document is to be regarded as an addition to the UNECE “Guidelines for Statistical Business register”: Where “the Guidelines” are general, international recommendations, this document brings the topic down to a national strategy.

The texts inside boxes are suggestions on what to add and change for country specific contents of this document and should be removed from the final version, while texts not inside boxes are common for all implementations

2 Preface

STATBUS is an open-source technical solution for Statistical Business Registers. The project was started by Statistics Norway and National Statistical Committee of the Kyrgyz republic and is now administered by a board consisting of representatives from Statistics Norway, Statistics Sweden and StatAfrique (the statistical division of African Union)

This manual is intended for the staff responsible for the daily work on the Business register. It contains instructions on how to maintain the register, but also some definitions and other register subject matter issues.

For a full overview on international standards for statistical business register, see UNECE’s “guidelines for statistical business register”. In addition to this, there are two more relevant documents: The technical user manual for end users and Programmer’s manual for system administrators and developers.

Thanks to Ann-Kristin Hansson, author of the guidelines for maintenance of Statistics Norway’s business register. Her document served as an inspiration and basis of this document.

2.1 List of Abbreviations

- **CSV:** “Comma Separated Values” – a file format for data files
- **GSBPM:** Generic Statistical Business Process Model
- **KAU:** Kind-of-Activity Unit
- **LeU:** Legal Unit
- **LKAU:** Local Kind-of-Activity Unit

- **LoU:** Local Unit
- **NSO:** National Statistical Office
- **SBR:** Statistical business register
- **STATBUS:** STATistical BUSiness register. The software solution discussed in this document
- **XML:** “Extendible Markup Language” - a file format for data files
- ...

Remember to add abbreviations as needed.

2.2 Purpose of the register

A Statistical Business Register should be a complete and regularly updated register of all economic units of a country. This is the basis for a common and uniform population to be used in all business-related statistics departments in the institution.

The most important tasks of the business register managers are:

- To keep the register updated and relevant by uploading data from administrative sources and relevant surveys and censuses. A register that is not maintained on a regular basis, very soon becomes outdated and obsolete.
- Define and construct statistical units.
- Classify units according to sector and activities.
- Develop business statistics.
- Assist subject matter departments in creating sample frames for business surveys.

The advantage of having a business register is easily lost if the register is not updated from administrative sources on a regular basis. And as no sources are perfect, manual updating procedures are needed on a daily basis. See also Chapter 8.1 about GSBPM.

Add country specific contents as needed according to policies at the institution. Briefly about the following: Do other employees than the register department have access to the system? If so: What kind of access? What are their duties: Are they expected to update? Etc? (There is a chapter towards the end for the details)

2.3 Content and scope of StatBus

STATBUS is flexible when it comes to what kind of units that are to be in use, and it is up to the NSO to decide on this. However, for each legal unit that is entered into the register, 3 units are created: The legal unit itself, the local unit where the actual production happens, and the enterprise which is the units of which the statistics should be generated from. In this basic case,

there is a one-to-one relation between enterprise and legal unit, and between legal unit and local unit.

What units are included in the register? Dependent on available data and the quality thereof, one can choose to treat all units as “the same kind” by uploading all units as legal units. In this case, the register will function as a register of “businesses” only.

Another option is to differ between legal units and local units, often called enterprises and establishments respectively. In this case, we still have the one-to-one relation between the register’s enterprises and legal units, but the relation between legal units and local units is one-to-many. In addition, it is configurable whether the local units can be standalone establishments or not.

The information stored for each unit is limited to those characteristics that are important for the statistics on economics, industry, and commerce.

1. **Identification data** – the information that allows to identify a statistical unit (id codes, name, address, contact information, etc.)
2. **Statistical data** – a set of economic indicators (numbers of employees, types of activities, sector code)
3. **Demographic data** – information and timing of events related to lifecycle of a subject of accounting (creation, liquidation, reorganization, mergers and acquisitions, *etc.*)
4. **Relationship variables** - References to related units

Within the system, each unit is identified by a unique computer-generated ID. In addition, as many NSOs already have an ID for the units, as well as ID given by the owners of the external data sources, there are three more fields for ID numbers:

- Stat id: the ID already existing at the NSO.
- Tax id: The ID given by the Tax authorities.
- External id: an ID given by an external source (different from tax).
- Reference number of paper questionnaire.

Which of these IDs are in use at the institution? Describe policies for assigning ID numbers.

2.3.1 What STATBUS does not cover

Requests have been made by different countries to have industry specific information as part of the register. This is not taken into account as there are so many industries and adding variables for each one of them would render the register useless.

Instead, it is recommended to create “satellite” registers containing the relevant variables and linked to the main SBR.

Examples of these satellite registers are register of agriculture units containing info on crops, husbandry and acreage, school register with type of school, number of students etc

Document satellite registers here?

2.4 Preliminary/preparatory work

It is assumed that STATBUS is already available at the servers of the institution when this document becomes relevant, but in addition to this, thorough considerations should be taken on the contents of the classifications that goes into the system: These must be uploaded before any businesses can be entered into the system.

Also, decisions on data quality settings must be made. This is done in the `appsettings.shared.json` and `appsettings.production.json`. It is a good idea to do this before rewriting this document, so that the settings can be reflected here. But keep in mind that these settings can be changed later – as data quality improves.

3 Units in the register

3.1 Legal unit

A Legal unit is a unit that is recognized by law or society, independently of the persons or institutions that own it. The characteristics of a legal unit are that it owns goods or assets, it incurs liabilities, and it enters into contracts.

Legal units include

- Legal persons whose existence is recognized by law independently of the individuals or institutions which may own them or are members of them.
- Natural persons who are engaged in an economic activity in their own right.
- Public Sector

The legal unit always forms, either by itself or sometimes in combination with other legal units, the basis for the statistical unit enterprise.

The legal units are the “base units” of the register as they are the ones that are most commonly registered at tax authority and other administrative sources.

3.2 Enterprise

An enterprise is a legal unit or the smallest set of legal units that produces goods or services and that has autonomy with respect to financial and investment decision-making. An enterprise may be a corporation (or quasi-corporation), a non-profit institution, or an unincorporated enterprise. An unincorporated enterprise is household or government unit in its capacity as a producer of goods or services.

Hence an enterprise is a composite unit which is only recognized in the statistical office - as they are not registered in other institutions.

Most NSOs do not have data to identify the enterprises, so this feature of the register can be ignored. It is, however, a part of the system and should be mentioned here for completeness' sake.

When and if the institution decides to identify the enterprises, this will be a manual job. Luckily, only a few of the biggest companies will be associated with more than one legal unit, so when working on this issue, start working with the largest units.

3.3 Kind-of-activity unit (KAU)

A KAU is an enterprise or part of an enterprise that engages in only one kind of productive activity or in which the principal productive activity accounts for most of the value added. Hence an enterprise can consist of one or more KAUs.

Operational rules for dealing the KAU must balance the need for homogeneity against data availability, one must also consider the costs of maintaining the KAU, the response burden and the efforts required to maintain consistency with statistics based on the enterprise. It is therefore proposed to be pragmatic in choosing the operational rules and not to split enterprises into KAUs lightly. It is also proposed not to distinguish KAUs from enterprises if there is no statistical need to do so.

Therefore, KAUs should only normally be created in sections of NACE where there is a requirement for data collection at that level.

In STATBUS, there are no explicit KAU units, but they can be derived from the activity table. by joining the tables containing statistical units (Ent and LoU/LKAU) with the activities table.

3.4 Local unit

Is an enterprise or a part of an enterprise (for example, a workshop, factory, warehouse, office, mine or depot) that engages in productive activity at or from one location for which one or more person's work.

Notice that once an enterprise unit has become active, it has by default a local unit which is the locality of which the ENT operates from.

3.5 Local kind-of-activity unit

Is an enterprise or part of an enterprise that is situated in a single location and in which only a single (non-ancillary) productive activity is carried out or in which the principal productive activity accounts for most of the value added.

Statistics about lower-level units are in general either by local unit or by LKAU. It is, however recommended to use local units as the smallest units - as data about LKAUS are hardly ever accurate. Clarify here what the preferred level is. Most European countries do not use LKAU but local units.

If LKAUs are used, customAnalysisChecks can be used to sum up to the parent LKAUS. See chapter XXX

3.6 Enterprise group

Is an association of legal units bound together by legal and/or financial links and controlled by the group head. An enterprise group can have more than one decision-making center, especially for policy decisions on production, sales, and profits. It may centralize certain aspects of financial management and taxation. It constitutes an economic entity which is empowered to make choices, particularly concerning the units which it comprises.

As of writing this, there is no internationally agreed definition of an enterprise group. The following is the EU definition:

An enterprise group is a set of legal units bound together by legal and/or financial links under the same control.

The part of a multinational enterprise group that comprises only the legal units resident in the particular country is defined to be a “truncated enterprise group” within that country.

An enterprise group is defined only in the situation where two or more legal units are linked together by control (if information about control is not known, ownership can be used as a proxy). The enterprise groups, therefore, do not cover the legal units which are linked to enterprises that are not part of an enterprise group.

3.7 Statistical units versus the administrative world

Administratively, only legal units, local units and clusters of legal units are registered (see left side of figure below), while in statistics, there are the *derived* units too. All units circled below are the units belonging to a statistical business register.

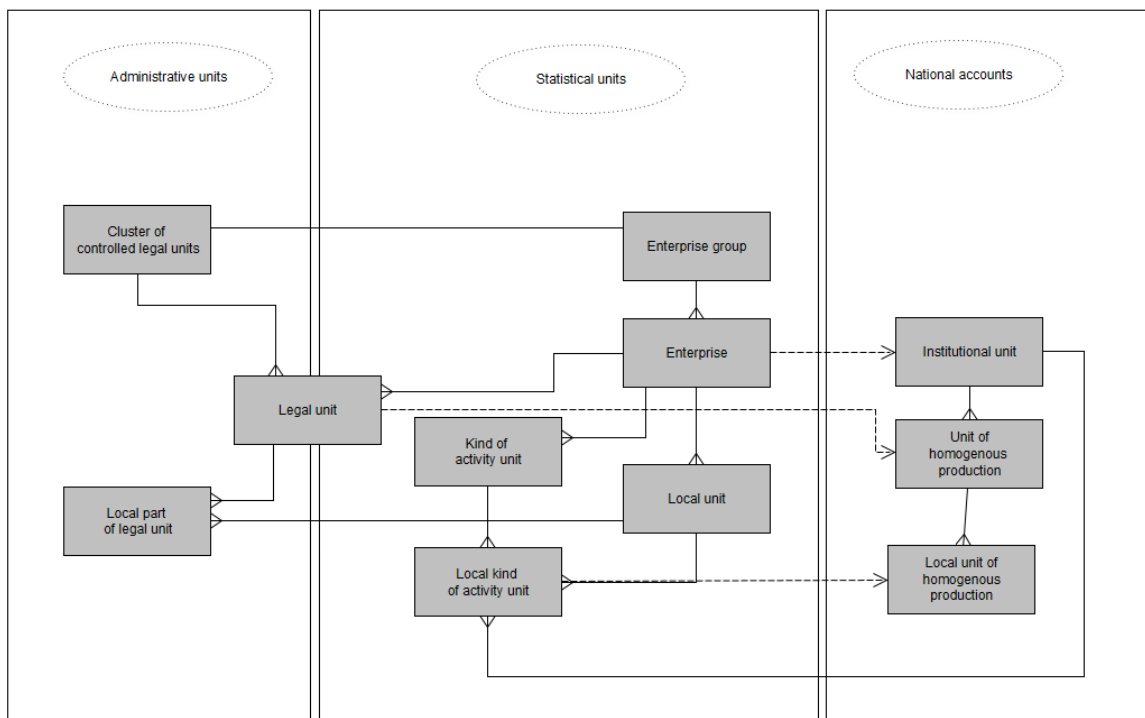


Figure 1: administrative and statistical units. Note that Legal Units also are a part of the statistical world, as much of the data collection happens at this level.

