Abstract

The past decade the number of self-employed workers in the Netherlands has increased by 300 thousand (approximately 30%). These persons are legally responsible for their own assignments and debts. In general they often work alone and offer their services to the labour market. For the government this is a special group of interest, because some of these 'self-employed' workers can be characterized as an 'entrepreneur', which is considered a cornerstone of Dutch economic policy because of their innovative activities.

On the other side, a self-employed worker often is forced into self-employment, because of labour market flexibility. Many of their activities in their industry used to be carried out by employees, but have been transformed into assignments and contracts carried out by a self-employed nowadays. In the Netherlands this means that the self-employed also has to take care of his own insurances in case of invalidity or to get pension by the time he or she retires. To fill in the gap with employees in this respect, the Dutch government wants to know what the financial situation is of this group and what the different components are of the earnings.

The Social Economic Board (in Dutch SER: i.e. department of the Ministry Of Economic Affairs) advices the Dutch Parliament about their social economic policy towards self-employment and asked Statistics Netherlands to collect all relevant information on this topic. The challenge for Statistics Netherlands was to collect, prepare, organize and coordinate the right information about this group of interest.

Whereas information on employees in the Netherlands is stored in the social security administration, information about 'self-employment' is either surveyed by the labour force statistics, or is somewhere 'hidden' in the information obtained by the Tax Authority. A major project between the department of economic and social statistics was carried out by Statistics Netherlands to define all aspects of self-employment regarding the different use in statistical output. This resulted in the composition of the 'Satellite of Self-employment (SOS)', because it is related to the statistical and administrative units stored in the Dutch Statistical Business Register (SBR).
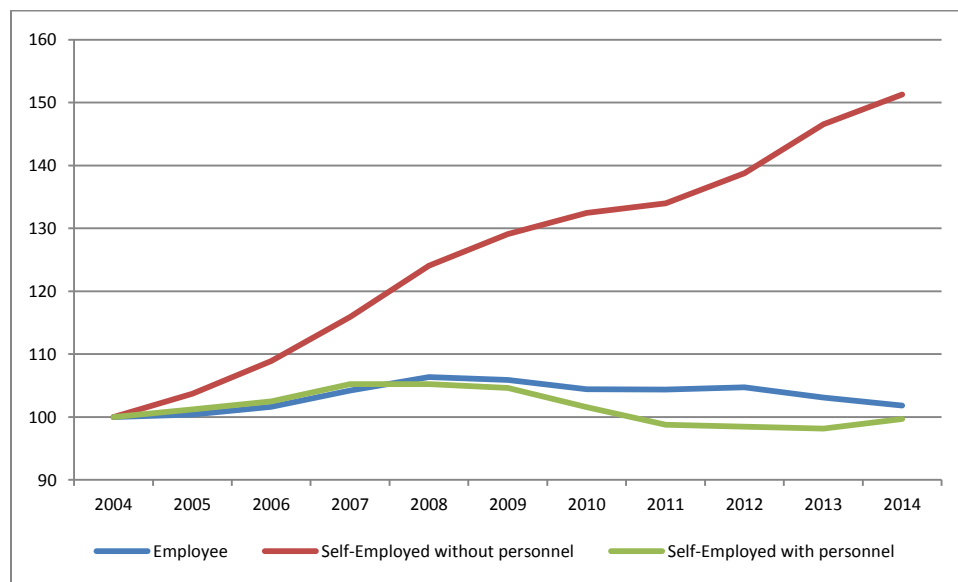
In this paper the relevant sources, aspects and some business rules applied in the 'Satellite of Self-employment' are explained to describe the profile of the Dutch 'self-employed (worker)'.

1. Introduction

The population of self-employed workers consists of individuals which often work alone or as a partner in a partnership at their own risk. In many cases, they perform activities as a professional providing services to the market as a craftsman in construction, agricultural activities, software engineering, or as a specialist in healthcare, architecture, financial services, entertainment, etc.

