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Labour supply incentives and income support systems in Estonia

Andres Võrk

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Labour supply incentives and income support systems in Estonia^a

by

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Abstract

In this paper we give an overview of labour supply incentives present in the Estonian income support system and how changes during the last ten years in the Estonian benefit system have influenced the incentives. As Estonia belongs to the group of EU countries where both taxes and social expenditures are relatively low, they generate high motivation to actively participate in the labour market, in general. Also the gradual introduction of contribution based and earnings related benefits, such as unemployment insurance benefits, parental benefits, a fully funded pension scheme together with earnings-related public pension scheme have all significantly increased rewards from employment and are often associated with increased labour supply as well as a reduction in undeclared work. The increase of the statutory retirement ages for men and women have increased average employment rates of the elderly, but also retirement through alternative schemes, most notably disability pensions and early retirement pensions. In a few cases, the Estonian benefit schemes generate disincentives to seek for a job or increase labour effort, affecting people both with low and high earnings. In case of unemployment benefits and early retirement benefits, even marginal income from labour leads to loss of all benefits, thus discouraging part time work. Also there are very high effective marginal tax rates when increasing work effort when receiving subsistence benefits and parental benefits, in certain cases. These disincentives become even more significant in this economic crisis when people are faced with long-term unemployment and it is vital that they are encouraged to return to the labour market.

Keywords: labour supply incentives, social security, Estonia

JEL-codes: H53, H55, J08, J21, J26

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1 Introduction

The level and structure of labour taxes and social benefits and their possible effects on labour supply incentives have been the subject of much attention in recent years in Estonia, despite the fact that the redistribution of income from market activities via taxes and benefits is one of the lowest in Europe, similar to other Baltic countries. It is well understood both by the political stakeholders and social partners that (although not the main determinant of recent swings in employment rates in Estonia) the income support system together with labour taxes influence activity rates for some socio-economic groups and benefit recipients. Especially now, when unemployment rates are reaching historic highs, after having declined for almost a decade, it is very important that the social security system along with active labour market policies support the smooth return to the labour market.

Estonia, like the other new member states from Central and Eastern Europe, especially the Baltic countries, are characterised by low overall tax burdens. Still they display relatively high taxes on labour, in contrast to low taxes on capital, and in all the Baltic countries, the tax wedge on labour is higher than the average of the EU-15 countries. On the other hand, also social expenditures, including expenditures on unemployment benefits, early retirement benefits or social assistance are low, which increase incentives to work.

In this paper we give an overview of the labour supply incentives present in the Estonian income support system and how the reforms in the Estonian benefit system have influenced incentives during the last ten years. In Estonia both taxes and social expenditures are relatively low generating high motivation to actively participate in the labour market, in general. Also the gradual introduction of contribution based benefits, such as unemployment insurance benefits, parental benefits, a fully funded pension scheme together with a contribution-related public pension component have all increased rewards from employment. Still, in a few cases the social benefits and their interplay with labour taxes may create disincentives to seek for a job or increase labour effort. For example, even marginal income from employment is prohibited in case a person receives unemployment benefits or early retirement benefits; there are also very high effective mar-

ginal tax rates when increasing work effort in case of subsistence benefits and parental benefits.

In this paper we first describe the general features of the Estonian tax and benefit system. Then we focus on three major reforms in the Estonian income support system: 1) pension reforms with the increase in the retirement age, introduction of early retirement pension, and a closer connection between previous earnings and future pensions, 2) the introduction of an unemployment insurance system, 3) the introduction of parental benefit. We also briefly analyse social assistance benefits.

There are not many empirical studies on the impact of the tax-benefit system on labour supply and retirement behaviour or transitions from inactivity or unemployment to employment in Estonia. Those available are mostly locally published research reports or academic theses by Estonian institutions. In the current paper, I rely much on my joint work with Reelika Leetmaa, Lauri Leppik, Alari Paulus, Marre Karu, and others.

The rest of the paper is outlined as follows. Section 2 describes the Estonian tax-benefit system, labour market structure, and main factors influencing the labour market. Section 3 gives an overview of recent major reforms, their background and the impact of these reforms. Section 4 concludes by summarizing previous analyses and discussing the most recent changes in the tax and benefit policy as a reaction of the current economic crisis.

2 Background

2.1 Size of the public sector and social policy

After regaining its independence in 1991, Estonian governments, similar to other Baltic states, focused on macroeconomic stabilisation, reintegration in the European economy and fighting increasing poverty. The main components of the policy were 1) liberalization of prices and gradual elimination of all state subsidies; 2) privatization of state-owned enterprises; 3) introduction of a separate currency by means of a currency board system; 4) maintaining a very conservative fiscal policy; 5) implementing a liberal foreign trade regime. (Paas and Eamets 2007)

Rapid changes in the structure of the economy and the labour market, with insufficient tax revenues to support the social security system, resulted in high unemployment and poverty. Like other Soviet economies, Estonia started with almost full-employment (or hidden unemployment in state enterprises). Rising unemployment created the need for an unemployment protection system that had to be built from scratch.

Estonian opted, from the very beginning of the transition period, for a liberal social policy with relatively low taxes and social security expenditures and moderate levels of employment protection (about OECD average). Also the impact of trade unions has been very weak. With a tax burden around 30–33% of GDP and social expenditures around 12–13% of GDP (see *Table 1*), Estonia is among the EU countries with the lowest redistribution via taxes and benefits.

