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Administrative data in Statistics Finland's Business Register and Enterprise Groups Register

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Abstract: The paper deals with Statistics Finland's achievements and procedures in the area of using administrative data in Business Statistics specially those data mobilised by Business Register. The focus of the presentation is in the use of tax data and co-operation with tax authorities. The paper presents also principles and some recent initiatives for maintenance of the Enterprise Groups Register.

Chapter 1. Introduction

Many statistical institutes use administrative data in their statistics production. In this production model, statistical base registers form the cornerstones upon which the diversity of their statistics production rests. Statistical base registers are usually initially established with the help of administrative registers. Actual economic statistics are then produced using data from the statistical base registers, any kind of administrative sources, and from direct surveys.

This model is also applied in Finland. Administrative data files have so important role in the collection and gathering of data that we have calculated that they include even 96 % of the data items received to Statistics Finland.

The necessary precondition for successful use of administrative data is sufficient legislative framework. The Statistics Act of Finland includes many constructive principles concerning the use of administrative data. The Statistics Act not only guarantees access to administrative files, but also requires that data collected in other contexts be used. The Statistics Act also stipulates that "a state authority shall be obliged to provide Statistics Finland with such data in its possession that are necessary for the production of statistics." A statistical authority is entitled to obtain the data free of charge, but data providers must be compensated in cases of releases of large volumes of diversified data. Statistics Finland compensates the direct costs of such releases.

Chapter 2. Business Register

Finnish Business Register (BR) is a statistical base register. It collects and combines data from different sources, serving versatile and extensive basic information about Finnish enterprises. Its duties are

- To be a survey frame and tool for data collection
- To be a source of basic information of all relevant statistical units and to identify these units
- To be a source of business demography statistics
- To be a data source for chargeable information services[1]

Since its beginning[2] BR has developed its role from survey frame to very important and multifunctional base register in internal use in Statistics Finland. At the same time the general production model has moved to exploit more and more intensively administrative sources. BR offers now for internal statistical domain's use all basic statistical units provided with classification and size variables as well as timely updated demography data.

As the general production process of statistics in Finland includes five phases: collection and gathering of data, data processing, storing of data, compiling of statistics and dissemination of statistics via multiple channels, Business Register's role is essential in the first two phases of statistics production.

The recent developments of BR have been to establish enterprise group register and to increase data collection on enterprise groups, to include the rest of missing sectors, NACE A and B in BR. The actual big challenge is to implement NACE Rev. 2, which work is at the moment going on and will be finalised until April, 2008.

The actual strategic goals of Statistics Finland give new challenges also to Business Register. Such topics are aim to develop co-operation with the respondents and to improve their service, to improve economic statistics' coherence and quality and to meet new requirements of globalisation. At the same time the development of legislation like new Business Register regulation, FATS-regulation etc is bringing more requirements to register maintenance.

The new register of enterprise respondents was grounded in 2006 to monitor Statistics Finland data collections, to measure response burden and to make information available also towards respondents themselves on which data collections they participate. This register uses BR as its basic register. The development of Enterprise Group register and collection of data on multinational links into it is a means to take care and develop globalisation statistics further by other statistical systems.

Business register contains large and small business units, local kind-of-activity units (local KAU) as well as enterprise groups and central and local government bodies. The register covers all economically significant units of all NACE sections and includes 330 000 active enterprises and 400 000 active local units.

In Statistics Finland organisation Business Register belongs to the Business Trends department, the number of staff amounts 30 persons, four of them mainly working for chargeable services. In addition, there are approximately 4 persons from IT support services department working for Business Register.