During the last 10 years, the Dutch labour force has grown by 450 thousand people (6%). If we consider the composition of the Dutch Labour force, we observe a strong upward trend in the population of the 'self-employed' (see figure). In the Netherlands the size of this population has increased by 300 thousand the past decade (approximately 30%).

Figure: Developments in the Dutch Employment, 2004 - 2014

This development is stimulated by (fiscal) policies of the Dutch government by providing subsidies to persons who set-up a company as an individual or as a partnership among individuals. These governmental procedures are considered to stimulate the Dutch economy, because

- it is supposed to help innovation by bringing new concepts or products on the market.
- it is considered to be the simplest kind of entrepreneurship, which might lead to the creation of new jobs.
- it is supposed to stimulate some competition in a market. Thresholds to start a new business as a self-employed are low, which will increase the dynamics in an Industry. The competition will raise in some product markets. Only the strongest businesses will survive, which will fortify the economy.
- it is supposed to increase the labour flexibility.

'Self-employment' has also some arguable advantages for the individual as well as for the business he works for:

- It is supposed to be an opportunity to prevent unemployment, when an individual gets a notice of dismissal.
- It is an opportunity to earn more money when they determine their own strategy and apply their own business concept on the product they want to sell.

- It is supposed to improve the feeling of self-reliance and well-being of the self-employed worker.
- It might be an advantage for a business to hire a self-employed worker to do some activities temporarily instead of paying personnel permanently.

In general a self-employed individual often works alone and offers his own services to the labour market. He is legally responsible for his own assignments and debts. This is also one of the downsides of self-employment, which could make him vulnerable in times of misery or in case of strong competition. Especially if his products or services were not spread over more contractors, or no proper insurances are taken in case of invalidity or retirement.

To fill in the gap with regular employment-ship in this respect, the Dutch government wants to know what the financial situation is of this group and what the different components are of their wealth in general: profit, wages, income from other work, immovable property, movable property and other assets.

The Social Economic Board advices the Dutch Parliament about their social economic policy towards self-employment and asked Statistics Netherland (SN) to collect, prepare, organize and to coordinate all relevant information about this group of interest.

2.   Research at Statistics Netherlands (SN)

The aim of SN was to create an environment to centralize the knowledge and the administrative information on 'self-employment', from which the information could be used in several statistical processes which publish information about self-employed workers. Centralising the administrative information on individuals and businesses has proven to be a useful if we look back in time. Today we may say that it has raised the quality, the timeliness and the efficiency of some statistics on this topic.

The first challenge for SN was to translate this 'governmental assignment' into concrete output products. Therefore a special taskforce was composed of specialists in social statistics, national accounts and the register department. The register department receives several registers about fiscal data from the Tax Authority and prepare this information for statistical use. This department also houses the SBR-department where the Statistical Business Register (SBR) is maintained.

The first steps in the process to harmonize 'self-employment' was a study to identify the main statistical sources which keep information on self-employment within SN. As a second step, some interviews were done among major and potential users to identify their needs and their expectations. The last step was to analyse the sources available (and needed) to build a prototype of an environment to improve the coherence about 'self-employment' within our statistical system.

2.1   Use of data on self-employment

As a start, SN examined how the concept of self-employment is integrated in some statistics. As expected, the treatment of self-employment in data-collection and data-processing depends on the use of different sources and the application of different business rules.

