

Input-Output Tables for Latvia: Compilation Practices and First Results

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Abstract

The paper is aimed to present shortly experiences in Supply and Use and Input-Output tables' compilation in Latvia. There are presented data sources used for compilation, classifications and compilation methods. There are also described linkages between National Accounts aggregates and Supply and Use tables. Some attention is paid also to problems we met in our compilation and problems we hope to solve in the future. The paper contains also description of Input-Output Framework and set of tables produced for purpose of National Accounts, including Import matrix, Trade and transport margins matrices and Matrices of taxes and subsidies on products. There are given also results of using Customs Declarations and Balance of Payments for calculation of imports using data on actual importers.

Introduction

The institution responsible for compilation of the System of National Accounts and Input-Output Tables in our country is Central Statistical Bureau (CSB) of Latvia working in accordance with Law on Statistics introduced in June 1 of 1993. The present working version came into force in December 9 of 1997.

The first experimental version of the Supply and Use Tables was calculated in Latvia for the year 1995 at current prices. These calculations were done on very aggregated level (on NACE/CPA sections breakdown). The calculations were based on data sources used for annual national accounts and were used for real understanding of calculations scheme. It was rather trained calculation but it helped us to clear up several weak points and get ready to compile the Supply-Use Tables and Input-Output Tables for 1996. Starting data for 1996 a special attachment to annual survey of enterprises was elaborated where surveyed enterprises were asked to show production costs in detailed breakdown according divisions of NACE/CPA. Starting 1997 this information is included in annual structural survey and the Supply-Use and Input-Output Tables are calculated every year.

The compilation of the Supply and Use Tables improved our System of National Accounts estimates. The Input-Output framework is used for estimating GDP by production and expenditure approach. Now our National Accounts are in general based on the Supply and Use Tables, i.e. we try to realize the simultaneous model to calculate national accounts. During last years a serious attention is paid to achievement of closer correspondence to ESA' 95 requirements. Full implementation of ESA'95 is foreseen for the year of 2003.

By present we have finished compiling Input-Output Tables for 1997 and continue working at Input-Output tables for 1998.

1. Data sources

1.1. Registers

The Supply-Use and Input-Output tables are based on data sources used in national accounts compilations. The basic part of information is provided by statistical surveys of enterprises and private households elaborated and collected by different units of CSB. The important role plays also information from administrative registers and aggregate information from other institutions. In Latvia there are developed several administrative registers of which most relating to the statistical system are the following:

- Taxpayers' Register (TPR) of the State Revenue Service, which also includes information on the payers of social tax;
- Enterprise Register (ER) of the Republic of Latvia subjected to the Ministry of Justice.
- Population Register under the Ministry of Interior;

There is a tax registration system in the stage of development in the State Revenue Service. The law states that the enterprise is obliged to register in the Taxpayers' Register of the State Revenue Service as a taxpayer in a ten-days time after the registration with ER. Any real activity of the enterprise is not permitted without this registration. Information from this register is available for statistical purposes but this information is on the aggregated level only.

Taxpayers' register contains also information on individual taxpayers that had declared incomes from economic activities. At the present time we use aggregated information on business incomes from private tax declarations. This information is usable to identify general trends in Households production. The tax registration system and Enterprise Register have a common enterprise identification code that enables the exchange of information among these registers.

Administrative Enterprise Register is the main basis for Statistical Business Register (STBR) created for statistical needs. The register includes all legal units registered with Enterprise Register, and central and local government institutions and non-profit institutions irrespective of their main kind of activity (including seasonal enterprises). The Statistical Business Register is created to ensure updating of information from the Enterprise Register for statistical needs and to prepare list of surveyed enterprises.

The register contains the name and identification number of enterprises and institutions as well the information on the actual addresses of enterprises and the following principal indicators:

- the form of proprietorship and entrepreneurship;
- the primary and two secondary kinds of activity by code of NACE Rev.1 according to the territorial dislocation;
- size category according to the number of employees;
- net turnover;
- company capital and foreign participation in it.

