

The development of data collection on Wages, Earnings and Labour Cost

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In the Icelandic Survey on Wages, Earnings and Labour Cost, data are collected directly from business units through the software used for calculating wages. Such electronic data collection ensures an easy and efficient data collection. However, detailed electronic data are very sensitive for changes within the business units as well as for changes in their environment. To counter that, in addition to continuously monitoring the data, a continuous feedback to the data suppliers or to the software firms (in case of system errors) is necessary. A good collaboration can be established by focusing on giving positive feedback and support. The experience shows that under such conditions, an optimisation does not only apply to higher quality of the data but also in less response burden and overhead expense.

Historical overview

Electronic data from payroll system since 1986

Wage surveys have a long history in Iceland. The Institute of Labour Market Research (ILMR) surveyed wages in the private sector from 1963 through 2004 with the objective of providing information on wages and the development of wages. In 1986 ILMR began to obtain data electronically from business units payroll systems, and this has remained the principal means of collecting data for wage surveys in Iceland ever since.

In the year 1996, a formal agreement was concluded between ILMR and Statistics Iceland on their cooperating in a survey on wages, earnings and labour cost. At the same time changes were made on the survey by adapting the methods to international standards and aiming at extending and improving the sample to cover all major sectors of the labour market in Iceland.

In the beginning of the year 2005 the ILMR activities were discontinued and Statistics Iceland became responsible for the survey on Wages, Earnings and Labour Cost.

Data Collection on Wages, Earnings and Labour Cost

The survey In the Icelandic Survey on Wages, Earnings and Labour Cost, data is collected directly from the software each business unit (company, institution or municipality) uses for calculating wages, i.e. from the administrative records of the business unit. Every month, a business unit in the survey sends a text file containing detailed information on the structure of earnings and labour cost items for all their employees, together with background data on the employees and the business unit. Agreements have been made with Iceland's leading software firms including the possibility in their wage software which allows the business units in the survey to submit electronically standardised information directly from their payroll system. Today, such application is part of the basic package in almost all wage software available in Iceland.

The aim of the data collection The data collection method aims at the minimization of the response burden, high quality data and the use of a standardized collection method. The direct use of administrative records simplifies the data transmission and ensures that the expense and time lost through reporting is kept to minimum. It also provokes higher motivation to submit the data. Electronic data collection affects the quality of the data since direct access minimizes the bias caused by recording and reduces individual estimation in managing the data. By using standardized collection method, the process of receiving the data is simplified and standardised definitions of wage items and classifications ensures better and more harmonized dataset.

Inclusion process Great effort is put on the inclusion process for each business unit as it enters the survey. When a business unit has been selected to be part of the survey sample, the chief executive officer (CEO) is contacted and informed about the survey. The CEO then appoints a contact person within the business unit. Not only is cooperation sought among the business units to increase response motivation, but a strong emphasis is also placed on providing thorough information about the survey and establishing adequate communication channels.

An important aspect of the inclusion process is visiting the business unit. During visits, technical aspects concerning the software for wage calculations are addressed, along with details on entering records, such as classification of occupations and economic activities. The business unit's wage structure is examined and the wage items in the payroll system integrated with the wage items of the survey. During the visit efforts are made to gather information on the business unit and any potential uniqueness, such as its wage structure or arrangement of working hours. If business unit can not be visited they receive similar services by phone.

Once these matters are resolved, a trial text file is obtained. This file is studied and any comments or further questions that arise are sent to the business unit. Once the file fulfils standards on quality, the inclusion process is considered complete and regular transmission of data begins.

Data management When submitting data on a regular monthly basis, contact persons within the business units send standardised text files from their payroll system to Statistics Iceland. These incoming files are loaded into a specially designed program, and a quality check is performed to ascertain whether the data quality meets standards. In cases of doubt, the contact person within business unit is contacted to clarify the matter. This process guarantees a minimum of data errors introduced or left unresolved. Once the data has been checked for quality, it is saved on Statistics Iceland's database and used for processing.

45 survey items The survey items consist of information about the business unit, the employees, wages, labour cost, working hours and payment periods.

Trends in the Survey Data Collection

In the beginning the primary emphasis was on quality checking

Data collection in its current form goes back to 1997. From the beginning, great emphasis has been put on establishing a good relationship and cooperation with the data suppliers. However, after the inclusion process was completed and regular transmission began, the feedback to the data suppliers was previously kept to minimum except in the case of great uncertainty in the data. This development was partly an effort to minimize the response burden. In return more emphasis was put on quality checking after receiving the data, and also on developing a quality testing software where the history of the employees within the business units were easily detectable.

Although the use of electronic data collection offers many advantages, like simplicity, consistency and efficiency, the experience has shown that detailed electronic data are sensitive to changes. Examples of changes are change of wage software type or a new version, or if a business unit either splits up or merges with another business unit. In such cases information linked to the survey can be lost and the business units need to go through the inclusion process again. Other example is a change within the business units like labour turnover. Changes in the business environment can even have a major negative impact on the quality of data if data suppliers are not aware of the importance of recording simultaneously any extra items related to the survey, like classifications of occupations.

Over time it came clear, that focusing primarily on quality checking or monitoring of data was not successful. It did not minimize the response burden on data suppliers in the long run. Also, the micro management of data led in some cases to errors due to incorrect imputations or manual corrections based on the employee's history, not to mention when it involved unnecessary individual estimates. However, imputations and individual estimates were sometimes inevitable due to technology limitations in the wage software.

Today the primary emphasis is on feedback and support

To counter this above-mentioned sensitivity of data, more emphasis has been put on giving feedback to both the data suppliers and to the software firms. The technology development in the past years, in the field of wage software as well as online information on the business units, has been in-

strumental in making any feedback significantly easier. The aim remains unchanged, i.e. to establish good cooperation and a stable relationship with the data suppliers and the software firms, but the frequency of the feedback has increased greatly for the last three years.

Establishing good collaboration

Once feedback becomes a factor that can affect the quality of the data, then it becomes very important that the feedback is positive. It has been shown, that basis for good collaboration is obtained by giving positive feedback and focus on supporting the data suppliers or software firms. Positive feedback and support can only be provided from the survey specialists with an outstanding knowledge and comprehensive overview on the survey, the data, the data suppliers and the technical issues.

Experience shows that data suppliers who are confident to achieve good and personal support regarding the survey are more willing to participate in collaboration. Under such circumstances, a trust builds up between parties which is a fundamental factor in establishing and maintaining a good meta-data about the business units. Today, data suppliers often contact Statistic Iceland unprompted when changes are pending. Then the problems are immediately addressed which in turn often lower its complexity levels.

Good collaboration is also important with the software firms. They rely on our support regarding providing updated information for their software like codes for classifications and Statistic Iceland rely on their support services on technical issues to the data suppliers. In good collaboration, situations like incorrect programming can be avoided. But post-corrections due system errors can be very time-consuming, not only for Statistic Iceland but also for the software firms.

More efficient data collection

Extensive data quality checking is still performed, but if some questions arise, the data suppliers or the software firms are contacted and the problem fixed. This constant monitoring and positive feedback has resulted in significantly higher quality of the survey data which has in turn decreased considerable the amount of time spent on managing the data. Therefore the optimisation does not only apply for the quality of the data but also in less overhead expense.

Furthermore, the response burden has decreased since the extra recording on the survey items becomes routine for the data suppliers instead of becoming an accumulated problem that takes time to overcome.

The data collection is under constant development

The data collection from the Icelandic Survey of Wages, Earnings and Labour Cost is under constant development. For now the use of other sources of administrative data along with the data from the survey is being explored. It can be used to enrich the survey data or add extra data without tampering the ongoing survey. Furthermore, the use of other data source is also being explored in quality checking for verifying the data.

Other topic being explored at the moment is the development of documentation system for the metadata of business units and implementing more automatic process when receiving the data and in quality checks.