Table: Dutch statistical systems which keep information on self-employment, 2007

	# in 2007	Remarks & Restrictions
Labour Force Statistics	610.000	*Source = Labour Force Survey* Number of persons between 15 and 65 years of age which work 12 hours or more per week and consider themselves self-employed. In this respect only the main job was counted (where they spent most time on).
Business Demography	369.300	*Source = Business Register* Number of Sole Proprietors based on the number of enterprises with at least one person employed for more than 15 hours a week (factor is estimated by an economic survey).
Income Panel Survey	891.000	*Source = Income Panel Survey (IPS)* The survey is based on income tax data of the national Tax Authority Every individual who is considered a self-employed worker by the Tax Authority is considered a self-employed worker in IPS. 'Hybrids[1]' are included (auxiliary jobs).
Wages and Profit	887.700	*Source = Tax Authority* This number excludes the number of 'Directors Main Shareholder (DMS)[2]' and includes the number of 'hybrids' (i.e. part-time self-employed, part-time employee). The rules to derive a self-employed worker account for tax-subsidies for self-employed or special VAT-exemptions for SMEs. Family workers who earn less than 5000 euro annually in the self-employed business, are exempted from paying tax.
Labour Accounts	1.725.000	*Source = Social Security Database (incl. employees)* Number of (jobs of) Self-employed workers is defined as: Number of (jobs of) persons employed - Number of (jobs of) employees This includes the number of DMS, who's is treated as an employee. Persons who work 1 hour or more per week are included. In this respect only the main job was counted (where they spent most time on). Also family-workers are included.

2.2 Inventory of user needs

The second step during the research process was the consultation of the users (and potential users) who need or might need harmonised information about self-employment. Therefore the project group did some interviews under specialists in their field of interest. A brief overview of the needs is given below.

User	Needs
Business Demography	The aim of the Business Demography Statistics (BDS) is to describe the population of enterprises and the events that cause dynamics in the population over time. In this respect 'Self-employers' are a large and important group in terms of enterprises which cause a lot of dynamism in an enterprise-population. Another important topic in the BDS is to describe this population by social economic characteristics, e.g. to determine a profile of a business owner. This aspect is also interesting for the Entrepreneurship Indicator Project (EIP).

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[1] Part-time self-employed, part-time employee

[2] The DMS is the owner-manager and the only Director of the Board of an incorporate business. He owns all (or at least the main part) of the shares and he has put himself as an employee on the payroll of the corporate. He gets paid from the profits of his own enterprise.

User	Needs
Finance of SMEs	The financial possibilities of SMEs depend on investments, income and capital. This kind of information is often available on the level of legal persons, but not for natural persons, like a self-employer. A central database where fiscal information of several registrations about natural persons and their businesses are combined would be of useful to describe the distribution of the income of enterprises in general.
District-Register	The district-register consists of a number of regional statistical indicators on the lowest district level of the Netherlands to characterize a district. The number of self-employed could be used to characterize this aspect of a neighbourhood.
Social Coherence	Social Coherence is a thematic topic on the social conditions of our society. The reasons why a natural person has started a business is an interesting topic to add. Especially when this business has started from a former unemployment status.
Labour Accounts	In the Labour Accounts information on the self-employed and information on employees are joined with the aim to estimate their income. At this moment the estimates on the income of the self-employed are of bad quality. An environment where fiscal information on Self-Employment is used for a better estimation would be a major improvement fro the labour accounts.
Agricultural Statistics	Agricultural Statistics are based on the Agricultural Census. This census is done in cooperation with the Ministry of Agriculture. Traditionally, many self-employed workers are active in the Agricultural Sector. The information on the Balance sheet is very useful. It gives extra insight in the financial situation of a 'farmer' and might help interpreting information collected in the agricultural census.
Social Statistical Base (SSB)	For each natural person in the Municipal Basic Administration of Dutch inhabitants (17 million) , the Social Statistical Base (SSB) retains information whether he or she is an employee or not. Based on information on self-employment, it would be possible to analyse the number of 'hybrids'. These are natural persons with economic activities as a self-employed in his own business and as an employee in a firm.
Professions Healthcare	Health Care Statistics use a registration called Professions on Individual Healthcare (BIG), which identifies many self-employers with activities in healthcare. It would be useful to link this information of other sources about self-employers.
Labour Force Population	Labour Force Statistics (LFS) describe the Labour Force of the Netherlands. In 2007, it included natural persons between 15 and 65 years old, which worked for 12 hours of more per week. In the LFS a self-employed person is defined by his main job. Persons which are a self-employed in their second or their third job, are excluded from the population of 'self-employed'. In the LFS a distinction is made between self-employed as an enterprise without personnel and other kinds of self-employment like a freelancer, a self-employed with personnel or a self-employed as a partner (e.g. family members).
Income and wealth	In the Income and Wealth Statistics, estimates are made for the number of self-employed workers and their income based on the profit from their activities as a self-employed. This information is used to determine the position of self-employers in society and to describe the developments in the purchasing power for this population. Complimentary to this aim are the estimates of the financial wealth of this group.