Special features indicate the activity situation of the enterprise (active, liquidated, is in the situation of liquidation, bankruptcy, insolvency, has ceased its activity for indefinite period, is not found neither in its juridical or owner's home address). The corresponding date when the enterprise has been in the mentioned situation is added to these features. Information on the number of employees is stored for the last three years and on the net turnover for the last two years.

STBR does not include free professions, secondary self-employed activities, market and street traders, work on service contracts, physical persons with short-term licenses issued by different authorities, temporary and occasional activities.

STBR does not contain information on local kind of activity units (LKAU). Now the intensive work is going on with the accumulation of information in order to enter these units in the register

The serious attention is paid to updating Enterprise Register data. For these purposes is elaborated a special register survey. Enterprises are covered by register surveys half a year after their registration. If at that moment the enterprise has not really started its activity, then it is surveyed repeatedly. In principle, each registered enterprise, which is registered also with Taxpayers Register, is surveyed not less than once in 1.5–2 years. Enterprises, which are included in the lists of respondents of regular statistical reports in the corresponding year, are not surveyed with the register surveys.

There is not any administrative register of budgetary institutions and public organizations in our country, but these institutions are created and liquidated on the basis of orders of ministries or decisions of local governments. In order to ensure a full coverage of these institutions by the lists of respondents (these units are surveyed to 100%), once in two years all ministries and local governments are asked to update the lists of institutions subjected to them. Information on these units is regularly updated also on the basis of information from regular statistical reports.

1.2. Sampling methods for business surveys

For all kinds of statistical surveys are used the same principles for preparation of list of surveyed enterprises. Enterprises are divided into the following main groups:

1. All state and municipal enterprises with state or municipal share 50% or more, and all private enterprises with net turnover in the previous year 300000 Ls or more, and with the number of employees 50 or more;
2. All private enterprises with the number of employees between 20 and 49 and net turnover in the previous year less than 300000 Ls;
3. All private enterprises with the number of employees less than 20 and net turnover in the previous year between 200000 Ls and 300000 Ls;
4. All other enterprises.

The enterprises of the first group are surveyed 100%; the enterprises of the other groups are surveyed using stratified simple random sampling. For sampling the business register is used. All enterprises active according to the information at the time of sampling are included into the sampling frame

In every sample population stratification is made according to the main kind of activity on a 2, 3 or 4-digit level of NACE. The sample size is determined according to the number of enterprises in the stratum. The sample size in the first two groups is considerably bigger than in the last one. The generalization coefficient is determined as a ratio between the number of enterprises included in the population and in the sample in each NACE stratum, and it is not changed during the year.

The register survey realizes some enterprises, which correspond to the features of enterprises to be surveyed to 100 %, or to the first and second sample groups, but they have not been included in the survey or survey population. These enterprises are additionally surveyed using a special questionnaire where should be shown also the most important information of the previous year in order to ensure comparability with the data of the current year.

1.3. Classifications

- For activities: NACE.Rev.1 All statistical data on the number of employees, income of enterprises, intermediate consumption, etc., as well as statistical data on the macroeconomic level have been prepared according to NACE. The codes of NACE Rev.1 have been also introduced in the Statistical Business Register;
- For products: National classification of manufactured products and CPA Starting the first quarter 1999 data, data on all kinds of industrial production are compiled using PRODCOM. According to this classification, a kind of economic activity (NACE rev.1) covering on the whole products and product groups from the Combined Nomenclature;
- For the government expenditure: National classification based on COFOG;
- For the private household consumption by purpose: COICOP;
- For external trade: CN, Latvian Combined Commodity Nomenclature. This is a description and coding system formed on the basis of the harmonised Commodity description and Coding System and the EC combined Nomenclature; Exported and imported goods are grouped also on the basis of their main use applying the Classification by Broad Economic categories (BEC);
- For institutional sectors: based on SNA'93, ESA'95;
- For type of ownership: National classification based on the state Laws;
- For classification by legal form: National classification based on the state Laws.