Table 1 General government revenues and expenditures, % of GDP

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Total general government expenditure	36.5	35.1	35.9	34.9	34.1	34.0	34.2	35.5	40.9
Total general government revenue	36.2	35	36.1	36.6	35.7	35.5	37.1	38.2	37.9
Surplus / Deficit*	-0.2	-0.1	0.3	1.7	1.7	1.5	2.9	2.7	-3.0
Tax burden	31.3	30.5	31.1	30.9	30.7	30.9	31.3	33.1	32.2
Government consolidated gross debt	5.2	4.8	5.7	5.6	5.0	4.5	4.3	3.5	4.8
General government total expenditure on social protection and health**	15.1	14.3	14.2	14.0	14.4	14.0	13.9	14.3	
Social protection expenditure (ESSPROS)	14.0	13.1	12.7	12.6	13.0	12.7	12.4		

Source: Eurostat (on-line database), accessed 17.06.2009; Piglia, A. "Population and social conditions." Statistics in Focus 40/2009. Eurostat. http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-SF-09-040/EN/KS-SF-09-040-EN.PDF

Note: * Surplus is not exactly the difference between revenues and expenditures due to rounding;
** according to COFOG classification categories 07 and 10.

During the 1990s, the social security system was initially oriented to flat transfers, such as flat rate benefits to families with children, and flat unemployment assistance benefits; also, old-age pensions were mostly flat rate. Only temporary sickness benefits in case of illness or pregnancy were related, and still are, to previous earnings. There were also means tested social assistance benefits which were meant to protect against severe poverty, and they have to a large extent also remained unchanged.

Since the beginning of this decade, however, several contribution-based insurance schemes were introduced. First in the state pensions system (so-called first pillar), pensions started to depend more on previous contributions since 2000 and an additional

compulsory (with a voluntary transition period) fully funded pension scheme was introduced in 2002. In 2002 also contributions to the newly founded unemployment insurance system started, and in 2003 the first benefits were paid out. In 2004, a new and very generous parental benefit scheme was introduced where benefits depended on previous earnings.

All these recent reforms were designed to provide insurance during periods of inactivity or unemployment, on the one hand, and also promote employment via entitlement effect. We discuss the impact of these reforms in more detail in Section 3.

Although the level of social expenditure as a share in GDP is considerably lower in Estonia than in the EU (12.4% in Estonia vs 26.9% in the EU27 in 2006) the main structure of the public expenditure is similar to other countries (see *Figure 1*), with pension expenditure taking the largest share (45.2%), followed by expenditure on health and sickness (31.2%). Estonia spends relatively more on families and children and very little on unemployment, both on active and passive labour market policy measures.

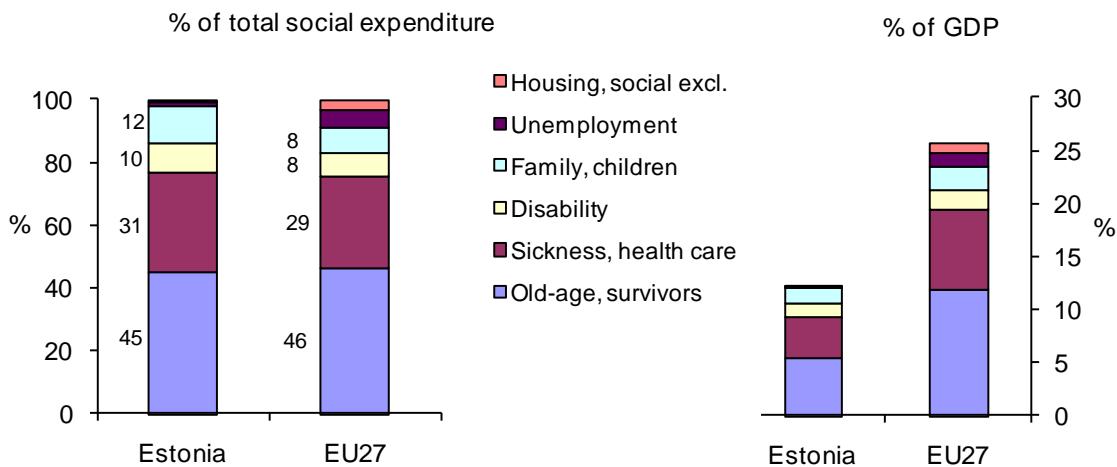


Figure 1 Structure of social expenditure in Estonia and the European Union in 2006, % of total social expenditure and GDP

Source. Piglia, A. "Population and social conditions." Statistics in Focus 40/2009. Eurostat. http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-SF-09-040/EN/KS-SF-09-040-EN.PDF

In Estonia, workers' temporary or permanent withdrawal from the labour force is influenced by the following social insurance components:

- 1) old-age pension and its various forms, including early-retirement pension and deferred old-age pension; special pensions and pensions under favourable conditions;
- 2) incapacity for work pension (disability pension);
- 3) unemployment insurance benefits (contribution based) and unemployment allowance (flat rate); redundancy benefits;
- 4) subsistence benefits (means tested social assistance benefits);
- 5) sickness benefits;
- 6) maternity and parental benefits.

In 2007, the official retirement age is 63 for men and 60 for women. The retirement age for women is growing gradually and will catch up with that of men in 2016. The qualification period for old-age pension is 15 years of contributions of social tax. Early retirement is possible three years before the normal retirement age, but there are various occupational pensions that allow retiring even earlier.

The use of different old-age pensions and incapacity pensions has led to the situation where a large number of people receive a pension before the official retirement age. For example, in the beginning of 2007, about 30% of men aged 60 (i.e. 3 years before the official retirement age) received various types of old-age pensions, and 20% received an incapacity pension, which means that half of men of this age received a pension. Among 57 year-old women (three years before retirement age), 20% received various types of old-age pensions and 20% received an incapacity pension, totalling at 40%.