With the outcome of the interviews information from the users the project-group answered the questions:

- What kind of indicators are relevant?
- What kind of variables are needed to compile the indicator?
- What sources are available for now?
- What is the coverage of these sources?

To answer these questions, the idea was to develop a prototype of an environment first where all relevant information registered in secondary sources from the Tax-Office about the population of 'self-employers', is linked

and stored. The basic population is extracted from the SBR, what makes this prototype a satellite of the SBR: 'Satellite on Self-Employment (SOS)'.

From the interviews with the users there were explicit needs for

- an estimation of the income and the wealth on the level of the individual self-employed;
- a coordinated population of the self-employed in statistics;
- a link between the self-employed and the corresponding enterprise.

3.   Results

If we consider the needs for information on self-employment in chapter 2, operational rules should be defined to delineate a proper population about self-employed workers. But before a harmonised definition of self-employment was needed. In the paragraph 3.2 the sources used for the prototype are listed.

3.1   Definition of self-employment

The International Classification of Status in Employment (ICSE) is a classification of the different types of 'workers' in general. It is coordinated by the International Labour Organisation (ILO[3]) to improve international comparability on labour statistics. The ICSE distinguishes between "paid employment" jobs and "self-employment" jobs. This distinction accounts for the economic risk and/or the type of employment contract of the 'worker'. Employees belong to the category of "paid employment jobs". Their income comprises on wages and salaries. The income of a "self-employment job" depends on the profits achieved from the sales of goods and services produced. Also family workers and the different types of partners who work at their own account in a partnership are classified as a "self-employment job".

Point of discussion is the treatment of 'Directors Main Shareholders (DMS)'. As a rule he is the owner-manager of an incorporated enterprise who performs like a self-employed worker, but receives his fee as an employee. Should these worker be treated as a self-employed worker or as an employee? Classifying them as an employee would be consistent with their classification in the System of National Accounts (SNA). However classifying them as "self-employed" is favourable to publish labour statistics. It is advised to identify these groups separately by combining both views.

To fit this needs of the assignment, the members of the project agreed on the following definition of a self-employed:

A self-employed worker is an individual who accomplishes labour at his own account or risk

- *In his own business or office*
- *In the business or office owned by a member of the family*
- *As a professional (e.g. craftsman)*
- *As a DMS*

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[3] An extensive description about the ICSE is available on the website of the ILO:
http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/meetingdocument/wcms_223924.pdf

To support social economic statistics, the DMS may be excluded. To support labour statistics the DMS may be included.

3.2 Prototype

In the prototype of the SOS, information of the SBR is combined with information from the Tax-authority.

The basic population of self-employed workers is extracted from the information stored in the SBR. Most of the data files we have access to from the Tax Authority, do not report about the occupation, because "self-employment" itself is the reported occupation. By using the SBR it is possible to link the information on activity in the SBR to the self-employed workers and to coordinate the populations of individuals and the corresponding enterprises.

The Dutch Tax Authority knows 2 types of taxes:

- Taxes which should be declared, like Value Added Tax and Taxes on wages
- Taxes which should be reported, like Income Tax and the Profit registration of economic activities performed by natural persons and enterprises.