2. Compilation of Input-Output Framework

The input-output framework consists of three types of tables:

- ***Supply and Use Tables:***

1. Supply at basic prices, including a transformation into purchasers' prices;
2. Use at purchasers' prices (by industries and additionally by homogeneous branches);
3. Use of imports, CIF prices;
4. Trade and transport margins;
5. Taxes on products and subsidies on products.

Cross-classification of Production Account by industries and by sectors.

Input-Output Tables:

1. Symmetric input-output table at basic prices;
2. Symmetric input-output table for domestic output at basic prices.

2.1. Data sources

Supply-Use Tables' compilations are based on data sources used for Production Account compilations in national accounts.

For annual compilations are used the following statistical surveys:

-Annual structural survey 1-gada (annual) "Operational information on activities of enterprise".

- This survey is used for non-financial enterprises in all kind of activities and financial intermediates except banks and insurance companies. It contains a broad list of indicators. Most important for National accounts are indicators used for calculation of output of goods and services and intermediate consumption by main product groups.

-Annual survey 2-gada (annual) "Operational information on activities of institution".

All institutions financed by state or local budget are surveyed by this form. This survey provides information for calculation of output of services of General Government by kind of activity in accordance with NACE and intermediate consumption by main product groups.

-Survey 1-f "Survey on financial situation of enterprise"

This survey includes data of profit and losses account and bookkeeping balance sheets.

- Survey 1- work " Survey in number of employed persons and wages"
 - Survey contains data on employed persons and wages.
- Survey 1-investment "Survey on non-financial investments and construction"
 - Survey contains information on assets stocks at the beginning and at the end of period, the intervening changes (total increases and total decreases) and depreciation.
- Statistical surveys on economic indicators of different branches.
 - There is broad list of different volume indicators characterizing production in particular branches.
- Customs declarations.

The most important of them are annual structural surveys 1 - gada (annual) and 2-gada (annual). These surveys contain information used for calculation of Gross Output, Intermediate consumption and Gross value added in non-financial and financial corporations (1-gada) and budgetary institutions (2 gada). Information of these surveys provides also data of the structure of intermediate consumption.

2.2. Supply and Use Tables

The level of detail is 59 for industries and 61 for products. In the Supply and Use Tables for 1997 we included private households with employed persons as a separate industry, which we had not distinguished before. The total final use we divided into final consumption expenditure of households, NPISH and general government, gross fixed capital formation, changes in inventories and valuables and exports of goods and services. For gross value added we used wages and salaries, employers' actual and imputed social contributions, other taxes and subsidies on production, consumption of fixed capital, net operating surplus and net mixed income.

The Supply and Use Tables were balanced at the same time as National Accounts. All data for Production account and Generation of income account were calculated in the Supply and Use Tables. The output matrices were calculated separately by institutional sectors. We defined market output and output for own final use for market producers. Government budgetary units are mainly non-market producers and we also defined market and non-market output for them. Households are producers for own final use (housing services produced by owner-occupiers, agricultural products produced by farmer for own consumption, own-account construction) and partly market producers. The input matrices and final demand matrices were calculated separately by institutional sectors too. The intermediate consumption was determined in different ways. For the most significant supplies (for instance, power resources, including electrical power), supplies and resources were balanced with consumption both in expression in terms of value and physical units.

Surveying unit for Form 1-gada is enterprise of all kind of activities registered with Enterprise Register. In this survey is shown also distribution of net turnover by main products (kind of activity) in accordance with NACE/CPA 2-didgit breakdown. Survey data are analyzed firstly from the point of view of sector allocation for National accounts. In the annual survey Form 1 -gada are shown net turnover as well budgetary allocations. If budgetary allocations exceed their incomes from sales, enterprise is treated as public non-profit institution and allocated to general government sector (S13). Gross output of these enterprises is calculated as total sum of production costs calculated using data from survey 1-gada and survey on employment and wages 1-work.