The impact on unemployment insurance benefits and unemployment assistance benefits on labour supply are likely to be small, because their duration is short (maximum one year) and the replacement rates have typically been low. Also subsistence benefits have little impact, because of their low level. Further there are effectively no special benefits for the unemployed addressed to the elderly, except slightly longer unemployment assistance benefits right before the retirement age.

The impact of sickness benefits is arguably also small, because their duration is relatively short in Estonia, with maximum 182 days.

Table 2 Share of people receiving various social benefits, % of age groups, 2007

	16-24	25-54	55-64
Unemployment insurance benefits	0.0%	0.3%	0.4%
Unemployment assistance benefits	0.3%	0.5%	0.6%
Subsistence benefits	2.1%	1.3%	1.3%
Old-age pensions	0.0%	0.4%	43.9%
Disability pensions	2.8%	7.2%	13.7%
National pensions	1.5%	0.4%	0.5%
Sickness benefits	2.4%	2.9%	2.5%

Notes: Pensions - Estonian National Social Insurance Board (Sotsiaalkindlustusamet), <http://www.ensib.ee/eelarve/pens2006lisadega.xls>, pensioners as 1 January 2007. Old-age pensions include also various other schemes (early retirement pensions, anticipated pensions, pensions under favourable condition, deferred pensions)

Unemployment insurance benefits – Statistics Estonia on-line database, accessed 16.02.2009 – benefit recipients in January 2007.

Unemployment allowances – Estonian Labour Market Board – benefit recipients in 31 January 2007 allocated into the age groups using the same proportions that of the all registered unemployed in January 2007 <http://www2.-sm.ee/tta/failid/kuuaruanne%20%28jaan%202007%29.xls>. Note: age groups are 16-24, 25-49, 50 - pension age

Subsistence benefits – Ministry of Social Affairs - <http://www.piksel.ee/sveeb/index.php> - total number of persons in the families who received subsistence benefits in the first quarter of 2007. Proportions of age groups are determined using the age structure in the Household Budget Survey 2007 data.

Sickness benefits – Estonian National Health Insurance Fund, 2008 data, own calculations

Population – Eurostat on-line database, accessed 05.05.2008 – at the beginning of 2007

2.2 Labour market developments

During the last twenty years, the main factors influencing the Estonian labour market are large macroeconomic shocks, both positive and negative. As is typical for a former Soviet economy, Estonia started with very high employment rates, 82% for men and 71% for women in the age group 15-69 before the economic transition in 1989, and virtually no unemployment (see *Figure 2*). The beginning of the transition, together with the privatisation and restructuring of the economy, involving a declining share of agriculture, yielded a decline in employment in the beginning of 1990s. It stabilised towards the end of 1990s, but then the Russian financial crises in 1999 hit Estonia and employment declined even further. In 2000, the employment rate for men was 62% and 54% for women. Although the economy started to grow again already in 2000, it took a while before employment rates increased again. Simultaneously unemployment rates increased rapidly, peaking in 2000 at 14.6% for men and 12.7% for women.

Since the beginning of this decade, Estonia has experienced rapid demand-driven economic growth. In 2000-2007 average GDP growth rate was 8.6%, with strong em-

ployment growth and decline in unemployment. Unemployment fell to 4.8% in 2007. Wages, pensions and some other social benefits increased. Although the price level also rose, the real purchasing power of households increased considerably.

The first principle for social policy and social inclusion by the Estonian governments has always been that employment is the best protection against poverty and exclusion. Partly it is self-evident, because Estonian economic policy is to keep tax levels low and hence there is not much to redistribute in the form of benefits. As a consequence, the poverty rate was high when unemployment was high, and vice versa (see *Table 3*).

The boom period of the Estonian economy ended dramatically in 2008, when the real estate bubble burst, bank credit from Scandinavian banks was suspended and domestic consumption dropped, and also main export markets suffered from the global downturn. To some extent the situation will be similar to the beginning of 2000, when unemployment rates were high and a large share of people lived in absolute poverty. During recent years the social security system has become more generous, mainly because of the introduction of the unemployment insurance (UI) system. The UI system is still likely to have only small effects, as only half of the unemployed are eligible for insurance benefits and their duration is short (9 months in 2009). Meanwhile many households have heavy financial burdens, both mortgage backed housing loans and short-term consumer credits. This financial strain was not present in the crisis in the beginning of 2000. This strain puts considerable constraints on households' budgets and may even lead to loss of homes. As a reaction, the government has already transferred to local municipalities additional funds to pay out subsistence benefits, also policy options are discussed on the possible intervention into the housing market, but no real decision has been made.