Some of these taxes are supposed to be paid by the natural person as an individual and other taxes are typical to be paid on enterprise level or at the level of the legal person. Partnerships are fiscally transparent. This means that the business itself is not reporting Income Tax or fill out the Profit Registration, but the partners which participate in the partnership will do that by themselves individually.

Source	Description of the source
Statistical Business Register (SBR)	The Dutch SBR consists of information on the enterprise as a statistical unit and the links to the corresponding administrative units. From the SBR it was possible to extract a population of sole-proprietors[4], and a population of natural persons who are a partner in a partnership, which is registered as an enterprise. There exists different types of partnerships in the Netherlands. *Limited Partnership:* This is an agreement with no legal personality between two or more partners to run a business. The partners contribute business capital, which is not separated from their personal assets ('separate estate'). The jurisdiction of each partner is limited and assigned in a partnership contract. *General Partnership:* This is an agreement with no legal personality between two or more partners to run a business. The partners contribute business capital, which is separated from their personal assets ('separate estate'), and which may be used solely for the business. Each partner has unlimited liability, including personal assets, for obligations entered into by the partnership, even if these are entered into by another partner.

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[4] A legal entity with no legal personality, where one natural person owns the business. The owner is entirely liable for all business and capital matters. There is no distinction between business assets and personal assets.

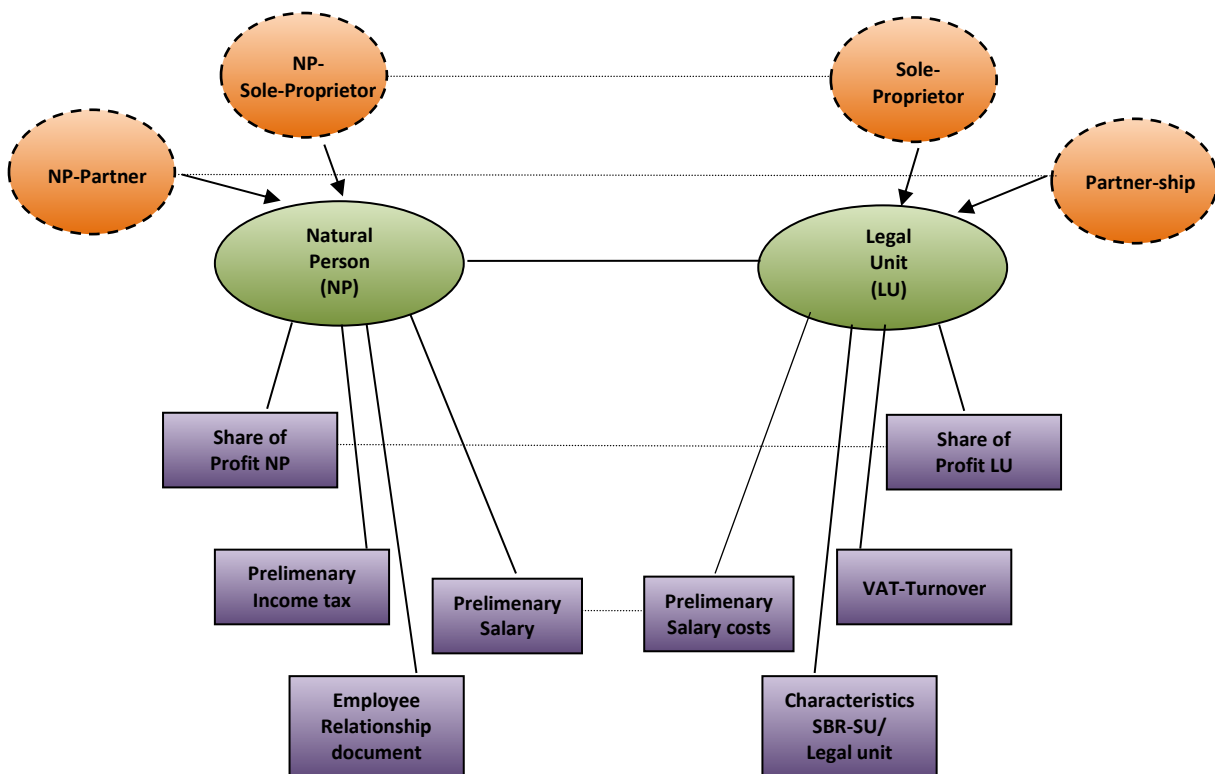| Source	Description of the source
	Commandite partnership: The partners in this partnership are either controlling or silent. The controlling partner has the unlimited liability, including personal assets, for obligations entered into by the partnership unlimited. A silent partner is only financially involved and has a limited liability towards his financial contribution in the partnership. A silent partner is not treated as a self-employed worker.
Electronic Data Warehouse (EDW)	The EDW is maintained by the Tax Authority and consists of information on - Income tax with the profit registration of Private Persons like a 'result-enjoyers (REY)[5]' or a DMS', - Income tax with the profit registration of sole proprietors or partners in a partnership. From this source the information about profit is used to estimate the 'actual' (i.e. most recent value of) profit. The self-employers which report on their income tax about profits also have to report their annual balance-sheet. For both types of taxes preliminary taxes are reported by the tax authority (50%). It should be mentioned that the information about profits is complete after 3 years. Recent estimations are compiled according a 'profit-actualisation' model[6]. (The EDW also consists of information on corporate tax, but this information is not used in the SOS)
Preliminary reported income taxes	The preliminary reported income taxes are estimations estimated by the tax-authority based on the revenues declared by the self-employed worker. Each year there are 400 – 500 thousand preliminary tax-reports. About 50% is related to the taxable profits after reduction of the 'self-employment exemption'.
Value Added Tax (VAT)	Each legal person is obliged to pay VAT about the product or service he trades on the market. With this information it is possible to compile the amount of turnover. Information on VAT is declared each month (larger sized enterprises), each quarter (medium sized enterprises) or once a year (small sized enterprises) and is available rather directly after the reference period. VAT-information is also used in the income statistics to actualize profits by using the 'profit-actualisation' model.
Declaration of work-relationships	With this declaration a natural person get sureness about whether their income is gained from a work-relation earned as taxable profit as a legal person, as the taxable salary out of an employment contract or as the taxable result from other activities.