The register and its units are structured according to the figure - so that international requirements for reporting are followed.

Statistics should generally be made using the *enterprise* units (or, if there is data for it: KAU). Other relevant levels are *Enterprise groups* and local units or LKAU – dependent on what sources are available at lowest level.

In StatBus KAU and LKAU are not units per se: They can be derived by the one-to-many links between legal units and their activities or between local units and their activities respectively.

3.8 Relations between units

The units that normally are uploaded to the register are either legal units or local units. If Enterprises are constructed outside of the register, they can be uploaded too, but as this unit is “higher” in the database hierarchy, the links with the associated legal units have to be edited manually, hence it is not recommended.

If a legal unit is entered into the system, automatically a local unit and an enterprise is created as well. Unless no more data is entered, this is how it looks in the register:

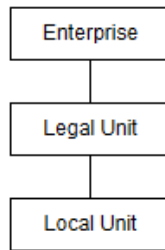


Figure 2

If more local units are known, they can be uploaded with link to the parent legal unit. Also, more than one activity can be uploaded when the legal unit or local unit are uploaded, so a more complete picture than the one above, could be something like this – where the activities are either KAUs or LKAUs according to their place in the hierarchy.

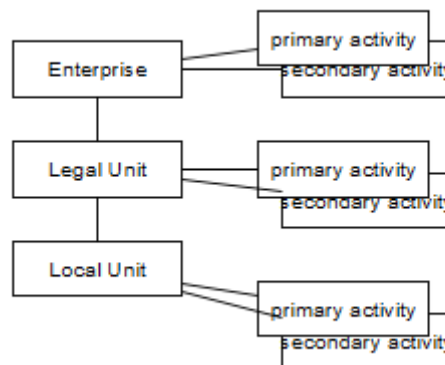


Figure 3

Policies on how to split local units into LKAUs must be agreed upon, as this is done differently in different countries. For example, say that a local unit produces and sells bikes. In Statistics Denmark, this unit will have 2 LKAUs, while in Statistics Sweden, they do not make this differentiation, and the unit has only one LKAU.

3.9 Public sector units and linking

Define what public sector is: In general, the public sector units are most units in section O of the NACE/ISIC classification, and all units in other ISIC/NACE sections if owned by the state. For a unit to be a legal unit in public sector, it must have the responsibility for its own budget, and it must set up a budget plan for the coming year and have a complete set of accounts for its budget and possibly for its assets.

Public sector units should be defined in a way that is consistent with that used for private sector units wherever possible. NACE is very clear that a unit (enterprises, or in a broader sense legal

units) should be classified according to its real activity (schools in Education, hospitals in Human health and social work, etc.). The concepts of enterprise and local unit are especially important for eliminating institutional differences for the purposes of comparisons, particularly regarding the inclusion of data on activities performed by the public sector that are not considered purely administrative (i.e., activities outside of NACE/ISIC section O)

In general, it should be possible to establish whether a unit is in public sector by looking at its sector code, legal form, ownership, activities and whether it is market/non-market unit.

The unit hierarchy in Figure 4 is how businesses are structured economically in private sector: A legal unit can have one or more local units, and alone or together with other legal units constitute an enterprise. A legal unit cannot be the parent of another legal unit (unless it has the structure of an enterprise group), and a local unit cannot own another local unit.

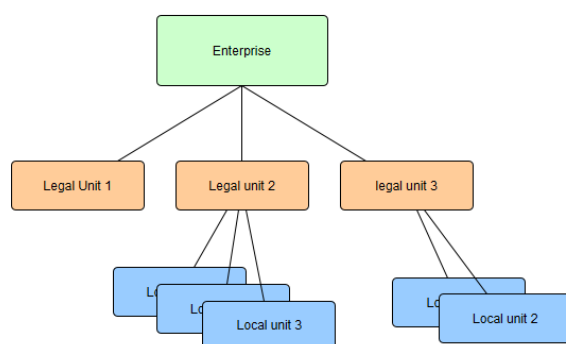


Figure 4: Unit hierarchy in private sector

In the public sector, however, units are often linked differently. An example could be the central statistical office – which is a legal unit. This is often subordinate to a ministry or the prime minister or president office which is also a legal unit. Also, the central statistical office might have regional offices at several levels, so that a regional office can be the parent of a district office.

Figure 5 below shows the hierarchy as it is using the definitions on legal- and local units while Figure 6 shows the organizational hierarchy:

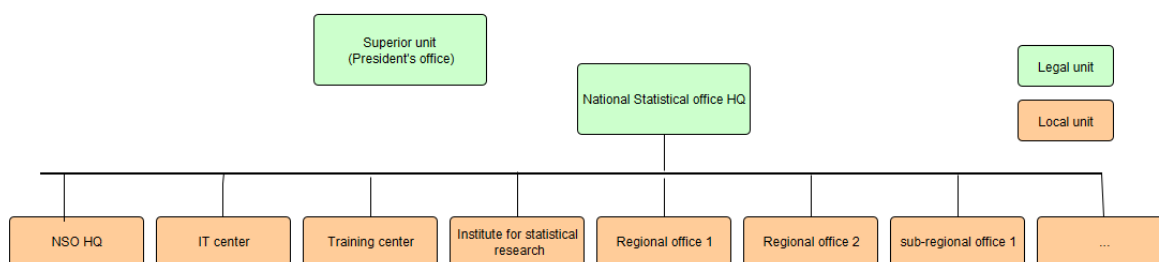


Figure 5: Example of public sector in SBR terminology

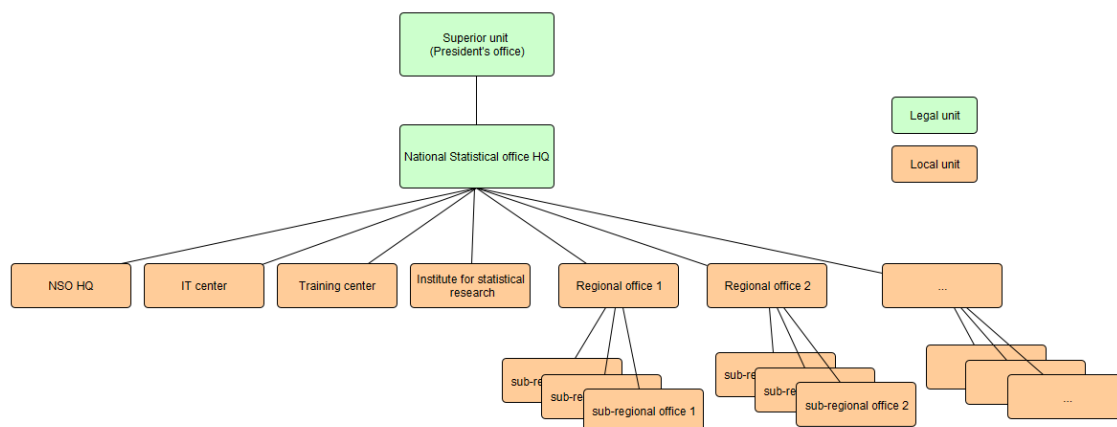


Figure 6: Actual organisational hierarchy in public sector

To reflect the organization of units in public sector, the variable *orglink* is used to make the public sector hierarchy. This variable allows linking with no restrictions, and it should be used so that the subordinate unit contains the link to its superior unit.

4 Characteristics of the units

4.1 Identification numbers

One of the main obstacles in most countries is the lack of a national ID of the economic units used by all public sector entities. To counter this, the system allows for several identification numbers given by various public sector bodies – in addition to the internal ID number that the system uses for identification.

4.1.1 Internal ID

This is a computer-generated ID used by the system internally and assigned automatically

4.1.2 Statistical ID

Most NSOs already have some kind of business register or a list of businesses used to draw samples, and very often this register already has an ID. Keeping this in the new register makes it possible to link with old data and other systems at the NSO.
This is also the main ID for human-to-system interactions, so if the NSO does not have a statistical id already, it is recommended to assign to this variable the internal id mentioned above.

When Legal units are inserted into the register, corresponding local units and enterprises are generated. These are given the same statistical ID as the legal units. To differ between them, use the unit type in addition to the statistical ID.

4.1.3 Tax ID

In most countries, the Tax Authorities either has the responsibility to register new units or they keep a list of them for tax paying matters. Also, the Tax authorities are the main source for administrative data, hence it is convenient to keep the ID assigned by them.

4.1.4 External, “generic” ID

In addition to the three ID numbers mentioned above, there is one generic id field that can be used as needed. Either as a global ID valid for all or most of the units - or defined only for a subset of the population at the time. If the latter is chosen, to identify which institution is the source for the given external id, there is a field – ExternalIdType – to keep track.

4.1.5 Dates related to the IDs

For each of the ID fields there is also a related date field.

- RegId date: This is the date when the unit was first registered in Statbus

- StatId date: The date when the unit was first registered at the NSO (This might be back in time if the NSO already had a business register)
- TaxId date: Date of first registration with the tax authority (for many countries: the date of birth of the unit)
- ExternalID date: Date of registration at the institution of the external id

(There is also date for change of status (whether the unit is active, dormant, liquidated etc) to make demographic statistics of the units possible)

4.2 Name of unit

4.2.1 Official name of unit

The official name of the unit is the name under which it is registered. It is also the name to use when corresponding with the units.

But it makes sense to have rules on how to register names as it is important to be consistent in how names are entered in the register, to make it easier to wild card search etc. If the register bases its data on administrative sources, it is up to them to decide the naming rules.

Below are the rules used in Statistics Norway. Add and delete as needed, but keep in mind that the most important one is the first one:

- Names should follow naming laws of the country
- The unit should be renamed if any of the following characters are used: ” . ; : ! ? ,
- Be consistent with names containing the words “limited” or ”incorporated”. They should either always be used in its abbreviated form (ltd or inc) with or without punctuation OR in its full form
- Hyphens, slashes and quotes should be avoided unless they naturally belong in the name or they are needed to follow the country’s spelling rules.
- The sequencing of words like hotel, studio, saloon in the names are to be decided by the unit itself.
- Should foreign letters be accepted? (for instance Mönster inc? – the letter ö is not used in Norway)
- Numbers should be registered as numbers – not as words
- Never use abbreviations other than inc/ltd unless the unit registered using the abbreviation

Are there special rules for names in public sector? Rules for names of subsidiaries?

4.2.2 Short name/Edited name

The short name is the abbreviation of the name that the unit uses about itself – or the name it is known under. For instance, the clothes brand Levi's real name is actually "Levi Strauss & co". It is important to make this as searchable as possible but also: Make sure not to add to confusion: Having many businesses with the same name might not be a good idea.

Other rules? Exclude words like inc and ltd to improve searchability?

It might also be considered to create some kind of hash function on the name and insert the result value in this field – and use it to improve data linking when different sources have no common ID, but this has to yet to be tested.

4.3 Addresses

The register has 3 addresses for each unit: The address as registered by <register authority of country>, actual address, and postal address.

Initially the address and the actual address are the same, but if the unit moves or it is otherwise discovered that the registered address is not correct, the actual address is to be used. This is to avoid overwriting corrected information if data is received from the register authority on a regular basis.

The postal address is a Post box if relevant.