Output of non-financial sector enterprises in all kind of activity (except agriculture) is calculated from survey 1-gada as sum of net turnover (excluding purchased goods for resale), other incomes, and changes in finished and non-finished goods, corrected on holding gains. In some kinds of activity in manufacturing and in construction in total output are included also goods produced for own final use. Information of this kind of output is included in special annual survey of industry and investments. Output of goods and services is calculated by institutional units and also by homogenous groups of products. For 1998 output is calculated by 4-didgit CPA codes. So detailed breakdown is performed firstly and for these calculations in addition to survey 1-gada more detailed information from branch statistics is used.

Survey 2-annual provides information from budgetary institutions and non-profit institutions serving households. These units are surveyed exhaustively and non-response is not noticeable.

Output of budgetary institutions is calculated as production expenditures and consumption of fixed capital. Budgetary institutions don't calculate consumption of fixed assets and it is calculated separately using surveys of non-financial enterprises where depreciation of fixed assets and fixed assets stock is shown. Consumption of fixed capital in General government sector is calculated using depreciation ratio in similar kind of activity and consistent assets group. Output in the General Government sector is treated as non-market output and partly as market output.

Calculation of output of agricultural goods is based on surveys of state farms and statutory companies reporting data on the production of crops and livestock products and sample surveys of private farms. For calculation of output of agricultural goods a quantity and price approach is used.

Calculation of output of financial intermediation services is based on aggregate profit and losses statement accounts of banks and insurance company's provided by the Bank of Latvia and State Insurance Supervisory Inspectorate. Enterprises providing financial intermediation and financial auxiliary services, but not belonging to banks or insurance companies, are surveyed using common survey Form 1-gada.

Serious attention is paid also to ensure full coverage of all economic activities in national accounts, including results of those activities, which are not registered and not surveyed.

Adjustments for non-response were based on surveys of enterprises for previous year or quarterly data. If possible, contacts by phone are also used.

Adjustments for elimination of non-updated register are based on special register survey data. Newly-created enterprises and enterprises that have been realised as active ones using the register survey and not surveyed during the year are surveyed using short survey form. This survey is collected in addition to regular annual statistical survey and there is asked only main indicators (net turnover, production costs, number of employees and some others) also for three previous years.

Adjustments to eliminate underreporting were done using two main adjustment methods.

- Underreporting in surveys of large enterprises was quantified in accordance with changes in survey data after audit checking results. Enterprises informed us about serious changes in previously presented surveys.
- Special attention was paid to analysis of small enterprises survey data. Small enterprise activity became more and more importance in our country. But at the same time these enterprises are not checked by auditing and primary data are often not in good quality.

Adjustments for non- registered informal economy are based on employment method. First of all is calculated total number of employed persons. These calculations are based on analysis of all data sources related to employment. At present the following surveys and registers are available:

- Statistical survey 1-work where all enterprises show data on full-time and part-time employment and wages;
- Labour Force Survey performed since November 1995 twice a year. This survey gives detailed information from Households side on actually working persons and by status of employment and occupation;
- Administrative data on social tax payers;
- Data on registered unemployment;
- Survey agricultural farms;
- Statistical data of employment in branches;
- Demographically data of total number of persons in working ages.

Using all information for all these data sources a total employment for National Accounts is calculated for all economy and also by kind of activity in accordance with NACE divisions. Employment data are calculated in numbers of employed persons and also recalculated in full-time equivalents. Comparing employment data for national accounts and data from enterprise surveys on labour

and wages we have the first indication for necessity of adjustments for non-surveyed activities. These comparisons are done by status of employment and also by kind of activity and show fields where non-registered employment is used. We assume that part of non-registered full-time employees could be related to private small and medium units that are registered in the Administrative Enterprise Register but not identified as active in the statistical register. Valuation of results of these activities is done using statistical survey data from small enterprises in corresponding kinds of activity.

Non- registered self -employed persons, except owners of small companies, registered with ER, are mainly considered as working in the Households sector. Valuation of results of these non-registered private activities (except agriculture) is based on small enterprises surveys data and also on special Household budget survey data elaborated especially for quantification of consumption of non-registered goods and services. In this survey persons are asked to show expenditures for goods and services provided by private persons or for specialised enterprises without bills or other documents.