Chapter 3. Business Register maintenance

Chapter 3.1 Data sources

The basic updating cycle of BR is monthly, because the new legal units and some size variables are updated from administrative sources on monthly basis. Business Register collects and combines data from various sources, those are:
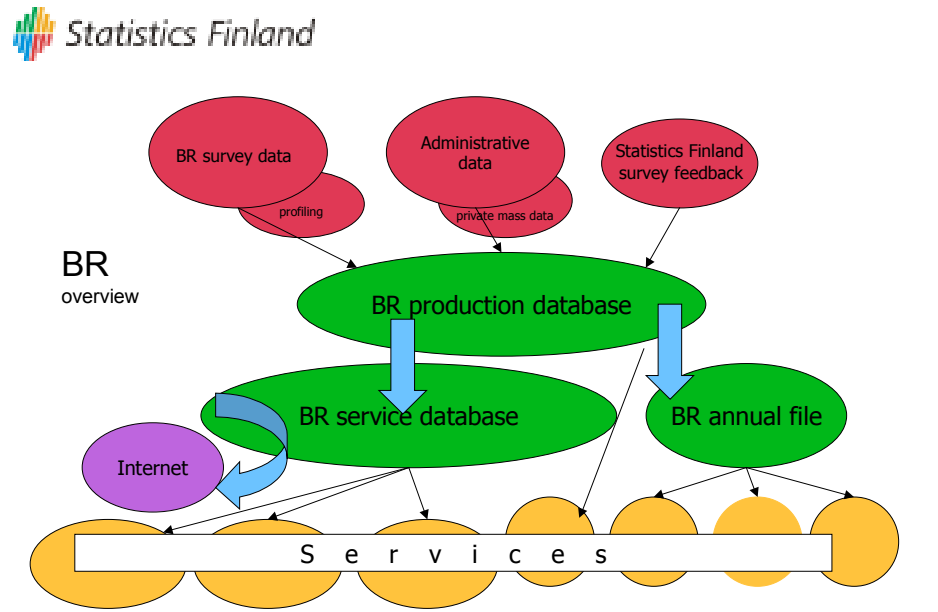- Administrative files

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[1] According to the Statistics Act of Finland the certain data items of the Business Register are public and available for everyone. This is why we supply chargeable information services also outside Statistics Finland.

[2] The first Business census was organized in 1953 and the regular maintenance of Business Register was started in 1970.

- Commercial files
- Business Register direct data collection
- Feedback from other Statistics Finland surveys
- Estimation

Figure 1. Business Register inputs

Chapter 3.2 Direct data collection

Business Register arranges continually surveys among businesses. Survey facilities like printing and sending questionnaires, and receiving and saving the response data are bought from private company. OCR (optical character recognition) is applied. Since this year (2007) all BR questionnaires are also available in Statistics Finland's own electronic data collection system and it is possible to respond via internet (system called XCola).

BR Surveys are addressed to
- All enterprises with several local KAUs (8,000 enterprises, 40,000 local KAUs)
- Enterprises with one local KAU (sample according to size, etc, 8,000 enterprises)
- Majority of starting enterprises (15,000 enterprises)
- Quality survey (8,000 small enterprises, changing sample)
- Central government (880 central government organisations, 3,300 local units)

Phone profiling is applied among starting large enterprises in order to keep track of structural changes of large and complex enterprises.

Since local KAU is not an administrative unit and there are no administrative sources including local KAU units, all enterprises with several local KAUs are surveyed every year. This survey is arranged as joint survey by regional employment statistics (this means, that in addition to local KAU characteristics, the survey concerns and checks, in which local unit employed people are working). The joint survey is great advantage to responding enterprises.

On average, 8 per cent of the enterprises and 13 per cent of the local KAUs are surveyed annually. Because of NACE implementation the surveyed target groups will be larger in 2007 and 2008.

Chapter 3.3 Administrative data

Business Register is a tool for mobilising administrative data for use in statistical production. During the last three decades Statistics Finland has continuously increased the use of administrative files as soon as such files have come available. Statistical office has also tried to encourage the administrative bodies to establish files and save in electronic form such data, which is useful as statistical material.

The table below is a summary of administrative sources used for maintaining BR. Some of these files, if they have wide data content, serve also as a source for special statistics and this is then explained later in the text.

Nowadays the data transmission is mostly organised via network to Statistics Finland's server.

