EUROMOD
I-CUE FEASIBILITY STUDY

I-CUE Feasibility Study

ESTONIA
(2005 TAX-BENEFIT SYSTEM)

Silja Lüpsik, Alari Paulus, Andres Võrk

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EUROPEAN CENTRE • EUROPÄISCHES ZENTRUM • CENTRE EUROPÉEN
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1. *About I-CUE*

I-CUE (Improving the Capacity and Usability of EUROMOD) is a EUROMOD-related project that started in May 2005 and is supported by the FP6 Research Infrastructures Action as a Design Study.

The aim of I-CUE is to re-design and up-grade EUROMOD in the light of:

- enlargement
- lessons learned from operating and using the first, prototype version.

The main goals are to start the process of expanding EUROMOD to cover the 10 New Member States and to make EUROMOD easier to use, especially when it is dealing with 25 systems and datasets.

This project involves the European Centre and the Institute for Social and Economic Research (ISER) at the University of Essex. The European Centre is responsible for establishing contacts and working relationships in the 10 New Member States in order to explore the feasibility of bringing them into EUROMOD. ISER is responsible for improving the model in a technical sense so that it is easier to use and to integrate the new countries.

The main task of the *Feasibility Studies* is to lay the foundations for integration of the New Member States in EUROMOD, alongside the EU15, and therefore they all include:

1) key features of national tax-benefit systems;
2) identification of appropriate data requirements and data sources;
3) consideration of issues relevant for modelling each tax-benefit instrument (tax evasion, non take-up of benefits, etc.).

For more information, see: http://www.euro.centre.org/icue
and http://www.iser.essex.ac.uk/msu/emod/i-cue.php

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1. Introduction and objectives

Despite the increasing need and demand for *ex ante* and *ex post* regulatory impact assessment, policy-makers often lack the necessary tools for carrying out policy analyses. Despite the wide range of models that have been developed, these are often found to be too costly or complex for extensive use by policy analysts. However, micro-simulation modelling has proved to be simultaneously a cost-effective and powerful analysis instrument in a range of policy areas. This method can be used to identify the potential results of the projected policy reforms and to improve the effectiveness of the various policy instruments applied in the decision-making at the public governance level. Micro-simulation models enable to test the consistency of the choice of the set of measures with the proposed policy goals, as well as to recommend putting forward the necessary changes in the policy presently in practice.

Micro-simulation models are generally based on a set of policy rules, which essentially builds upon the legislation in practice in the respective country at a given period of time. Changing or modifying the initial rules in the model according to the proposed policy reform allows calculating the approximate results of any suggested reform schemes relatively easily. These kinds of estimates are very valuable for decision makers as they provide convincing data to argue with policy opponents, who may be reluctant to the proposed changes.

The objective of the present study is to describe the present tax and benefit system in the Republic of Estonia so that this information can be used as a basis of developing a EUROMOD micro-simulation model for the country. Although the emphasis is given to tax/benefit instruments currently part of the Euromod 15, some additional aspects have been included. For example, we shortly discuss indirect taxes, because changes in indirect tax policy are expected to considerably affect private households in coming years (due to energy tax rates harmonisation and abolishing VAT exemption on heating). Therefore, including indirect taxes in the model could be of interest.

Consequently we present a detailed description of the present tax-benefit system in Estonia. In addition, the study includes a brief overview of the development of the Estonian tax-benefit rules and actual national statistics of the tax revenues and state benefit expenditures, as well as the coverage of the benefits enabling to grasp the importance of certain taxes and benefits from the state budget perspective in the country. In addition, we point out the possibilities for simulation of discussed taxes and benefits. In case the simulation is feasible, we provide more detailed information with respect to the present policy rules.

This study also describes the availability of the data for modelling purposes. We discuss more thoroughly databases based on two various surveys, and consider the availability and data quality issues of these datasets. We also indicate the accessibility of the administrative databases necessary to conduct the validation exercise of the micro-simulation model. Moreover, we discuss briefly important modelling-related issues such as tax evasion and benefit take-up.

2. Overview of the historical development of the Estonian Tax-Benefit system

Ever since the end of the 1980s and the beginning of the 1990s, the Estonian taxation system has been going through a considerable development phase. The transformation started when Estonia gradually separated its economy from the fully planned Soviet Union economic system by re-establishing a fully autonomous taxation system.

During the Soviet regime the state enterprises' profits had provided the major share of the government budget revenue. Regarding tax revenue, the highest share was received from the value added tax, while personal income tax, agricultural tax and childlessness tax gave only modest part of revenue. Therefore, in the beginning of the transition period Estonia was in a very unique situation - many economic policy instruments, including the taxation system were basically absent.

The former Soviet Union common taxation system was abolished in 1989, when the new Taxation Act was applied to form the first regulatory basis of the taxation in the new independent Republic of Estonia. Since 1991 the tax system has been built up on the following state taxes:

- personal income tax (initially progressive);
- corporate income tax;
- social tax (i.e. social insurance contribution);
- value added tax;
- excise tax;
- land tax.

Until the year 1993 the Estonian taxation system was quite inadequate; despite the adjustments it was to a great extent still based on the previously applied tax legislation. Gradually the taxation system was improved. In 1992 the health insurance tax was introduced in addition to the already existing social tax. The major and for that time very innovative changes in income taxation took place in 1994, when the progressive income tax rate was replaced by a constant marginal income tax rate of 26% for both personal and legal persons. This contributed to simplifying the taxation system and enabling to achieve better control of the tax obligation fulfilment in the country. Until the year 2000 a series of technical improvements in tax legislation were made, however none of them can be considered as a principal change in taxation system.

During these years the importance of VAT revenues in the state budget slightly decreased (from 48.4% in 1994 to 38.8% in 1999). The share of the total revenue from personal income tax decreased from 26.6% to 16.8% during 1994-1999, while excise duties which were initially set at a very low level and later increased significantly, became a more important revenue source (increase from 9.4% to 17.4% in the respective years). Social tax revenues were comparable to VAT revenues but were not considered part of the state budget until 2000. (Raju, 2004)

From the year 2000 several changes were introduced in the taxation system: firstly the abovementioned inclusion of social tax and health related expenditures based on social tax revenues in the state budget and secondly the abolishment of the corporate income tax on reinvested profits. The latter follows the general taxation development principles accepted by the Ministry of the Finance, i.e. to keep the taxation as simple as possible, to introduce low tax rates, to broaden the tax base and to keep the exemptions at minimum. This approach has brought considerable success in reducing tax evasion, because a simple tax system and a handy (electronically pre-filled) system for presenting tax declarations reduces the motivation to avoid taxes.

Joining the European Union in May 2004 did not cause significant changes in the current taxation system in Estonia apart from the harmonization of indirect taxes. This had gradually taken place already during pre-accession years; however the indirect tax rates are subject to further gradual increase within the coming years until they reach the EU common minimum tax rate level. Due to these prospective changes, one can expect a change in economic inequality in the country, which can be successfully analysed by micro-simulation methods.
The income tax system is currently undergoing a reform, which lowers the marginal tax rate from 26% to 20% over the period of 2005-2009 and increases the general tax allowance from 12,000 kroons to 24,000 kroons gradually in 2004-2006. There are some proposals for even further decrease of the income tax burden.

The Estonian benefit system has been developed considerably in the last decade. During the Soviet regime many social services (health-care, children day care etc) were for free or available at a very low cost and therefore the state benefits were considerably low. The pension system provided the basic means of living for the elderly, survivors and for those unable to work. In the first years of 1990s due to the economic difficulties (the collapse of several industries, emerging unemployment, hyperinflation) social assistance became a very important source of income for many households, although modest in amount and reducing rapidly in value due to inflation, especially for the wide range of less insured persons – pensioners, large families, single parents etc. From the end of the 1990s several social and economic policy decisions were taken to improve the economic situation of less insured households. The social support system has been gradually reorganised and improved ever since.

The family benefits have been dominated by the child support schemes. The child benefit system was established in 1994 by introducing universal benefits although at a rather low level. In 2004, an additional benefit – parental benefit – was established, to compensate the loss of salary income due to a child birth.

Over the last 15 years the pension system has been significantly reformed. In 1990-1992 the revenue and expenditure side of the Estonian pension system were separated from the Soviet pension system. The second major wave of transformation in the pension system took place in 1998-2002, when the new three-pillar pension system was introduced. In short, since 2002 the state pension pillar is complemented by mandatory and voluntary pension insurance pillars.

The unemployment insurance system was applied in 2002 in addition to state unemployment benefits that has been in practice already in the beginning of the 1990s. The insurance system enables to support employees and employers in case of involuntary unemployment and collective redundancies. Nevertheless, social benefits are considered very low and not efficient means of poverty reduction in Estonia (for more detailed discussion see for example Kuddo et al. 2002).

3. Description of the main elements of the Estonian tax-benefit system (as of 30.06.2005)

In the present section we provide the description of the tax-benefit system in Estonia. For every instrument separately we specify its simulation possibilities with a micro-simulation model. The estimations are based on the data availability. The two major available data sources containing the necessary information for the simulation purpose are the Household Budget Survey (HBS), which is conducted annually from 1995, and the Estonian Social Survey (ESS), which was conducted first in 2004. More details on these datasets are given in section 3.3.1.

Where the simulation of a tax or a benefit is found to be not feasible or limited, for example in case of pensions and property taxes (land tax, vehicle tax etc), the reference has been provided whether there is any information available with respect to the instrument in a statistical or administrative database, which can be used instead. It is however clear that a policy analysis on these instruments cannot be conducted.

This section also includes information about tax revenues and benefit expenditures, which allows estimating the importance of the different taxes and benefit schemes in the government budget. The presented tax revenues and benefit expenditures and their budgetary importance are based on the information from the Ministry of Finance and the Statistical Office of Estonia. The described tax-benefit rules reflect the system of the direct and indirect taxes and benefits in the Estonian legislation as of June 30th, 2005.

3.1. Direct taxes

In Estonia, taxes amount to approximately 82% of the government general budget[1] revenue. From the total tax revenue 62% is collected by direct and 38% by indirect taxes (28.1 billion EEK[2] and 17.0 billion EEK in 2004 respectively).[3] The majority of the direct tax revenue (55%) is generated by social security contributions, i.e. social tax, income taxes contribute 44% of total direct tax revenues of which more than three fourth is due to the personal income tax

[1] Local government budgets and central government budget consolidated.

[2] 1 EUR = 15.6466 EEK

[3] Table 1 describes more specifically the consolidated general government budget in Estonia during 1999-2004.

(see Figure 1 in the Appendix). Central government and local government budgets' revenue from property taxes and environmental charges is marginal. Approximately 66% of the indirect tax revenue in the government budgets is received from value added tax, about 30% from excise duty on alcohol, tobacco and fuel (see Figure 2). Table 2 outlines the tax bases and the amount and use of tax revenues in 2004.

Direct and indirect taxes accounted for 57% and 43% in the central government budget in 2004 (see Figure 3 for more detailed data).[4] The total tax burden in Estonia was 33.3% of GDP in 2003, however due to an expected increase of indirect tax rates to the EU minimum level the total tax burden is likely to increase in the coming years. (Ministry of Finance 2005b, see Figure 4).

Now we discuss each of the taxes in more detail, emphasising the taxes paid directly by individuals excluding indirect and company taxation as not relevant for the present study.

3.1.1. Income tax

Income tax is an important revenue source for the Estonian state and especially for local government budgets. In 2004 the total personal income tax revenue in the consolidated general government budget amounted to 9.5 billion EEK. Approximately 3.96 billion EEK was directed to the central government budget, representing 8% of its total and the remainder was used through local government budgets.

The personal income tax system in Estonia is rather simple. Income tax is charged on income derived by a resident natural person during a period of taxation from the different sources of income in Estonia and outside Estonia. Proportional taxation is based on the common marginal tax rate (24% = "basic rate") and yearly basic allowance rate for every person (20 400 EEK), which is independent of the person's income class. The period of taxation is one calendar year.

When calculating the income tax obligation, the basic rate is applied to salary income, property income, license income, interests, alimony payments received, pensions, scholarships, certain benefits and other incomes. Revenues from the transfer of securities and other property income are also taxable; however the owner may deduct the costs related to the selling procedure. The reduced tax rate – 10% – is applied when payments are made from the supplementary pension fund or from the supplementary pension fund based on the insurance agreement. Nevertheless, these payments are not made before 2009 due to only a recent start of the pension insurance system.

Income tax payment obligation lies on the resident private person. Taxpayers, who have been married during the tax-year, can fill out the tax declaration together; however, joint declaration is not compulsory. The obligation to fill out the tax declaration does not lie on those who did not receive taxable income, whose total income did not exceed the basic tax exemption or

4 Ministry of Finance (http://www.fin.ee/index.php?id=9618)

whose only taxable income was work related income and temporary incapacity to work benefit, and if income tax is correctly and in correct amount withhold. However, in case a person is eligible for certain increased tax exemptions or tax allowances and wishes to make use of them the tax declaration has to be filed. A sole proprietor i.e. a self-employed person is always obliged to present a tax declaration.

As the calculation of disposable income[5] of the tax unit is a crucial issue in the microsimulation analysis, we show here the basic steps how the disposable income is found according to the rules of the Estonian income tax legislation. For an average individual residing and being employed in Estonia the basic steps for calculating the disposable income can be described as follows[6]:

1. Find gross taxable income = gross wage, property income, other taxable income and taxable benefits (i.e. pensions, health benefits, unemployment insurance benefit, see Table 3).
2. Determine the eligibility for deductions and calculate the total sum of deduction:
   - Basic allowance (20,400 EEK in 2005) and increased basic allowance (such as large family allowance etc)
   - Gross taxable income * unemployment insurance contribution rate = unemployment insurance contribution
   - Gross taxable income * (mandatory and supplementary pension insurance contribution payment rates) = pension insurance contribution
   - Other deductions such as alimony payments etc.
3. Find taxable income: Gross taxable income – deductions = taxable income.
4. Find income tax obligation: Taxable income * income tax rate (24% in 2005) = income tax.
5. Find disposable income: Gross income – contributions – income tax = disposable income.

The model builder has to keep in mind that although some state benefits (e.g. pensions) are taxed with income tax, the unemployment insurance and pension insurance contribution payments are not withhold from these. Table 4 gives the detailed overview of different tax/payment bases.

As previously described, the personal income tax is applied to certain incomes with the possibility to make use of a number of deductions. The allowances and deductions as well as the general eligibility conditions of applying these are as follows:

The basic allowance of a resident natural person is applicable for every resident taxpayer and its value for a period of taxation is 20,400 EEK for 2005. While the 1/12th share of the basic allowance can be deducted every month, i.e. when the wage payment is carried out, in order to

[5] **Disposable income** can be defined as the amount of an individual's total income left after taxes, including any transfer payments (benefits) received from the government and other grants. This income is available to be “disposed of” as either spending or saving.

[6] For the basic steps in graphical format see Figure 5. The taxation of supplementary pension insurance fund payments received is excluded here.

make use of the other allowances and deductions these have to be declared in the following year when filing the tax report. Therefore the actual disposable income for the present year can be smaller than legally justified and the taxpayer can apply for the reimbursement of the extra tax paid.