As address systems vary a lot from country to country, the three different addresses each consists of 3 variables that accepts any kind of data, and it is up to the NSO to decide how to use them.

In addition to the address variables, there are GPS coordinates and code for region.

<specifications on what the address variables contain>

4.4 Variables about persons related to units in the register

The variables for persons are

- names (Given name, middle name(s), surname),
- National ID if relevant
- address
- 2 phone numbers
- Nationality
- Sex

- Role of person related to the unit
- Link to the unit(s) they are affiliated with, and role of person in relation with the unit

Write here about which variables are mandatory for the implementation. (It needs to be configured what variables about the person are mandatory) and what roles to use. They might be manager, contact person, owner, accountant.

4.5 Economic and stratification variables

4.5.1 Activities, sector code and legal form

As these three variables are more complicated to deal with, they have their own chapters and is mentioned here only for the completeness. See below for a full overview.

Each unit can have several activities: one primary and several secondary and/or ancillary. Ideally, activities should be coded at “lowest” level (local units) and summed upwards so that the activities of the enterprise are the sum of all the activities of its subordinates, but as it is unlikely to have good enough data for this, the activities are independent in all levels.

4.5.2 Turnover, turnover year and turnover date

Turnover might be measured in local currency, in thousands of local currency or even millions of local currency.

There are three variables related to the turnover: turnover itself, turnover year and turnover date (Register date). Ideally, turnover should be collected on an annual basis, but this might not be possible, hence there is a variable to keep track of what year the data was valid for (turnover year). The variable turnover date is the date when the turnover information was entered into the system or when it was reported by the unit. This needs to be decided upon (the database defaults to current date)

Example: Say the businesses report turnover for 2019 by 1st of February 2020. After this information has been checked, it is uploaded to the system 5th of April 2020, then turnover year = 2019. Turnover date is either the date when the unit reported the number, or the date of upload to the register.

4.5.3 Number of employees, number of people employed, Date of number of employees and number of employees year.

There are two variables for number of people working in a business:

- **Number of persons employed including owners and unpaid family workers** is defined as the total number of persons who work in the unit, including wage-earners and self-employed persons (i.e., working proprietors, partners working regularly in the unit and unpaid family workers) as well as persons who work outside the unit but who belong to it and are paid by it (e.g., sales representatives, delivery personnel, repair and maintenance teams).
- **Number of employees** is defined as those persons who work for an employer and who have a contract of employment and receive compensation in the form of wages, salaries, fees, gratuities, piecework pay or remuneration in kind.

If the variable number of people employed is not available, it can be estimated according to legal form and activity. For example:

- For sole proprietors, number of persons employed = number of employees + 1 (Because the owner generally works in his business, but he/she is not an employee)
- For two-person partnerships, number of persons employed = number of employees + 2.

As for turnover, there are additional variables for year of validity of data, and date for uploading the data into the register

4.5.4 Size

Most countries have size defined as a function of turnover and/or number of employees, but in some cases, this information is not available, hence the size has been made as an independent variable in this register. If data about turnover and number of employees is available, quality checks can be set so that the standard rules for size definitions can be enforced.

Add information on how size is defined here.

4.5.5 Capital and share of ownership

There are 5 variables for capital:

- State capital share
- Municipal capital share
- Private capital share
- Foreign capital share and Foreign capital currency
- Total capital

Ideally, total capital should be the sum of the other variables, and this should be set as a quality check.

4.5.6 Free Economic Zones (FEZ)

In some countries tax relief is given to businesses located in FEZ zones to improve their competitive power internationally.

4.6 Demographic variables

Demographic variables are variables with information and timing of events related to the lifecycle of an economic subject.

4.6.1 Status

The following codes are available, and unlike the other classifications and code lists in the system, this one is hard coded and should not be changed:

1. Active: The unit is working normally
2. Newly created, not yet active
3. Dormant: The unit is currently inactive, but it is not liquidated and could be woken up again later
4. (code not in use)
5. Historical: if historical data is imported. Units with this code are not active and has not been for a long time
6. In liquidation phase
7. Liquidated
8. (code not in use)
9. Unknown status

Decisions should be made whether all of the statuses should be used or not (but keep in mind that no codes should be added or changes – only removed).
Also, consider whether codes 3, 5 and 9 makes sense for the register: Maybe only one of these should be in use. If so: Decide on which one.

In addition to the above codes, there is a variable for whether a unit is deleted or not. As nothing in theory should ever be deleted from the register only marked as inactive or liquidated, this variable should only be used *if the unit was entered wrongly and never existed at all in the first place*. Only administrators can mark units as deleted.

4.6.2 Liquidation and reorganization variables

Liquidation of a unit must be done in the interface for modifying units (ie. It cannot be uploaded from a file).

To mark a unit as liquidated, the status should be altered to “Liquidated” (or “In liquidation phase”), but in addition to the status, there are four more variables to change in the reorganization area:

- Liquidation date
- Reason for liquidation (free text)
- Suspension start date
- (Suspension end date)

Reorganization of units is done with the variables:

- reorg type (This is a link to a classification)
- reorg date

- reorg references

4.7 Link variables

As stated in chapter 2.9 for each Legal unit that is uploaded or added to the register, its local unit and enterprise are automatically added. This happens even in the concept of enterprise is not really in use.

4.7.1 General relations between units

- Local units are linked with its legal units through the “Legal Unit Id” variable. This link has to be handled when “genuine” local units are uploaded/added to the register but happens automatically for the local units that are generated when a new legal unit is entered.

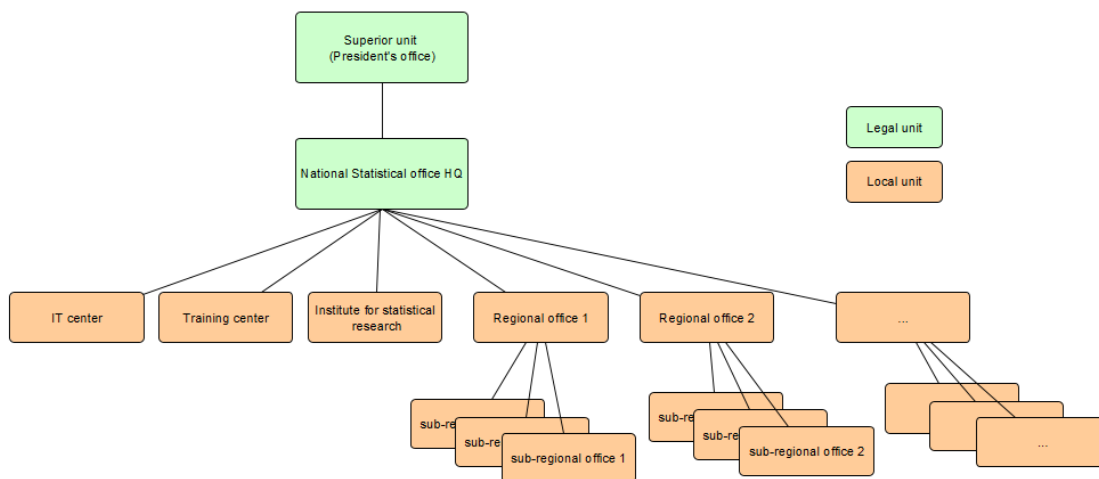
If the system is used in a configuration where local units are allowed to exist without having a legal unit linked with it, clarify that here)

- Legal units are linked with the enterprise through the “Enterprise unit Id” variable. If there is a one-to-one correspondence between legal units and enterprises, this feature can be ignored: The linking happens automatically. If the relation between legal unit and enterprise is one-to-many, linking can be done in the modify unit page.
NB: If a legal unit is linked with an enterprise which is not the generated enterprise, make sure to delete the latter from the system.
- Enterprises can be linked with Enterprise groups. As there is no upload functionality for enterprise groups, they have to be added to the system manually, and the linking must also be done manually.

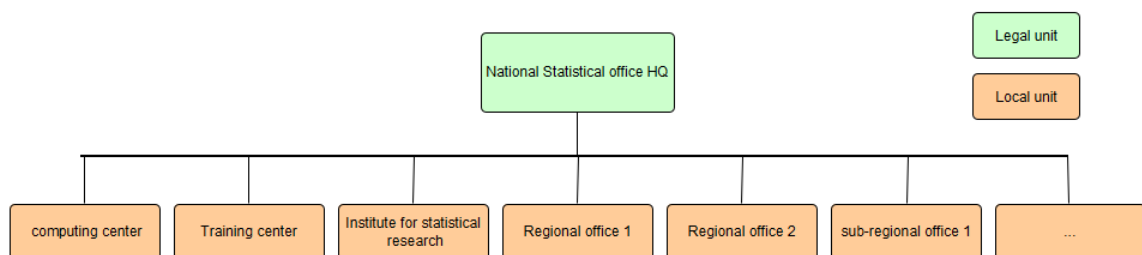
4.7.2 Linking public sector units

As public sector does not conform to the general hierarchy of local units belonging to a legal unit, and legal units being associated within enterprises, a special variable is made to keep track of this: organisational link – or orglink. Using this, a map can be made of the actual relations in the public sector.

Example: Let us consider again a National Statistical office with the following organisational structure:



The only two legal units in the system are President's office and the HQ, which is a subordinate of the president's office and itself has subordinated regional offices as well as a few other local units. The regional offices have their own subordinates: the sub-regional offices. This structure is not possible to derive from the "normal" hierarchy of economic units because neither legal units nor local units can have subordinates of the same type as they are themselves, hence using the standard hierarchy, the NSO system becomes like this:



With no way of linking the president's office with the NSO nor getting a map of the dependencies of the various units of the NSO.

Using the orglink variable, a sub-regional office can be linked with its regional office which again can be linked with the HQ, and there is no limitation of how deep this linking can be.

5 Legal Forms

The legal forms classification is country specific and dependent on laws on establishing companies of the country. European Union member states typically support the following legal forms

- Sole proprietorship: enterprise owned exclusively by one natural person.
- Partnership: association of persons who conduct a business under a collective name. It can take the form of a limited partnership.
 - Limited liability company: enterprise that is a joint-stock company, limited partnership with share capital, or private limited company. (Harmonized rules at European level governing the publication of accounts for these types of companies are laid down by the Fourth Council Directive).
- Co-operative society: body established by law in a country, observing a number of general principles, for example may be entitled to provide services only to members, profits often distributed in proportion to members' dealings with the society, etc.
- Non-profit making body.
- Enterprise with other form of legal constitution: this group includes nationalized industries, publicly owned enterprises, and state and local authority monopolies.

The above list is probably a bare minimum. Most countries have more legal forms than this. Norway has for instance around 40, while in Kyrgyzstan they have legal form for independent public institutions – like Courts and other non-legal unit units.

In addition to the above forms, one could consider having separate legal forms for public sector. For instance

- “The state”: ministries, prime minister's office, National bank, directorates, defense, judicial units etc
- Regional administration
- Municipal administration

Notice that the legal form is registered only at legal unit level, hence legal forms describing local units are not needed.

6 Activity coding

6.1 The ISIC and NACE standards

In this chapter, the standard not in use by the country should be removed.

There are two standards for activity coding: ISIC is the United Nation's international standard industrial classification of all economic activities – mostly used in America and Africa, and NACE, used in Europe and Asia. NACE is derived from ISIC, and is more detailed at lower levels, while the highest levels are the same.

The hierarchy of ISIC/NACE is as follows

- a first level consisting of headings identified by an alphabetical code (sections),
- a second level consisting of headings identified by a two-digit numerical code (divisions),
- a third level consisting of headings identified by a three-digit numerical code (groups),
- a fourth level consisting of headings identified by a four-digit numerical code (classes).