Adjustments for non-response, non-updated registers and underreporting are included in market output of non-financial sector S.11.

Adjustments for non-registered activities of private persons are included in Households sector S.14.

The part of construction output and output of some kind of activities producing machinery is treated as production for own final expenditures in sector S.11. These calculations are based mainly on data from special surveys in these kinds of activities. Imputed rents in owner-occupied dwellings and production of agricultural products for private use of farmers are shown as production for own final expenditures in the sector S.14.

Generally, Output of goods and services and Intermediate consumption in the supply table at basic prices are consistent with aggregate in the National Accounts by institutional sectors. Exception was done only calculating these indicators for NACE activity E-Electricity, gas and water supply, where import of electrical energy and natural gas was included in the Output and Intermediate consumption. The same also applies to NACE activity L-Public administration and defence. In the National Accounts by institutional sectors this treatment is different. Besides, in the Supply table is presented separately activity P -Private households with employed persons. Results of this activity is calculated implicitly and included in the National accounts in NACE O-Other community, social and personal service activities

Information on the intermediate consumption in commodity breakdown is provided in annual structural surveys “1-gada” and “2-gada”. Goods and services used for production needs have to be evaluating at actual purchasers' prices including non-deductible VAT on intermediate goods. Data from survey “2-gada” showing intermediate consumption in budgetary institutions are compared, where it is possible, also with information from State and Local Budgets. Survey data are used also for calculations of the structure of intermediate consumption in Households

Sector. For these purposes survey data of small enterprises (less than 20 employees) in corresponding kind of activity are used. In this way the intermediate consumption is calculated in all kind of activities except agriculture, where calculations are based on the sample survey of private farms.

Insurance service charges included in the intermediate consumption are calculated in the following way. Firstly, all output of the non-life insurance is distributed between private consumption expenditures and intermediate consumption. This allocation is done using information of insurance companies. Insurance service charges are distributed by kind of activity proportionally to expenditures for insurance shown in surveys.

FISIM is calculated as difference on interests receivable and payable in banking sector. Calculations are based on data from profit and losses statement accounts of the Bank of Latvia and commercial banks.

As our National Accounts contain supplementary tables with macroeconomic indicators by homogeneous branches we also compile an additional Use Table by products and by homogeneous branches, where output of a homogeneous branch is equal the output of a corresponding product in the Supply Table. The intermediate consumption in this table is calculated for each enterprise or budgetary institution separately according to its primary and secondary activities, and elements of value added according to output.

The main sources for estimating Private Households Consumption are Household Budget Survey (HBS), Retail Trade Turnover data and survey of market services. Besides for calculating consumption of some particular goods (for example, electricity, natural gas and some others) data from companies' surveys are used.

HBS provides information by 471 COICOP items (132 food and 339 non-food commodities). It shows separately the household expenditure in money terms (separately for own consumption and for gifts), consumption of own produced goods, gifts and transfers as well as income in kind. In a separate section, all outputs and inputs of the household's farming activities are shown. Calculating Private Consumption Expenditure in National Accounts no special adjustments are made to Household budget survey for definitions and concepts. All necessary adjustment are related to adequate coverage of all private consumption expenditure in HBS

The households show all their expenditure, including expenditure abroad. Information data on residents expenditures abroad and non-residents purchases in Latvia is calculated also for Balance of Payments needs using travellers' survey carried out by the CSB. Entries for travel credits are derived from expenditure surveys of foreign visitors. Travelers are questioned once a quarter. The Border Guard Forces provide data on the number of travelers. Estimates are compiled by comparing the number of foreign visitors with the estimates of average expenditures. The same source also gives information on Latvian residents traveling abroad. This information from travelers' survey is used to calculate Private consumption of Households in accordance with national concept. Distribution of residents spending abroad and non-residents spending in Latvia by main groups of products is done

using indicators from travelers' survey, information from hotels and some other indicators.