The additional **allowances** are:

1. **Large family allowance** is applicable in case of three or more children in a family. One resident parent or guardian of a child or other person who maintains three or more under age children may deduct additional basic allowance from his or her income in the period of taxation for each child up to 17 years of age. The allowance is applicable for the third and each subsequent child in so far as the taxable income of the child is lower than the basic allowance for the period of taxation. The allowance can be used from the year in which the child is born, a guardian is appointed for him/her or the maintenance obligation arises until the year in which the child attains 17 years of age (inclusive). This means that in the tax period, where the child gets 18, the additional allowance is not applicable. The eligibility condition does not set that the parent has to be married, however only one parent can make use of such allowance.
2. **Pension allowance.** If a resident private person receives a pension paid by the Estonian state or a mandatory funded pension, an additional allowance can be deducted from the income of the person in the amount of those pensions but not more than 36,000 EEK during a period of taxation.
3. **Sickness allowance.** In cases where a resident private person receives a compensation for an accident at work or an occupational disease, an additional allowance can be deducted from the income of the person in the amount of that compensation but not more than 12,000 EEK during a period of taxation. However, if compensation for an accident at work or an occupational disease is paid as insurance indemnity, increased basic allowance does not apply.

In addition to allowances, the Estonian income tax system enables to reduce private person's taxable income with several **tax deductions**. The deductions are as follows:

1. **Alimony or maintenance support** a resident private person has paid from his/her income to a resident private person. This kind of payment is set by the court order or in agreement with respect to the Family Act.
2. **Housing loan or lease interest payments** for the period of taxation if they are paid to the financial institution in order to acquire a house or apartment or a plot of land for building a house for personal use or for his/her spouse, parents or children. The same conditions apply in case of reconstruction, expansion and building works. The deduction is available for only one loan object per person. A parent who is raising a child alone and who has taken parental leave during a period of taxation can deduct the exemption during more than one taxation period.
3. **Training expenses** are deductible for the person him/herself or a person of less than 26 years of age or if no such training expenses are incurred, the training expenses of one permanent resident of Estonia of less than 26 years of age. Parents can also deduct the

interest expenses of the student loan. In case the educational expenditures are made using scholarship that is exempt from income tax, the deduction could not be used.

The legal condition for applying the deduction requires that the training expenses have to be certified expenses incurred for studying at a state or local government educational establishment, a university in public law, a private school which holds a training licence or has been positively accredited with regard to the given study programme, or a foreign educational establishment of equal status with the aforementioned, or for studying on fee-charging courses organised by such educational establishments.

4. **Gifts, donations and trade union entrance and membership fees** which have been given or paid to persons included in the special list specified in the Income Tax Act – non-governmental organisations (NGOs) and foundations, church institutions or to a state or local government scientific, cultural, sports, educational or social welfare institution, a manager of a protected area, a university in public law or a political party.

   Gifts and donations may be given in monetary or non-monetary form, however, the cost of a non-monetary gift or donation is the market price of the property, and in the case of sale of the property at a preferential price, the cost of the gift or donation is the difference between the market price and selling price of the property.

   The amount of the trade union entrance and membership fees deductions cannot exceed 2% of the taxpayer's income after deductions of all aforementioned exemptions. The maximum deduction of gifts and donations and the trade union entrance and membership fees can be 5% of the taxpayer's income after deductions of all mentioned exemptions under the previous points.
5. **Insurance contributions and acquisition of pension fund units**. The part of the insurance contributions paid during the period of taxation under an insurance contract for a supplementary funded pension *(täiendav kogumispension)*, the purpose of which is to ensure the payment of the insured sum as a pension, can be deducted from taxable income. This also applies to amounts paid to acquire units of a voluntary pension fund except when fund units are changed or recalled and for the acquiring costs of these units. A negative change occurring in a technical provision established on the basis of an insurance contract with a view to securing a supplementary funded pension and which is due to deduction of the amounts charged for a certain insurance cover is added to the taxable income of a private person.

   It is important to note that the deductions related to insurance contributions and supplementary pension fund unit payments during one period of taxation are however limited to 15% of the taxpayer's income of the same period of taxation, after all certified expenses incurred by a taxpayer in relation to business are deducted. If spouses present one declaration, the allowance cannot exceed 15% of the sum of a spouse's income.
6. **Unemployment insurance contribution payments** are deductible from the taxable income.
7. **Contributions to mandatory (compulsory) funded pension** received by a resident private person during a period of taxation can be also deducted from the income.
8. Income tax is not charged on **childbirth benefit** *(sünnitustoetus)* paid voluntarily by the employer to the employee or public servant, in an amount not exceeding 5/12 of the basic exemption granted to a resident private person during a period of taxation.

The income tax deductions provided for housing loan interests, gifts/donations and training costs since 2005 are altogether limited to 50,000 EEK per taxpayer during a period of taxation, and to no more than 50% of the taxpayer's income of the same period of taxation, after the deductions relating to enterprise have been made.

If a resident taxpayer has received income from abroad during a period of taxation, all income derived from abroad is included in the taxable income of the person and income tax paid or withheld on such income abroad is deducted from the income tax to be paid. Income tax is calculated separately for income derived in Estonia and for income derived in each foreign country. Income tax paid in a foreign country on income not subject to tax in Estonia is not taken into account.

The concise overview of exemptions for the personal income tax is presented in Table 5.

Simulation possibilities

With respect to the data availability, the income tax and disposable income can be simulated; although it is not possible to include all taxable incomes and allowances/deductions. More specifically, the basic allowance and the two additional allowances – the large family allowance and the pension allowance – could be simulated as general data about family characteristics is available in both datasets (HBS and ESS, see chapter 3.3). However, sickness allowance simulation is not possible, due to lack of necessary data that would allow determining the eligible persons suffering from work accidents or occupational diseases.

The payments of the unemployment insurance contribution and the compulsory pension insurance contribution are easily calculable from the income data. The income data in the HBS includes rather detailed information about incomes (72 variables) clustered into 10 income groups. However, as the sums are in net values, the net-to-gross calculation techniques have to be used to obtain the initial gross income. The ESS contains more aggregated information about household and individual level incomes, both in gross and net values.

The HBS expenditure categories also contain a separate variable for the income tax paid, however it is reported too seldom to be used for simulation (mostly omitted). The ESS does not separate the income tax and has a common variable for all taxes paid on income and an additional variable for additional payments or reimbursement of income tax.

The expenditure related deductions cannot be simulated either. However, as mentioned before, the HBS contains expenditure information in very detailed categories (more than 900). Hence, for example, the data concerning alimony payments can be drawn from there. There is still a problem with the housing loan and lease interest payments as the HBS expenditure data includes only a variable on the housing loan total repayment, without specifying the interest payments. There are schooling expenditures also available in the HBS, but it is not possible to determine the training provider and therefore decide whether certain expenditures are subject to income tax deduction or not. Due to this the inclusion of the expenditure data on training costs as expenditure affecting tax relief is to be decided by the model developer.

Concerning gifts, donations and trade union entrance and membership fees, the relevant expenditure data is present in the HBS, but once again it is not possible to estimate whether these expenditures are paid out for the organisations within the "tax-break-list". Therefore a decision should be made by model builders whether to incorporate these expenditures in deductions or not. Simulation of these payments is not possible. In practice, the income tax reduction resulting from gift/donation expenditures is not a considerable amount for most families.

Data concerning total pension insurance expenditure on the family level is available in both datasets discussed – in the ESS as "expenditures to the private pension schemes" and in the HBS as "the pension insurance expenditures". Data for 2003 does not allow determining whether these are payments to the 2^{nd} or the 3^{rd} pension pillar i.e. to the compulsory or voluntary pension schemes, but from 2004 it is possible. The mandatory pension fund payments simulation is possible at least for those people for whom the payment is compulsory due to their age (born in 1983 or later).

Childbirth benefit paid by the employer on voluntary basis cannot be simulated as the relevant data is not available.

It is important to note that income tax is calculated on family level. This requires transformation of initial household level data to family level.

3.1.2. Social tax

Social tax is a financial obligation imposed on taxpayers to obtain revenue required for supplying state pension insurance and health insurance in the country. Social tax is levied under the Social Tax Act with a common tax rate of 33%. The social tax payment obligation lies fully on the employers and arises when wage is actually paid out to the employee, not when it is calculated. Since 1999 social tax payments are personalized contributing to the private pension in the future. The 13% of social tax base is transferred into the Estonian Health Insurance Fund and 20% is transferred into pension insurance schemes. In case the person does not participate in the funded pension insurance scheme (the so-called 2^{nd} pillar of the pension scheme), aforementioned 20% is transferred to the state pension insurance scheme. However, in case the person participates in the 2^{nd} pillar, 4% of the social tax base is shifted from the state pension insurance scheme to the private pension scheme's 2^{nd} pillar and an additional 2% contribution from the gross wage will be paid by the employee into the pension scheme's 2^{nd} pillar. For graphical illustration see Figures 6 and 7.

According to the law, social tax is paid on:
1. wages and other remuneration paid to employees in money;
2. wages and other remuneration paid to public servants;
3. remuneration paid to members of the management or controlling bodies of legal persons and to the trustee in bankruptcy and members of the bankruptcy committee in the bankruptcy proceedings of a private person;

4. the business income of sole proprietors, after certain deductions relating to enterprise, but annually on an amount not more than 15 times the sum of the minimum monthly wage for the taxable period;
5. remuneration paid to private persons on the basis of contracts for services, authorization agreements or contracts under the law of obligations entered into for the provision of other services;
6. fringe benefits, expressed in monetary terms, and on income tax payable on fringe benefits;
7. unemployment insurance benefits;
8. other remuneration for the performance of work.

Briefly stating, the social tax is paid on "active" incomes of a person for a particular month, but on an amount not less than the monthly base established by the state budget for each budgetary year. The minimum amount does not apply in case of a person receiving state pensions and in cases of employees whose employment contracts are suspended etc. In case the employment contract has been determined or a person who has not worked the full month, the time-proportional minimum social tax base condition applies.

The monthly base for social tax calculation set by the State Budget Act for 2005 was 700 EEK, which made the minimum social tax obligation 231 EEK (700 x 33%) per month. It is foreseen that the monthly minimum tax base increases gradually up to the minimum wage (1,400 EEK in 2006).

Social tax is not calculated on the wage compensation for additional holidays and breaks for feeding a child, also not on the cost of meals given free of charge to members of the crews of ships during voyages and to members of the crews of civil aircraft during flights, which does not exceed 90 EEK per day per person.

For the following insured persons the state carries the social tax payment obligation:
1. persons who are paid child care allowance;
2. non-working parents who are paid child care allowance;
3. persons who receive parental benefit;
4. non-working spouses accompanying diplomats and public servants serving in foreign missions of Estonia, until they attain pension age;
5. conscripts in compulsory military service in the Defence Forces;
6. persons who are paid caregiver's allowance until the persons attain pension age;
7. employees of a company, non-profit association or foundation, whose loss of the capacity for work is 40% or more;
8. persons receiving unemployment benefit;
9. non-working persons who have participated in the elimination of the effects of a nuclear disaster, a nuclear test or an accident at a nuclear power station, until they attain pension age;
10. dependent spouses of persons, who are raising at least one child under 8 years of age or at least one child of 8 years of age until the child completes year one at school or at least three children under 16 years of age etc;

11. a person who receives additional social allowances from local budget;
12. a person who receives the large family allowance for raising seven or more children.

Simulation possibilities

Social tax can be simulated from gross income data. As the social tax payment is employer's obligation, it does not directly affect calculation of the personal disposable income. Still it is important when calculating total labour cost, tax wedge and government revenue.

3.1.3. Pension insurance contribution[7]

The Estonian pension system presents a public-private mix, where the basic protection is provided by the state via the pay-as-you-go principle (the first pillar), while supplementary pensions are available via pre-funded pensions schemes (2nd and 3rd pillar) and administrated by private sector.

As was explained above, the main financial source for the state pension scheme is the 20/33 share of the social tax. The second pillar is a privately managed defined-contribution type system. The participation in the second pillar entails an additional individual contribution of 2% of gross wage to be paid by the employee. This is supplemented by the state with 4% of gross wage, being re-directed from the pension insurance part of social tax paid by employers. The total contribution to the second pillar is thus 6% of gross wage. Participation in the second pillar is compulsory for new entrants to the labour market (born 1983 or later), but voluntary for employees who were in the labour market in 2002 when the scheme was introduced.

Participation in the voluntary third pillar is possible in two different forms:

- pension insurance policies offered by licensed private insurance companies;
- units of voluntary pension funds, which are managed by private fund managers.

The third pillar pension market is dominated by insurance companies, partly due to their more preferential tax treatment compared to voluntary pension funds.

As of June 30th 2005 altogether 448,509 individuals (ca 33% of the Estonian population) were participating in the compulsory or voluntary pension schemes (the 2nd and 3rd pillar of the pension system) (Pensionikeskus, 2005).

Obligatorily self-employed persons (sole proprietors) are required to pay the mandatory pension contribution on business income starting with business income from 2004. The contribution payment (2% of the entrepreneurial profit) is calculated by the tax authority that is also responsible for issuing the annual pension insurance contribution obligation statement as a basis for payment.

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[7] This section draws partly from Leppik (2004).

The tax base for the mandatory pension fund contribution is principally the same as for the social tax, except that it is not paid on the fringe benefits and on income tax paid on fringe benefits. The base for mandatory pension fund contributions is:

- labour income and other payments;
- payments to the members of the control organ of a legal person;
- certain contracts with sole proprietorship;
- benefits paid on the base of unemployment insurance act, except the unemployment insurance benefit (from January 2003).

The payment is withheld from the payments made in the calendar month, i.e. taxation is not related to the period for which they are calculated. In the case of sole proprietors, the contribution period is one calendar year. In order to make a contribution to a voluntary pension fund, a person acquires a number of units issued by the management company of the voluntary pension fund corresponding to the amount of the contribution. According to the legislation the minimum amount for a single contribution cannot exceed 500 kroons.

Since 2004 on behalf of every person receiving parental benefit *(vanemahüvitis)* and participating in the mandatory pension fund schemes the state pays 1% of the sum of the parental benefit to the pension scheme 2nd pillar per every child born.

<u>Simulation possibilities</u>
Contributions to the 2nd pension scheme pillar can be simulated only for persons whose birth year is 1983 or later, i.e. for whom the participation is compulsory. For others the simulation is not directly possible. However, from administrative data the age-gender distribution of participants in the 2nd and 3rd pillar is available. This information can be used to simulate randomly some participation and non-participation in age-gender groups to yield consistent estimates at aggregate level.

3.1.4. Unemployment insurance contribution

Unemployment insurance is a compulsory insurance that covers an employee in case of becoming unemployed, collective closing or insolvency of the employer, and an employer in case of collective redundancies. The unemployment insurance is regulated by the Unemployment Insurance Act effective since 2002. An unemployment insurance contribution is a type of compulsory insurance payment for the purpose of financing unemployment insurance that is paid by:

1. insured persons;
2. employers.

Revenues from unemployment insurance contribution are collected by the special unemployment insurance fund.

For a private person the unemployment contribution payment base matches the social tax base. Unemployment insurance contribution is paid:

1) on wages and other remuneration paid to employees, except on benefits paid upon the termination of an employment contract;
2) on wages and other remuneration paid to public servants, except on benefits paid upon release from service;
3) on remuneration paid to private persons on the basis of contracts for services, authorisation agreements or contracts under the law of obligations entered into for the provision of other services, not on business income of a sole proprietor.

Generally the employee's share is withheld from the gross wage and the employer pays the contribution in addition to social tax. For persons who have attained the pension age or who are on early-retirement pension only the employers' share is paid. Sole proprietors and the members of the management or controlling bodies of legal persons are not applicable for insurance. Also persons who receive compensation when leaving their position (ministers, parliament members etc) do not hold the unemployment insurance contribution payment obligation.

The rate of the unemployment insurance contribution for insured persons is laid down annually between 0.5 and 2 per cent, and for employers between 0.25 and 1 per cent. The rates applied from 2002 were 1% by employee and 0.5% by employer; from 2006 these were reduced to 0.6 and 0.3% respectively.