More levels can be added as a national extension also for administrative use.

Detailed information about ISIC can be found in [International Standard Industrial Classification of All Economic Activities \(ISIC\), rev. 4](#)

All units should have an activity coding. Use the 0.0.00.0 code if unknown.

6.2 Primary-, secondary- and ancillary activities

A business may perform one or more activities, which can be split in primary or main activity, secondary activities and ancillary activities.

6.2.1 Primary activity

The primary activity is the activity with the most employees working in it. It is identified by the top-down method, see Section XX. If number of employees is not known, highest turnover is to be used. If a unit has more than one activity type, the top-down method described in the NACE, rev 2 manual should be used to decide which one is primary.

6.2.2 Secondary activities

A **secondary activity** is another activity that produce goods or services for delivery to a third party. Secondary activities have less value added than the main activity. A business can have several secondary activities.

It needs to be considered whether to require a certain size of the activity to be considered a separate one. For instance, minimum number of people employed in the activity or a percentage of the turnover.

The following is copied from the UN manual for business register about secondary activities:

Purpose: Knowledge of secondary activities is very important to large enterprises, for instance when conducting short-term business surveys and for determining kind-of-activity units. If KAUs are not recorded in the register as separate units, characteristic 3.7 offers the possibility of analytically defining them. This may be necessary for the creation of links to associate registers (e.g. farm registers) which may include only a (KAU) part of the enterprise.

Definition: The activity codes are decided according to the rules in the NACE handbook. The activities actually pursued in the enterprise will be taken into account. The recommendation is that it shall be at least 10 % of the turnover And the unit is large and important

Proxies: Several criteria can be used for defining the principal activity code, if value added is not available. Employment and turnover by different activities can be used (when available), but also activity descriptions, etc.

Sources: The code(s) can be obtained from surveys (probably more accurately) or administrative sources.

Comments: The characteristic concerns only enterprises which are surveyed in surveys other than the register update survey. As such units are generally large and important, the information should be requested and updated in the register.

6.2.3 Ancillary Activities

Ancillary Activities whose mission is to support primary and secondary activities of the unit they relate to by contributing goods and services used in this. Ancillary activities are support functions such as accounting, transportation, storage and procurement. Activity code 70.100 is always ancillary.

Again, definitions are needed: When are an activity considered as an ancillary activity and not just a part of the unit as a whole? (A general rule is that if the activity is only to serve the unit's own needs is not considered an ancillary activity). But there are also activities considered to be of ancillary character, that can also stand for themselves.

Some countries chose to use ancillary activities only if the activity happens at an independent address, and then the whole local unit has status ancillary. If it is not in a separate location, the activity is just considered to be a part of the production.

Criteria might be:

- Is the activity localized in a different place than the main activity?
- Is it defined as its own (legal) unit?

Specify how to achieve info on whether a unit is ancillary or not. This might be found in

- registration documents
- annual accounts
- name of unit: If the name contains words like "Holding", "property", "investment", "service partner" etc..

See annexes for examples about NACE codes that can be used for ancillary activities as well as how to identify ancillary activities.

6.3 General rules for primary, ancillary, and secondary coding

This chapter might not be relevant for all countries, and what activities that are typical ancillary units will vary from country to country. Consider making a list of activity codes that are legal to

use as ancillary activities. The ISIC and NACE manual will have the complete recommendations.

If the whole unit is an ancillary unit, it should be like this:

All ancillary units should have two activity codes:

- The primary code of the unit it services
- Ancillary code – the code of the actual activity of the unit

6.4 Financial activities: NACE 64, 65 and 66

Whether a unit belongs to the financial sector depends on the laws of the given country, hence this should be checked out and the instructions need to be written according to the laws.

Normally, the financial sector has activities in

- 64 Financial service activities
- 65 Insurance, pension funding
- 66 Auxiliary financial activities

Issues that might be relevant to whether a unit is a financial activity (and hence can be coded in group 64,65 or 66) are:

- Does the unit have license from the Financial Supervisory Authority of the country?
- A unit that is part of a financial enterprise group should generally also have financial sector code and financial activity and opposite: If the enterprise group is non-financial, its daughter units should not have it either.
- Units with working income is generally not financial units
- Other local rules?

Consider making a list of which activity codes are considered financial. The following are the ones used at Statistics Norway (it is, however, not recommended to just copy this, as NACE 64201 and 64202 is treated in a non-standard way)

6.4.1 The individual financial industries - detailed description

(This example uses NACE codes)

- 64110 Central banking
- 64190 Other monetary intermediations: The industry includes commercial and savings banks and foreign banks' branches. Banking activities are regulated by law (separate laws for commercial and savings banks) and banks have the exclusive right to receive deposits from the public.

- 64201 Activities of financial holding companies: The industry includes financial holding companies where the activity is regulated in the Financial Institutions Act. Financial holding companies are subject to licensing and there are only a few companies licensed as such.
What characterizes these is that they are holding companies for banks, finance and insurance companies and the controlling banking and insurance conglomerates.64202 Holding companies serving special purposes.
- 64301 Unit trusts: include mutual funds, hybrid funds, bond funds, money market fund, other fixed fund and special funds/hedge funds.
- 64302 Other investment companies except captive companies: Includes companies that collect equity capital from the public and which itself or through its subsidiaries placing assets in securities in one or more industrial areas, with emphasis on spreading risk and without exerting active ownership.
The companies are organized in a fund structure and raise capital from the public either through public offerings or by open invitations through investment firms. Investment companies are not established pursuant to securities legislation.
- 64305 Charities which do not distribute means themselves
- 64306 Venture and development capital companies
- 64308 Captive investment companies
- 64910 Financial leasing
- 64920 Other credit granting: (mortgages, finance companies), This includes banks, finance companies and state lending institutions, and is characterized by giving loans to the public.
- 64990 Other financial service activities, except insurance and pension funding nec: This activity includes pawnbrokers and self-financing companies that provide loans and credit on behalf of a limited group of investors.
- 65110 Life insurance: life insurance companies and foreign life insurance companies' branches.
- 65120 Non-life insurance: including insurance companies, mutual marine insurance companies as well as foreign insurance companies' branches.
- 65,200 Reinsurance
- 65300 Pension funding: municipal pension funds and corporate pension funds as well as pension and benefit schemes established by agreements between business organizations and joint arrangements for contractual pension
- 66110 Administration of financial markets: Includes management of, and supervision of, capital markets that are not exercised by the public authorities, for example. commodity markets and commodity markets for trading in futures contracts, securities exchanges, stock exchanges and options exchanges for stocks or commodities.
- 66120 Security and commodity contracts brokerage: Includes securities, trading on capital markets for other people's expense, stock brokerage, etc.
- 66190 Other activities auxiliary to financial services, except insurance and pension funding
- 66210 Risk and damage evaluation: Includes enterprises engaged in risk and damage assessment, claims and loss settlement as well as reviews and settlement of insurance claims. Enterprises engaged in these activities often make it in combination with other tasks, hence there should be an assessment of whether the activity is primary or not

- 66220 Activities of insurance agents and brokers: includes insurance and re-insurance brokers, insurance agencies and insurance agents.
- 66290 Other activities auxiliary to insurance and pension funding
- 66300 Fund management activities: Enterprises engaged in the management of different types of funds. For instance, management companies to investment companies, estate fund and development companies (equity funds).

6.5 Unknown activity – Code 00000

Should the system have a separate code for unknown activity (00.000) or should missing activity be allowed? (The former is very much recommended)

6.6 Procedures when activity codes are hard to decide

Instructions for procedures: Who are to decide if there is doubt on the correct code – subject matter statisticians or register administrators?? How to deal with activity codes that was registered by the entrepreneur themselves (In Norway there are tax reductions for certain activity, hence people registering businesses want these activity codes). Etc.
Add examples too..

6.7 Check list for activity coding

In Norway there are the following instructions:

1. If the activity for a local unit or a KAU/LKAU has changed: Check if the code for the Legal Unit and Enterprise should be changed accordingly (according to the calculation in chapter XX)
2. If the unit changed activity between financial and non-financial sector: Check if institutional sector code must be changed as well
3. Did the change of activity make the activity into an ancillary activity? Did you check that all the activities of the unit still are right and of the right kind?
4. Before changing the activity code of a unit, always check when and why it was changed last time. This is to avoid that it is changed back and forth between two different codes.

It should be considered whether these are relevant for the current implementation as well, and possibly add some instructions if relevant.

Units can be marked for manual checking for most of the items in the checklist above using the functionality customAnalysisChecks.

7 Code for Institutional sector

The SNA 2008 Institutional sector code is a very detailed hierarchy, and few countries have the data to match it. The document describing the classification even states the following:

“The list is extensive, and it is unlikely that all aspects will be covered by any country in all periods as a matter of course. Some of the possible breakdowns may not contain any institutional units and others may contain so few that publication at this degree of detail is not possible.”

Hence it is recommended to use a simplified version of the classification. This simplified version also contain levels between the levels described in the SNA 2008 hierarchy to facilitate at least a partial placement according to what is known about the units. Also, the version recommended here has added placement for informal units.

Each institution using the register is of course free to decide on sector classification on their own, and it is important to include staff from the National Accounts department when deciding on it.

The following suggestion is almost directly copied from the European Institutional sector code classification. Descriptions on each item can be found in “European system of accounts ESA 2019”

1 Domestic sectors

11 Non-financial corporations

11A Public sector

110011 Public enterprises, owned by central government

110012 Public enterprises, owned by local government

11B Private sector

110021 Private non-financial incorporated enterprises

110022 Private non-profit institutions serving enterprises

11C Foreign controlled Non-financial corporations

11003 Foreign controlled Non-financial corporations

11D Informal sector

12 Financial corporations

12A Monetary Financial institutions (MFI)

121 National bank

122 Banks

123 Money Market Funds (MMF)

12B Financial corporations except MFI and ICPF (Insurance corporations and pension funds)

124 Non-MMF investments funds

125 Other fin. intermediaries, except insurance corporations and pension funds

funds

126 Financial auxiliaries

127 Captive financial institutions and money lenders

12C Insurance corporations and pension funds (ICPFs)

- 128 Insurance corporations (IC)
- 129 Pension funds (PF)
- 12D Informal financial corporations (saving clubs etc)
- 13 General government
 - 1311 Central govt
 - 1312 State government
 - 1313 Local govt
 - 1314 social security funds
- 14 Households
 - 14A Unincorporated enterprises within households
 - 14B Housing cooperatives etc.
 - 14C Other (Employees, recipients of property income, pensions and social contributions, students etc.)
- 15 Non-profit institutions
- 2 rest of the world
 - 21 Member states and institutions of country's own union (EU, EEU, AU, ..)
 - 22 Non-member countries and international organisations

The division of “Rest of the world” into two sub levels is not in the SNA-2008 standard but could be useful for some countries anyway.