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[5] This an individual who is not a self-employed worker or an employee according the Income-Tax or the Taxes on Wages, but he earns income from 'other work' (e.g. a freelancer or an individual who provide some domestic help professionally). He has no right on special tax reductions for self-employed, like the 'small or medium enterprise tax reduction'.

[6] The 'profit-actualisation' model is used by the income statistics to impute the actual amount of profit, when information on profit is missing for the reference period. This model uses VAT-information of the actual reference period and an older observation about the profit as input. Also information from the Supply & Use Tables (National Accounts) is used. These tables give information about the 'mixed income' and the total production on the two-digit level of the activity code. The rate between these two variables is an alternative for the rate between profit and turnover. A complete description of the model is available at SN in Dutch.

Source	Description of the source
Fiscal Database	The fiscal database consists of Information known by the Tax Authority regarding the fiscal salary reported for each individual and the number of weeks this salary is based on.
MBA	The Municipal Basic Administration (MBA) is the registration of all inhabitants of the municipal. In the prototype this source is mainly used to check whether an individual is dead or alive.

In the prototype the sources mentioned, are joined into one database to test its usability in the different statistical processes.

Figure: Prototype of the satellite on self-employed

Implementation of a self-employed worker with his own enterprise

In the prototype each sole-proprietor or partner in a partnership as being an enterprise is a self-employed individual, when he reports profits from business activities as a natural person.

As a consequence, this implementation excludes some self-employed family workers, some freelancers which do not own an enterprise, individuals who consider themselves as a self-employed worker, but do not participate as a partner in a partnership or don not have to reported on their profits according the Dutch fiscal laws.