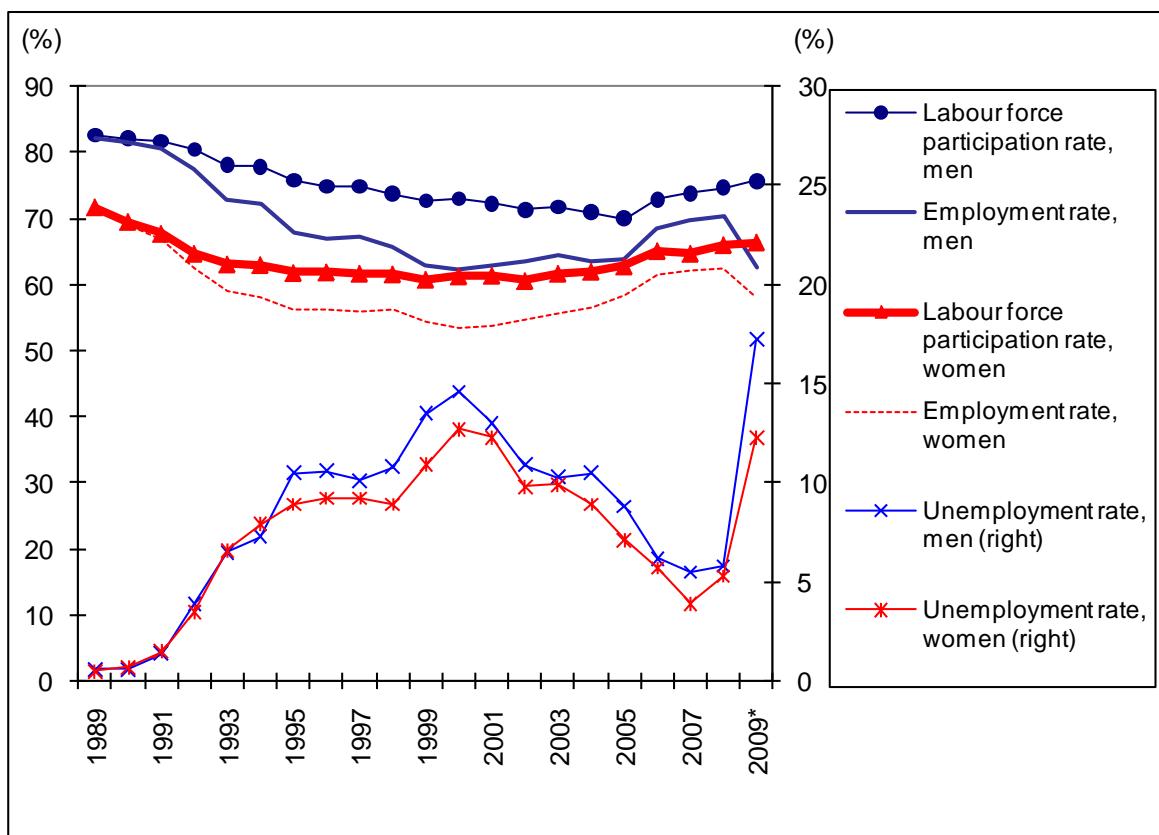


Figure 2 Labour force participation rates, employment rates and unemployment rates for men and women in Estonia in 1989-2009, age group 15-69.

Source. Statistics Estonia, on-line database

Note: 2009 data are for the third quarter

Table 3 Share of population below absolute poverty line

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Total population	32.8	30.7	28.9	28.3	25.0	19.6	17.0	16.1	13.2	8.3
Children aged 0-15	40.4	44.1	39.1	36.6	33.7	26.7	25.3	20.3	16.8	9.4

Note: Change in methodology in 2004 in absolute poverty.

Sources: Ministry of Social Affairs “Sotsiaalvaldkonna arengud 2000-2006”, Sotsiaalministeeriumi toimetised nr 2/2008, table 17; E-M. Tiit (2005) “Elatusmiinimumi ja vaesuspiiride hindamise metoodika ning sotsiaalseid indikaatorite leidmisel kasutatavate tarbimiskaalude kaasajastamine”, report to Ministry of Social Affairs, September 2005, [http://213.184.49.171/est/HtmlPages/ELMtarbimiskaaludETveebi/\\$file/ELM%20tarbimiskaaludETveebi.doc](http://213.184.49.171/est/HtmlPages/ELMtarbimiskaaludETveebi/$file/ELM%20tarbimiskaaludETveebi.doc), table 19, referred to Statistics Estonia.

During the period 2000–07 activity and employment rates increased both for young and old age cohorts and for males and females. The employment rate for 15–64 year-olds increased from 60.7% in 2000 to 69.5% in 2008, which exceeded the EU 15 aver-

age of 67.3% and was reaching the EU employment target for 2010 of 70% (see *Figure 3*). But in 2009 the employment rates declined again.