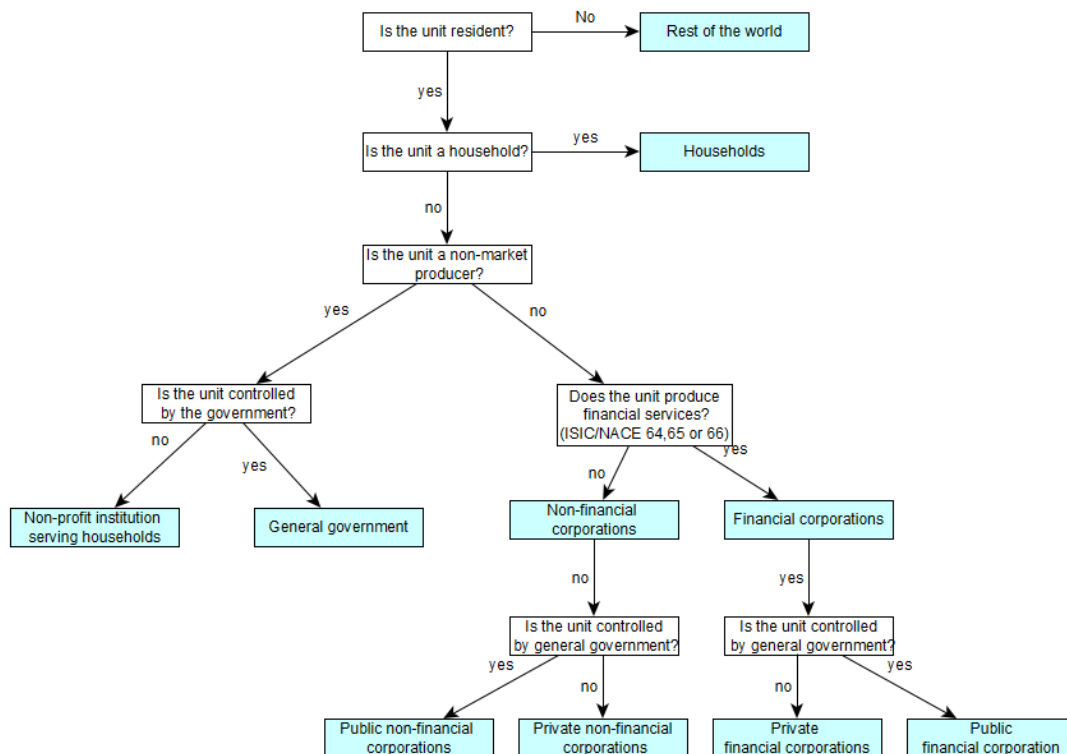
7.1 Sector codes – Main levels

1. **Non-financial corporations:** Corporations that produce goods and non-financial services for sale in a market and aim to achieve profits for the enterprise's owners.
2. **financial corporations:** Corporations engaged in financial services and intermediations between actors that have funds to invest and operators with need to borrow. or help with financial assistance activities that are necessary to conduct financial transactions.
3. **Public administration:** Institutions that produce and/or finance the provision of non-market goods and services to households and society. Redistribute income and wealth through taxes and fees.
4. **Non-profits:** Independent legal entities not controlled by the government that have charitable purposes for households. They produce and deliver goods and services to households at prices that are insignificant without generating profits for the bodies that have established or control them.
5. **Households:** The consumers that also offers labour to enterprises or are self-employed or unemployed.
6. **Rest of the world:** Businesses or institutions outside the country’s economic territory, such as foreign embassies.

7.2 How to decide institutional sector

The factors deciding which institutional sector a unit is, are legal form, activity and whether it is in public or private sector.

The following is a guide to how to achieve correct sector coding:



It should also be discussed how to sector code enterprise groups: A mix-up between financial and non-financial sectors should be avoided: Many large groups contain financial enterprises, and these should not interfere with the group's primary sector (if not financial).

8 Regional classification

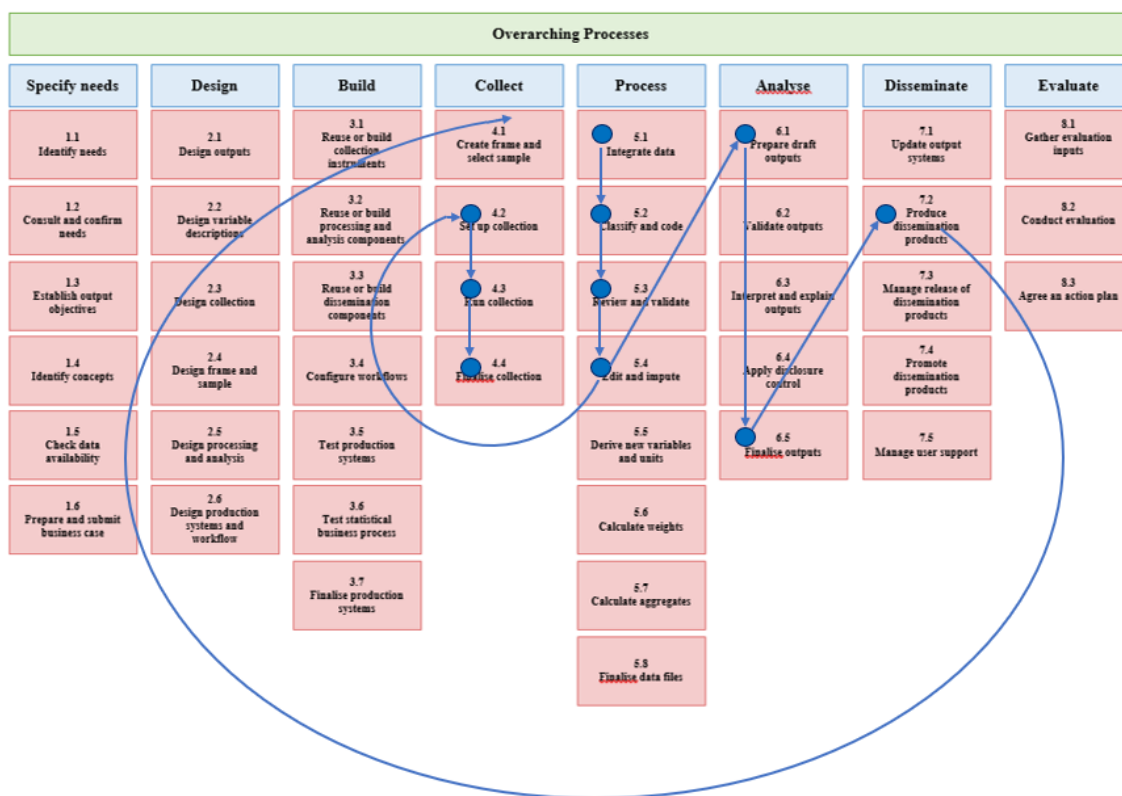
Describe the regional (hierarchical) structure of the country with number of levels etc. And add some info about how the system deals with it, for instance whether there is a code for unknown, or if this is to be left missing. Region is not relevant for postal address, as the unit is not located at that address. However, it is possible to upload region for postal address too.

9 Planning and working with quality/GSBPM

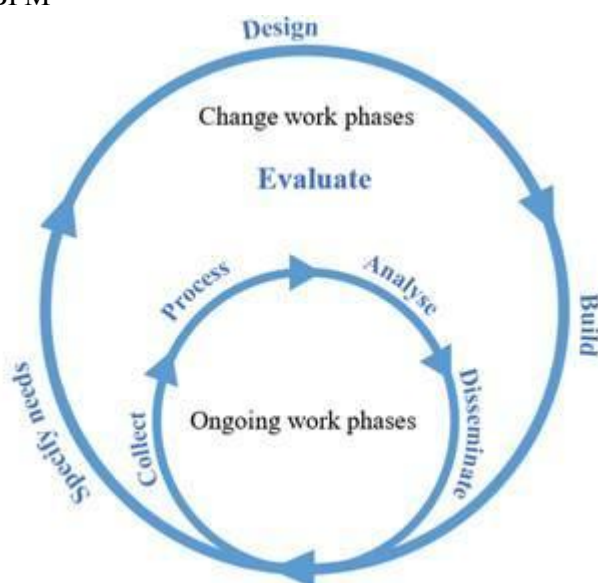
GSBPM is The Generic Statistical Business Process Model of UNECE that describes and defines the set of business processes needed to produce official statistics. It provides a standard framework and harmonised terminology to help statistical organisations to modernise their statistical production processes, as well as to share methods and components. See

<https://statswiki.unece.org/display/GSBPM/GSBPM+v5.1> for details. We are not going through all the details here: The making of a business register is a whole project in itself and should follow all steps in the model.

But once the business register is up and running, the model should still be taken into consideration when maintaining it. Below is the GSBPM with the most important processes once in production.



But it is important to keep in mind all processes in the GSBPM and go back to evaluate if things can be improved. The following figure shows the ongoing work phases and change of work phases of the GSBPM



9.1 Quality settings in the configuration files

Global predefined quality settings can be turned on and off in the appsettings files. These settings can be changed during the lifetime of the register, but considerations on optimal settings should be done prior to uploading data into the register.

The appsettings files are to be found in the installation folders of the different services. There are totally 4 of them:

- Appsettings.Shared.json and Appsettings.Production.json in the main website folder
- One Appsettings.Shared.json for each of the additional services DataUploadService, SampleFrameService and AnalysisService.

It is recommended to do the editing in one of these files – say the Appsettings.Shared.json in the main website folder and then copy over the other files so that they all are identical.

There are several sections in the files concerning different unit types and kinds of settings. The different settings are toggled by changing between true and false status.

9.1.1 DBMandatoryFields settings

Settings in this section are to decide what info about the units are mandatory and hence cannot be missing. Note that some fields are dependent on other settings. More on that in XXX.

- Addresses: Notice that these settings are for actual addresses – not “addresses as registered” or “postal address”.
Considerations that should be done:
 - o Are some parts of the address known for all units? If so, one or two of the “AddressPart1”, “AddressPart2” and “AddressPart3” can be made mandatory according to the address system of the country and available information.
 - o GeographicalCodes”: This is the link to the region hierarchy, and it is recommended always to be set to true. If regional information is not available for all unit, this can be solved by adding codes for “Unknown” in the Regions classification. (see XX)
 - o “Latitude” and “longitude”: GPS coordinates are most often unknown and should be set to “false”.
- “StatUnit”: The settings in this section are the common settings for Enterprises, Legal units and Local units. Considerations:
 - o Variables with more detailed settings in other sections such as Address, Activities and Persons: If at least one setting in these settings are true, it should also be true in the StatUnit section – otherwise the setting in the corresponding section will not be triggered.
(Example: If GeographicalCodes are set to “true” and all other fields are “false” in the address section, “Address” should be “true” on the StatUnit section.)

- o Notice that the turnover- and employees variables in this section is set at statistical unit level. It can also be set on activity level.
 - o “UnitStatusID” should always be set to true as this is the status for whether the unit is active, liquidated etc. In this classification there should always be an entry for “Unknown”.
- “LegalUnit”, “Enterprise” and “LocalUnit” sections are for variables specific to the unit types, respectively.
 - o In LegalUnit: “EnterpriseUnitRegId” links the legal unit with the enterprise. This should be true.
 - o In “Enterprise” section, both “EntGroupId” and “EntGroupIdDate” should always be false. These are for linking the enterprises with enterprise groups, and most enterprises are not part of an enterprise group.
 - o In “LocalUnit” section: The “LegalUnitId” links the unit with its parent legal unit.
- “EnterpriseGroup” section: settings for the enterprise groups. The considerations for the StatUnit (see above) section applies here too.
- Person section: Information about persons related to the units in the register. At least “givenName”, “SurName” (and “role”?) should be set to “true”
- Activity section: to maintain the internal logic with one-to-many relations in the register, it is important to set the following:
 - o ActivityCategoryId: This is the ISIC/NACE/activity code. Should always be true.
 - o ActivityType: Primary, secondary or ancillary. Should always be true.