Simulation possibilities

The unemployment insurance contribution (contribution) payment (both employee and employer contributions) can be simulated for those people who are in work and receive wage income given that the gross income is known.

3.1.5.Property taxes

In Estonia there are a number of personal property taxes applied, however, these are in most cases local taxes, providing relatively small revenue and not affecting private budgets considerably. In 2004 the estimated total property tax revenue was ca 589 million EEK, which is only 1.3% of the total tax revenues in the general government consolidated budget.

The highest share of total property tax revenue is collected by **land tax,** which is essentially a state tax based on the assessed value of land and paid by the land owner. The rate of land tax is established by the local government council annually in the range of 0.1-2.5% of the assessed value of land not later than by January 31st of the taxation year. The collected tax revenue is directed into the respective local government budget.

The only state tax on cars presently effective is the heavy goods vehicle tax, primarily paid by legal persons. The tax payment depends on car weight etc. In case the ecological tax reform is developed, there is a possibility that additional car taxes (registration or annually) will be applied to private cars and the importance of property taxes in a private person's budget is likely to increase.

Other property taxes are local taxes that are not necessarily applied in every local municipality, such as motor vehicle tax, boat tax, animal keeping tax etc. On the contrary, considerably few municipalities have put such local property taxes into practice. As a result, the total revenue from these taxes is marginal – less than 50 million EEK annually.

Simulation possibilities

Simulation of land tax is not possible, because the amount and value of the land owned by the person or family is not known. Lack of data necessary for simulation is the case also for other property taxes.

3.2. Indirect taxes

3.2.1. Value added tax

Value added tax (VAT) gives ca 66% of general government indirect tax revenue. The present tax legislation is based on the Sixth Directive of the Council of the European Communities (77/388/ECC).

The VAT is charged on supplies of goods and services[8] in the course of business activities and self-supply of goods and services. A taxable person is a person engaged in business who is registered as taxable person. The threshold for obligatory registration as a taxable person is 250,000 EEK. The threshold for taxable person with limited liability is 160,000 EEK in case of supply of goods; there is no threshold in case of supply of service.

The taxable period is one calendar month. The standard rate of VAT is 18%; the reduced rate is 5% and also 0% in some cases.

The VAT rate is 5 per cent for:
- books (excluding books for education);
- medicines and medical equipment;
- handling of hazardous waste;
- chemical pest control agents (biocides) registered with the Health Protection Inspectorate;
- funeral requisites and services;
- organisation of performances and concerts by a state, municipal or private performing arts institution or the national opera on the condition that the funds received by the organiser of the performance or concert from the state, rural municipality or city budget or the Cultural Endowment of Estonia amount to at least 10 per cent of its budget revenue for the calendar year;

[8] **Goods** are things, livestock, gas, electric power, heat and refrigeration. **Services** mean the provision, in the course of business activities, of benefits or transfer of rights, including securities, which are not goods. Obligations to refrain from economic activity, to waive the exercise of right or to tolerate a situation for charge are regarded also as services.

- heat sold to private persons for personal use, heat sold to housing associations, apartment associations, churches, congregations, persons who own hospitals, or legal persons or bodies financed from the state budget or a rural municipality or city budget for own use, and peat, fuel briquettes, coal or firewood sold to private persons for personal use; From the 1st of July 2007 the reduced VAT rate for this category will be abolished and replaced with the basic rate of 18%;
- accommodation services or accommodation services with breakfast provided by an accommodation establishment provided for in the Tourism Act;
- periodical publications.

The VAT rate is zero for:
- exports;
- intra-Community supply;
- sea-going vessels navigating in international waters, except pleasure craft, and equipment, spare parts and fuel used on such vessels and the repair, maintenance, chartering and hiring of or establishment of a usufruct of such vessels;
- aircrafts used by an air carrier mostly on international routes and equipment, spare parts and fuel used on such aircraft and the repair, maintenance and hiring of or establishment of a usufruct of such aircrafts;
- goods and services supplied to passengers for consumption on board of vessels and aircrafts moving on international routes, except goods sold to be taken away on board of sea-going vessels during intra-Community passenger transport;
- goods transferred to passengers for consumption on board, except goods sold to be taken away on board of such aircraft during intra-Community passenger transport;
- the provision of port services to meet the direct needs of vessels navigating in international waters and the provision of navigation services and airport services to meet the direct needs of aircraft used mostly on international routes;
- international express mail services;
- goods transferred and transported to another Member State to a diplomatic representative, consular agent (except honorary consul), a representative or representation of a special mission or an international organisation or consular post of a foreign state, a special mission or Community institution or to Member State of NATO intended either for the use of the forces of other NATO Member States or of the civilian staff accompanying them, or for supplying their messes or canteens when such forces take part in the common defence effort;
- non-Community goods placed in a free zone or free warehouse under customs procedures.

The VAT is not imposed on the following goods and services:
1. universal postal services and payment of state pensions, benefits, support and compensation by means of post;
2. health services and the supply of human organs, human tissue, human blood, blood products made from human blood, and breast milk, as specified in the list approved by a regulation of the Minister of Social Affairs;

3. services provided by a non-profit association to its members free of charge or for a membership fee, and services provided by a non-profit association to private persons relating to the use of sports facilities or sports equipment;
4. pre-school, basic, secondary and higher education, including learning materials, private tuition relating to general education and other training services, except other training services provided by a company or sole proprietor;
5. transportation of sick, injured or disabled persons in vehicles which are specially designed for such purpose;
6. insurance services, including insurance services provided by insurance brokers and insurance agents, and also re-insurance;
7. the leasing or letting of immovables;
8. immovables or parts thereof;
9. valid postal payment means of the Republic of Estonia if sold at their nominal value;
10. certain financial services, except factoring;
11. securities;
12. the organisation of gambling, including lotteries, and lottery tickets.

Simulation possibilities
The simulation of VAT is possible using expenditure data from the HBS.

3.2.2.Excise duties

In Estonia excise duties are presently set for alcohol, tobacco, fuel and packages. **Alcohol excise duty** is imposed on wine, beer, fermented beverages, intermediate products and other alcohol produced in Estonia or brought into Estonia. Excise duty is not charged on pure alcohol used in medicine, pharmacy, veterinary, medicine, scientific research and training and for the manufacture of cosmetic products, neither on alcohol, which is consumed on board of vessels or aircrafts moving between the EU member states. The take-away goods sold on board are subject to excise duty. The duty rates are presented in Table 6.

The exemptions from the excises apply for example in the following cases:
1. alcohol and tobacco products which a traveller brings into the customs territory inside the baggage with which he or she is travelling;
2. spirit used in the provision of health services or in care-giving in social welfare institutions and issued by pharmacies on prescription;
3. spirit used for the provision of veterinary services.

Tobacco excise duty is imposed on tobacco products (smoking tobacco, cigarettes, cigars, cigarillos, chewing tobacco) produced in Estonia or brought into Estonia.

Excise for cigarettes consists of a fixed rate per 1,000 cigarettes and a proportional tax rate calculated on the maximum retail selling price of cigarettes. The tax rates are presented in Table 7.

Fuel excise duty is applied on unleaded and leaded petrol, aviation spirit, kerosene, diesel fuel, diesel fuel for specific purposes, light heating oil, heavy fuel oil, shale-derived fuel oil and liquid petroleum gas, coal, brown coal, coke and unconventional fuel-like mineral oil which are used or intended to be used or are sold or offered for sale. From 2005 onwards also liquid burning substance and bio fuel[9] that is used, sole or offered for sale as motor fuel or fuel oil are also deemed to be fuel. The duty rates for fuel products are presented in Table 8.

Excise duty exemption is applicable for:

1. specialty and unconventional fuel-like mineral oil bottled in consumer packaging of up to one litre;
2. shale oil used for producing central heating;
3. bio fuels after approval by the European Commission in summer 2005 (with respect to lawful State Aid).

Energy taxation in the EU is regulated by directive 2003/96/EC by which in addition to mineral oils also other energy products such as coal, natural gas and electricity are taxable. Only firewood and charcoal have been exempted.

By the directive 2004/74/EC Estonia was granted transitional periods for taxation of many energy products: to adjust the national level of taxation on gas oil used as propellant and unleaded petrol used as propellant to the minimum levels set in the EU Energy Taxation Directive, Estonia may apply a transitional period until the 1st of January 2010. Also Estonia was allowed to apply a total exemption from taxation of oil shale until 1st of January 2009. Until the 1st of January 2013 it is furthermore allowed to apply a reduced rate for taxation of oil shale, provided that it does not result in taxation at below 50 % of the relevant Community minimum rate as from the 1st of January 2011.

Estonia may also apply a transitional period until the 1st of January 2010 to adjust the national level of taxation on shale oil used for district heating purposes to the minimum level of taxation and to convert the Estonian current input-based electricity taxation system into an output-based electricity taxation system. On the 1st of May 2005 the duty was imposed on shale oil and on energy products as coal, brown coal and coke (Table 9).

The **packaging excise duty** amount depends on the package type and recollection and reuse of the package later.

Simulation possibilities

Excise duties can be simulated using expenditure data from the HBS; however, for this purpose, the excise duty rates need to be converted into the percentage of products' value.

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9 Biofuels are produced from biomass, i.e the biodegradable fraction of products, waste and residues from agriculture (including vegetal and animal substances), forestry and related industries, as well as the biodegradable fraction of industrial and municipal waste

3.2.3. Environmental charges

In Estonia companies who pollute or use environmental resources (extract mineral resources or abstract water) are obliged to pay environmental charges. Expressing such charges as an amount per one unit of product (for example EEK/kWh) or as a share of the product's price, environmental charges can be considered comparable to excise duties, i.e. considered as indirect taxes. The total revenue from environmental charges is approximately 500 million EEK annually, being therefore marginal compared to other indirect taxes. However this may change due to the development of the ecological tax reform.

<u>Simulation possibilities</u>

Environmental charges can be simulated with respect to the share of the tax in the price of goods. However, due to limited data available on the share of environmental taxes in goods' prices the modelling exercise may become longer, more difficult to conduct and the model builder may consider not including these charges in the model as their importance is presently modest.

It is important to note that the demand elasticities should be included in the micro-simulation model when using it for estimating revenue consequences or conducting a distributional analysis of indirect taxes.

3.2.4. Local taxes

In principle, local taxes in Estonia can be divided into three groups:

1. taxes that are similar to state taxes with the same tax base – sales tax *(müügimaks);*
2. taxes with a certain tax object not taxed with any other tax – animal tax (*loomapidamismaks),* motor vehicle tax (*mootorsõidukimaks),* boat tax *(paadimaks)* and entertainment tax *(lõbustusmaks*);
3. taxes similar to user charges – road and street closure tax (*teede ja tänavate sulgemise maks*), advertisement tax (*reklaamimaks*) and parking charge (*parkimistasu*).

Local taxes are applied in very few cases and on a low level. The main reason for the modest use is their incentive effect – the more the local tax revenues accrue to the local budget the smaller the transfers from the general state budget to the local budget. The most common local indirect tax is advertisement tax (applied in 47 municipalities of 227). Other local taxes were applied by the end of 2004 as follows:

- road and street closure tax (30 municipalities),
- sales tax (9 municipalities),
- boat tax (2 municipalities),
- motor vehicle tax (1 municipality),
- animal tax (3 municipalities),
- entertainment tax (not applied) and
- parking charge (5 municipalities). (Source: Paimets 2004, data from Ministry of Finance)

Simulation possibilities
Local taxes cannot be simulated.

3.3. Benefits

The Estonian social security system is built upon a variety of benefits for supporting families with children, the unemployed, disabled, persons unable to work and so forth. Considerable amounts of the social benefits are granted as various state pensions. According to the Ministry of Social Affairs, approximately 44% of the social protection expenditures in Estonia in 2003 were old-age pension payments (see Table 11).[10] Considering that 16.2% of the population of Estonia were 65 and older in 2004, the high share of pension payment in the total social protection expenditures could be expected. However, sickness and healthcare expenditures accounted for not much less – 31.8% of total social protection expenditure. These are followed by family and child benefits and disabled and work incapacity benefit expenditures, both around 10%. Unemployment benefit expenditures are rather modest – 1.8% of the total social protection expenditure.

A more detailed overview of expenditures on different benefit schemes of the social security system at the state level is presented in Table 12. The table shows expenditures for six different years, separating family benefits and health benefits; and provides the number of actual benefit recipients for the years 2003 and 2004.

According to this data, the expenditure on state pensions was approximately 9.2 billion EEK in 2004, of which old age pension accounted for 86%. Family benefit payments are mostly paid as universal child allowances, resulting in 2.1 billion EEK in expenditures. The expenditures of recently introduced parental benefit accounted for 21% of the total family benefits granted.

More than 60% of the health insurance benefits were paid in case of illness or injury, however maternity related benefits have been on the increase as well. Unemployment benefit is rather modest, which is compensated by the unemployment insurance component also introduced recently. Insurance benefit expenditures exceeded universal benefits more than two times in 2004 and this led to a reduction in unemployment insurance contribution rates.

It is interesting to see that the number of poor households receiving subsistence benefits has decreased over the last years. This has been the result of a general increase in incomes, less unemployment and the subsistence support remaining on the same level. The subsistence benefit is the only means-tested benefit presently applied in Estonia.

The Estonian family benefits are universal, pensions depend on personal previous earnings and the length of the period of being economically active. Health benefits and unemployment

[10] The estimations include central government, local governments and private expenditures and are established using the ESSPROS method.

insurance benefit are earnings-related. In the following section we describe each of the state benefits and the application rules more thoroughly.

3.3.1.Pensions[11]

As discussed previously, the Estonian pension system is based on three pillars:

- state pension insurance (the 1st pillar);
- mandatory funded pension scheme (the 2nd pillar);
- supplementary (voluntary) funded pension scheme (the 3rd pillar).

The first pillar – the state pension insurance – provides protection against the risks of old age, invalidity and survivorship, and in fact comprises two separate tiers:

- residence-based national pensions and
- employment-based old-age, work incapacity and survivors' pensions.

All economically active persons are compulsorily covered by the state pension insurance through the payment of an earmarked social tax. The state pays social tax on a fixed rate on behalf of some economically non-active persons, e.g. persons on parental leave, conscripts, disabled persons and their carers etc.

Residents of Estonia who have attained the pension age and have at least 15 years of pension service obtained in Estonia are entitled to old age pension. In 2004, the statutory pension age was 63 years for men and 59 years for women. The pension age of women is being increased and gradually equalised with the pension age of men, reaching the target level of 63 by 2016.

Since 1999 the acquisition of new pension rights is linked to social tax paid on behalf of the person. That introduced an insurance element in the pension formula and counting of pension insurance periods on the basis of registered social tax payments.

The old age pension from the state pension system (the 1st pillar) is calculated according to a formula, which consists of three additive elements:

- a flat-rate element;
- a length-of-service element (applies only to pensionable service until 31 December 1998);
- an insurance element applying to periods after 1 January 1999.

The pension components are indexed annually by an arithmetic average of annual increases of consumer prices and social tax revenues. However, additional increases are common. A flat-rate guaranteed minimum pension – national pension – is granted to all residents at the age of 63 provided they have resided in Estonia at least 5 years prior to claiming a pension. Both early retirement and postponement of pensions are possible resulting up to 0.4% lower or 0.9% higher pension for each month retired earlier or postponed respectively.

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[11] This section draws partly on Leppik (2004)

The 2nd pillar is based on the defined-contribution principle, meaning that the benefit depends on the total contributions paid into an individual pension account and investment returns of the pension fund. As a rule, benefits are paid in the form of life-long annuities, while unisex life tables are used for calculation of annuities. The pension age in the second pillar is the same as in the first pillar. Additionally, a qualification period of 5 years is established and accordingly first benefits will be paid out only in 2009.