Table 1. Summary of Business Register indirect data sources

Administrative data sources:

REGISTER PROVIDER	CONTENTS - the most important variables	PERIODICITY, or the updating times per year
Tax administration (1)	Customer register of Tax administration - main source of units for BR - Business ID, name, postal and location address, postcode, municipality, legal form, NACE-code, accounting period, date of registration and closure	- monthly
Tax administration (2)	Business taxation data file (accounting data) - turnover, - economic variables	- data on accounting period - several updates following data accumulation
Tax administration (3)	Primary producers' taxation data file - economic variables of farms and forestry	- annual
Tax administration (4)	Payment control register for VAT and employer contributions (VAT and PAYE data[3]) - sales - sum of wages and salaries, etc.	- monthly
Tax administration (5)	Employer's annual notifications (annual PAYE register) - wages and salaries	- annual
Tax administration (6)	*Data on company owners* - *owner (foreign, domestic?)* - *share of ownership* - *affiliate, subsidiary company* - *share of ownership*	- *annual*
Tax administration (7)	*Data on partnership members* - *partnership ID* - *share of participation*	- *annual*
National Board of Patents and Registration (8)	Trade Register - business closures, - mergers, their ID-relationships	- every second month
National Board of Patents and Registration	Annual reports (scanned picture files) - consolidated financial statements	- weekly

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[3] VAT = Value added tax; PAYE = pay as you earn

(9)	- subsidiaries	
National Board of Customs (10)	Business engaging in foreign trade - reference to intrastat system - import, export companies	- annual
Bank of Finland (11)	Foreign Direct Investment - investing country - share of ownership	- annual
Invest in Finland (12)	Foreign investment - ownership	- annual
Population Register Centre (13)	Register of Buildings and Dwellings - map coordinates	- annual
State Treasury (14)	Register of agencies and offices in central government - agency ID, name, address Employment relationship register of civil servants - employment of central government	- annual - annual
Local Government Pensions Institution (15)	Register of local government units and employment relationships of wage earners - local units - employment of local government	- annual
Information Centre of the Ministry of Agriculture and Forestry (16)	*Farm register ('sister register' for BR) - link relationship between the two registers*	*- annual*

Commercial data sources:

REGISTER PROVIDER	CONTENTS	PERIODICITY
Post of Finland (17)	Address Register - genuine addresses in use in Finland File of company addresses - business addresses	- twice a year - every second month
Suomen Asiakastieto Oy (18)	Consolidated financial statements - consolidated groups - subsidiaries	- annual

Customers register of Tax administration is the main source of business units, inclusive of self-employed persons. Register of agencies and offices in central government correspondingly is the source for units of central government (1, 14). The other files supplement the BR database with data on different variables.

A remarkable advantage here is that Business ID is widely in use in various registers and data sources, which allows effective update and connecting separate data files. A general business number has been in use in Finland already since 1990. Since the year 2001 there has been a special law on Business Information system and a unique Business ID[4] in Finland.

Data transmission of Customers register of Tax administration is now on monthly basis, which gives to BR reasonably good timeliness for its basic variables.

The Business taxation data file (2) is a source for Structural Business Statistics (SBS) and it is a very large and important data file since it covers approximately all Finnish enterprises and 200

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[4] The Business ID is officially given when the new legal unit registers itself first time in Business Information system. Basic data of BI-system is available to everybody in the Internet address (http://www.ytj.fi/).

variables from profit and loss account and balance sheet. Here Statistics Finland and Tax administration have had nice co-operation since the two bodies have succeeded to agree on the common standardised data content, which is needed for each of them. There are only few data items left for Statistics Finland to collect alone. Need not to say that this arrangement benefits also the respondents with lighter response burden. From this material BR exploits variables: turnover and employment costs.

Monthly VAT and PAYE (4) are the basic material for Short Term Business Statistics (STS). The accumulation of data is dependent on obligation to declare all commercial selling of goods and services and imports (> 8500 €) and pay VAT. Correspondingly, all employers paying wages and salaries are obligated to withhold earned income tax from wages and salaries and pay social security contributions. VAT data comes to Statistics Finland even within two months and employment data in one month. STS group have to amend this data also with their own survey. From this file BR exploits sales as quick approximation of turnover and data on wages and salaries for estimation of employment, but first of all BR makes conclusion, whether the business unit is active or not.