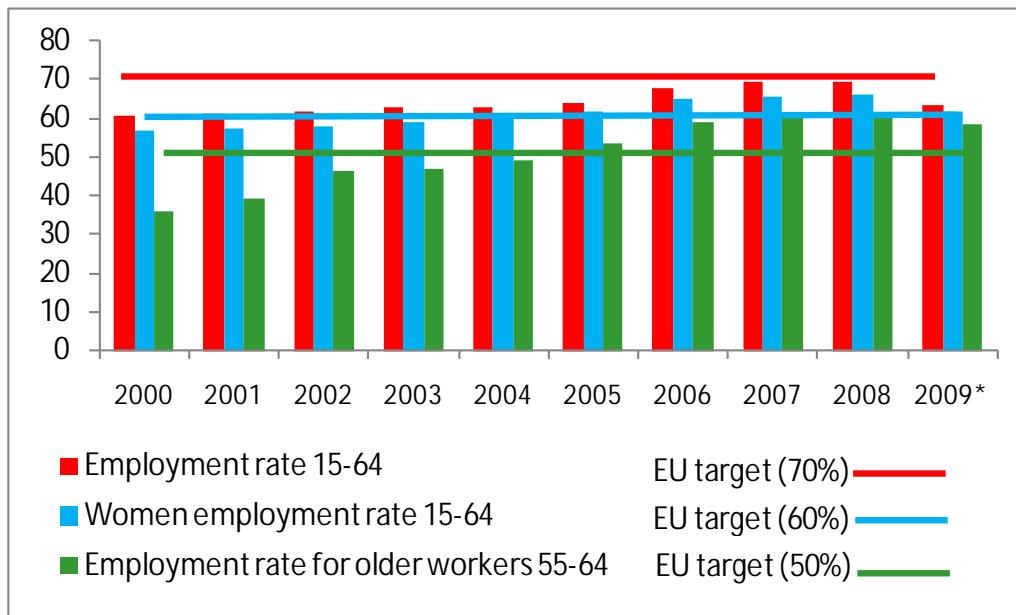


Figure 3 Progress towards EU employment targets in Estonia

Source. Statistics Estonia, on-line database

Note: 2009 data are for the third quarter

Older workers experienced the strongest employment growth. The employment rate for 55-64 years old increased from 46.3% to 60% and was especially strong for women in that age group (by 21.1 percentage points to 60.5%). The main reasons behind the relatively high employment of older workers in Estonia include the increasing retirement age and incentives in pension system, which support working in retirement ages. (This will be discussed in more detail in Section 3). Compared to the EU averages, the employment rates of older workers are much higher in Estonia and have exceeded the EU employment target for 55–64 year-olds since 2002. The current economic crisis will also, of course, have an impact on the older workforce.

Also the female employment rate increased steadily in 2000-2008 and reached the EU objective of 60% in 2005. However, compared to some other EU countries, specifically Scandinavian countries, where the female employment rates are above 70%, there is a good potential for increasing the female employment in Estonia. A potential source for that could be increasing part-time employment among females as in 2007 only

12.1% of females worked part-time in Estonia as compared to the 32.6% in the EU25 and 36.7% in the EU15. This might be the result of low wages, which make it unprofitable to take up part-time employment. The gender wage gap in Estonia is one of the highest in EU (25% in 2005, 30% in 2007)^c. Another reason could be high child care costs, which lead to the inactivity trap. Still, the main reason why females work part-time in Estonia is the inability to find full-time job. But, of course, the development of childcare facilities and flexible work forms, which allow combining work and family obligations, could contribute to increasing female employment.

The motivation behind some of the recent reforms has been the ageing population. This problem has been approached by recent governments from different angles. First, the reforms in the pension system since mid 1990s (such as, the increase in the pension age and the introduction of the funded component) were supposed to tackle this issue. Second, within the family policy area, the focus of the benefits has dramatically shifted towards rewarding births, and fully compensating the withdrawal from the labour market for (by now) 1.5 years.

Although the birth rates have started to increase in recent years, current demographic predictions show that Estonian population will decline and will be older in 2060. According to the population projections by Eurostat^d, the population will decrease (without possible migration flows) from 1.34 in 2008 to 1.27 million by 2030, and further to 1.13 million by 2060.

Changes will occur also to the age structure of the population. While, in 2008, the share of persons in working age (15-64) is 68.0%, by 2030 it is projected to be 63.2% and by 2060 55.3%. The share of people aged 65+ will increase from 17.2% in 2008 to 21.7% by 2030, and further to 30.7% by 2060. Of course, these kind of long-term predictions rely on assumptions on mortality patterns and fertility behaviour, which both have shown considerably movements during last 20 years in Estonia. Still they indicate that in order to alleviate the impact of demographic changes on the labour market and

^c Eurostat online statistics database. The gender pay gap is unadjusted for differences in male and female characteristics.

^d Eurostat online statistics database, Population projections 2008-2060.

economy, high employment rates are of crucial importance. (See also DG ECFIN and EPC Ageing Working Group (2009))

3 Recent reforms of the Estonian tax-benefit system and their impact on labour supply incentives

In this section we discuss three major reforms in the Estonian income support system: 1) pension reforms with the increase in the retirement age, the introduction of early retirement pension, and the closer relationship between previous earnings and future pensions, 2) the introduction of the unemployment insurance system and its changes during 2009, 3) the introduction of the parental benefit. We briefly also analyse social assistance benefits.

3.1 Pension reforms

3.1.1 Overview of the main reforms^e

The Estonian pension system has developed in the course of the last 20 years. Radical changes of the pension system were undertaken immediately after the breakdown of the Soviet Union. According to Leppik (2004), there was a turbulent period in 1990–92, when the financing and benefit sides of the Estonian pension system were separated from the Soviet pension system. This period was followed by a period of relative stability with a transitional pension arrangement. The second wave of transformation took place in 1998-2002, when the new three-pillar pension system was introduced. The reforms have been influenced by objective factors, such as the recession after the regain of independence, a declining employment rate, the ageing population, and subjective factors, such as, radical economic reforms with far-reaching privatization, conservative fiscal policy with the currency board system, relatively weak formulation of social protection rights in the Constitution, and foreign influences (EU, World Bank, IMF, Council of Europe) (Leppik 2004).

^e This section currently relies much on the overviews by Leppik (2004), Leppik and Võrk (2006), Leetmaa, Leppik, and Liimal (2004), and Leetmaa, Võrk, and Kallaste (2004)

Since 2002, the Estonian old-age pension system consists of three pillars: 1) mandatory state pension insurance, 2) mandatory funded pension, 3) voluntary funded pension.

The first pillar is a state-managed compulsory pension scheme, operating on a pay-as-you-go principle, financed by an employer-paid social tax, and offering earnings-related pension benefits. The source of revenue is the pension insurance share of the social tax (20% for people who have not joined the second pillar, 16% for the ones who have joined). The objective of the first pillar is to guarantee a basic level of income to all pensioners.