The size of the incapacity pension depends on personal state pension insurance components and the loss of the ability to work, which may range between 40-100%. Survivor's benefits depend also on personal state pension insurance components.

<u>Simulation possibilities</u>
Only pensions from the state pension scheme are currently relevant. Due to the recent introduction of the private pension schemes no payments are made from these until 2009. As the monetary values of the components of the state pension formula are known, it is possible to impute the sum of the length-of-service element and the insurance element from the data for old-age pensioners. That would allow simulating the effect of increases of the value of pension components. However, as there are options for early retirement and postponement, and, in addition, there are some special pensions for some occupations, the simulation will remain to some extent inaccurate. The alternative is to use pensions as given in the data.

3.3.2.Health insurance

Health protection in Estonia is also based on the solidarity principle. The health insurance scheme includes several benefits, all of them based on social tax revenues. Approximately 8% of the total social insurance expenditures from the state budget were directed to the health insurance in 2003 (see Table 12).

A benefit for the temporary incapacity for work is the financial compensation paid by the health insurance fund to certain insured persons on the basis of a certificate of incapacity to work in cases where the person foregoes his income subject to personalized social tax due to a temporary release from the performance of his duties. The reasons for a temporary incapacity to work, i.e. absence from work, can be:

1. sickness,
2. maternity,
3. adoption,
4. care taking.

The other monetary health benefits financed by the health insurance fund are the adult dental care benefit, travel expenses reimbursement, additional medicinal products benefit and benefits for medical devices.

Simulation possibilities

While health insurance benefits cannot be simulated in the micro-simulation model due to the lack of necessary data, no detailed description is given on their application rules here.

3.3.3.Family benefits

The family benefits are regulated on the basis of the State Family Benefit Act effective from 2002. Family benefits are both available for those who are permanent residents of Estonia or aliens residing in Estonia and having temporary residence permits. The family members living in Estonia as well as children who are temporary away due to studying abroad have the right to receive the family support.

Family benefits in Estonia are universal and flat-rate, except recently introduced parental benefit, and all family benefits are paid out for the family in one payment on monthly, quarterly or annual basis. There are several benefits available for families depending generally on child age (birth allowance, monthly child benefit, school support) and the number of children in the family (for example additional supports for large families).[12]

All state family benefits arising from the State Family Benefit Act are calculated based either on the child allowance rate or childcare allowance rate that are determined annually (150 EEK and 1200 EEK, respectively, in 2005). For every family benefit a different "x" is determined by the legislation, so that depending on the benefit:

B = x * CAR   or
B = x * CCAR,
where
B = amount of benefit,
x = multiplier,
CAR = child allowance rate,
CCAR = childcare allowance rate.

From now on, we use the term "multiplier" to denominate the "x". The concise list of different family benefit rates, multipliers and the resulting benefit amounts are presented in Table 13.

Each of the family benefits is now described in more detail:

Monthly family allowances

There are six family benefits payable monthly:

1) Child allowance (*lapsetoetus*) is paid for every child from his/her birth until becoming 16 years old. For a child who is occupied in full-time studies in a basic school or a gymnasium or a vocational training, the child benefit is extended until 19 years of age (until the end of the

12 For more details on beneficiaries and benefit amounts see Table 12.

school year). In case of graduating from the school the payment is stopped from the next month following the graduation. The child allowance is paid in the value of multiplier times the child allowance rate. The multiplier value for this benefit was 2 and the child allowance rate was 150 EEK in 2005, therefore the child allowance was equal to 300 EEK per child. Child allowance was previously differentiated for each of the subsequent children receiving child allowance, but from 2004 the same multiplier holds for all children.

Simulation possibilities
Can be simulated.

2) Child care allowance (*lapsehooldustasu*) can be received by one parent:

- at one-half of the child care allowance rate for each child of up to 3 years of age if the parent raises one or more children of up to 3 years of age, i.e. 600 EEK in 2005;
- at one-quarter of the child care allowance rate for each child between 3 and 8 years of age if the parent raises also children between 3 and 8 years of age in addition to one or more children of up to 3 years of age, i.e. 300 EEK in 2005;
- at one-quarter of the child care allowance rate for each child between 3 and 8 years of age if the parent raises three or more children who are at least 3 years of age and who receive child allowance in a family with three or more children, i.e. 300 EEK in 2005.

The child care allowance rate is set annually by the state budget acts and it was 1200 EEK per child in 2005. A person who receives the child care allowance is entitled to the **additional child care allowance** in the sum of 100 EEK per month for every child up to one year of age. Since 2006 the duration of parental benefits has been increased, and therefore additional child care allowance was abolished.

If one parent is on child leave, the child care allowance is paid to this person. If a person other than a parent uses parental leave, that person has the right to receive child care allowance at one-half of the child care allowance rate for each child in his or her care, but not more than one and one-half times the child care allowance rate in total. For such periods, child care allowance is not being paid to the parent for the same child. For simulation purposes it is important to keep in mind that child care allowance and additional child care allowance are not paid if the maternity benefit or parental benefit is paid for the same child.

Simulation possibilities
This benefit can be simulated, although not with respect to the specific conditions described in the last paragraph.

3) Single parent's child allowance *(üksikvanema lapse toetus)* is paid to the child in whose birth registration no entry has been made concerning the father or an entry has been made on the basis of a statement by the mother or whose parent has been declared to be a fugitive. Single parent's child allowance is paid at twice the child allowance rate – 300 EEK per child in 2005.

Simulation possibilities
The information concerning the data in the birth registration documents is not available; therefore this benefit cannot be simulated. The simulation is, however, possible for those people who have reported receiving single parent's benefit.

4) The conscript's child benefit *(ajateenija lapse toetus)* is applicable to the child whose parent serves in the Estonian Defence Forces in case the child receives child support. The amount is five times the child allowance rate, i.e. 750 EEK in 2005.

Simulation possibilities
Can be simulated, as the data whether the parent is a conscript or not is available.

5) Foster care allowance *(eestkostel või perekonnas hooldamisel oleva lapse toetus)* is paid for a child who is deprived of parental care, if guardianship has been established for him or her or a foster care contract has been entered into with respect to him or her, and who receives child allowance payments. Upon termination of guardianship or foster care when a child attains 18 years of age, the payment of an allowance continues until the end of the school year when the child attains 19 years of age. Foster care allowance is paid at six times the child allowance rate – 900 EEK in 2005.

Simulation possibilities
Cannot be simulated, because there is no necessary information available about the child being under foster care.

Large family parent allowance (*seitsme- ja enamalapselise pere vanema toetus*). Since 2005 the state offers a special allowance for the parent of seven or more children. The benefit basis is the childcare allowance rate and it was multiplied by two in 2005 (= total value 2,400 EEK), by 2.1 in 2006, by 2.2 in 2007.

Simulation possibilities
Can be simulated, as the number of children is available in the datasets.

Lump-sum family allowances
There are three schemes of lump-sum family allowances, which are the following:

1) Childbirth allowance (*sünnitoetus*). One of the parents has the right to receive childbirth allowance, which is at 25 times the child allowance rate (25 x 150 EEK) for a first child and at 20 times the child allowance rate for each subsequent child. In the case of a multiple birth, childbirth allowance is paid at twenty-five times the child allowance rate for each child. Childbirth allowance is not paid if the child is stillborn. An adoptive parent, guardian or caregiver has the right to receive childbirth allowance, if childbirth allowance has not been paid for the same child earlier. This benefit is granted if application for receiving the payment has been handed in at the latest 6 months after child birth.

Simulation possibilities
Can be simulated.

2) Adoption allowance *(lapsendamistoetus).* An adoptive parent residing in Estonia permanently or on the basis of a temporary residence permit from whom an adopted child does not descend and who is not a step-parent of the child has the right to receive adoption allowance, if childbirth allowance has not been paid to the family for the same child earlier. The amount is 20 times the child allowance rate – in total 3,000 EEK in 2005.

Simulation possibilities
Cannot be simulated.

3) Start in independent life allowance *(elluastumistoetus)* is a benefit paid to the person without parental care who has been raised in a social welfare institution or a school for children with special needs in case the person starts living independently in a new residence. The payment is equal to 40 times of the child care allowance rate – in total 6,000 EEK in 2005. If the person has spent less than 3 years in the aforementioned institution, the support is reduced by 2.5% for each month less than three years.

Simulation possibilities
Cannot be simulated.

3.3.3.1. Other family benefits

Large family support *(kolme- ja enamalapselise pere ning kolmikuid kasvatava pere toetus)* is paid once in a quarter. One of the parents raising three or more children and who receives child allowance, or one of the parents raising triplets, who receives child allowance is eligible for the benefit. From 2005 the policy is as follows:

- families with 3 children receive support one time the amount of the child allowance rate per child and quarter (2 times from year 2006);
- families with 4 and 5 children receive support two times the amount of the child allowance rate per child and quarter (3 times from year 2006);
- families with 6 and more children receive support two and a half times the amount of the child allowance rate per child and quarter (3 times from year 2006).

A large family applicable to these benefits, can only receive a benefit from one of these categories.

Simulation possibilities
Can be simulated as the data on family composition is available.

School allowance *(koolitoetus).* This support is given to the children between age 7 (as of the 1st October), or earlier, if the child goes to school earlier, until the age of 16, who receive the child benefit in the amount equal to three times the child allowance rate (at the beginning of the school year). For the 2004/2005 school year the benefit amounted to 450 EEK.

Simulation possibilities
Can be simulated, as there is data about children's age and school participation available.

Parental benefit *(vanemahüvitis)*

Parental benefit, based on the Parental Benefit Act, is a monthly benefit paid to a parent (or foster parent etc) that depends on previous earnings taxed by social tax. The right for receiving parental benefit is for the resident parent, the foster parent, the adopter or the carer of the child. Generally the parental benefit is given to the mother until 6 months after the child has been born, later the benefit can be used by either parent. The first payments were made in 2004, also for the persons who had a baby in 2003.

The size of the benefit can be the following:
1. 100% of the previous average monthly wage (up to a ceiling 3 times average taxable wage two years ago),
2. Equal to minimum wage if previous wage was less than minimum wage,
3. Equal to parental benefit rate (less than minimum wage) if there were no taxable labour earnings.

The duration of parental benefits is such that the sum of parental benefits and maternity benefits is 365 days in 2005 (455 days in 2006), or the duration of parental benefits is 11 months (14 months in 2006) if there were no maternity benefits. Parental benefits are taxable with income tax. It was granted as of September 2004 to 9,012 persons with a total sum of 38.6 million EEK and an average benefit of 4,285 EEK (Sotsiaalsektor arvudes, 2004).

Simulation possibilities
Can be simulated only for those receiving benefits according to the underlying database. Given that the data includes information about after-tax parental benefits the previous earnings (censored from the left) can be imputed using the benefit rules. Parental benefits according to some new rules could be simulated then, given that the simulation does not reduce benefits which might influence the lower end of the earnings distribution.

Alimony *(alimendid)* is paid by one parent who is generally not living together with his/her child, to the other parent as a support for a child. The alimony payment is usually decided by the court order.

Simulation possibilities
Cannot be simulated, but the data from the HBS can be used.

Conclusion: mostly family benefits can be simulated, however not all, because the HBS and the ESS does not contain all the necessary data. In the Estonian HBS the maternity benefit, childcare allowance and child benefit + school benefit incomes are presented separately. In ESS the family and children related benefits are provided jointly on the household level. The parental benefit can be simulated only for those reporting the benefit and alimony payments cannot be simulated at all.

3.3.4. Unemployment benefits[13]

In Estonia the unemployment compensation system was built up from the scratch in 1992 as a response to the emerging unemployment. In 1991-2002 the unemployment compensation system consisted only of a flat rate unemployment assistance benefit. In 2002 the unemployment insurance system was introduced and the payment of unemployment insurance benefits started in 2003. Currently the unemployment compensation in Estonia includes two tiers:

a) Unemployment insurance (UI) benefit, which depends on previous earnings and is financed from statutory unemployment insurance contributions. The unemployment insurance system is administered by the National Unemployment Insurance Fund;
b) Unemployment assistance (UA) benefit, which is universal and financed from the state budget. The National Labour Market Board is responsible for administering the unemployment assistance system.

The precondition for both types of benefits is the registration as unemployed at the public employment office (PES). To register as unemployed the person must be between the age of 16 and pension age, not engaged in work or other equivalent activity and must be ready to take up a job and actively searching for one.

In 2002, the unemployment insurance system was launched. The unemployment insurance operates as a compulsory insurance and is financed by the contributions of employees and employers. Unemployment insurance covers all employees, except the self-employed, members of management and controlling bodies of legal persons and some categories of civil servants.

To be eligible for UI benefit a person should register as unemployed in the public employment service and needs to have worked and made contributions for at least 12 months during the previous 24 months. Unemployment insurance benefits are not paid to those who leave their job or service voluntarily or who lose their job because they do not perform as agreed, lost confidence of their employer or behaved in an indecent manner. These persons still receive unemployment assistance benefits.

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[13] This section draws largely on Leetmaa, R., Võrk, A. "Social Insurance and Social Assistance in Estonia", PRAXIS 2004, an unpublished report for the World Bank.

The level of the UI benefit depends on previous earnings. During the first 100 days of unemployment the replacement rate is 50% of the previous earnings and afterwards it falls to 40%. There is also an upper ceiling to the benefits, which is defined as 3-times the average national wage, but that is not very binding (only 4.3% of recipients in 2003). To discourage entry into unemployment, the UI system involves a waiting period of 7 days before the benefit payment starts.

The duration of the unemployment insurance benefit ranges from 180 days up to 360 days depending on the length of contribution payments. During the first 5 years of the system, the insurance benefits are paid up to 180 days since the contribution period cannot exceed the necessary 5 years as it is counted only from January 2002. After expiry of the insurance benefit, the unemployed can apply for unemployment assistance benefits for the remaining 90 days and for social assistance thereafter.

In 2003, the average unemployment insurance benefit was 2,188 EEK, which was more than 5 times the state unemployment benefit. (Source: Sotsiaalsektor arvudes, 2004)

The payment of unemployment assistance benefits was regulated under the Social Protection of the Unemployed Act[14] until October 2000. In October 2000 the new amended Act came into force. The most important changes brought by the new law include:

- the abolishment of the waiting period of 60 days for persons who terminated their previous employment voluntarily. The aim of the change was to protect the workers who were forced to leave voluntarily;
- the entitlement period of the unemployment assistance benefits was lengthened up to 270 days instead of previously 180 days;
- the right to receive unemployment assistance benefits will no longer be withdrawn if the unemployed person refuses to participate in a social work programme.

Persons eligible to the unemployment assistance benefit are those who do not fulfil the eligibility criteria for UI (e.g. students, persons who terminated their previous employment voluntarily) or who have exhausted their UI benefits. To be qualified for the unemployment assistance benefits a person should have worked at least 180 days over the last twelve months. UA is income tested: only the unemployed whose income is below the unemployment assistance benefit are entitled to the benefits.

The level of UA is fixed by the government and has been 400 EEK per month since 1999. The replacement rate of the UA to the average gross wage in Estonia has been around 6% (8% to net wage), which is very low by international standards. As with UI benefits there is a waiting period of 7 days. The duration of UA benefits is generally 270 days. However, in certain cases this period might be extended (e.g. if a person has less than 180 days until the retirement age).

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[14] The Act came into force in January 1995.

Simulation possibilities
Unemployment benefits can partly be simulated only for those receiving benefits according to the database. Based on the rules of UI and UA benefits the small range of the previous earnings can be imputed from the benefits and hence the impact of the change in the parameters can be simulated approximately. As the UI replacement rate depends on the duration of the unemployment, which is not available from the data, it is not possible to find out the exact amount of the previous earnings.