9.1.2 “StatUnitAnalysisRules” section

This section of the appsetting files is for ensuring integrity between relations between units and concept:

- The “connections” subsection is for checking that
 - o all units have registered activity/activities (as noted earlier, it is recommended to make activities mandatory and, in addition have “Unknown” activity in the activity classification
 - o All units are associated with at least one person or not
 - o All units have an address
- Orphan subsection is for relations between units. Of course, no units should be orphan, but dependent on the data quality, this can be set in the following way:
 - o checkOrphanLocalUnits: Should the system accept local units not belonging to a legal unit?
 - o checkOrphanLegalUnits: Should the system accept legal units not related to enterprises?
 - o CheckLegalUnitRelatedLocalUnits: Should the system accept legal units that do not have “children” local units?

- o CheckEnterpriseRelatedLegalUnits: Should the system accept enterprises not linked to any legal units?
- o CheckEnterpriseGroupRelatedEnterprises: Should the system accept enterprise groups without being linked to enterprises?
- o Duplicates: This subsection is for identifying duplicates in the register and is structured a bit different from the other subsections: The first 8 items is to be set to true or false according to whether they should be used for detecting duplicates while the last item indicates how many of the above lines is to be used together to identify the duplicate.
Example: given following settings:
 - CheckName, checkStatId, checkTelephoneNo, checkAddressID and checkEmailAddress are all set to “true, the rest to false.
 - MinimalIdenticalFieldsCount is set to 4.
 This means if there are two units that has at least 4 of the 5 “true” variables identical, (name, StatId, telephone, address or email), then they are marked as duplicates.

9.2 Custom made quality criteria

In addition to the quality criteria set in the appsettings files, custom made quality criteria can be made. These criteria have to be entered into the table CustomAnalysisChecks in the business register database.

This table has the following columns:

- (Id: primary key, automatically set)
- Name: name of quality check. This will be displayed in the web site “Analysis” page as an explanation of why the unit was marked as dubious, hence choose a name that is understandable.
- Query: The query containing the criteria. As the name of the column indicates, this must be a SQL statement. At the time of writing, the feature is not thoroughly tested, so it is still unknown how complex the query can be.
- TargetUnitTypes: What kind of unit the quality criteria is to be checked for.

An example of a custom-made quality criteria: Say that the following are rules about the size of legal units:

- If turnover $\geq A$ and/or number of employees $\geq X$ then size = 1 (large)
- If $A > \text{turnover} > B$ or $x > \text{number of employees} > Y$ then size = 2 (medium)
- Else: size = 3 (Small)

This will result in three custom made checks:

- Name: Unit with size = large that does not have high enough turnover/number of employees”
Query: Select * from StatisticalUnits where size = 1 and (turnover $< A$ and employees $< X$)
TargetUnitType: LegalUnit

(according to the rules stated above, it is enough that either turnover OR number of employees is above the thresholds)

- Name: Unit with size = medium has too high/low numbers for turnover/employees
Query: Select * from StatisticalUnits where size = 2
and (turnover NOT BETWEEN A and B and employees NOT BETWEEN X and Y)
TargetUnitType: LegalUnit
- Name: Unit with size = small has too high numbers for turnover/employees
Query: Select * from StatisticalUnits where size = 1
and (turnover > B or employees > Y)
TargetUnitType: LegalUnit

9.3 Maintaining the generated units

In chapter 2 we learned that when a legal unit is inserted into the register, an enterprise and a local unit is automatically generated as well. But if one of these units are modified, the corresponding unit is not updated automatically. This is by design as it would not make sense to automatize this. It should, however, be considered to use the customized quality checks to notify the users of the register to double check the corresponding units if they should be changed too.

10 Uploading files

The uploading functionality is a powerful tool to upload new units or to update existing ones, but it should be used with care, as fixing errors after uploads is very time consuming and hard.

The system has been tested for files up to 500.000 records, and it is recommended to split files bigger than this in several parts to upload separately as the system slows considerably down if bigger files are uploaded.

10.1 Data sources

What are the regular sources of the register? how are they uploaded?

10.2 File preparation

As the system is not very flexible, the files for uploads must be cleaned and restructured prior to uploads. Keep in mind that the units with missing or erroneous information must be handled or rejected manually, and this easily becomes a huge job.

If multiple activities, persons or foreign participations per unit are to be uploaded, the unit should first be created (if they don't already exist), and the file structure has to be as described in the user manual (Notice that one of the activities, persons or foreign participations can be uploaded at the same time as the rest of the unit is uploaded).

Be sure that the upload files are correctly structured.

- If you use semi colon separated files: Use double quotes around text fields if there are fields that already contain semi colon.
- If you make csv files from a spreadsheet: Check that there are no line breaks within the cells.

Things to consider before uploading:

- Are there variables that are mandatory (For instance name of unit, statistical ID, status etc)? If so: make sure the variables are non-missing in the upload file
- If codes for unknown/missing information have been included in the classification, use this rather than blank fields (For instance for activities)
- It might be a good idea to default some of the data variables to current date:
 - o Statistical ID date: This the date when the unit first was registered at the NSO. If the unit has never been registered before, it for sure should be today's date.
 - o Status date: This is the date of validity of the unit's status.
 - o Enterprise unit statistical id date (for legal units): This is the date when the link between the legal unit and enterprise was established
 - o Activity-, Employees- and turnover dates
 - o Notice that registration date defaults to current date, as this is the date of entry into the register, so this does not have to be dealt with.
- Year of validity for activities, number of employees and turnover: As these variables – at least the two latter – changes annually, data is stored on an annual basis instead of being overwritten. Hence if the information is gotten from updated sources like a survey or regular file transfer from tax authorities, the year of validity should be used.
- There are 3 different kinds of addresses: Address as registered, (visiting) address and postal address. The reason for the two first ones, are that registering authorities often do not update addresses after first time registering them, hence if the NSO has changed the address, we do not want them to be "updated" back to the old information. However, it might be considered to let address as registered = (visiting) address in the initial upload of a unit.
- Data source classification: Remember to add the relevant classification code and ID to the table data source classifications in the database.
- External id, external id type and external id date:

10.3 Create template for upload files

As upload files probably never have the same variables – nor the same variable names – as the business register database, we first have to make a template to match the variables from the upload

file(s) to the variables in the database. These templates can be reused for files of same structure. Description on how to make the templates can be found in the user guide.

Things to remember:

- Choose the right units before matching the variables. The different kinds of units have different variables.
- When uploading Local units: Make sure the upload file contains an ID to the parent, either statId, taxId or external ID.
- Make sure to choose the right priority level:
 - o Trusted: If the data confirms to the configuration settings, the units in the upload file will be created if they do not already exist or updated if they do. In the latter case, the current data will be overwritten.
 - o OK: If the unit does not already exist, it will be created if the data conforms to the configuration settings. Data that are merely to be updated will be marked for manual check.
 - o Not trusted: All data from the upload files must be manually corrected/checked.

11 Manually entering new units into the system

There are two ways to enter new units into the system: By the uploading facility of the web site or entering the units one by one manually. This latter method should in theory not be used much, as we expect data to come from administrative sources or surveys where data has already been entered/is collected electronically.

What variables are mandatory is configurable (See Document X for information on how to configure this). Here should be written about which variables are mandatory.

11.1 Registering new Legal Units into the system

One need to be aware that when a legal unit is uploaded/entered into the system, there are actually 3 units generated: The legal unit itself, an enterprise and a local unit (as stated earlier, this is because statistics should be made at enterprise level, while a Legal unit is also always located somewhere, hence the local unit. The enterprise unit is not generated if it is known that the Legal Unit already is a part of an existing enterprise (In this case, the new legal unit will be linked with the existing enterprise by the variable EnterpriseUnitRegId which should contain the *regId* (not the statid/statistical id). Hence queries to find the ID of the “parent unit” needs to be done to be able to connect the legal unit with its enterprise.

Should there be something here about what constitutes a legal unit? What authority register it? Are there different routines for public and private sector? ...?

11.2 Enterprises

When there is control of the legal units and LoU, there is a good basis for making statistics and thus National Accounts. With enterprises, one can go a step further. Making statistics on enterprises requires that you keep track of your groups, get them updated often and in some cases ask them extra questions in the statistics.

In the EU, there is a desire for countries to work with economic entities, but this often presents problems as companies need to be consulted at the legal Unit level. So it is implemented very differently.

One recommendation is to start small with the largest corporations, which also have a large internal trade and have an impact on the national account.

Enterprises do not have an impact on the overall value added, but make companies larger and change the NACE, cf. the section on ancillary activities.

11.3 (Genuine) Local units

Only genuine local units should be uploaded/entered, ie. Units that are subordinates to existing legal units

(What if the parent ID is not known? Establish some kind of dummy id? Or register units as legal units even if they're known to be local units?)

To simplify the matters, it is recommended that only local units that is geographically located elsewhere than the legal unit is registered (in addition to the "default" one that is generated when the legal unit is entered into the register). Other rules that might be made could be that at least one person works there on a permanent basis.

In Norway (and Denmark statistics) we have the following rules for entities that should not be registered as separate local units:

- Ambulatory business where it is in the character of operations are conducted at different addresses. Examples of such activities are construction, temporary employment agencies, transport operations and forestry. For such activities shall not be registered own business for each place an enterprise has commissioned. It should only be registered business for each place where the undertaking has permanently manned branch office el
- Unmanned space, such as stock
- Home office
- Rental property with ambulatory employees. If it's permanent staff at each property / each building, recorded one business for each property / each building.
- If a construction site takes more than 2 years to finish, it should be registered as a local unit

Examples of businesses where it is not required to register two units with different locations¹:

- Business on both sides of the street / road, for example, one station on each side of the road is defined as a business.

¹It may still be recorded activity in these cases if it would destroy the "structure" of the enterprise if not all businesses registered. Example: if a company has employees in four stores, but only using contract labor in the fifth it will destroy the structure and distribution of the market if the fifth store was not registered.

- When the entity operates "next door." When businesses such as address Storgata 2 and Storgata 4 can be defined as one enterprise.
- More companies in the same industry in the same mall.
- Branches / service offices, such as for insurance companies / banks, which are only open 1-2 days a week.

11.3.1 KAUs and LKAUs

As stated above, a KAU/LKAU is the activity going on at a single location. In the register, it is possible to register number of employees and turnover at activity level so that it constitutes a (local) kind of activity unit.

When to define a unit to have several KAUs/LKAUs?

In Norway: An activity must have at least 5 employees to be a separate KAU/LKAU, but most countries don't have this detailed data, so maybe define one Kau/lkau per activity? A shop in Uganda, for instance have the following activities

Statistical id Tax registration id External id type

[Main](#)
[Activity](#)
[Links](#)
[Organization Links](#)
[Contact information](#)
[History](#)
[Print](#)

Code	Activity	Activity type	Number of employees	Turnover	Year
1410	Manufacture of wearing apparel, except fur apparel	Primary Activity			2018
4719	Other retail sale in non-specialized stores	Secondary Activity			2018

[← Back](#)

At the same time, it is recommended that KAUS and LKAUS is only established for companies of great importance to the economy of the country (in the current industry).

11.4 Enterprise groups

Relevant only for countries that have information on Enterprise groups.

A requirement for establishing an enterprise group might be that it must consist of a parent company with at least one subsidiary where the parent controls the subsidiary through ownership. If this ownership is more than 50%, it is defined as an enterprise group.

Maybe it is better to recommend not to use this concept in most countries for now?

12 Business demography (Change of owner of unit)

Business demography (BD) is one of the most important parts of an SBR. with BD you get a handle on whether a company is new, acquired or something else entirely.

BD is based on changes in the links between enterprises and local units and if possible, to the Enterprise Group

12.1 Criteria for the identification of demographic events

A statistical business register reflects the businesses of the real, observable world insofar as they are considered relevant to the users of statistics. Such a projection of reality is necessarily limited in the sense that it is the result of a choice as to what aspects of the real, observable world are taken into account. A similar choice must be made if one tries to reflect the dynamics of the real world. In principle, these dynamics can be described in many ways, but it stands to reason that such a 'dynamic view' in this Manual be considered in such a way that is consistent with the 'static view' represented by the statistical business register at any point in time. Therefore the criteria developed below focus on the dynamics of the combined populations of statistical units of different types and their relationships.