The amount of the first pillar pension consists on three components: base amount (equal amount to everybody); insurance component (depends on the social tax paid for the person and calculated since 1999); and the component calculated on the basis of years of pensionable service (depends mainly on the length of employment, calculated until 1998).

$$\begin{aligned} \text{Pension} &= \text{base amount} \\ &+ \text{insurance component (since 1999)} + \text{pensionable service component (until 1998)} \end{aligned}$$

The amount of the pensionable service component equals the number of years of pensionable service of an insured person multiplied by the so-called value of a year of pensionable service. The insurance component links the acquisition of new pension rights to social taxes paid on behalf of the person. It introduces an insurance element in the pension formula and counts pension insurance periods on the basis of registered social tax payments. This is a German-type point system, where pension rights in the state pension insurance are valued on the basis of social tax payments weighted against the average social tax. (Leppik (2004))

Payable pensions are increased, and the value of the insurance component and pensionable service component changed by way of indexation. The index depends on the consumer price index (CPI) and the increase of social tax revenues, but additional ad hoc changes in pensions have been common.

The statutory pension age has been increased. The pension age has increased since 1992, when it was 55 for women and 60 for men. The main rules for the state pension

insurance were legislated in 1998, including gradual equalisation of pension ages for men and women at the level of 63. Men reached the target age in 2001, while the pension age of women will reach 63 by 2016.

Since 1996 all working pensioners are entitled to receive a full pension while working. Thus, it means that the grant of pension and withdrawal from the labour force are not conditionally linked in Estonia, in general. Moreover, if a person already receives an old-age pension and still pays social tax at the same time, then since 1999 this will increase their insurance component, which in turn increases the amount of old-age pension to be received in the following years. However, while working, one is not entitled to receive early-retirement pension, the national pension (minimum guaranteed pension) or the survivor's pension. Also in case of some occupational pensions, one is not allowed to continue working in the same occupation.

Since 1998 it is possible to use early retirement up to 3 years before pension age with a reduction of pension by 0.4% per month of early retirement. This was introduced to alleviate the consequences of the increase in the statutory pension age and increasing unemployment.

In 2002, the opportunity to postpone retirement was introduced. In case of deferred old-age pension the pension calculated on the basis of the pension formula is increased by 0.9% per each month worked after the official retirement age.

Until 2002, state pensions constituted non-taxable income. Since then, pensions are taxable, but a higher non-taxable allowance applies on top of the general non-taxable income. Initially, the overwhelming majority of state pensions remained below this threshold, hence they were not taxed. By 2009 a large fraction of pensions is already taxed, though the average tax rate is small. So the impact of taxation is not large.

Another aspect of the pension system adjustment has been introduction of pre-funded supplementary pension schemes. The new Estonia pension system represents a public-private mix, where the basic protection is provided by the state, while supplementary pensions (2nd and 3rd pillar) are administered by the private sector.

The second pillar is a mandatory funded pension determined by contributions. Contributions from employers (4% of social tax) and employees (an additional 2%) go directly to personal pension accounts. In principle, the second pillar is an individual sav-

ings scheme where the amount of pension depends on the total amount of contributions made and the rate of return of the pension fund. The second pillar administration is shared by the state and private structures.

The second pillar can be joined since 2002. Payments out of the pillar will be made starting from 2009. The second pillar is mandatory to everybody born in 1983 and later. People who were born before 1983 can join the pillar on a voluntary basis until 2010 depending on the year of birth.

Estonia has been the only country in Central and Eastern Europe to increase the total contribution rate when introducing the second pillar, using both so-called top-up and curve-out methods. Other CEECs had used only the curve-out method, implementing the reform by dividing the former first pillar contribution rate between the first and the new second pillar. Whereas in some CEECs (e.g. Poland and Hungary) the second pillar was introduced with an implicit agenda to downsize the compulsory pension system and reduce pension expenditures, the second pillar extended the compulsory system in the Estonian case (Leppik and Võrk 2006).

The third pillar is a private voluntary supplementary pension determined by contributions and based on the principle of funding. Its revenue comes from contributions and its main aim is to offer additional saving. It is attractive as it offers tax incentives: contributions are allowed to be deducted from taxable income up to the limit of 15% of annual income. Benefits paid out as life-long annuities are also non-taxable, while redemption of units of pension funds is taxable at a lower rate of 10%, instead of the normal income tax rate.

The impact of the second and third pillars on labour supply incentives is similar to private saving. The savings accumulated through the pillars reduce the need to work in retirement age but create, at the same time, additional motivation to work and save before retiring. Payments from the second pillar pension will only be made to persons who have reached the official retirement age. This means that such a system itself does not promote early-retirement or earlier withdrawal from the labour force.

As the second and the third pension pillars have only just started to function, the actual income of today's pensioners, and of those retiring in the near future depend greatly on the state pension from the first pillar. Because of their short-term existence it is not

possible to empirically estimate the impact of the second and third pillar on the employment of older people. Therefore, the following section focuses on the impact of the mandatory state pension insurance on labour force participation.

State pension insurance scheme (the first pillar) contains also minimum pension guarantees – a fixed minimum income level (at the rate of the national pension) is guaranteed to those older people whose pensionable service period is very short or whose earnings have been very low throughout their careers. The minimum guarantee system is a two-tier system: first, a national pension based on age – a 63 year-old who has lived in Estonia for at least 5 years prior to applying for pension receives the full national pension; second, a person who has reached the retirement age and has contributed for 15 years in Estonia receives the full national pension.