In the Estonian HBS, the unemployment benefit and unemployed person training benefit are reported separately. In the ESS benefits related to employment are not separated.

3.3.5.Disabled persons social benefits

The disabled persons benefit is regulated by the Social Benefits for Disabled Persons Act. There exist several social benefits for disabled persons, which are calculated on the basis of the social benefit rate, which is set by the State Budget Act – 400 EEK in 2005.

Simulation possibilities
None of the disabled persons' benefits can be simulated due to the lack of data. The HBS and the ESS do not collect separate data on disabled person's benefits.

3.3.6.Subsistence benefit

The local government of a person's residence provides the subsistence benefit, based on the Social Welfare Act. Since January 1st 1997 it includes housing benefits. From 2005 it is optional to grant an additional 200 EEK benefit payable with subsistence benefit for those people with families where all the members are under-aged.

According to the data from the Ministry of the Social Affairs, the total sum of the subsistence benefit paid out was 308.2 million EEK in 2003 and 216.8 million EEK in 2004. Additional benefit accounted for 16.9 million EEK and 18.2 million EEK in the respective years. Approximately 45% of the benefit in 2004 was paid out in two regions: Ida-Viru County (28%) and in Tallinn (17%), the other counties accounted for smaller amounts (Ministry of the Social Affairs, 2005).

Subsistence benefit is given for a person living alone or for a family whose monthly net income after the deduction of the fixed expenses connected with dwelling is below the subsistence level, calculated with respect to standard allotted living space ("norm-space").

The subsistence level is established based on minimum expenses made on consumption of foodstuffs, clothing, footwear and other goods and services which satisfy the primary needs. The Estonian Parliament *(Riigikogu)* establishes the subsistence level for a person living alone and for the first member of a family for each budgetary year by the state budget. The subsistence level of the second and each subsequent member of a family is 80% of the subsistence level of the first member of the family. For 2004 the subsistence level was 500 EEK (established by the State Budget Act for 2004), 400 EEK for every subsequent member of a family. For 2005 the subsistence level was 750 EEK and 600 EEK respectively.

The grant of a subsistence benefit is based on the income of the benefit applicant and his or her family members. Persons who are married or living in the same dwelling in a conjugal relationship, their children and parents who are maintained by them or other persons using one or more sources of income jointly or with a shared household are considered as family members. Pupils and students who are enrolled in daytime study at state educational institutions of Estonia or educational institutions to which an education license has been issued by the Ministry of Education, and who temporarily stay away from their family are also included in the family if the data concerning the address of their residence as entered in the population register coincides with the data concerning the address of the residence of their families.

Pupils and students whose address is different of the address of the first family member are entitled to subsistence benefit from the local government of their residence according to the population register on the condition that the pupil’s or student’s family was the recipient of a subsistence benefit in the previous month.

Upon calculating a subsistence benefit, the following is not considered as income of a person living alone or a family:
1. onetime benefits paid out of the funds of the central or local government budget;
2. disabled persons benefits, except for the disabled parent's allowance and the caregiver's allowance
3. child allowance and the allowance for families with three or more children and families raising triplets;
4. student loan granted, being guaranteed by the state.

Subsistence benefit for persons who have no regular income is calculated based on the average income of such persons during the six months preceding application for the subsistence benefit. Persons who are engaged in maintenance or support work on the territory of a local municipality are paid remuneration for the performed work that, upon calculation of a subsistence benefit, is included in the income.

In order to grant subsistence benefit, local government councils establish the limits for the expenses connected with dwelling payable during the given month based on the following:
1. the actual rent or maintenance fee of the apartment;
2. value of thermal energy or fuel consumed for heating or supply of hot water;
3. value of used water and sewerage services;
4. value of used electricity;
5. value of used household gas;
6. expenses made on land tax, which is calculated based on the size of land that equals three times the area under the dwelling;

7. expenses made on building insurance, calculated for used dwellings.

Only the actual expenses up to these limits are considered when calculating the subsistence benefit. For example, in Tartu city the limits have been since 2004 as follows:

- rent 25 EEK/m^2;
- heating 30 EEK/m^2 if central heating, 16 EEK/m^2 if firewood or gas heating;
- water supply and treatment – 4 m^3 for 1 person, plus 3 m^2 for every subsequent person;
- electricity – 200 EEK/m^2 for 1 person, plus 90 EEK/m^2 for every subsequent person;
- gas – 75 EEK/m^2 for 1 person, plus 50 EEK/m^2 for every subsequent person;
- land tax – 3 times the area under dwelling * 0.5 EEK/m^2;
- insurance – 0.5 EEK/m^2.

Pre-existing debts connected with dwelling are not included in the fixed expenses connected with dwelling when considering payable. When calculating the subsistence benefit, the norm-space is 18m^2 per person in the household plus additionally 15m^2 per household. In case the number of rooms used equals the number of persons living in this dwelling permanently, and the actual living space exceeds the norm area then this actually used area is taken as a norm-space. If the area of the apartment is smaller than the norm-space, then the actual area is taken as a basis for calculations. For a pensioner applying for subsistence benefit, the norm-space can be 51m^2 at maximum (without considering the number of rooms).

Subsistence benefit is granted for the given month, not retrospectively for the previous periods. Local governments have the right to grant and pay supplementary social benefits from the local budget or other sources if they wish to do so. Social tax on these is paid by the central government.

<u>Simulation possibilities</u>
This benefit is conditionally possible to simulate, whereas for example in HBS data is available on how many rooms are used by the household and the overall dwelling size. Families whose net income after deducting the costs adjusted to the norm-space is less than subsistence level, are applicable.

$B = \max(C + L – Y; 0)$,

where
B = subsistence benefit;
C = actual costs related to the dwelling that do not exceed maximum limits set by the local government and which are calculated for “norm-space”;
L = subsistence level, which is 100% of the subsistence rate for the head of household, 80% of the subsistence rate for each subsequent person in the family;
Y = family income according to the income definition for the subsistence benefit purpose.

It should be pointed out that whereas every municipality determines the maximum dwelling costs individually, it is not possible to make a very precise estimation of costs. Therefore a whole-country proxy could be developed for the housing costs, for example average costs of certain family types.

3.3.7.Local benefits

According to the Local Government Organisation Act (*Kohaliku omavalitsuse korralduse seadus)* the Council of any local municipality is empowered to provide local benefits to people who are living and are registered in the Population Registry for the respective region. The variation of local benefits given in municipalities is large. Benefits differ on type, amounts, application conditions etc.

A study conducted by Ainsaar *et al.* (2004) showed that the majority of the municipalities give family and child support related local benefits. The most common is a benefit for birth support, however also such benefits as a benefit for crisis or large family benefits are present in many regions. For more details on this study see Table 14. As an example, the local benefits in four cities (Tartu, Tallinn, Võru and Jõhvi) and one small island (Vormsi) are presented in Table 15.

Regarding the importance of such benefits, it can be seen from the table that the family and child related local benefits amounted approximately to 77 million EEK in 2003, which compared to the data in Table 12 is about 5.5% of the general state expenditures on the family social benefits.

<u>Simulation possibilities</u>

Some of the local benefits could be simulated conditionally; however not all the necessary variables are present in the datasets (i.e. for example whether the family is applicable for the benefits by being registered in the Population Registry as living in the respective region). The HBS actually includes data for county and for municipality, but the municipality variable is not publicly available. Gathering the data about the rules in all municipalities would be a very time-consuming process.

3.4. Data availability and the other modelling issues

3.4.1.The input dataset

Developing a micro-simulation model requires availability of a rather comprehensive micro level dataset. This dataset has to include relatively detailed information about tax-units – usually an individual, family or household. The dataset should include the set of variables necessary for developing the micro-simulation model and simulating respective taxes and benefits. However, in practice ideal datasets do not exist and less comprehensive information bases have to be used.

The dataset necessary for the micro-simulation model development within the EUROMOD framework has to include data at least about general household/family composition and incomes from different sources. This essentially means that for every member of a household information is necessary concerning the person's age, education achieved and present enrolment in education, marital and employment status, relation to the head of household etc[15]. In case of means-tested benefits, certain expenditures affecting tax relief or if micro-simulation model includes indirect taxes, the input database should contain also expenditure data.

Presently there are two datasets available in Estonia that include necessary individual and household level information. Both of these are provided by the Statistical Office of Estonia.

The Household Budget Survey (HBS), named earlier as the Household Income and Expenditure Survey is conducted regularly since July 1995. The sample is drawn from all households living permanently in Estonia and the sample size for 2003 and 2004 was 520 households per month. Each household is interviewed twice; the rotation period is 12 months, and every year half of the sample is replaced. The latest HBS data is currently available for 2004 (data is provided with an approximately 9-month lag).

The structure of the HBS is provided in Figure 8. The database includes several files. The household file (PEREPILT) includes information about structure and main demographic and social characteristics of households, including living conditions and the existence of durable goods. Characteristics given in the file PEREISIK contain information about individuals – their relationship to the head of household, employment, education, gender, age etc.

Additionally the survey provides rather detailed information about income and expenditures. Received monthly net incomes on individual level are collected in the files PERESIS1 (monetary incomes) and PERESIS2 (non-monetary incomes). Incomes are collected in 72 variables and include also such incomes that cannot be simulated due to a lack of suitable information for simulation purposes (for example parental benefit, single parent's child allowance etc).

The file PERTOIT2 contains data about the food expenditure of households during half a month (half of the sample filled in the diary in the first half of the month – from the 1st to the 15th day – and half of the sample did it in the second half of the month – from the 16th to the end of the month), which have to be multiplied with weights to receive the respective monthly expenditure. Other consumer goods and services expenditures and data about paid taxes are provided in the file PERTARB1.

[15] A household both in the HBS and in the ESS implies the group of persons living at the same address and using the same financial and/or food supplies.

Expenditures are made available separately in approximately 960 variables, including eight separate variables for different taxes (income tax, land tax etc)[16]. The collected tax information is rather limited (mostly omitted), therefore not being usable.

The second potentially usable dataset is the Estonian Social Survey (*Eesti Sotsiaaluuring*), which was first conducted as a pilot study in Estonia in 2004. The ESS is a panel survey with a three-year study cycle. During this three-year period the same people are interviewed every year. The study includes questions on living place, living conditions, health, job and search for a job, as well as income and economic welfare. The study object is a household and all members of the household 16 years of age and older are interviewed, providing information about age, gender, education, employment, marital status, received income and benefits etc. The information for younger children is not so detailed, but data is provided on their age, involvement in education etc. This study does not contain any expenditure data, therefore subsistence benefit (the only means-tested benefit) cannot be simulated using the ESS; however, it is possible using the HBS. Payments of the property taxes are provided separately and all the taxes/contributions payable on employment income are summed and represented as a single variable. Tax information from the Tax and Customs Board databases is attached.

Figure 9 outlines the structure of the ESS data files. The file LEIBKOND consists of data about household characteristics (household head characteristics, household net and gross incomes, economic welfare etc). General information about each of the household members is in the file LIIKMED, containing also limited data about children up to 16 years of age. The file ISIK provides detailed information on every household member in the age of 16 or older – age, gender, marital status, studies, working status, socio-economic situation, incomes etc. The working and educational history of surveyed household members are included in the file TAGASIVAATEL.

For a more detailed comparison of the two datasets, see Table 16 which describes the coverage of both datasets. Table 17 introduces the data available in the datasets and simulation possibilities concerning various taxes and benefits.

We can conclude that both, the HBS and the ESS, are in practice suitable for developing the microsimulation model and the decision which to use is up to the model designer. In both datasets necessary household characteristics are available. From household member files it is possible to receive data on each person's relation to the head of household, gender, age, marital status, educational data, labour activity and other labour market characteristics. As mentioned before, both datasets also include income data, although the data is more detailed in the HBS. Expenditure data is only available in the HBS, therefore if indirect taxes are to be simulated, then probably this dataset must be used.

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[16] The classification COICOP, worked out by the Statistical Office of the European Communities (Eurostat), is used for the consumption expenditure.

3.4.2.Model validation

In order to validate the developed micro-simulation model, the results from the model should be compared to the respective official registry data. For that purpose this section discusses the probable sources for such information.

In Estonia, the Ministry of Finance (*Rahandusministeerium* – www.fin.ee) is responsible for accounting the governmental finances, being therefore the most important source for consolidated data of the state budget tax revenues and benefits granted through the state budget. The State Budget Reports and the National State Budget Strategy made public on the Ministry's webpage are appreciated sources. Government finance statistics are also available on the Statistical Office of Estonia webpage (*Eesti Statistikaamet* – www.stat.ee).

However, for more detailed information with respect to taxes, especially income tax and indirect taxes, it is possible to make a query to the Estonian Tax and Customs Board (*Maksu- ja Tolliamet* – www.emta.ee), which is the authority that is directly responsible for collecting state direct and indirect taxes. The data concerning the number of individual income tax-payers is available from them.

The social tax is also collected to the state budget by the same authority; however, it is re-directed partly to the Health Fund (*Haigekassa* – www.haigekassa.ee) and partly to the Social Insurance Board (*Sotsiaalkindlustusamet* – www.ensib.ee), which are responsible for the distribution of the funds. Therefore the following benefit-related registry data is available from the Social Insurance Board:

- state pensions,
- state family benefits,
- disabled people's benefit and
- other benefits.

For all of these, the number of benefit receivers at the end of the reporting year or in case of lump sum payment from the beginning of the year and the total amount granted are reported, for pensions also the average sum of various pensions. For the last years, the data on parental benefit is also provided.

The information about the temporary work incapacity benefit (total amounts and days compensated) is available from the Health Fund as well.

As to the state unemployment benefit, this is paid from the state budget and therefore the benefit expenditure data is available from the Ministry of Finance. The unemployment insurance, however, is collected by the tax authority, but directed to the Estonian Unemployment Insurance Fund (*Töötukassa* – www.tootukassa.ee), which would be another source for validation data. It is possible to get data about the annual budgets of the fund or the number of benefit receivers and average sums.[17]

The Estonian Central Register of Securities (*Eesti Väärtpaberite Keskregister*) keeps account of the people who have acquired mandatory or voluntary pension fund units, therefore the data about private pension funds can be received from them (see: www.pensionikeskus.ee).

The subsistence benefit is granted to the persons by the local governments, however the Ministry of Social Affairs (*Sotsiaalministeerium* – www.sm.ee) has statistics with respect to the use of financial resources in different counties, number of applications, family composition etc that can be helpful.

3.4.3. Non take-up of benefits

The situation of benefit non-take-up arises when people who are eligible for a certain transfer payment do not apply for it. Non-take-up is more relevant for means-tested benefits, which depend on household economic situation, and less relevant for universal benefits.

In Estonia, most of the benefits are universal given the requirements are met (e.g. the number of children, old-age, medically certified disability) and only very few instruments of the benefit system are means tested. Only the last-resort safety net – subsistence benefits (*toimetulekutoetus*), which combines housing benefits and minimum income guarantee, is fully means-tested depending on current household income and expenditures on dwelling up to a certain limit (see Section 3.2.6).

In general, universal benefits have 100% coverage. Universal benefits are paid by central government, they are electronically handled, the rules are clear and there is very little discretionary decision by benefit agencies. Also, the application costs are low: potential beneficiaries have to apply for benefits usually only once, often possible via on-line application in the Internet, or by mail. For example, the comparison of the number of beneficiaries with population data shows that during recent years the coverage of child allowance, parental childbirth allowance, as well as old-age pensions is about 100%.