3.3 Extension of the SOS

The development of the prototype and the methodological issues where discussed during 2010 and 2011. In the meantime this prototype has become final with some technical refinements. Nowadays the environment is officially called the 'Satellite on Self-Employment (SOS)' and is used as a major source in several statistical processes regarding self-employment.

Joining administrative information on individuals and enterprises will give statisticians the opportunity to optimize their statistics and to derive new variables to describe new phenomena's to fulfil the needs of their users. New sources should be linked immediately to the satellite to increase its usability. Some sources might consist of missing data for specific reference years. Research has to show whether it is possible to impute the missing data for the reference by some assumptions (model)

Last year several major extensions were added to the SOS:

- Addition of the Director Main Shareholders (DMS)
  In the Netherlands, some self-employed workers are registered as an incorporate business (e.g. limited liability). As the owner-manager (and the only Director of the Board), he owns all (or at least the main part) of the shares and he has put himself as an employee on the payroll of the corporate. He gets paid from the profits of his own enterprise. However his situation is very similar to that of a self-employed who is registered as a sole proprietor, but he is (principally) not responsible with his private assets for his debts.

- The second addition to the SOS was included to improve the estimations about the immovable property of the self-employed. Therefore new information about immovable property and the 'assets and reserves' on the balance sheet were added.

- The third extension was to make an SOS since reference year 2007. The challenge was to find appropriate solutions for missing sources or sources with missing information or less quality for those reference years.

4. Challenges

Developing the SOS was a project where a lot of choices had to be made in order to create an accepted product which fulfilled the needs of its users. Which sources are available and which information is particularly useful to add to the prototype? How to implement an accepted concept of self-employment in the prototype?

Many discussions with the users were needed to compromise on the topics below.

- The treatment of the so-called 'Hybrids'.

  These are people who work part-time as an employee and part-time as a self-employed. In case a classification is required, the income of both jobs could be compared to determine the focal point for classification.

- Linking fiscal data to the statistical units in the SBR.

  Since many fiscal sources were used during the implementation, some coverage issues occurred which lead to inconsistencies with the statistical units used to identify the enterprises of self-employed workers in the SBR.

- Distinguish different kinds of self-employed workers

  + 'Result-enjoyer':
  This an individual who is not a self-employed worker or an employee according the Income-Tax or the taxes on wages, but he earns income from 'other work' and has no right on special self-employed tax reductions like the 'small or medium enterprise tax reduction'. His income is treated like if he would be a self-employed worker.

  + 'DMS': Director and Main Shareholder
  This is the owner-manager of an incorporate business, which is also the owner of the main part of the shares or the main part of the voting power. Social economic statistics may exclude the DMS as an employee and labour statistics may include the DMS as an employee.

  + Distinction between a 'classic' and a 'new' self-employed worker
  For some policy makers it is important to make a distinction between a 'classic' self-employed worker like a farmer and a 'modern' self-employed worker like a carpenter which used to be an employee for a firm in construction. It has turned out that this 'modern' self-employed sometimes has insufficient means to guarantee continuation of the business in bad times. To make this distinction first research has pointed out that the activity code is not sufficient to make this distinction. Likely their assets on their balance sheet provide useful information to make a better distinction.

  + Distinction between a self-employed worker with or without personnel
  The distinction with or without personnel was important for some users. A self-employed worker who also is the owner of an enterprise which comprises employees, is classified as "with personnel" otherwise as "without personnel". This means also that family workers or other types of self-employed workers which are not the owner of an enterprise, are classified as 'without personnel'.

- Timeliness of administrative information
  One of the challenges was to handle the timeliness and the completeness of the main source where the profit of most self-employed are registered. The annual information about the profit of many self-employed workers will be complete after 3 years of time. Therefore the income statistics developed the profit-actualisation model to calculate an impute missing information on profits for the reference period.