

Using registers as the basis to statistical production – linking issues and potential bottlenecks

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Introduction and background

Central bank statisticians must deliver relevant and reliable data to meet growing user 'needs with better quality and quicker at the same time avoiding increases in reporting burden and budget. The scope of the central bank statistics has been reached more far of its "traditional". Keeping statistical production internally coherent and consistent is getting as a challenge when measuring an increasing number of phenomena at increasingly more detailed level.

The key to deal with the situation is the widespread use of administrative registers and records, interlinking these sources to everyday work process. It needs public approval, promoting legal base, unified identification code system across registers, reliable register records and cooperation among administrative authorities and statisticians.

According to the Official Statistics Act, the Eesti Pank (Bank of Estonia; NCB), the other main producer of official statistics besides Statistics Estonia (NSI), shall primarily use data collected in administrative records and databases, data generated in the course of the activities government authorities and legal persons or collected by them, if such data allow the production of official statistics complying with the quality criteria of official statistics.

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<i>Register</i>	<i>Source</i>	<i>Domain</i>	<i>Field</i>
Business and Commercial Register	Centre of Registers / Ministry of Justice	<ul style="list-style-type: none"> - Statistical base register - External Sector Statistics - Financial Account Statistics - CSDB/SEC statistics - HFCS (Household Financial and Consumption Survey) 	<ul style="list-style-type: none"> - Survey frames of non-financial entities - Legal ownership (FDI and FATS) - Equity and reserves - Profits / reinvested earnings - Balance sheets for financial accounts - NACE /institutional sector
Register of licensed supervised entities	FSA of Estonia	<ul style="list-style-type: none"> - Statistical base register - RIAD 	<ul style="list-style-type: none"> - Reporting frames of financial entities - NACE /institutional sector
Estonian Central Register of Securities	Tallinn Stock Exchange /NASDAQ OMX group	<ul style="list-style-type: none"> - Monetary and Financial Statistics - External Sector Statistics - Financial Account Statistics - CSDB/SEC statistics - HFCS 	<ul style="list-style-type: none"> - Transactions and stocks of securities by investors and issuers, registered in Estonia
Information System of State Accountancy	Ministry of Finance/ State Shared Service Centre	<ul style="list-style-type: none"> - External Sector Statistics - Financial Account Statistics 	<ul style="list-style-type: none"> - Central and local government related financial/non-financial flows and stocks
Tax Register	Tax and Customs Board	<ul style="list-style-type: none"> - External Sector Statistics - HFCS 	<ul style="list-style-type: none"> - Items related to wages and income - Survey frames of non-financial entities (VAT data)
Land Register	Estonian Land Board	<ul style="list-style-type: none"> - External Sector Statistics 	<ul style="list-style-type: none"> - Prices and transactions of real estate (FDI)
Real Estate Register	Centre of Registers /Ministry of Justice	<ul style="list-style-type: none"> - External Sector Statistics - HFCS 	<ul style="list-style-type: none"> - Real estate stock (FDI, household property)
Traffic register	Estonian Road Administration	<ul style="list-style-type: none"> - HFCS 	<ul style="list-style-type: none"> - Vehicles owned by households

The aim of this note is to briefly describe the current practice and role of *Statistical base register* in statistical production process of Eesti Pank, highlighting some linking issues and bottle-necks related to other mentioned data sets.

Current practice

The *Statistical base register* of the Eesti Pank is the cornerstone of statistical production of all domains of statistics the bank is responsible, established 1995. In the phase of creation and development of the register it was initially mostly a copy of administrative register of legal entities, provided by Ministry of Justice, supplemented by survey management system for direct reporting. Currently, close links to Statistical Register of Entities of Statistics Estonia having an essential role to supplement the register, promoted by co-operation and data exchange between NCB and NSI.

As mentioned, the most important administrative data source is *Business and Commercial Register* which is an online public service offered by the Centre of Registers and Information Systems (RIK) and the register is based on the central database of registration departments of the courts. This central database includes digital data of the commercial register, the register of non-profit associations and foundations and the commercial pledge register. The register contains historical data since 1995. Register related Company Registration Portal is an internet environment that enables electronic submission of documents to the Department of Courts without the mediation of a notary. Through the portal it is possible:

- to register a private limited company, sole traders, general and limited partnerships within 2 hours,
- to change the data in the commercial register,
- to file annual reports, according to the taxonomy (XBRL format),
- to submit notices about the changes in the main field of activity,
- to submit changes in the telecommunication numbers,
- to submit changes in the list of the members of the supervisory board and/or in the management board and in the list of auditors.