The Private Household Consumption expenditures are estimated with a breakdown by 286 commodity groups of COICOP. In many cases, more than one estimate is derived from different sources. For preparation supply and use table is elaborated a special bridge table where regrouping is done according to CPA 2-digit breakdown.

Final consumption expenditure of Non Profit Institutions Serving Households is equal to output of these services calculated using survey 2-gada data.

Final consumption expenditure of General Government by main groups of services is calculated as output minus sales. Import of general government services (technical assistance services from Balance of Payments) is included both in output and intermediate consumption.

The main data source for estimates of Capital Stocks, gross fixed capital formation and Consumption of Fixed Capital is the investment survey, quarterly for larger units and annual for the smallest units. The survey asks for data on the stock of tangible and non-tangible assets at the beginning and at the end of the period, the intervening changes (total increases and total decreases) and depreciation. Gross Fixed Capital Formation is calculated as the difference between acquisitions (purchases and transfers) and decreases of assets (sales and transfers). Information on investments by commodity breakdown is calculated using enterprise survey data where main groups of assets are indicated as well information of imports of capital goods from Customs declarations. The figures of Consumption of Fixed Capital for incorporated market producers in the national accounts are based on the depreciation at historic prices reported in the investment survey. Enterprises have great freedom in choosing depreciation function: linear, geometric, or another function, but linear function is mostly used. The underlying service lives seem to refer to the economic lives of the assets as seen by the enterprises and not those used for tax purposes. Consumption of Fixed Capital in General government sector is done calculating National Accounts. For these calculations the rates of depreciation by main assets groups are used (similar to those used by enterprises of corresponding kind of activity). In similar way Consumption of Fixed Capital in Households sector is calculated.

For changes in inventories calculations are based on financial surveys data and data from annual structural surveys. Calculations related to Non-financial corporations sector S.11 are based on information from bookkeeping balance sheets and it is performed separately by kind of activities and by following types of inventories:

- Finished goods and goods for resale;
- Work in progress;
- Raw materials and other inventories.

2.3. Trade and transport margins and taxes and subsidies on products

For each kind of trade or transport margins we compile separate matrices. Besides we use data from customs declarations on '*direct imports*' (i.e. goods imported by non-trade enterprises without using services of wholesalers) in order to eliminate these goods calculating trade margins.

Calculations of trade margins are performed using information of trade output in detailed breakdown (wholesale trade and retail trade as well repairs of household appliances) and differences between producer prices and consumer prices on similar products. For distribution of trade margins by products are used also wholesale and retail trade data on trade turnover by major product groups. For calculation are used also data on trade turnover of enterprises, for which trade is secondary kind of activity.

Transport margins are calculated by commodity breakdown analyzing data on output calculated by mode of transport, information from Customs documents and other available information.

Matrices of Taxes and subsidies on products consist of the following ones:

- Non-deductible value added tax,
- Excise tax,
- Customs duties: taxes on export and import,
- Export subsidies and other subsidies on products.

Total amount of taxes is calculated using data from State Treasury, showing actually collected amount of taxes. These data are corrected by changes on tax debt using information received from the State Revenue Service. Total data are distributed by groups of products using data on Private consumption expenditures at purchaser's prices and ratio of taxes. For the Value added tax it is one common ratio for all kinds of products-18%. For distribution of excise tax is used information from state revenue Service about taxable products and share of excise tax. Customs duties are distributed using Customs Declarations data.

2.4. Import matrix: Customs Declarations and Balance of Payments

2.4.1. Goods

To make various analytical computations easier, alongside the groupings, which are consistent with the coding system used in Customs declarations, a list of merchandise is created conforming to Latvian Combined Commodity Nomenclature. Apart from these, exported and imported goods were also grouped on the basis of their main end-use applying the Classification by Broad Economic Categories (BEC). Subject to this limitation, an important objective of BEC is to provide categories which, as far as practicable, can be aligned with the basic classes of SNA: capital goods, intermediate goods and consumer goods.