On the other hand, means tested subsistence benefits are administered by local authorities, and there are considerable degrees of discretion to benefit agencies so that relevant administrators may decide that those who have applied to benefits are not eligible, based on the overall economic situation of the household (e.g. the presence of assets or real estate) or unwillingness to accept a job. Also the personal costs of applying are higher: subsistence benefits have to be applied for every month and the benefit agency must be visited in person in order to submit the application.

[17] See: http://www.tootukassa.ee/index.php?lang=est&pages_ID=51&menus_ID=4&active_link_ID=50&mark=0&only_data_yn=0

As mentioned above, one of the main candidates of source data for an Estonian micro-simulation model is the Estonian Household Budget Survey. Analysis by Võrk and Paulus (2005) suggests that the survey itself may under-represent the total value of the benefits. For example, they find that in the HBS 2004 survey, universal family benefits (child allowance and child care allowances) constituted about 91%, unemployment benefits 78%, and subsistence benefits 51% of administrative data (see Table 18).

For a micro-simulation exercise it means that both universal benefits and means-tested benefits have to be simulated using additional information in the survey data or external information. Simulation of universal benefits should be pretty straightforward, as usually the information about the eligibility (family composition, age) is present in the data. Some minor one-time benefits can remain as in the survey data.

The simulation of means-tested subsistence benefits, on the other hand, is subject to some problems. First, not all information is available in the data (e.g. willingness to accept a job, upper limits by local authorities to compensate expenditures on housing). Second, we cannot explicitly model the non-take-up comparing simulated data and actual survey data, because survey data under-represents the actual subsistence benefits. That means some external information is needed to model non-take-up.

One option is to use additional information from registry data on benefits and some basic socio-economic characteristics of the beneficiaries. This allows comparing the share of simulated beneficiaries and actual benefit receivers in different socioeconomic groups. Resulting information can be used to allow randomly some non-take-up in certain socio-economic groups to yield consistent estimates at aggregate level.

3.4.4.Tax evasion

Tax evasion is another issue that has an effect on the model's ability to imitate the real economy. It implies to all kinds of legal activities that are subject to taxation but are undeclared to tax authorities to avoid paying taxes. In the following, we focus on the evasion of labour taxes, i.e. income and social tax.

The simple structure of the Estonian tax system and low overall tax burden, 32.4% of GDP compared to 39.5% in EU25 in 2004 (Eurostat), favour a small degree of tax evasion. However, the implicit tax rate on labour is similar to and even a bit higher than in EU25 (38.6% and 37.1% respectively, *Ibid.*), contributing a certain attraction to labour tax evasion.

According to Renoy *et al.* (2004) the size of undeclared work in Estonia was 8-9% of GDP in 2001. This is higher than in most of the EU15 countries where it lies in a range of 2 to 6%. However, compared to other CEE countries it is one of the lowest. The Estonian Institute of Economic Research (2005) carries out annual surveys of undeclared wages according to which 14-16% of wage earners have partly or wholly received undeclared wages in 2002-2004. A bit lower estimation is given by Antila and Ylöstalo (2003), reporting 10% of wage earners receiving black income in 2002. Additionally, Kriz *et al.* (2005) estimations show higher marginal propensity to evade for males and those earning lower income and working in smaller firms. Overall, tax evasion could be considered a relatively modest problem for Estonia as a transition country.

The extent of tax evasion has also been decreasing in recent years (Purju *et al.* 2004). The main factors behind this should drive the process further. First, compulsory unemployment insurance and funded pension were introduced in 2002. Both depend on previous contributions (a percentage of gross labour income) and are to complement existing universal benefits (unemployment benefit and state pension respectively). Second, a generous maternity benefit was set up in 2004, also based on previous gross labour income. Earlier, the main disadvantage of evasion in economic terms was the lack of health insurance. Third, the capabilities and functioning of tax authorities have improved. Fourth, a strong economic situation and fast growth have supported wage increase and unemployment decrease, therefore further improving tax compliance. Additionally, the marginal income tax rate will be lowered from 26 to 20% over the period of 2005-2009.

A micro-simulation model would produce biased estimates if not considering tax evasion. The HBS contains (mostly) net incomes and gross incomes must be imputed. Although some information about taxes is collected in the HBS, it is too scarce and imputing gross incomes assuming no evasion would overestimate gross incomes and therefore taxes. However, the bias might not be as large as considered above. Otherwise, one should apply marginal propensity rates if such estimates are available with good quality. Here, the simulation model itself might be employed in an iterative process.

4. Appendix

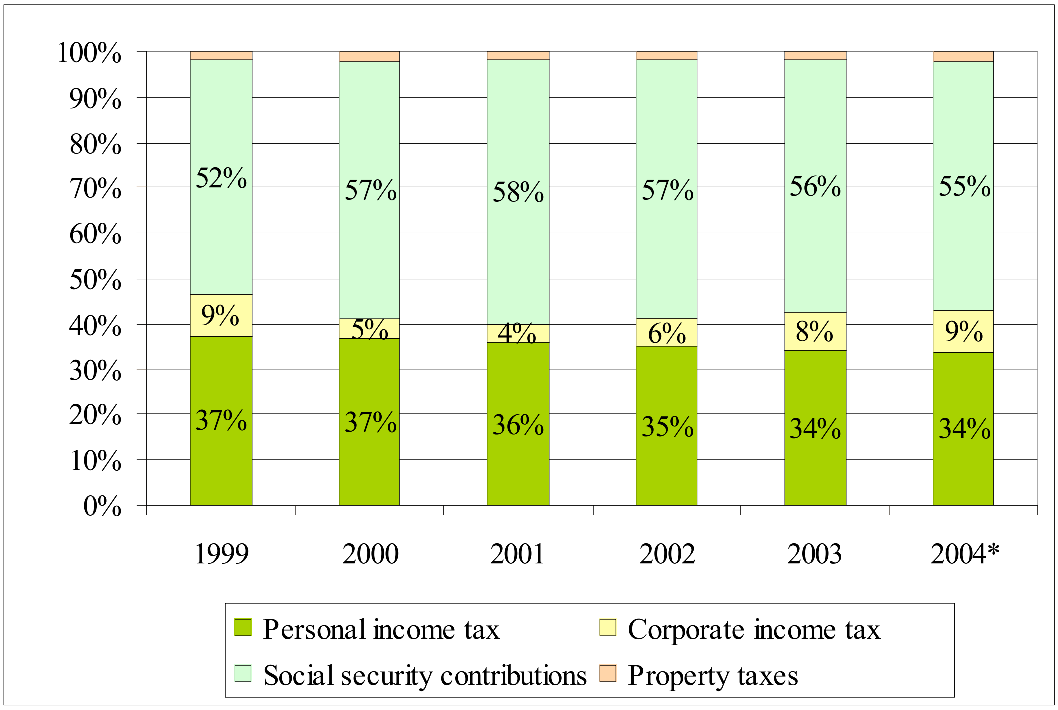
Table 1. Execution of general government consolidated budget (1999-2004), million EEK

	1999	2000	2001	2002	2003	2004*	%
Total revenue	29691	33062.2	36918.4	42786.1	48412.6	54836.3	**100**
..Tax revenue	26851.1	29392.7	32022.5	37172.8	41323.8	45132.1	**82**
....direct taxes	17622.3	18286	18802	22825.7	25712.7	28125.1	62
......taxes on income and profits	8166.9	7448.9	7847.4	9154.4	10974.6	12037.3	43
........personal income tax	6531.8	6594.4	7099.1	7806.4	8818.2	9515.2	79
........corporate income tax	1635.1	854.5	748.3	1348	2156.4	2522.1	21
......social security contributions	9104.8	10167.1	11529.9	12759.8	14297.5	15498.4	55
......taxes on property	290.7	359	384.7	372.5	440.6	589.4	2
....indirect taxes	9228.8	11106.7	12220.5	14347.1	15611.1	17007	38
......VAT	6419.9	8156.2	8642.5	10172	11186.7	11307.7	66
......excise duty	2686.5	2819.2	3434.1	3937.5	4161.6	5244.2	31
......gambling tax	101.2	106.3	114.1	168.2	174.5	204.4	1
......customs duty	0	35.3	40	38.3	53.4	213	1
..Non-tax revenue	2536	3402.3	4266.4	4900.5	5594.6	6481.5	**12**
..Grants	303.9	267.2	629.5	712.8	1494.2	3222.7	6
....grants from abroad	303.9	267.2	629.5	546.7	1189.6	2733	*85*
Total expenditure	32983.8	33664.9	36249.9	41502.3	45346.4	52429.1	**100**
..Expenditure on goods and services	17299.8	17790.2	18748.1	20628.3	18266.8	20480	**39**
....wages and salaries	5080.8	5332.3	5606.1	6343.7	7512.7	8010.3	39
....employer social contributions	1760.5	1844.5	1775.1	2002.6	2604.1	2786.9	14
....other purchase of goods and services	10458.5	10613.4	11366.9	12282	8150	9682.8	47
..Subsidies and other transfers	12029.3	12870	14171.3	16519.6	22513.3	27164.2	**52**
....subsidies	689.7	681.5	805	1137.7	1403.6	1926.2	7
....social benefits	8875.6	9667.3	10687.6	11791.2	13683.8	15499.3	57
....transfers to abroad	31.7	39	40.7	49.8	131.4	935.7	3
..Acquisition of non-financial assets	3360.4	2736.3	3315.7	4219	3855.4	4106.6	**8**
..Other expenditure	294.5	268.4	14.8	135.4	710.9	678.3	**1**

* Preliminary data from Ministry of Finance.

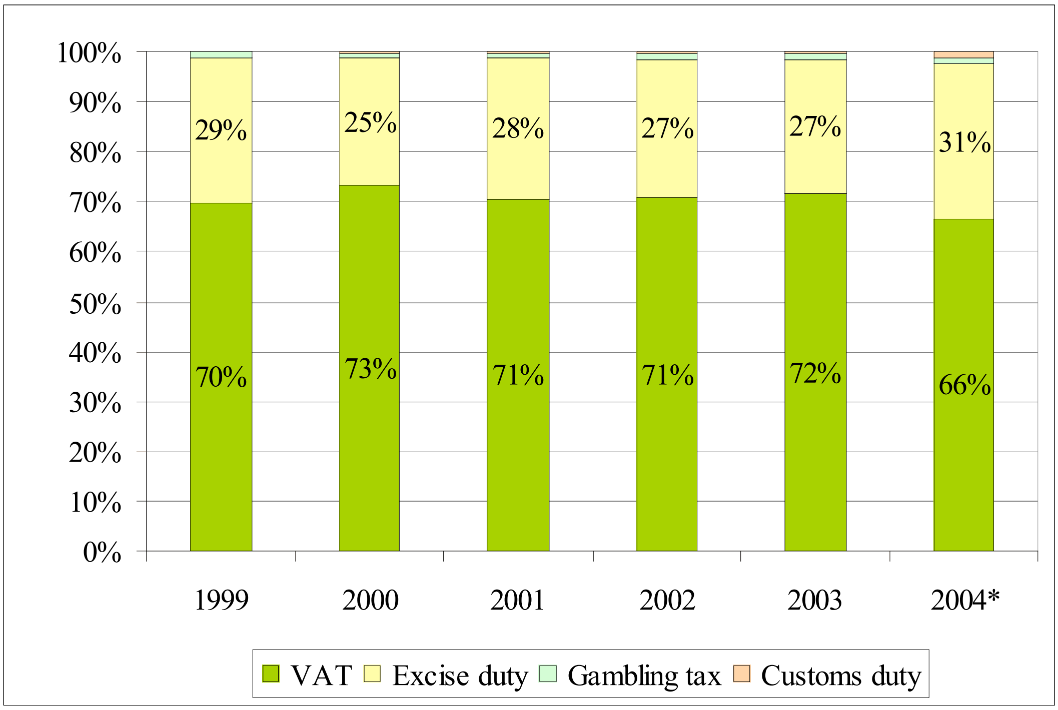
Source: Estonian Statistical Office

Figure 1. The structure of general government direct tax revenues, 2004.



Source: Ministry of Finance (www.fin.ee)

Figure 2. The structure of general government indirect tax revenues, 2004.



Source: Ministry of Finance (www.fin.ee)

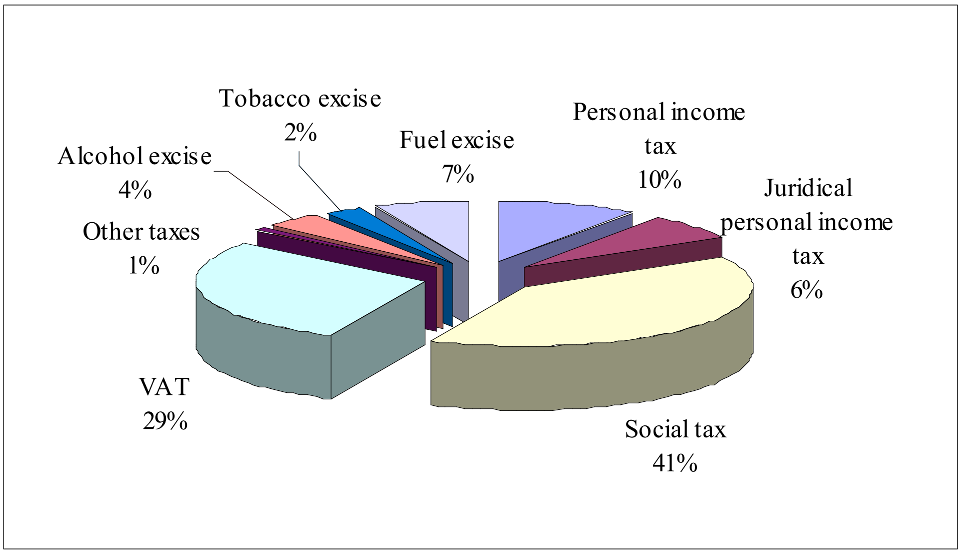
Table 2. Consolidated table of the taxes and payments in Estonia

Tax / payment	Tax/payment base	Revenue direction	Revenue in 2004 (million EEK)
Personal income tax	Different types of income	11.6% of private person's taxable income, without tax allowances goes to local budgets (until 31. 12. 2005)	9,515.2 total gov. sector budget, 3,970 (SB)
Social tax Pension insurance contribution (2nd pillar) Unemployment insurance benefit	Wage income Earnings of self-employed Certain groups paid by government	State budget: 20/33 to state pension insurance budget and 13/33 to state health insurance budget Pension funds Unemployment insurance fund budget	15,737.5 (SB) 2170 (pension fund) 420 from employees, 213 from employers
Excise duties: Alcohol excise duty Tobacco excise duty Fuel excise duty Packaging excise duty	Goods value, number or mass	State budget	5,244.4 (SB) 1,690.1 917.9 2,635.2 1.0
Heavy goods vehicle tax	Heavy vehicle mass	State budget	57.4(SB)
Customs duty	Goods value	State budget	213.0 (SB)
Land tax	Land value	Local budget	486.7 (LB)
VAT	Goods value	State budget	11,307 (SB)
Environmental charges	Amount of pollution or resource used	Local budget and state budget for earmarking	153 to SB, 119 (LB)
Local taxes	Differs	Local budgets	94.5 (less than 0.6% of the total local budgets revenue)

(SB= state budget, LB = local budget)

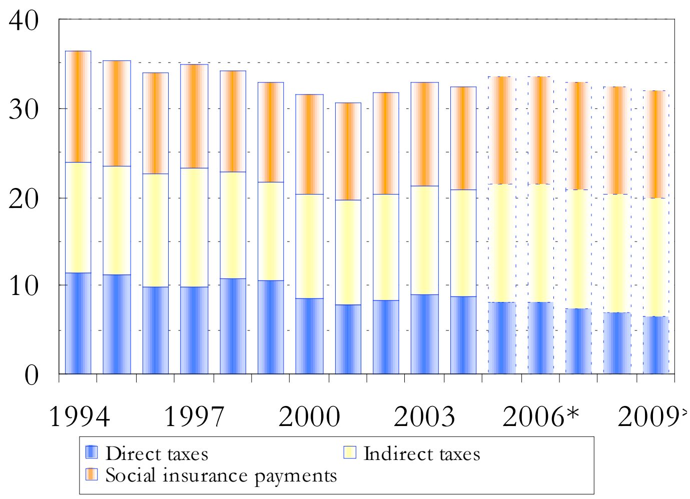
Source: authors, based on the data from Ministry of the Finances

Figure 3. State budget revenue 2004 (as of 01.01.2005)



Source: Ministry of Finance (www.fin.ee)

Figure 4. The tax burden in Estonia (% of the GDP)



Source: Ministry of the Finance (2005b)

Figure 5. General steps of calculation of disposable income for an employed person

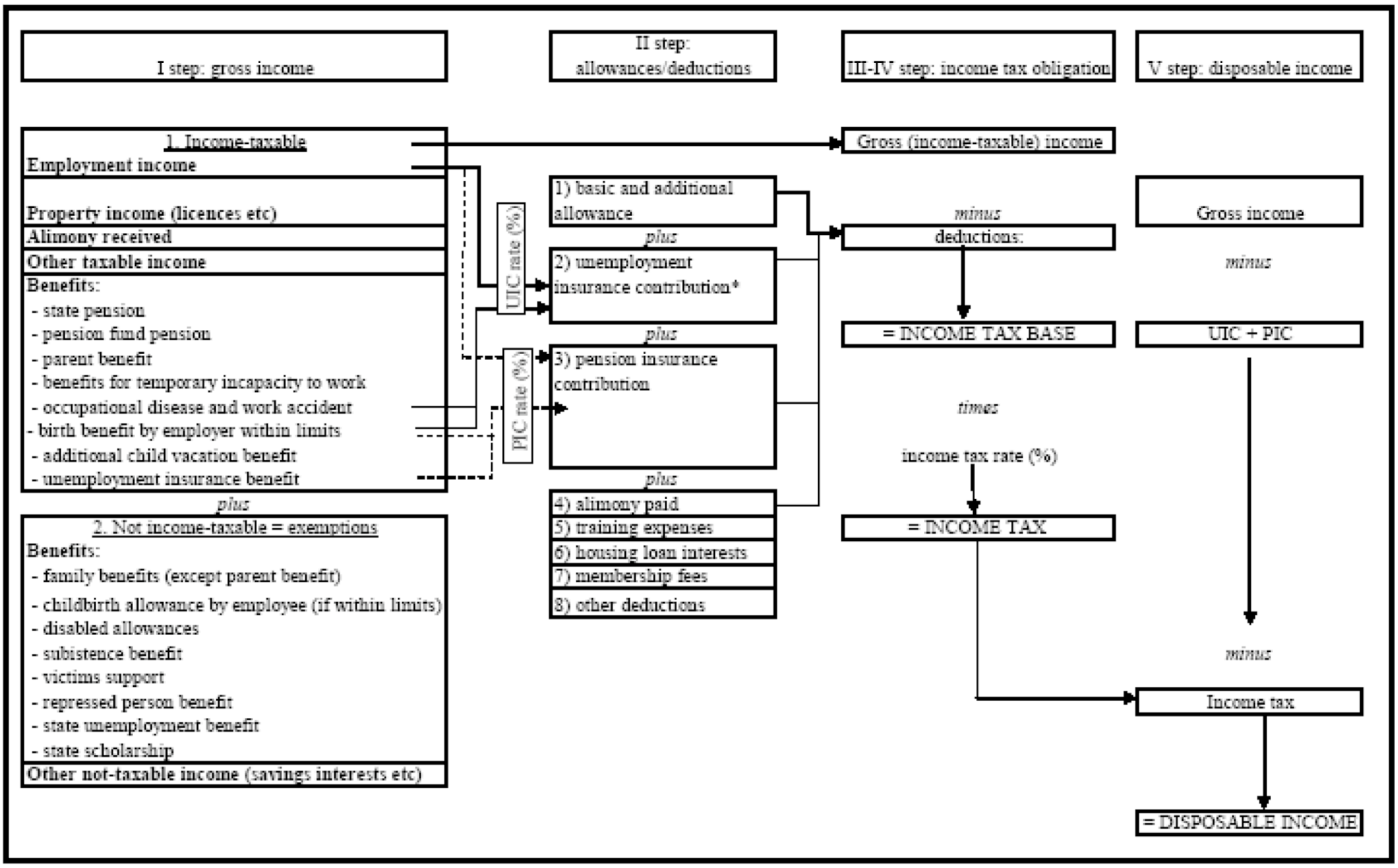


Table 3. Applicability of income tax to different income sources

Income source	Income taxable (Yes or No)
Employment income, holiday pay	Yes
Property income	Yes, with exceptions
Rent and royalties income	Yes
Interests	Mostly no
Dividends	Yes, from foreign legal person or from an organization not registered as legal person; No, if dividend payer is an Estonian legal person
Business income	Yes (less economic activity related costs)
State pension	Yes (with allowance)
Mandatory pension insurance payments received	Yes
Supplementary pension insurance payments received (also other insurance received)	Yes, but not in case of death
Additional mandatory pension fund units given by state	No
Child allowance	No
Child care allowance	No
Additional child care allowance	No
Single parent's child allowance	No
Soldiers' child benefit	No
Foster care allowance	No
Childbirth allowance (state)	No
Adoption allowance	No
Start in independent life allowance	No
Large family support	No
School allowance	No
Alimony ordered by court (received)	Yes
Parental benefit	Yes
Sickness benefit (temp. incapacity to work)	Yes
Adoption benefit (temp. incapacity to work)	Yes
Maternity benefit (temp. incapacity to work)	Yes
Carer benefit (temp. incapacity to work)	Yes
Adult dental care benefit	No
Travel expenses benefit	No
Occupational disease benefit, work accident benefits	Yes, if not insurance payments but temp. incapacity to work
Unemployment insurance benefit received *(töötuskindlustushüvitis)*	Yes
Disabled allowances	No
Subsistence benefit	No
Victim's support	No
Repressed person benefit	No
Culture, sports, research and other scholarships	Not, if a state scholarships
Additional child vacation benefit	Yes
Conscripts' allowance	No
Unemployment benefits (not insurance)	No
Child birth allowance *(sünnitustoetus)* by the employer	Not, if not exceeding certain limit

Source: Lüpsik, 2005

Table 4. Tax base comparison for selected taxes and contribution payments

Income/benefit	Income tax	Social tax	Unemployment insurance contribution	Pension insurance contribution
Employment income (contract, public service)	Y	Y	Y	Y
- nonresident	Y	Y	Y	N
- nonresident abroad	N	N	N	N
- pension-aged person	Y	Y	Only the employer's share = 0.5%	N
- benefits when ending the work relationship	Y	Y	N	Y
- work accident benefit	Y	Y	Y	Y
Employment income (company board or management member)	Y	Y	N	Y
- nonresident	Y	Y	N	N
Employment income (contract under the law of obligations)	Y	Y	Y	Y
Entrepreneurial income	Y	Y	N	Y
Fringe benefits	Y	Y	N	N
Health benefits (temporary incapacity to work)	Y	N	N	N
Unemployment insurance benefits for employees	Y	N	N	N
Unemployment insurance benefits for employers	Y	N	N	Y
State unemployment benefit	N	State pays	N	N
State pension and mandatory funded pension	Y	N	N	N
Subsistence benefit	N	State pays	N	N
Family benefits (excluding parental benefit)	N	N	N	N
Parental benefit	Y	State pays	N	N
Birth benefit paid by company (within limits)	N	Y	Y	Y

Source: Lüpsik, 2005

Table 5. Allowances and deductions from personal income tax

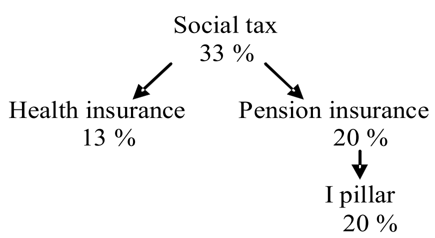
Allowance/deduction	%, sum or limit in a year	Description
Basic allowance	20 400 EEK in 2005; 24 000 EEK in 2006	
Big family allowance	In amount by which taxable income of the child is lower than the basic allowance	If 3 or more children, for every 3rd or subsequent child under the age of 17. From 2006 from 2nd child. Applicable for one parent.
Pension allowance	Pension amount, but max 36000EEK	Pensions (state or mandatory funded) not taxable until this level.
Sickness allowance (temporary incapacity to work)	Compensation amount, but max 12000 EEK	Compensation for an accident at work or an occupational disease (not insurance) deducted from the taxable income
Maintenance support *(elatis)*	100%	Only if also income tax payable when receiving this.
Housing loan or lease interest payments*	100%	Only interest payments for one house or apartment

Training expenses *	100%	One under 26 years old person schooling/training expenses in registered educational establishment
Gifts, donations and trade union entrance and membership fees*	100%; entrance & membership fees max 2% of taxable income less economic activity related costs in case of selfemployed, maintenance, housing loan interest and training expenditure deductions and basic allowances; general limit for gifts, donations and fees is 5% of the aforementioned sum	Payments etc to certain private and all public institutions. Entrance and membership fees.
Insurance premiums and acquisition of pension fund units	100%, max 15% of taxable sum, less economic activity related costs in case of selfemployed	Pension fund payments
Unemployment insurance contribution	100%	All payments to unemployment insurance fund
Contributions to mandatory (mandatory) funded pension	100%	The compulsory payments to pension fund
Additional child birth allowance by employer	Max 5/12 of the basic allowance rate	Paid voluntarily by employer

*Note: from 2002 the maximum annual limit for these deductions summed up is 100 000 EEK, from 2005 onwards - 50 000EEK; but in both cases not more than 50% of taxable income from what entrepreneurial activity deductions are taken off.

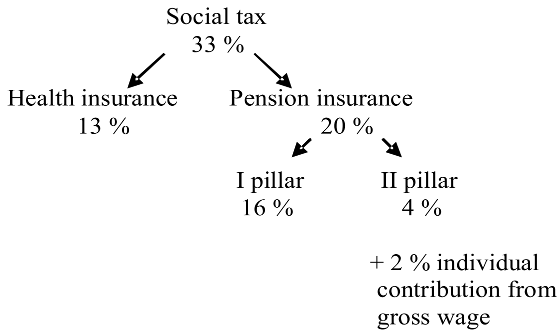
Source: Lüpsik, 2005

Figure 6. Distribution of social tax on wage for those not joined with II pillar



Source: authors

Figure 7. Distribution of social tax wage for those joined with II pillar



Source: authors

Table 6. Alcohol excise duty rates, EEK

Alcohol	**Unit**	**1.05.2004**	**1.01.2006**
Wine	Hectolitre	(≤ 6 %): 325	341
		(> 6 %): 1040	1040
Fermented beverage	Hectolitre	(≤ 6 %): 325	341
		(> 6 %): 650	1040
Beer	1% alcohol in hectolitre	55	61
Intermediate product	Hectolitre	1600	1764
Other alcohol	1% alcohol in hectolitre	152	160

* small beer producer (less than 3000 hectolitres per calendar year) can apply 50% reduced excise duty.

Source: Alcohol, Tobacco and Fuel Excise Duty Act

Table 7. Excise duty rates on tobacco products, EEK

Tobacco products (unit)	**01.07.2004**	**01.07.2005**
CIGARETTES:		
Specific rate (1000 cigarettes)	*240*	275
Ad valorem rate (% of the retail selling price)	25%	26%
CIGARS (1000 cigars)	2500	2500
CIGARILLOS (1000 cigarillos)		
SMOKING (and chewing) TOBACCO (1 kg)	240	280

Source: Alcohol, Tobacco and Fuel Excise Duty Act

Table 8. Excise rates on motor fuels in Estonia (as of 01.01.2005), EEK

Petrol (unleaded) 1000 l	**Leaded petrol, 1000 l**	**Aviation petrol, 1000 l**	**Gas oil used as propellant (*diislikütus*), 1000 l**	**Gas oil for specific purposes (*eriotstarbeline diislikütus*), 1000 l**	**LPG (*Vedelgaas*), 1000 kg**	**Kerosene (*Petrooleum*), 1000 l**
4500	6600	1120	3840	690	1570	4730

Source: Alcohol, Tobacco and Fuel Excise Duty Act

Table 9. The excise duty rates on heating fuels in Estonia from 1st of May 2005, EEK

Product	**Excise duty rate**
Light Fuel Oil	690
Heavy Fuel Oil	235 (per 1000 kg)
Kerosene *(petrooleum)*	4730
Shale oil fuel *(põlevkivikütteõli)*	235
Methane *(maagaas)*	Not taxed
Coal and coke *(kivisüsi ja koks)*	4.7EEK per gigajoule gross calorific value
Electricity	Not taxed

Source: Alcohol, Tobacco and Fuel Excise Duty Act

Table 10. Budget expenditures with respect to sectors, million EEK*

	2003 sum	2004 sum	2005 sum	% of budget
General government services	3 507.5	4 375.1	5 154.3	9,8%
State protection	2 508.7	2 351.0	2 415.9	4,6%
Public order and security	2 877.5	4 132.5	555.7	6,7%
Economy	4 562.8	6 848.9	8 096.0	15,4%
Environmental protection	1 061.1	1 468.0	1 984.1	3,8%
Housing	19.05	37.64	34.73	0,1%
Health care	5 814.4	6 406.9	7 254.8	13,8%
Free time, culture, religion	1 564.1	1 692.5	1 898.8	3,6%
Education	5 166.1	5 749.6	6 288.9	11,9%
Social protection	12 666.9	14 637.7	16 000.1	30,4%
Total	**39 747.9**	**47 699.9**	**52 683.2**	**100,0%**

* Based on COFOG system - Classification of the Functions of Government

Source: Ministry of Finance. 2005 State Budget Draft Act description *(Riigieelarve eelnõu seletuskiri 2005)*

Table 11. Social protection expenditures in 2003

Social protection expenditures	Expenditure, million EEK	%
Total expenditures	17107.98	
Social protection expenditures, total	16859.87	100
Sickness, healthcare	5368.98	31.8
Disabled benefit, unable to work benefit	1571.59	9.3
Old age benefit	7420.69	44.0
Survivors benefit	135.19	0.8
Family benefits	1681.68	10.0
Unemployment benefits	304.89	1.8
Housing benefits	103.57	0.6
Social exclusion	273.28	1.6
Administrative costs	248.11	

Source: Ministry of Social Affairs, 2006

Table 12. Expenditures on social benefits and number of benefit receivers

million EEK	1995	1999	2000	2001	2003	No of receivers in 2003	2004	No of receivers in 2004
Health insurance benefits TOTAL	**380.224**	**607.248**	**725.826**	**744.831**	**923.929**		**1 174.4**	
For illness or injury	271.396	409.737	488.071	488.378	604.217	382 685[1]	723.5	
For pregnancy or child-birth	46.263	113.8	132.286	146.226	204.727	11 241[1]	253.2	
For occupational accident	6.278	15.12	19.48	19.737	23.108	6 871[1]	20.4	
For nursing a sick family member	49.406	62.6	77.043	85.441	91.877	69 184[1]	104.9	
On ground of personal application	6.881	0	0	0	0	-	-	
Other benefits	0	5.991	8.946	5.049	0	-	-	
Family benefits TOTAL	**721.054**	**1146.188**	**1317.024**	**1317.179**	**1396.382**		**2106**	
Childbirth allowance	16.705	32.238	42.023	42.319	44.438	13 100	48.9	14 402
Maintenance allowance for a person on child care leave	70.749	196.923	0	0	0	-		-
Child care allowance (different)	0	0	352.204	353.389	365.929	58 800	293.5	48 543
Child allowance	554.532	728.662	711.816	696.511	729.983	293 880	1058.0	290 281
Single parent's child allowance	19.022	42.346	85.084	88.035	103.019	28 432	103.7	28540
Child's school allowance, once in a year	26.504	104.936	102.528	100.171	92.518	205 509	90.5	200 097
Foster care allowance	6.419	9.945	10.224	10.744	32.633	2 949	32	2 835
Big family support	-	-		14.0 (more than 4 children + 11.1 (lump sum for 4+ children families)	12.8 (more than 4 children	23 670	37.3 (more than 3 children)	68 061 (more than 3 children
Other child- and family allowances	27.123	52.788		0.9	0.6	110	0.8	151 + 2050 (reimbursement of study loan)
Parental benefit							441.3	9 968
Unemployment benefit TOTAL		**205**	**226.6**	**220.2**				
State unemployment benefit		120.3	119.8	132.7	81.1	47 400	55	39 300
Social tax from state budget for unemployed persons		78.7	100.7	80.2	16.2	N/A	9.5	
Re-education scholarship		6	6.1	7.3	7.2	N/A	5.4	

Unemployment insurance - unemployment insurance benefit - other benefits - social tax on unemployment benefit					 106.4 53.8 31.5	 10 033 6305	 129.1 65.4 38.3	 11 720 6862
Subsistence benefits TOTAL		**336.8**	**315.3**	**354.3**	**325.1**		**235**	
Main subsistence benefit		303.9	305.3	353.3	308.2	51 100[2]	216.8	33 200[2]
Additional subsistence benefit		32.9	10	1	16.9	35 400[2]	18.2	30 800[2]
Disabled people benefits TOTAL			**75.7**	**441.2**	**588.8**		**630.1**	
State Pensions TOTAL	**2865.6**	**5205.2**	**6473.7**	**6621.1**	**8154.2**	**377 136**	**9 199.3**	**377 343**
old age pension	2388.9	4303.5	5467.8	5704.2	7049	296 836	7 938.5	294 063
incapacity to work pension	340.5	664.2	663.3	578.4	794.6	51 339	931.6	55 480
survivors pension	107.7	185.8	229.4	206	102.8	11 960	122.1	11 610
Other pensions	28.5	51.7	113.2	132.5	207.8	17 001	207.1	16 187
Other benefits from state budget TOTAL	**34,75**	**61,8**	**46,5**	**46.4**	**46.6**		**50.6**	
Payout for additional gainful holidays**	16.6	35.7	17.8	13.2	13		14.4	44 026
Paid breaks for feeding the child	0.05	0.4	0.7	0.9	1.2	228	1	196
Burial benefit	18.1	25.7	28.7	32.3	32.4		35.2	1 800

[1] Number of applications (for one person there can be more application than one) (Source: Haigekassa 2005)

[2] Number of families receiving benefit

* Full application from 2001

**to parents of juveniles, disabled children and for child care leave

Source: ESA, Sotsiaalsektor arvudes 2004 and 2005. Ministry of Social Affairs

Table 13. Family benefit rates, multipliers and sum of benefit in Estonia

Benefit scheme	Benefit multiplier [sum of benefit]	Allowance period
Childbirth allowance:		
..childbirth allowance for the 1st child	25 [3750 EEK]	L
..childbirth allowance for each subsequent child	20 [3000 EEK	L
..childbirth allowance for multiple births	25 [3750 EEK]	L
Child care allowance for up to 3-year-old child	0,5 [600 EEK]	M
Child care allowance for each child 3-8 years of age in families with children up to 3 years of age	0,25 [300 EEK]	M
Child care allowance for each child 3-8 years of age in families with 3 and more children	0,25 [300 EEK]	M
Additional child care allowance; to < 1 year old	[100 EEK]	M
Child allowance for the 1st child	2 [300 EEK]	M
Child allowance for the 2nd child	2 [300 EEK]	M
Child allowance for the 3rd and each subsequent child	2 [300 EEK]	M
Single parent's child allowance (single parents)	2 [300 EEK]	M
Conscript's child allowance	5 [750 EEK	M
Childcare allowance for a family raising 3 or more children or raising triplets	If 3 children = 1; if 4-5 children= 2 [300 EEK]; if 6…children = 2,5 [375 EEK]; triplets 6 [900 EEK]	Q
Child's school allowance	3 [450 EEK]	A
Foster care allowance	6 [900 EEK]	M
Big family parent allowance	2 [2400 EEK]	M
Start in the independent life allowance for children of a children's home (single payment)	40 [6000 EEK]	L
Child allowance for adoption of a child	20 [3000 EEK]	L

Note: Amount of allowance calculated based on the following benefit rates: Child allowance rate: 150 EEK; Childcare allowance rate: 1200 EEK. Allowance period noted as follows: L = one lump sum, M = monthly, Q= quarterly, A = annually. See section of family benefits for detailed description of determining the benefit amounts.

Source: Lüpsik, 2005

Table 14. Local benefits for children and families in 2003

Benefit	*Share of municipalities giving the benefit, %*	*Average amount of benefit per receiver per year, EEK*	*Total amount of benefit in all municipalities, EEK*	*Number of receivers*
Birth benefit	94	1,710	33,201,279	13,350
School food	84	181	7,693,081	36,347
Support for buying spectacles	78	517	883,526	1,813
Crisis support	72	685	6,642,147	11,957

Christmas support	60	172	3,249,816	42,406
Medicine support	59	491	655,877	1,975
Schooling equipment benefit	56	378	2,707,234	8,727
Primary school graduate benefit	51	412	1,085,199	2,562
Disabled child benefit	49	3,790	1,679,651	799
Transport cost reimbursement	47	1,169	1,453,238	3,807
Secondary school graduate benefit	46	543	951,751	1,782
Large family support	42	936	3,228,356	4,869
Start school support	42	456	1,985,022	3,783
Reimbursement of social service	37	947	1,183,619	1,985
Reimbursement of clothing/footwear	37	518	273,436	2,654
Support for excellent pupils	32	677	808,998	1,980
Beginning of school benefit	23	482	1,458,378	3,568
Baby-package	21	429	2,900,968	4,404
Student housing benefit	18	4,155	1,971,204	1,278
Additional school food support	7	1,049	1,789,423	2,427
Baby support	4	962	1,104,601	1,038

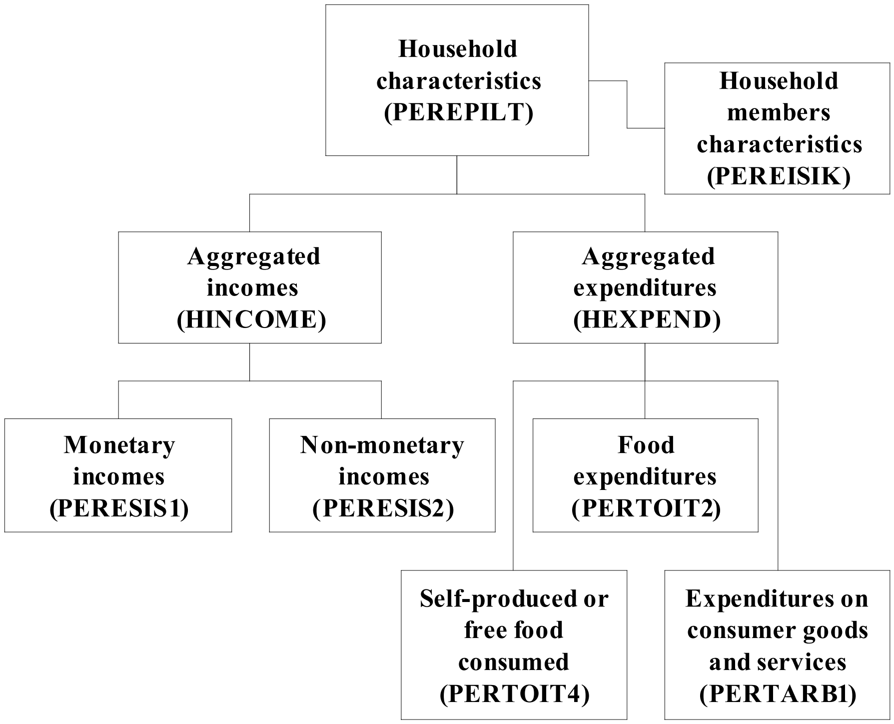
Source: Aidarov, A. Kohalikud laste- ja peretoetused Eestis 2003. aastal. Sotsiaaltöö nr 5/2005, pp 39-44, quoted from Ainsaar, M. Soo, K. Aidarov, A. Omavalitsuste toetus lastega peredele 2003-2004, TÜ sotsioloogia ja sotsiaalpoliitika osakond

Table 15. Local benefits in selected cities in Estonia

Tartu	Tallinn	Vormsi	Jõhvi	Võru
For children: - child benefit, - food support for less secured family children,	For children: - not depending on family income> birth support, "first time to school" support, birthday support; - depend on family income> subsistence benefit, camp support, medicine support etc	For children: - birth support, - school support; - Christmas support, - Support covering camp costs, - Food support for less ensured children	- Child birth benefit, - Support covering camp costs, - Food support for less ensured children,	For children: - child benefit, - food support for less secured family children,
- disabled persons allowance for modifying dwellings	- for disabled and elderly people – subsistence benefit, medicine support etc;	Jubilee support for elderly	- medicine support and benefit for buying glasses for elderly and disabled,	
- several additional social supports for example for crisis situation, heating support, water meter acquiring support etc)	- for homeless,	Funeral support	Crisis support, support for applying for documents for people with no social guarantee	Funeral support
	- for unemployed	Heating support	Heating support	
	- other benefits (funeral, food provision etc)	etc		

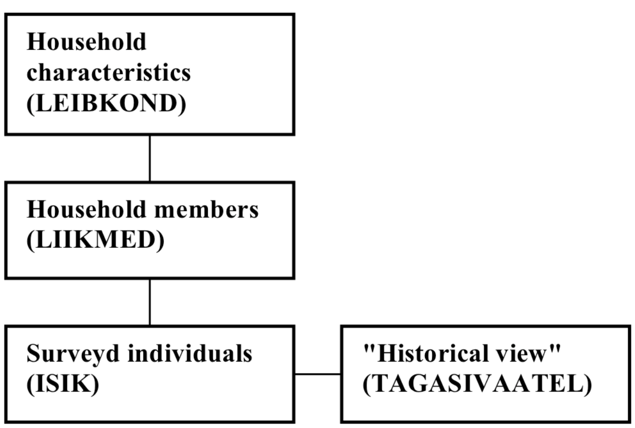
Source: authors, city web-sites.

Figure 8. The structure of the Estonian Household Budget Survey



Source: authors

Figure 9. The structure of the Estonian Social Survey



Source: authors

Table 16. Comparison of the available datasets

	HBS (since 1995)		ESS (since 2004)
	2003	2004	2004
Number of households (HH)	4615	4367	3993
Number of individuals (Ind)	12 532	11 784	8906 persons interviewed, 11834 members in total
Income/expenditures (HH)	3092	3233	Incomes: 3970
Income/expenditures (Ind)	8305	8805	Incomes: 7679
Total population of HH	566 075	564 701	558 350
Total population of individuals	1 345 340	1 340 458	1 340 144 (more detailed data available for 1 103 785 i.e 16 years and older);
Household data:	Region, HHID, date interviewed, HH disposable income		Region, HHID, date interviewed
Personal level data (HBS for everybody, ESS for 15+ year olds):	Individual ID, relationship to HH head, gender, marital status, education received and present, occupation, industry, employment status		
Expenditures	Ca 960 expenditure articles Taxes: Income tax, Social tax, Land tax, and other taxes		No expenditures. Taxes: all income-related taxes in one variable, land tax; payment to pension fund,
Incomes	In net values on individual level (generalised categories): Employment income, Self-employment income, Investment income, Property income, Maintenance income, Maternity income, Other income Benefits: Child benefit, Single parent benefit, Unemployment benefit, Unemployment re-education scholarship, Parental benefit, Old-age pension, Inability to work pension, Survivors pension, Scholarship from abroad, Pension from abroad, Child benefit from abroad Parental benefit from abroad, Child benefit 2 (child care + school support), Health benefit, Subsistence benefit		Individual level: Monetary gross and net and non-monetary gross income from labour, net and gross profit/loss from entrepreneurial activity, pension from private pension fund, unemployment-related benefit (gross and net), old age pension (net), survivors pension (net), sickness related benefits (net), unable to work benefits (net), study related benefits(gross), estimated value of own-provided goods On household level: net income before transfers, the gross and net income from renting real estate or land (net and gross), family or children related benefits, other social transfers, housing related benefits, regular income from other households, less than 16-years of age household members' net and gross income.

Source: authors

Table 17. Data availability and simulation possibilities of selected taxes and benefits

	HBS 2004		ESS 2004	
	Data (individual level)	**Simulation**	**Data (individual level)**	**Simulation**
Income tax	Yes, but frequently omitted	Yes, if to calculate the original net incomes to gross	Taxes on employment income are not separated	Yes
Social tax (employer's tax)	No			
Unemployment insurance payment				
Pension insurance contribution - mandatory - voluntary	No	Only mandatory possible to simulate if gross incomes known (partly)	Yes, total contribution sum, mandatory, voluntary not separated	Only mandatory (partly)
Property taxes	Yes (6 types)	No	On household level	No
Alimony paid	Yes	No	No	No
VAT	No	Yes, using expenditures	No	No
Excise duties	No		No	No
Environmental charges	No	Yes	No	No
Pensions received*	Yes: old-age, inability and survivor's pension	Partly, those receiving	Private pension fund, old age and survivor's	Partly, those receiving
Health insurance	Yes, sickness and maternity	No	2 variables: 1) sickness related; 2) unable to work related	No
Family benefits:			As one variable on household level	
- child allowance*	Yes	Yes		Yes
- childcare allowance	Yes	Yes (partly)		Yes (partly)
- additional child care allowance	No	Yes		Yes
- single parent's child allowance	Yes	No		No
- conscript's child benefit	No	Yes		Yes
- foster care allowance		No		No
- big family parent allowance	No	Yes		Yes
- childbirth allowance	No	Yes		Yes
- adoption allowance	No	No		No
- start in independent life allowance	No	No		No
- large family support	No	Yes		Yes
- school allowance	Yes	Yes (partly)		Yes (partly)
- parental benefit*	Yes	Partly, those receiving		No No
- alimony	yes	No		
Unemployment benefit	Yes, unemployment benefit and re-education scholarship	Partly, those receiving	As a common variable for unemployment related benefits	No
Disabled persons benefits	No	No	No	No
Subsistence benefit	Yes	Yes (using	No; on household	Not from

		expenditure data or average costs)	level housing related benefits	expenditures, because data not available
Local benefits	with „other" benefits	Partly - rules differ by municipality, lack of regional variable	No	Partly - rules differ by municipality, lack of regional variable
Other	*from abroad, includes local benefits	No	Study-related benefits as one variable; on household level	No

Source: authors, based on the data from HBS and ESS databases

Table 18. Comparison of benefit data in administrative and household budget survey, 2004

	Administrative data	**Aggregated survey data (HBS)**	**Ratio of survey data to admin. data**
	Total (million EEK)	Total (million EEK)	
Family benefits (child allowance, child care allowance)	1 546	1 403	90,8%
Unemployment benefits	227	177	77,9%
Subsistence benefits	235	120	
(approx. share of households receiving benefits)	3,17%	1,98%	51,1%

Source: Võrk, Paulus, 2005

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