Withdrawal from the labour force is also influenced by the fact that many people have the special rights to retire before the general retirement age in Estonia. According to the National Pension Insurance Act, a parent of at least three children or a parent of a disabled child receive an old-age pension up to five years before the official retirement age. In addition, there are special old-age pension schemes in Estonia for people who have worked in difficult conditions or in conditions harmful to health, and for representatives of certain professions, where it is assumed that their professional work ability reduces with age or disappears altogether, and prevents them from continuing in the same field or position. There is, however, one prerequisite for receiving the pension – such persons should not continue working in harmful or difficult conditions. They have to leave the labour market or find a new job. (Leetmaa, Leppik, Liimal 2004)

According to the Superannuated Pension Act the representatives of certain professions are also entitled to retire up to 10 years earlier depending on the length of service in the given field. In order to receive the pension, the person has to stop working in the field that entitled him or her to the right to receive superannuated pension. Such special laws are also in force for various civil servants, providing them with early retirement options. Police officers, for example, have a right to early retirement at the age of 50. In this case special pensions are also paid to persons who work, given that they do not continue on the same occupation or job. (Leetmaa, Leppik, Liimal 2004)

The described pensions are in essence early retirement pensions, which allow people to withdraw from the labour market before the general retirement age. Unlike formal early-retirement pension, the described pensions include also other benefits, such as more generous calculation of pension qualification period or linking the amount of pension to an earlier wage. All these benefits may motivate persons to change profession or a job, or withdraw from the labour market. Even though the rules for pension under favourable conditions do not force anybody to leave the labour market, there is still an evident risk of inactivity in them: The pension is granted only if the person has stopped working in the industry, profession or position that entitled him or her to this pension. (Leetmaa, Leppik, Liimal 2004)

Also there have been several changes in the disability pension system (töövõimetus-pension *incapacity for work pension*). The main change was in 2000; since then incapacity pensions may be granted only to people of working age. For a more detailed description on the legislative changes, see Leppik (2002).

3.1.2 Impact of the reforms on employment and labour supply^f

Although there are no formal sophisticated econometric studies, statistical analyses of labour force survey data and pension registry microdata in various descriptive studies (Uudeküll, Võrk (2004), Tiit, Leppik, Võrk, Leetmaa (2004), Leetmaa, Võrk, Kallaste (2004)) suggest two main general effects:

- 1) an increase of the average employment rate of elderly,
- 2) a use of alternative pathways to retire – especially early retirement benefits and disability benefits.

This seemingly contradicting result is possible as there are two types of pensioners. One larger part are those pensioners who are capable of working and their employment rates have increased due to the pressure from the increased pension age and improvement of incentives generated by the possibility to receive pensions and labour earnings simultaneously. After the reforms, the average employment rate of the elderly is the highest among the Eastern European countries. On the other hand, for those who were already unemployed or inactive and whose health capital was low or skills outdated, the

preferred option was to use other pathways to retire after increase of the statutory pension age.

The employment rates of the elderly have risen considerably since the increase of the statutory pension age (see *Figure 4*). For men, the employment rate in the age group 60-64 rose from 36% in 1995 to 51% in 2002. The nominal retirement age increased from 61 to 63 years during this period. Then the increase in the retirement age stopped and consequently employment rates did not change so much.

For women the increase is even more remarkable. For the age group 55-59 the employment rate rose from 42% in 1995 to 62% in 2002 and 75% in 2008, parallel to the increase in their retirement age.

A comparison of these changes in the employment rates with changes in the employment rates in the younger age group that is not directly affected by the pension age (age group 55-59 for men and 50-54 for women) suggests that the increase in retirement age has raised employment rates about 20% for men and about 25% for women in the affected age groups.

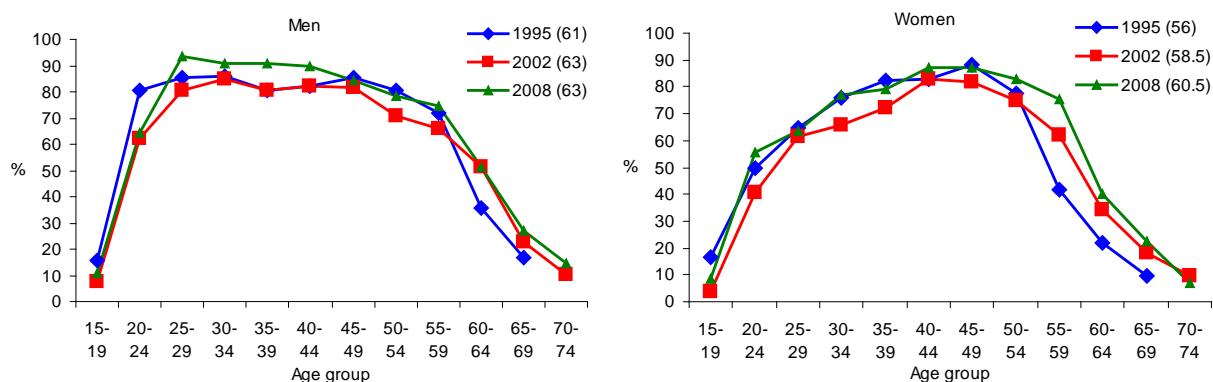


Figure 4 Employment rates by age and gender 1995, 2002 and 2008 (statutory pension ages in the parentheses)

Source: Statistics Estonia, Labour Force Survey data

For those elderly who have not found a suitable job, the increase in the statutory pension age means that there are incentives to use other pathways to retirement. And this is

^f This section currently relies much on the overview by Leetmaa, Võrk, Kallaste (2004)

reflected in increasing rates of disability pensioners and early retirement pensioners. *Figure 5* shows that the share of disability pensioners has increased in the age group 60-62 for males from 18% in 2000 to 22% in 2009, and in age group 55-59 from 17% to 21%. For females the increase is even more rapid. In the age group 55-59, the share of disability pensioners increased from 10% in 2000 to 21% in 2009.