12.1.1 Categories of use

When formulating criteria, it is important to take the uses to be served into account. One can distinguish between external and internal uses, i.e. between the use for statistical outputs depending on the business register and the use within the statistical institute. The external uses can, in turn, be subdivided into business demographic statistics and other statistics to which demographic categories are relevant. An example of the former are statistics on the births and deaths of units, an example of the latter are time series for populations of statistical units such as enterprise panels, in which, for example, the number of births and deaths of units are specified and their impact on the variables measured possibly quantified.

Although the criteria for the identification of demographic events are derived in principle from the demand for information by external users, it should be remembered that information on events is also important for survey statisticians. They want to know how surveyed units relate over time and what causes entrance to and exit from survey populations. They need this information not only for obvious practical reasons of data collection and processing, but also for the interpretation of the data collected.

12.1.2 Criteria

What demographic events are relevant? At a high level of abstraction, this question is not difficult to answer. By definition, demographic events have an impact on the existence of statistical units and links between them. The statistical units have been identified and defined in view of the observation and analysis of the production system, as stated in the Statistical Units Regulation. Therefore, changes in the constituent factors of the production system as well as in

the structure of business organisations in terms of statistical units are relevant. But what factors exactly and what changes in structure are most relevant to take into account?

An important consideration must be that the enterprise is the central unit of the statistical system. All statistical units are defined in terms of the enterprise, at least insofar as they are observable. They are either a part of the enterprise in terms of economic activity or location (kind-of-activity unit (KAU), and local unit, respectively), or a combination of enterprises bound together by legal and/or financial links (enterprise group). It stands to reason to identify and group demographic events in a way that reflects the central position of the enterprise in the statistical system.

The enterprise is defined as "...an organisational unit producing goods or services which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources...". Changes in the existence of such combinations of production factors must be important events to the users of statistics based on the units concerned. The same goes for changes in the existence of parts of those combinations of production factors, if these parts are distinct in respect of economic activity or location. Moreover, it would be relevant to determine whether a change in the existence of an enterprise also affects the existence of the group to which it belongs.

Apart from changes in the existence of production factors as combined in statistical units, changes in the distribution of existing production factors are relevant to the users of economic statistics. If it is assumed that such changes are demographic, they must result in changes in the existence of the statistical units involved or in the links between them. Again, distribution changes can be considered at several levels. If the enterprise level is taken as the level of reference, redistribution can take place within the enterprise and can involve changes at the KAU and/or local unit level.

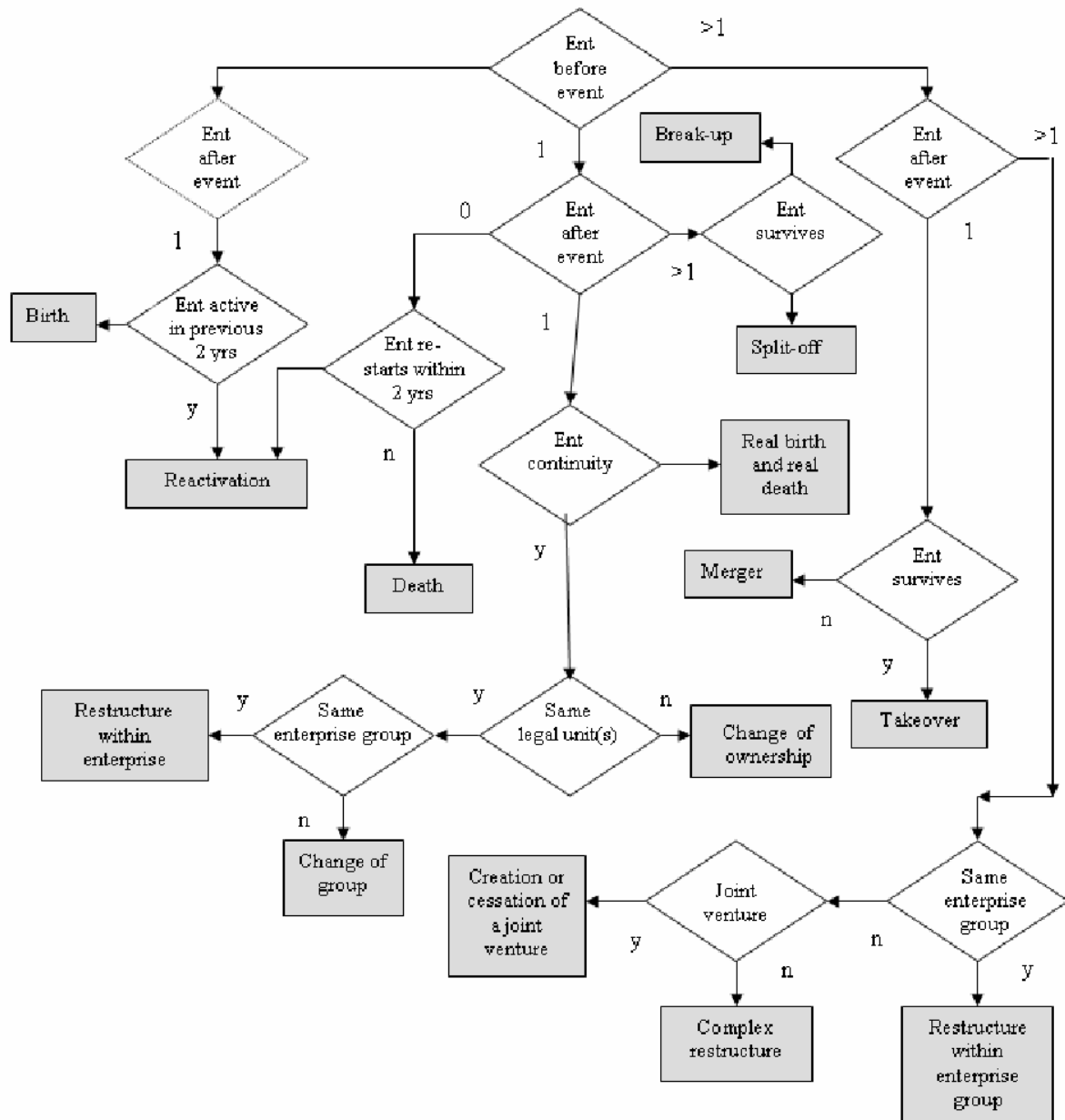
A redistribution can also take place among enterprises which may result in a decrease in the number of enterprises (concentration, for instance resulting from the merger of enterprises) or in an increase (de-concentration, for instance as a consequence of a splitoff of an enterprise from an existing enterprise). The number of enterprises may also remain the same; in which case, the redistribution may take the form of a KAU or local unit transfer; in other cases it may be called a restructuring. If the enterprise group level is taken into account, redistribution among enterprises may or may not concern more than one group, and an enterprise may be transferred from one group to another.

The text above covers all main requirements concerning data on business demography. However, if uses connected with time series were considered, the above approach would not be sufficient. If populations of statistical units are followed over time, the criteria mentioned would certainly be relevant, but their effect on unit characteristics, especially if they are used for frame definition or stratification, would also be very important. Examples of such characteristics are size, economic activity and location. Changes to characteristics may, however, be caused by non-demographic events. From the user's point of view, it seems logical not to separate the discussion of demographic and nondemographic changes for those characteristics that may be affected by demographic changes.

Finally, one concept that deserves special mention is the entrepreneur of an enterprise. This concept is often referred to in demographic analyses. Although, strictly speaking, changes of entrepreneur are not demographic — the entrepreneur is as such not a statistical unit or a link between statistical units - the controlling legal unit can be seen as an approximation of the concept of entrepreneurship, especially if it is a natural person. For this reason, changes in

controlling legal unit could be considered relevant for uses closely related to business demography.

12.2 A picture of BD work



Definition of business transfers

Define all possible business transfers. Some examples might be

- Merger
- split or break up

- Sole proprietor with owner deceased?
- In liquidation process, liquidation and restoring from liquidation
- ...

12.3 Routines as business transfers

How to deal with business transfers:

1. How to deal with ID numbers and names, address etc
2. Deletion of related units
 - a. If a legal unit is merged with another legal unit, one of their enterprises should be given status deleted
 - b. Are all local units still existing?
3. Are all activities still relevant?
4. Legal matters?

13 Dates

The following are the various dates registered for a unit. The corresponding column in the database in parenthesis.

- RegIdDate: Date when the unit was uploaded/entered into the system. Automatically set.
- Statistical ID date (StatIdDate): Date when the unit was first registered with the NSO (hence it could be older than the STATBUS system)
- Tax registration date (TaxregDate): Date of first registering the unit with the Tax authorities.
- External ID Date (ExternalIdDate): Date of first registration with other authorities than NSO or Tax.
- Employees date/Turnover date (EmployeesDate/TurnoverDate): Date of which the information on number of employees and turnover was given/entered into the register (Note that Employees Year/Turnover year are the reporting year for the same variables. Example: a unit reported 13. May 2021 about number of employees last year, then Employees date = 2021-05-13 while employees year = 2020.
- Status date (Statusdate): Date when current status was set.
- Registration Date (RegistrationDate): The date when the unit was first registered with any authority.
- Liquidation date, suspension start- and end dates (LiqDate, suspensionStart, suspensionEnd):
- Date of reorganization (ReorgDate).
- Start Period and end period (StartPeriod/EndPeriod): Dates to keep track of the history of the units.
- Date of Enterprise's association with enterprise group (EntGroupIdDate).
- Date of Legal unit's association with enterprise (EntRegIdDate).
- Date of local unit's association with Legal unit (LegalUnitIdDate).

14 Info about data sources

What are the sources for the register and how should they be used? (There is a classification for data sources that should be filled in as well.)

15 Sample frames

The current version of the STATBUS register does not have functionality to draw samples – only to draw sample frames which can be downloaded and processed further in other tools like SPSS or stata. See user manual for creation of sample frames.

16 Confidentiality

Fill in confidentiality rules and routines to fulfil them.

17 Division of work on the register

The register is designed with the manpower at NSOs in mind. Decisions on how to better delegate the work must be made.

17.1 Users of the system

There are three kinds of users in the system:

- Administrator: This kind of user has access to all functionality of the register, and can edit, create and update units, make upload templates, enqueue files for uploads, run an analysis etc. He can also add users and manage existing users.
- NSO employee: has read access to all units and update/create access as specified below in chapter XX. He never has access to uploading files or run analysis.
- External user: has read access to selected (non-confidential) variables of the units. This type of user is optional to take into use. If used: Define what is confidential and what is not

In addition to these comes, of course, system- and database administrators etc.

17.2 Roles and responsibilities

Departments in charge of maintaining the business register is often understaffed, and it might be a good idea to delegate to subject matter staff to update “their own” units. To facilitate for this, the “NSO employee” role mentioned above can be given CRUD (Create, Read, Update, Delete) rights to units defined by either geography or subject matter area – or both. This is done by assigning the employee to one or more regions and/or one or more ISIC/NACE activity areas. And these assignments can be done at any level of the classification hierarchy.

Examples:

- Staff at regional offices are responsible for data entry in their own regions. This requires giving them role as NSO employee with CRUD rights for their region(s).
- Staff in department for financial statistics have very good knowledge of businesses in financial sector as they frequently call them to remind about questionnaires due for delivery. Giving them CRUD rights for businesses in financial sectors might save a lot of work for the business register staff.