Employer's annual notifications (5) are in BR a central source data for employment figures. The data links each individual wage earner to each employer during the reference year and tells the wage bill. BR applies an estimation model to reach the number of salaried employees for every employing enterprise in BR. The data file is in wide use in social statistics as well.

Since BR surveys are addressed each year only to limited sample, company addresses from Post of Finland (17) helps much in keeping track of smallest enterprises' address changes.

Data files 6, 9, 11, 12, 18 of above table are relevant files in maintaining data on foreign ownership and Enterprise Groups. The data files marked in *italics* are data, which we have recently received for the first time and the exploiting results are not yet ready. For example data of company ownerships, which Tax administration started to save only in 2006 will certainly be valuable for us in maintaining financial links of Enterprise Groups.

Summarising the benefits of what has been described above: as BR forms the basic statistical units and collects together mass of data from administrative files and then makes the data available for statistical processes in unique form, this helps to produce statistics effectively and it helps to increase coherence of statistical results.

Chapter 4. Enterprise Group Register

The Enterprise Group register (EG register) has constituted an element of the Business Register since 1997 when the first data collection concerning the year 1995 was conducted among enterprise groups. The next collection concerned data for the year 1997, after which the data have been collected annually for every statistical year. As the target group was in the beginning very limited, the coverage of enterprise groups data has increased year by year. New challenges such as direct data exchange within EuroEG register as well as some new data sources will most likely have dramatic influence on the maintenance and the structure of the Finnish EG register in near future.
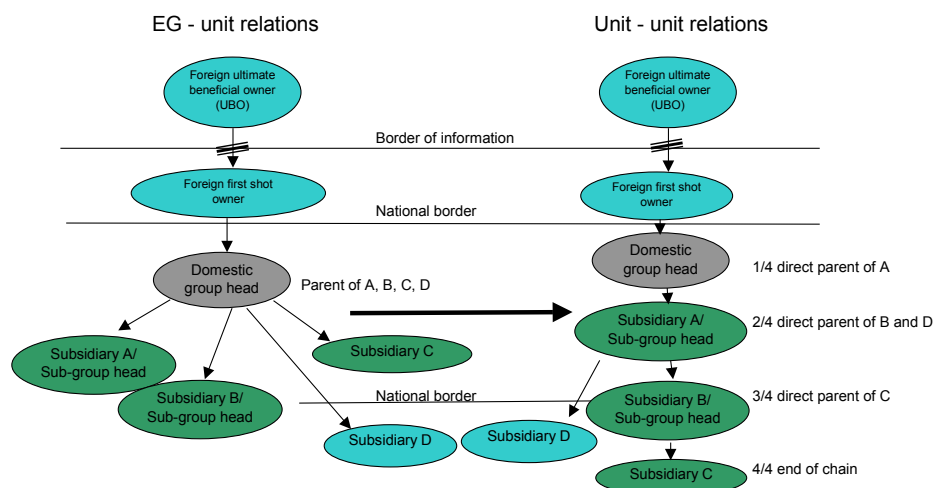
Enterprise group is an association of enterprises bound together by legal and/or financial links. The main data source for spotting these links is the consolidated annual accounts, collected by the Board of Patents and Registration. Despite the differences between accounting groups and statistical enterprise groups, this initial data provides excellent starting point for construction of the statistical EGs. The inclusion of the (missing) sub-group structures to main group structure is usually sufficient for compilation of the statistical EGs.

The structure of the Finnish EG register is such that maintenance of the sub-group structure is possible but not necessary for the maintenance of main group. Links between EG and all units gives non-hierarchical view to EG. Direct share of votes and ownership between units enable

building hierarchical model of the EG. The data concerning direct relations between units is still not exhaustive.

Overall structure is such that domestic groups having same ultimate beneficial owner (UBO) can be treated as separate groups. This solution originates to the needs of data users in Finland.