The basic units of the register are the legal units with the Business Identity Code (BIC) as the anchor identifier for all other statistical and administrative registers. The register consists of visualised part showing current and former relations between legal persons (BIC) and private individuals (identifier Private ID code). All previously mentioned is important from statistical point of view - the environment of legal units is extremely flexible and dynamic. The Eesti Pank updates statistical register on the bases of legal register once a month.

Another important data-source for the register of Eesti Pank is *Statistical Register of Entities* (SRE) of Statistics Estonia. The co-operation between two providers of official statistics in this field started in 2007, due to widened statistical field (FATS) and has increased in recent years. The SRE provides annually the Eesti Pank with detailed data on units in the new frame (frozen in November each year) – units' adjusted contact data, principal activity, status of activity and institutional sector code. During the year data on changes in the frame are communicated to the bank. The bank also receives data on members of enterprise groups (incl. UCIs). Eesti Pank as a producer of outward FATS in turn provides to SRE with data on ascending chain subsidiaries of Estonian enterprises located abroad. Regular statistical frame survey of SRE takes into account Eesti Pank needs.

Previously mentioned data sources are supplemented by data driven from the collection system (contact information and other relevant information) and from the register of licensed supervised entities provided by Financial Supervisory Authority (the list of investment funds).

The major duties of *Statistical base register* of the Eesti Pank are:

- to be a survey frame and tool for data collection,
- to be a data source to identify and classify macroeconomic activities and sectors of legal entities,
- to be a direct data source for FDI and FATS statistics regarding ownership and annual economic indicators (pre filled-in questionnaires with combination of securities register data),

- to be indirect data source for cross-checking, comparing and validating reported micro-data,
- it is foreseen that the register will be linked to statistical reporting portal (*eAruanne*) to identify board members of entities, having direct access to determine persons responsible for statistical reporting (identifier: Private ID Code).

Lessons learned

A fundamental concept in the use of registers is the *common code system*, such as the business and private identity codes is the key to extensive cross-use of all above mentioned administrative registers, enabling to link all relevant fields for statistical production in an efficient way. This also enabled many improvements in the coherence and consistency of macroeconomic and business statistics, using the same industrial and sector classification for individual entities in different domains, avoiding an increase in reporting burden.

Registers can help to improve the quality of statistics but need *remarkable investments* into data-base systems, maintenance and statisticians the more so because higher requirements need to be followed in the processing of personal data. Possible cost-savings can be expected hopefully in the longer term.

As the Statistical base register has different input data feeds, there is always need to find a *good compromise regarding the timing of synchronisation*. Business and Commercial Register is live (even regarding annual reporting) while the Statistics Estonia updates SRE frames annually or Institutional Sectors biannually. In Estonia, small and open economy with flexible registration of new businesses, even a single uncovered and/or incorrectly classified entity may become as a big player easily, distorting statistical output.

Although the major responsibility in classification of units by Institutional Sectors according to the ESA is borne by NSI, *the co-operation in determining sectors plays a key role in achieving statistical coherence*. As the NACE code is not always treated as legally binding field of Business and Commercial Register (the initial data source), the special decision trees were made-up in co-operation of NCB, NSI and RIK to help operators to fix or update of activity codes. This is particularly important and difficult for financial activities. The classification rules, based on NACE, are regularly discussed and amended in co-operation with NSI and NCB. Even though using the rules the institutional sector of over 99% of units can be determined automatically, the exceptions demand individual approach. The final lists of financial sector and government sector entities are validated in co-operation with NSI and NCB as well. Although there is good synergy between two organisations, the main bottleneck has been the limited resource.

The main challenge is *how to ensure the correct, stable and consistent classification of institutional units/counterparties in all registers and reports*. At the moment there are only lists of financial sector and government sector entities available for reporters. It is essential to disseminate regularly BIC codes with validated NACE and Institutional Sector Codes to key reporters (credit institutions). The preparatory work for that is already started.

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