To compile import matrix for goods we mainly use commodity-flow method. Products are classified according to three main uses:

- Intermediate use,
- Private consumption,
- Capital formation.

For this purpose we compile a cross-classification 3-dimensional table (array) for imported goods by CPA (at 4-digit level), by BEC (at 3-digit level) and by importers (at 2-digit level of NACE codes) using Customs Declarations. We compile also the similar table (array) for domestic output (by CPA, by BEC and by exporters), i.e. we work at the matrix of domestic input at the same time. Information about imports and exports by importers or exporters is also used to compile trade margins matrix.

To separate imported goods from domestic ones in inventories we divide them into three parts: raw materials and consumables, goods for resale and finished goods (that is domestic output) using enterprise survey data.

The first step is to identify products, which have one or predominantly one user and attribute both the imports and the domestic output. For this we use Classification of products by Activity, Classification by Broad Economic Categories and information about importers in Statistical Business Register (using the cross-classification table). The next step is to identify products, which have several users and attribute them. For the rest of imported goods we assume that the import share is the same for all users in so called indefinite matrix, that is the use matrix from which the imports and the domestic output has been deducted. For some products we also assume the level of actual re-export.

2.4.2. Services

For intermediate consumption of imported services we use the data from Balance of Payments, namely the cross-classification table by products and by kind of activity (from enterprises survey on Balance of Payments which is processed at CSB). In this case some adjustments is done:

Adjustments for 'Hotels and restaurants': At first we assume that the import share is the same for all users and then we adjust the data using the cross-classification table from Balance of Payments on these services rendered by non-residents and data on Business travels of residents.

Adjustments for 'Transport, storage and communication': Services of passenger transport are adjusted using the cross-classification table from Balance of Payments on these services rendered by non-residents.

For intermediate consumption of General government we use the data from Balance of Payments, namely the cross-classification table by products and by kind of activity ('Real estate, renting and business services') and the data of Ministry of Finance for 'Public administration and defense; compulsory social security'.

For final consumption expenditure of households we use the structure of private travelers expenditures from Balance of payments. For gross fixed capital formation we use data from Balance of Payments (computer software).

Conclusion

As have mentioned before, our National Accounts contain supplementary tables with macroeconomic indicators by homogeneous branches so we also compile additional Use Table, Import Matrix, Trade and Transport margins, Taxes and Subsidies Matrix by products and by homogeneous branches and we derive the Symmetric Input-Output Tables from them. As we survey an enterprise but not a local kind of activity unit now, this method gives opportunity creating an adequate model of the national economy.

Implementation of supply and use and input-output calculations improved calculation methods of National accounts by institutional sectors. Working on these calculations, more detailed information is started to use and some inconsistencies in data are identified and eliminated. Besides, supply and use table data provide possibility to introduce double deflation method in GDP calculations at constant prices. (At present single deflation is used.) First recalculation of supply and use table for 1996 at prices of 1995 is undertaken and these results have to be analyzed and some deflators should be changed. After finalisation of supply and use tables for 1997 and 1996 similar calculations will be done and double deflation methods elaborated.

Generally speaking, balancing of the Goods and Services account in the National accounts does reconciliation between supplies and uses on National economy level. In this general balancing process more attention is concentrate on items calculated indirectly or calculations are based on week or changed comparing with previous period primary data sources.

Reconciliation between supplies and uses done by main commodity groups requires more detailed information and there are used all possible data sources including volume indicators for some groups of products (for example, electricity, gas or fuels).

Further work on Input-Output Framework is foreseen also in field of more detailed calculations and refinement of present calculation methods.

References

- European System of Accounts – ESA 1995, EUROSTAT, 1996
- Balance of Payments Manual; International Monetary Fund; Washington, 1993
- Handbook of Input-Output Table Compilation and Analysis; United Nations, 1999
- Norbert Rainer, Derivation of input-output matrices from supply and use tables in the 1993 SNA/1995 ESA, Paper for the 12th International Conference on Input-Output Techniques, New York, 1998
- System of National Accounts, SNA 1993; United Nations, 1994