Specify roles and responsibilities within the institution: Who does what? Who decides what if disagreements arise? Do some departments have more responsibilities than others? How to document changes?

17.3 Documentation and archiving

Routines in line with the regulations of the institution.

18 Appendices

18.1 Definitions

Economic unit – a legal unit, or part of a legal unit, with economic production as defined in 2008 SNA.

Administrative unit – a unit **designed** for the purposes of conforming with an administrative regulation, for example VAT.

Operational unit – a unit defined by a legal unit for the purposes of organizing itself, for example a division, branch, workshop, warehouse, or outlet.

Statistical unit – a unit defined for statistical purposes, a basic observation unit as part of a statistical survey, a unit for which information is compiled and for which statistics are ultimately compiled.

Commonly used types of statistical units are the enterprise, the enterprise group, the local unit, the establishment (equal to the local kind-of-activity unit), and the kind-of-activity unit.

Institutional unit – an economic entity that is capable, in its own right, of owning assets, incurring liabilities and engaging in economic activities and in transaction with other entities. The term covers both market as well as non-market units.

Business - a legal entity or an individual with commercial economic activity.

Corporation (company) - legal unit created for the purpose of producing goods or services for the market that may be a source of profit or gain to its owner; collectively owned by the shareholders who have the authority to appoint directors responsible for its general management.

Corporations cover legally constituted corporations, and also cooperatives, limited liability partnerships, national resident units and quasi-corporations.

Observation unit – a unit, about which data are obtained during the course of a survey. Usually a statistical unit, or, if data cannot be obtained about a statistical unit, then some other unit (for example a legal unit) about which data can be obtained and from which data for a statistical unit can be compiled.

Reporting unit – the unit from which data about an observation unit are obtained during the course of a survey. It may, or may not, be the same as the observation unit. An example of it not being the same is where an accounting business reports data on behalf of a client business that is the actual subject of the survey. (Both reporting and observation unit should be defined by countries.

Statistical business register – a regularly updated database of economic, statistical or other units, and their characteristics including identifiers kept by NSI for statistical purposes.

Market and non-market output

- **Non-market output** refers to goods or services provided free of charge or at prices that are economically insignificant to another unit. Examples are services from public sector and NGOs.
- **Market output** refers to all other goods and services.

Market producers and non-market producers:

Market producers record only market output and output for own final use. **Non-market producers** (which are recorded in sectors general government and non-profit institutions serving households) record mainly non-market output.

The Market production covers output sold at prices that are economically significant or otherwise disposed of on the market, i.e. receipts exceeding production costs. Non-market production covers output where products are supplied free or at prices that are not economically significant. It covers also output produced for own final use.

The definitions of market and non-market production are clarified on basis of certain criteria. Non-market production includes production in general government (except water supply and sewage and refuse disposal etc. in local government), production in NPISHs (Non-profit institutions serving households) and production for own final use.

Production for own final use is distinguished, specifying separate industries, such as agriculture, hunting, fishing and owner-occupied dwelling services. Production in general government and production in NPISHs are also broken down by industries.

18.2 Legislative framework

List of legislative framework for business register (if required)

18.3 Methodological framework

- UN Guidelines on Statistical Business Register 2015;

- AfDB: Guidelines for Building Statistical Business Registers in Africa, 2014
- Eurostat Manual for Statistical Business Registers, 2021
- System of National Accounts 2008.
- NACE Rev.2/ISIC

18.4 Activity Coding: top-down approach

Normally, the legal unit should have same code(s) as its local units. If a legal unit has two or more activities, the one with more than 50% of value is the primary code for the unit.

If no activity has more than 50% of value added, the top-down approach should be used. The following is an example of the use:

A legal unit has the following activities/operations at local unit level (The NACE classification with national 5th level is used for this example, but the method is the same for ISIC). When desiding the primary activity, ancillary activities are disregarded:

(One can use number of employees or turnover or both as the numeric base to calculate from)

Operation	Highest level activity	Detail lvl of activity	Number of empl
A	C – manufacturing	2591 - Forging, pressing, stamping and roll-forming of metal; powder metallurgy	13
B	C – manufacturing	2811 - Manufacture of engines and turbines, except aircraft, vehicle and cycle engines	3
C	C – manufacturing	2824 - Manufacture of machinery for mining, quarrying and construction	15
D	C – manufacturing	2893 - Manufacture of machinery for food, beverage and tobacco processing	8
E	C – manufacturing	2895 - Manufacture of machinery for paper and paperboard production	9
F	G - Wholesale and retail trade; repair of motor vehicles and motorcycles	4614 - Agents involved in the sale of machinery, industrial equipment, ships and aircraft	7
G	G - Wholesale and retail trade; repair of motor vehicles and motorcycles	4661 - Wholesale of agricultural machinery, equipment and supplies	28
H	M - Professional, scientific and technical activities	71121 – Civil Engineering activities	13

Step 1: At the highest activity level: Find the one with the most employees:

Activity C: 48 employees

Activity G: 35 employees

Activity M: 13 employees

Activity C has the most employees, hence this is the primary activity at level 1.

Step 2: Find the activity at second level with the most employees:

Activity C 25: 13 employees

Activity C 28; 35 employees

Hence, activity C28 is the biggest.

Step 3; Find the activity at 3 digits level in activity 28 with the most employees:

Activity 28.2:	15 employees
Activity 28.9:	17 employees

28.9 is the biggest

Step 4: 4 digits level:

Activity 28.93:	8 employees
Activity 28.95:	9 employees

28.95 is biggest

Conclusion: The primary activity of the legal unit is C2895 – not G4661 which is the activity with the most employees overall, the rest of them are secondary.

18.5 Example: NACE codes which can be used for ancillary activities at Statistics Norway

The following is a list of codes that SSB accepts as ancillary codes (google translated). No other codes can ever be used as ancillary:

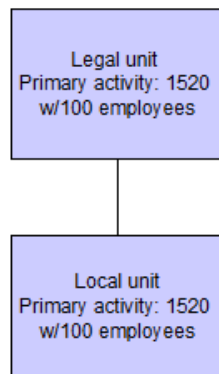
- 00,000, Unspecified/unknown
- 01.620, Support activities for animal production
- 10.710, Production of bread
- 33.1xx, Repair
- 33.200, Installation of industrial machinery ...
- 43.210, Electrical Installation
- 43.320, Joinery work
- 43.990, Other specialized construction works.
- 45,200, Maintenance and Rep. of motor vehicles
- 46.xxx, Wholesale ...
- 47.xxx, Retail trade
- 49.410, Freight transport by road
- 52,100, Storage
- 52.216, Condensation of gas ...
- 52,223, Supply Base
- 52.229, Services related to maritime transport ..
- 52.230, Other air transport services.
- 52,240, Loading and unloading
- 52.299, Other transport services
- 56.210, Catering
- 56,290, Canteens
- 62,010, Programming Services
- 62.020, Consultancy activities related to IT
- 62,030, Management and operation of IT systems
- 62,090, Other IT
- 63,110, Data processing, data storage ...
- 63,990, Other information services...
- 68,209, Rental of own or leased real estate

68,320, Property Management
 69.201, Accounting and bookkeeping
 70,100, Head Office Services
 70.220, Business and other advisory services.
 71,121, Construction engineering consultancy
 71.122, Geological Surveys
 71.129, Other technical consultancy activities
 71,200, Technical testing and analysis
 73,110, Advertising agencies
 74,101, Industrial design, product design, ...
 74.909, Other professional scientific and technical ...
 77.xxx, Rental and leasing...
 78,100, Recruitment and form. of labor
 78,200, Rental of labor
 78,300, Other Personnel Management Services
 79,110, Travel agency activities
 80,100, Private security services
 81,101, Caretaker services
 81.109, Other comb. real estate services
 81.210, Cleaning of buildings
 81,299, Other cleaning services...
 82.xxx, Office Services
 85,599, Other Education
 86.904, Other preventive health services
 86.909, Other healthcare
 90.034 related services, Independent artistic activities...
 96,101, Laundry and dry-cleaning activities
 85,599, Other teaching

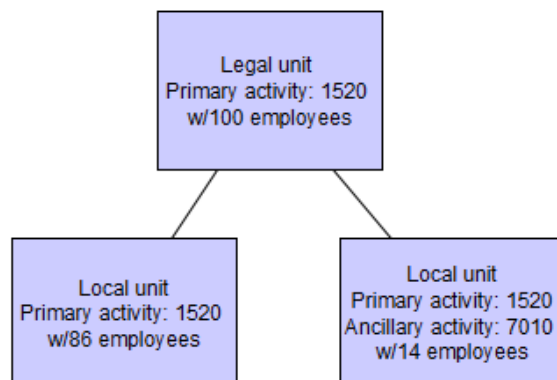
18.6 Examples of NACE coding – Change these examples according to the established policies of the NSO

These examples describe situations that might be a bit more complex than what is common, but they are included for completeness sake.

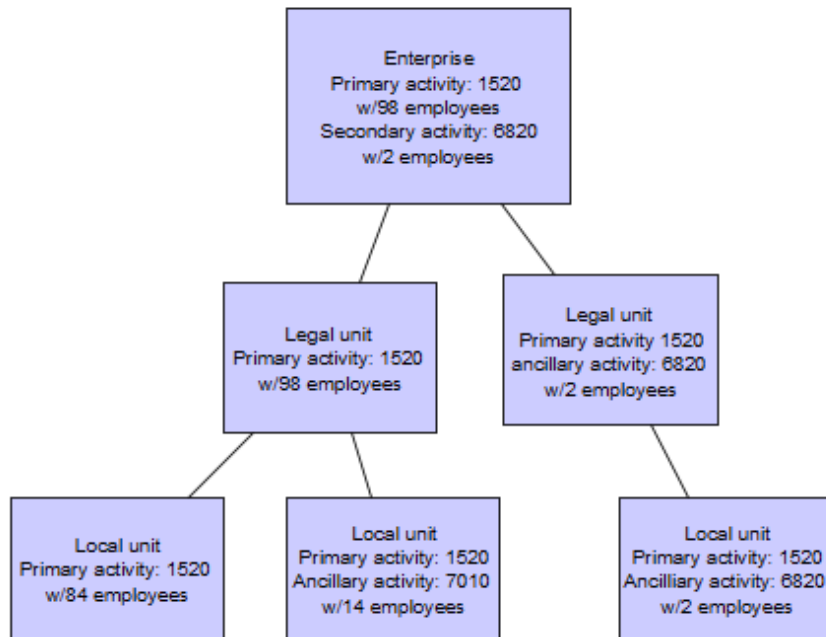
- A shoe factory with 100 employees – all in the same location. 75 of the employees work in shoe production, 14 in administration and 4 in sales. The rest are working as cleaners (3), in the staff restaurant (2) and as janitors (2):
 All employees belong to the same KAU (Kind of activity Unit: Same legal unit and same activity coding, which also is the primary activity) because admin and sales are only supporting activities



- The Legal unit above decides to move the administration department to another location. In this case this department from now on is seen as an ancillary unit (because of the geographical separation). All employees still belong to activity 1520



- The property and factory buildings are registered as a separate branch company. The two janitors are to report at this new legal unit. The new legal unit *only* rents out to the old unit. Hence the original legal unit is now an enterprise with two legal units and 3 establishments/local units:



(If one of the legal units above owns the other, this constitutes an enterprise group)

- The buildings are expanded and part of it is rented to a unit that is not a part of the enterprise. In this case, the second legal unit is not anymore just an ancillary unit as it now serves external businesses, and the map looks like this:

