

## **Annual Bookkeeping Report as the primary administrative source for the production of SBS — current experiences and future plans.**

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### **Background**

Since 2010 in Statistics Estonia the production of the Structural Business Statistics (SBS) data based on the annual statistical surveys. The administrative data (annual bookkeeping reports, tax data) were used as an additional source for checking and controlling and for imputation missing data, no more. According to Estonian Commercial Code all Estonian enterprises (excluding sole proprietors) are obliged to submit their annual bookkeeping reports to the Commercial register 6 months after the end of economic year.

Up to 2010 there was a possibility to submit the annual bookkeeping reports electronically in PDF or RTF format which required time-consuming data entering from Centre of Registers and Info systems side. At the same time there existed double data collection as the other state agencies as statistics, tax office collected similar information via questionnaires and declarations.

In the same time re-using information from annual bookkeeping reports on statistical purposes was problematic as the reports were available as scanned images or PDF files which did not allow processing the data electronically. Only information on income statement, balance sheet and cash flow statement was available in electronic format, but the problem was in timing. The data in electronic format became available too late (15 months after the reference year) as the data were entered in the Centre of Registers' and Information Systems manually and such a long entering period was not proper for the production of SBS.

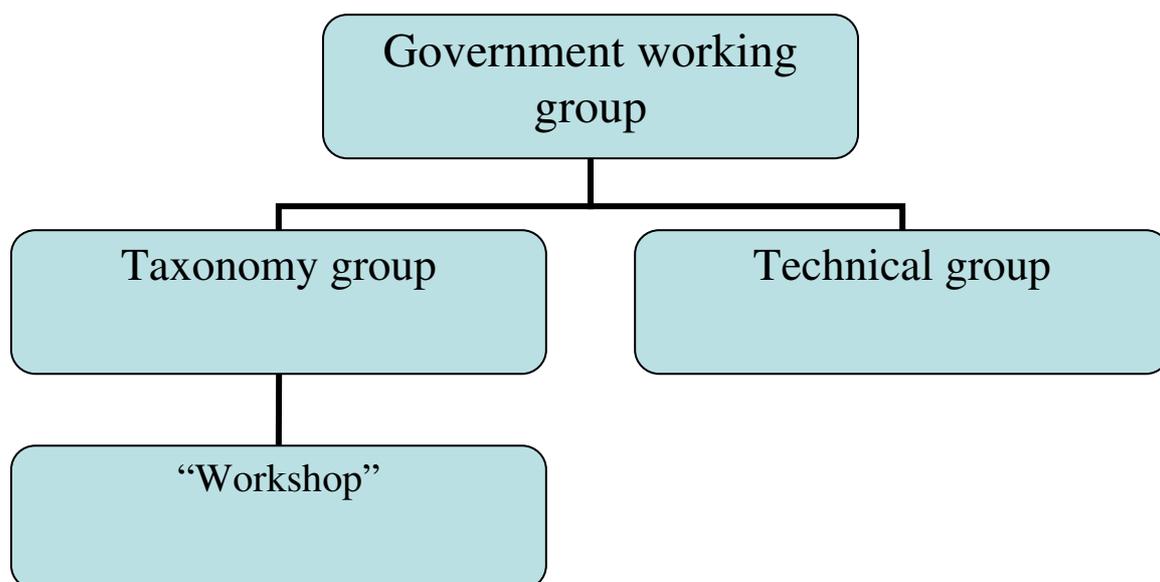
### **Annual Bookkeeping Reports electronically**

On April 2008 Parliament adopted the changed Estonian Commercial Code which stated that starting from January 1, 2010 commercial undertakings, non-profit associations and foundations are obliged to provide their annual bookkeeping reports only in electronic format if the Estonian accounting good practice (Estonian GAAP, issues from IFRS, but with some simplifications and lesser requirements for the information to be published in appendices) is followed. For the units, which compile the annual report according to the International Financial Reporting Standards, the requirement will be implemented later. The goal was to simplify the current data collection system, which was burdensome for data providers as well as for the state and avoid double data collection. As an exception, two year transition period was granted to Statistics Estonia (and for 3 other state institutions) mainly to develop and adapt the information systems to treat data in XBRL format.

The XBRL (eXtensible Business Reporting Language) was chosen as data transmitting standard for annual bookkeeping reports. The advantage of the new data collection format enables the immediate data processing without additional data entering etc. The national XBRL taxonomy was created. Main tasks for the group of taxonomy were:

- Come to an agreement on elements of taxonomy
- Definitions of variables
- Come to an agreement on administration of taxonomy system
- Define the needs to change legal acts
- Inform data providers about the changes in data submission

The workshop of taxonomy group consisted of the representatives from Ministry of Finances, Centre of Registers and Info Systems (so- called Commercial Register), Ministry of Justice, Ministry of Economic Affairs and Communications, Statistical Office, Tax and Customs Board, Estonian Accounting Standard Board, Estonian Board of Auditors, Bank of Estonia and Chamber of Commerce. Work started in November 2008 and the list of taxonomy elements was ready in 1<sup>st</sup> half of 2009 and was approved by the Government of Estonia in 17.12.2009.



Primarily the XBRL taxonomy was created for “ordinary solo” reports, which follows the Estonian GAAP (accounting principles generally accepted in Estonia). Estonian GAAP is used by the majority of enterprises. Currently consolidated reports, liquidation reports, reports according to IFRS etc. could be still provided in pdf format, but the work is going and at end of the this year XBRL taxonomy could be used for liquidation reports. For the other cases currently negotiations are in progress and the decision will be taken next years.

Created taxonomy elements can be divided in two groups:

Main reports (balance sheet, income statement, cash flow statement, equity statement)- the use is mandatory

Appendices- the GAAP materiality principle (is allowed to ignore if no effect).

The materiality principle states that the requirements of any accounting principle may be ignored when there is no effect on the users of financial information. The main disadvantage of this requirement is that the principle does not allow receiving all variables needed for statistical data production from the annual bookkeeping reports.

EKOMAR	thereof in annual bookkeeping report						not included	
	TOTAL		main report		appendices			
641	381	59,4%	72	11,2%	309	48,2%	260	40,6%

Minuses:

- Taxonomy elements described in Regulation
- Possibility to add elements — free text (not usable for statistical data production!)

Statistics Estonia started to receive 2009 annual reports in XBRL format via X-road in June 2010. The next stage was to make a use of data in XBRL format for statistical purposes and avoid the double data reporting.

### **Harmonization of statistical surveys using information from annual bookkeeping reports**

For better use the information from annual bookkeeping reports there rise a need to harmonize statistical questionnaire with XBRL taxonomy.

The basic survey for compilation of structural business statistics according to the Annexes 1–4 of the SBS regulation is statistical questionnaire EKOMAR, which consists of several modules. There are modules about the general data of enterprises, about enterprises' labour force, income statement, breakdown of turnover, breakdown of expenses on materials, products and services, changes in assets, balance sheet, local KAU's and several activity specific modules

To avoid double data collection, it was decided to prefill EKOMAR electronical questionnaires with the data from annual bookkeeping reports as much as possible. For that was important to simplify the use of data from annual bookkeeping reports and make it easily understandable for data providers which data from annual bookkeeping reports are used in prefilled statistical questionnaires.

A working group was organised involving specialists from enterprise statistics (EKOMAR survey) and other departments with the aim to unify XBRL taxonomy with statistical variables. Working group examined all EKOMAR modules, compared them with the similar report or appendix of the annual bookkeeping report and harmonised as much as possible the layout of statistical questionnaire as well the titles of the variables. The same wording was used as much as it was possible. At the same time, variables which need was doubtful were consulted with the main data users.

*For example some variables needed for compiling National Accounts were dropped as the result of consultations with National Accounts department while they have developed new data production methods and have found possibilities to use other (administrative) data sources. For example variables “Selling price of tangible assets held for sale by assets type”, “Taxes on products and production”, “Financial income” and “Financial costs” separately.*

The biggest changes were made in module “Income statement” (profit and loss account), which is main source to calculate SBS variables (turnover, value added, production value etc). In XBRL taxonomy two income statement schemes are in use. For statistical questionnaire the unified version was created. The module's layout was redesigned following the sequence of variables in annual bookkeeping reports' profit and loss accounts.

*So called statistical variables i.e. variables which do not exist in profit and loss account were added additionally (see Annex 1, Income statement). For testing the new layout of the module it was sent to some data providers for opinions. According to the received answers only minor changes were needed in the questionnaire.*

Redesigned module enables to use as much as possible the information from annual bookkeeping reports' profit and loss account to prefill the statistical questionnaire. Data providers will be obliged to fill in only so called statistical variables. The statistical questionnaire is drawn up similar as the profit and loss account, as well as the variables are in the same order and therefore easily understandable.

*In XBRL taxonomy the new table for movements in fixed assets was compiled. It involved the changes in statistical questionnaire. For reference year 2009 data collection a new module "Changes in tangible and intangible assets" was created instead of two previous modules of investments and changes in assets. But the creation of taxonomy and changes in annual bookkeeping report requires the modification of other modules as well as the questionnaires.*

As the layout was changed and some variables were removed from cost side to income side (e.g. change in work-in-progress inventories, change in finished goods inventories etc) and for that reason also the content of some totals (e.g. costs total) changed, some new codes were implemented. It caused the need to make the same changes in databases. In the same time there occurred a need to change the databases which was very time consuming and complicated.

Additionally to EKOMAR also other statistical surveys of financial and non-financial activities use the data from annual bookkeeping reports. These surveys have been developed independently. Questionnaires set-up (for example sequence of the variables), existing data coding and correspondence systems were different. To facilitate the data transmission from administrative sources it was decided to unify the questionnaires as much as possible and to develop a common data coding system. In this unified system the variables, which could be received from annual bookkeeping report should have the same codes through the different statistical surveys to simplify the statistical production systems.

#### **It was taken into account that unification leads to**

- change of the codes of variables,
- change of the data checks in questionnaire instructions,
- changes in data production software (input, transfer, production and output software).

#### **At the same time unification**

- facilitates the creation of correspondence tables — the same correspondence table for several surveys could be used,
- simplifies the preparatory work for the data publishing — no need to use additional correspondence tables to add up the same variable from different surveys, which were coded differently,
- will help in the creation of the universal data production software (technical development is in the phase of creation).

*The harmonization proposal initiated by the enterprise statistics department was considered by the other departments of Statistics Estonia producing statistical data included also in annual bookkeeping reports.*

The debates lead to the decision, that questionnaires drawn up for collecting annual financial data from agriculture, forestry and fishing (NACE A) enterprises should be harmonized with enterprise statistics department survey questionnaires. Agriculture, forestry and fishing enterprises' financial data have been published together with the data of industry, trade and

services enterprises in the common databases (on web site) and also paper publications to cover all NACE non-financial activities (NACE A-S, except K). At the same time agriculture, forestry and fishing enterprises' financial data are needed for National Accounts purposes. However it was also decided not to harmonize the surveys of non-profit associations and foundations as these units belong mainly to the NPISH sector (Non Profit Institutions Serving Households, ESA 95 S.15) and thus data are not published together with enterprises data. Thus the harmonization was decided to carry out through the surveys by ESA 95 institutional sectors.

The harmonized questionnaires and codification system enables to facilitate the current data aggregation and publication process — data from both surveys are coded similarly, databases could be simply related, no need for additional correspondence tables. The collaboration between different units might allow elaborating integrated control checks, guidelines which finally will reach for increasing the quality of data. Worthy of mentioning that not all of the enterprises doesn't have their own bookkeeping department, quite often are used the services of accounting companies which are in the same time responsible for compiling the statistical reports. Accountants in accounting companies have been confused by various statistical questionnaires, although from different activities but containing same variables just having difference on questionnaires layout and also the sequence of the question is different.

*EKOMAR, as the most extensive and most comprehensive annual statistical survey for the SBS production for non-financial enterprises (NACE B-S, except K) administered by enterprise statistics department, was decided to take as the basis. Questionnaire for agriculture, forestry and fishing enterprises was restructured and recoded according to the EKOMAR questionnaire.*

New questionnaires were ready in October 2010 and were made available for data providers in eSTAT (electronic data collection system) on December, 2010.

### **New correspondence tables**

The new correspondence rules and tables had to be created to transmit data from administrative data files to statistical data files as the XBRL uses the specific coding system of elements. The identification elements (ID-elements) in taxonomy are often very long and textual (even more than 100 symbols) and are not directly usable in existing statistical databases as well for the software in use. Some examples of extremely long ID-elements are in following table:

**Table. ID-elements in XBRL taxonomy**

<b>ID-element</b>	<b>Number of symbols</b>
PropertyPlantAndEquipmentHypercubeExcludedElementsOfAcquisitionOfLandAndBuildingsExceptNewBuildingsAndRenovations	113
PropertyPlantAndEquipmentAcquisitionsAndAdditionsAcquisitionOfLandAndBuildingsExceptNewBuildingsAndRenovations	110
PropertyPlantAndEquipmentAcquisitionsAndAdditionsAcquisitionOfLandAndBuildingsExceptNewBuildingsAndRenovations	110
BiologicalAssetsFairValueMethodCurrentAssetsDecreaseOfValueFromDueToProductionOfAgriculturalProducts	100
BiologicalAssetsFairValueMethodCurrentAssetsDecreaseOfValueFromDueToProductionOfAgriculturalProducts	100

Therefore the new codes were created for statistical purposes. New codes are limited with 10 symbols and therefore convenient for the SBS data production where the software FoxPro is used.

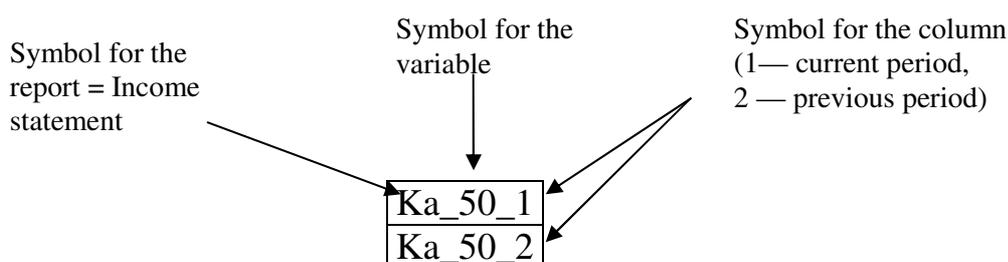
The statistical codes were created for commercial undertakings annual reports' data and also for non-profit institutions annual reports data. For commercial undertakings 4 main reports are in use

- income statement,
- balance sheet (statement of financial position)
- cash flow statement
- statement of changes in equity,

For non-profit institutions, instead of income statement, the statement of revenues and expenses as well the statement of changes in equity and net assets is in use. Altogether there were created codes for 6 main reports and more than 700 variables.

Onward implementing the XBRL appendices of annual reports will also be available in electronic format. For all appendices codes for statistical purposes were created. Altogether for commercial undertakings and non-profit institutions 51 appendices with more than 2800 variables could be used.

The code consist of letter symbols indicating to the main report (for example “Ka” in case of income statement) or to the appendix (symbol “L”) of the annual bookkeeping report, numeric symbol of the variable and additional numeric symbol for the column in the table. For example the code for turnover (revenue) in income statement:



All created codes were checked manually. For checking annual bookkeeping reports in PDF format were used. Statistics Estonia has also free access to the annual bookkeeping reports in PDF format on the web site of the Centre of Registers and Information Systems. After the statistical code was created and information from XBRL format was transformed the results were compared with the information in PDF format.

### **New formulas and rules to calculate statistical variables**

As bookkeeping variables can not be used directly as statistical data, there was a strong need to create new rules, formulas and tables for calculating statistical variables. Before the information from annual bookkeeping reports was available in electronic format only about the main reports (income statement, balance sheet and cash flow statement). After the implementation of the XBRL also appendices of annual reports are available in electronic format. Simultaneously some variables were removed from main reports to the appendices. Therefore the additional correspondence rules and formulas to use information from appendices were created taking into account the kind of activity of the enterprises etc

The first priority was to create formulas which could be used for imputation in 2010 i.e. for the reference year 2009. Created formulas should be in format, which enables their use for prefilling the data in eSTAT, but also in other Statistics Estonia statistical software applications.the reference year 2009 statistical surveys. As for the reference year 2010 statistical questionnaires were harmonized, the formulas were accordingly adapted.