Figure 2. EG relations structure

In this data model the units which are located above domestic group head in the hierarchy may exist in more than one EG. Combining the EG's for the need of Eurostat may be done at the time when the figures will be compiled. In the register they still exist as separate groups for the needs of domestic users.

Unit-unit relation table contains all known direct relations (where the share of the votes is above 50% or control exists). The need of including also direct minority shares is obvious due to needs of EuroEG register. Also the maintenance of this two-sided EG register is rather challenging so further development of the EG register is needed in near future.

Table 2. Content/coverage of Finnish EG register, May 2007

Number of Enterprise Groups	Active*
Business groups	2 731
Municipal groups	417
Multinational without domestic structure	2 143
Active business EG members by relations type	
Domestic group head	5 285
Foreign ultimate beneficial owner	2 412
Foreign first shot owner	824
Sub-group head	1 381
Subsidiary company	16 749
Associated company	3 339
Joint company	476
Interest company	48
Active business EG members by member type	
Domestic unit	17 463
Odd unit	3 652
Foreign unit	9 399

* The number of combined EGs (groups with same foreign group head counted as one) is 4 572.

Chapter 5. Enterprise Group Register maintenance

Chapter 5.1 Sources and updating EG register

Two data sources have conventionally been utilised in the maintenance of the register of enterprise groups: financial statements records (previously on microfilm, today as electronic image files available from each workstation) obtained from the Board of Patents and Registration, and enterprises' own annual reports. The register of enterprise groups is updated annually during the period statistical year + 5 months – statistical year + 12 months.

Using only conventional sources is very laborious because the data must be treated manually by statisticians. The objective in an earlier development project was to study alternative ways of collecting data on both the structures (sub-groups) and on the globalisation of enterprise groups. The project examined the suitability of several sources of data in respect of the availability, usability and cost of data. The only data sources that were deemed as serviceable for structural data on enterprise groups as well as for those on globalisation were the financial statements records of the Board of Patents and Registration and the data of Suomen Asiakastieto Oy[5].

The financial statements records (9, Table 1) of the Board of Patents and Registration represent a source of high-quality and exhaustive information on sub-group structures. In the majority of cases, even data on foreign parents and subsidiaries (names, countries and respective shares of ownership and voting rights) can be comprehensively captured from these records. However, the problem with these records is that their exploitation is very laborious because the data must be searched manually from accounts. The Board's listing of consolidated financial accounts of enterprise groups can be exploited to study sub-group structures, but an analysis conducted within the project proved the list to be inconclusive. In addition, the project found that certain sub-groups do not produce consolidated financial accounts and that sometimes the structures of enterprise groups are only revealed by the actual financial statements of their group heads.

Suomen Asiakastieto Oy (18) is a private business and credit information company in Finland. Suomen Asiakastieto Oy collects its data on enterprise groups from the financial statements (direct from companies and via Board of Patents and Registration). Its register comprises good 3,000 enterprise groups (inclusive of sub-groups), and data on the foreign subsidiary, joint venture and associate companies of enterprises belonging to enterprise groups are also collected into the register. Statistics Finland and Suomen Asiakastieto Oy have a renewable three year agreement on providing the enterprise group data for Statistics Finland.

Chapter 5.2. Actual development tasks and challenges

Business Register and the unit responsible for producing inward Foreign Affiliate Trade Statistics (FATS) have launched a project aiming for better coverage and coherence of the figures between these two statistics. The terminology and the concepts of the two statistical domains were studied carefully and harmonised. The treatment of data sources (9, 11, 12, 18 see Table 1.) were harmonised and the procedures of exploiting common variables were planned as unique process. As a result of this project there will be some increase in the number of multinational enterprise groups (previously defined as domestic) as well as foreign units. The number of the foreign owned Finnish companies should be identical in both systems from now on. The collaboration continues now by studying the usefulness in exploiting new ownership data (6, Table 1.) from Tax Administration.

As stated earlier, there are certain new challenges for the Finnish EG register coming in near future. Today the maintenance of the EG register relies heavily on manual work, due to

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[5] The studied data sources were: Data collection of the Tax Office for Major Corporations, Other data of the Tax Administration, Financial statements records and listing of financial accounts of enterprise groups of the Board of Patents and Registration, Data of Dun & Bradstreet, Data of Suomen Asiakastieto Oy (Voitto+CD and file format data), Data of the EBR (European Business Register), Data collection of the Bank of Finland, Stock exchange releases

available data sources and complexity of the automatic updating of the 'two-sided' register. The importance of the direct links will increase in following years. The data exchange between Eurostat and member states will most likely rely on updating only direct links. Also the new promising data from tax administration present the data in direct links form. This means that the maintenance of the register should be done on direct link level and the EG structure should be presented only as a gallery of direct links. However, there are certain national peculiarities which prevent the implementation of direct link system as such and further refining of the system will be needed.

Chapter 6. Co-operation with the Tax Administration

According to the Statistics Act the Tax Administration is obliged to provide Statistics Finland with data in its possession that are necessary for the production of statistics and the data themselves have to be released free of charge. Statistics Finland compensates the direct costs of such releases. Statistics Finland and the Tax Administration have an agreement concerning the transfer of mass volumes of data. The agreement lays out the procedures and prices applied in the transferring of data from tax offices to Statistics Finland. This functions well, although there have been substantial increases in some programming charges since the Tax Administration's database structure is complicated and nowadays Tax Administration byes these programming and data processing services from its subsidiary company. What comes to the technical transmission of data, deliveries have been fast and sure.

A good example of successful co-operation is coherent work and timing of NACE implementation. Tax Administration is responsible for first classifying of new units when these registrar and enter Business Information system. As the former NACE conversion (NACE rev. 1 to NACE rev. 1.1) took place we could very well agree on timing and procedures. And now looking forward to conversion to NACE Rev. 2 we have already informed Tax Administration of the coming change and started negotiations of the project. We aim to proceed so that Tax Administration will start to apply the NACE Rev. 2 (in practice Standard Industrial Classification of Finland 2008) from the beginning of 2009 on. Statistics Finland is ready to release the entire reclassified Business Register database at the end of 2008, and as of that date tax offices will start to apply the new classification in business registration.

Another example of prosperous collaboration is data collection on economic variables of financial statements, where the agreement of common data content helps not only the two authorities, but responding businesses as well (see chapter 3.3).

Statistics Finland organises regularly meetings with the top managements of the Tax Administration like also with other administrative data providing bodies. The target here is to communicate and inform each other, but also to influence the quantity and coverage, as well as the quality of the data tax authorities collect and save in their databases.

Register Board

Statistics Finland and Tax Administration both participate the general co-operation among register authorities[6]. Since 1997 there has been a permanent Register Board, which is a voluntary advisory coalition of institutions maintaining registers in Finland. It is a general committee appointed by the Ministry of the Interior for three-year period at a time and has top level representatives from each member institution. The work of the Register Board focuses on the development of and co-operation between registers. The target is to develop the use and usability of registers in society generally. It aims to make registers well known and uphold citizens' trust in registers. For example, once a year the Register Board has arranged an event,

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[6] The members of this coalition are register holders like Population Register Centre, the Board of Patents and Registration, the Board of Taxation, Statistics Finland, the National Land Survey of Finland, ministries, municipalities and Central Chamber of Commerce. Chief Secretary of Ministry of the Interior acts as the chair of the Board.

an open doors day, where presentations of registers are given and the citizens have free access to check their own data.

Chapter 7. Conclusions

Although Statistics Finland is autonomous in statistics contents and definition questions it is open to co-operation and uses data which already exist in other organisations' files. The administrative files are crucial when mass data is in question, but recently also some private data files have proved to be extensive enough and of good quality for supplementing increasing data collection needs.

Collecting data from many sources Business Register is an important element in the first phases of the production process of statistics. Business Register is effective channel for circulating various data coherently and cost-effective way over the statistical domains. Statistics Finland has also good experiences of internal co-operative work in exploiting administrative data.

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