Variable code in EKOMAR	Name of the variable in EKOMAR	Formula	EMTAK = NACE
mc.c_10	<b>Turnover</b>	m.Ka_50_1+m.L34_100_1+m.L34_110_1	
mc.c_11	sale to non-residents (export)	m.L32_90_1-m.L32_10_1	
mc.c_12	sale to EU Member States	m.L32_40_1-m.L32_10_1	
mc.c_755	<b>Other revenue</b>	m.Ka_60_1	
mc.c_760	profit from the sale of tangible assets	m.L34_10_1+m.L34_20_1+m.L34_30_1+m.L34_40_1	
mc.c_765	profit from revaluation	m.L34_50_1+m.L34_60_1	
mc.c_21	operating subsidies for agriculture activities		
mc.c_20	operating subsidies		
mc.c_22	Change in work-in-progress and finished goods inventories	m.Ka_90_1	
mc.c_35	Profit/loss from biological assets	m.Ka_80_1	
mc.c_40	Capitalized self-constructed assets	m.Ka_100_1	
mc.c_100	Merchandise	m.L35_30_1+m.L39_30_1	EMTAK<450000 or EMTAK>470000
mc.c_100		m.L35_30_1+m.L39_30_1+m.L35_20_1+m.L39_20_1+m.L39_24_0_1+m.L40_180_1+m.L41_180_1	EMTAK>=450000 and EMTAK<490000
mc.c_110	Services purchased for resale		

### SBS data collection via prefilled questionnaires

The correspondence tables are necessary to transmit administrative information for statistical data processing as well as for eSTAT (electronic data submission environment). Currently the testing is in progress and data from annual bookkeeping reports about the reference year 2010 are used. First prefiling was done in May 2011 and at present transmission is going on, once a week. Transmitted are only data which have an approved status in Commercial Registers. Data in saved status are not transmitted.

Since 2012 prefiling is planned to be implemented close to real-time when there will be applied new data info system, which is specially created for holding data from administrative sources (ADAM, a technical development is in the phase of creation). As enterprise has provided the annual bookkeeping report electronically to Commercial Register afterward Statistics Estonia will download the data into its info system ADAM. Next the administrative data are converted into the statistical format and statistical questionnaires are prefilled in eSTAT. Data providers are informed about the data source and the transformation made (formulas used for statistical calculations. Formulas are available in our web page. The data analysts have the ability to fill in the data and make changes if needed.

The annual bookkeeping reports do not fulfil all statistical needs as there are differences between bookkeeping and statistical principles. Statisticians are not usually taken into account as users of annual bookkeeping reports. The generally accepted accounting principles (GAAP) are used as the guidelines for recording and reporting financial information at the compilation of the annual bookkeeping report. The materiality principle states that the requirements of any accounting principle may be ignored when there is no effect on the users of financial information. The principle does not allow receiving all variables from the annual bookkeeping reports needed for statistical data production. Also the accounting year could be different from the calendar year, in the beginning of the activity the account could be done for the period of 18 months etc. Consolidated reports contain information about the parent company, but only the main reports — income statement, balance sheet, cash flow statement are included — and thus a lot of needed information is not available.

Therefore, statistical data collection should be continuing, but in a way that it would avoid double collection. Prefilled statistical questionnaires in eSTAT enable enterprises to provide

only statistical information not available from annual bookkeeping reports and the response burden of enterprises will be diminished considerably.

The XBRL taxonomies taken into use require that Statistics Estonia adapts its information systems. A project to complement the eSTAT enables to preload the information received from administrative sources. The information from annual reports will be preloaded and data provider has to fill in only the gaps — information not available from annual report. The eSTAT should be improved for the year 2012 i.e. for the reference year 2011 data collection.