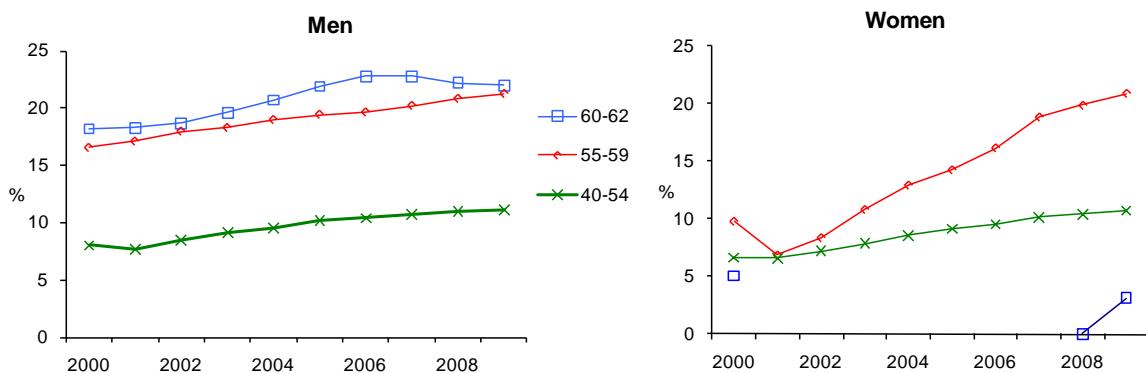


Figure 5 Share of disability pensioners in different age groups 2000-2009

Source: Statistics Estonia, referred to Estonian National Social Insurance Board data; own calculations

The share of old-age pensioners who use formal early retirement pension has declined slightly. In the year of introduction (2000), 24% of all new pensioners received early retirement pension. In recent years it has been around 17-19%. Uudeküll and Võrk (2004) show that after introduction of early retirement pensions in 2000, the majority of people (about 60% in 2004) who started to use them had been unemployed for about two years before retiring and most of them start to receive the pensions immediately when the option arises for them. It means that early retirement pensions have not had a great negative influence on the employment rates of elderly. These benefits have acted more as a substitute to low unemployment and subsistence benefits of those already unemployed or inactive rather than a motivation to directly withdraw from employment. Võrk and Habicht (2001) come to the same conclusion regarding the utilisation of invalidity pensions at the second half of 1990s.

The share of old-age pensioners who use other early retirement options such as pensions under favourable conditions or special occupational pensions have been around

20-25% of all old-age pensions. They usually retire 3-5 years before the normal retirement age (Tiit et al., 2004).

In conclusion, the analysis of the Estonian old-age pension system and recent reforms shows that there are several opportunities to withdraw from the labour market and they are widely used. At the same time, the system has created opportunities and also financial incentives for continuing working, which has resulted in a relatively high employment rate for older workers in comparison with other European countries. Thus, on the one hand, many people in Estonia retire at the first chance and by doing so, often eliminate their future possibility to receive a pension and work simultaneously (in case of early-retirement pension), but on the other hand, the increasing employment rate of the recent years indicates that labour market opportunities for retired people have improved (on average) during this period.

3.2 Unemployment protection reforms

3.2.1 Overview of the main reforms

Like other former Soviet economies, Estonia started with almost full-employment (or hidden unemployment in state enterprises). Rising unemployment created the need for an unemployment protection system that had to built from scratch. Income protection of the unemployed contains several components:

- a) flat rate unemployment assistance benefits,
- b) unemployment insurance benefits, related to previous earnings – since 2003,
- c) severance payments paid by employers,
- d) means tested subsistence benefits.

Until 2002 only low flat rate unemployment assistance benefits (with a net replacement rate of less than 10% of the national average wage or about 30% of the minimum wage in 2002) and low means-tested subsistence benefits (with a net replacement rate of about 20% of the national average wage or about 60% of the minimum wage in 2002) were available for the unemployed. Low benefits were the result of the overall fiscal constraints, but were also supposed to facilitate labour supply. Partly the low benefits were compensated by high redundancy benefits levied on employers, but these were

available only in the case of involuntary determination of employment relationship and not for those leaving their job voluntarily.

Unemployment insurance benefits were paid out for the first time in 2003. The benefits depend on previous earnings. The gross replacement rate is 50% of the previous wage during the first 100 days of the unemployment spell and 40% in the following period. The net replacement rate of average unemployment insurance benefit to the average wage has been around 30% in 2003–07, which is about three times higher than it was before the introduction of the system

In Estonia, unemployment insurance benefits are paid for 180–360 days depending on the length of the contribution period, and unemployment assistance benefits for up to 270 days. If a person has already received unemployment insurance benefits before, then he would be entitled to the unemployment assistance benefits until the total of 270 days are reached.

Older people's withdrawal from the labour force is to some extent encouraged with the right to continue to receive unemployment assistance benefits in case one has not found a job by 180 calendar days before the retirement age. Thus, it is possible to receive unemployment assistance benefits for a total of 450 days. Older workers' motivation to seek employment can be further decreased by the fact that the unemployed person who has got less than five years before the retirement age can refuse employment training without losing the right to receive the benefit. For an ordinary unemployed person the benefit payment could be terminated in case the person has refused twice to participate in the employment training. It can be assumed, however, that these measures have little impact on older workers' labour supply, because unemployment assistance benefits are low.

Employees are also entitled to severance payments if the reason for dismissal was the liquidation of enterprise, bankruptcy of the employer, lay-off or age. In the private sector, the amount of the severance payments depends on the previous work record and ranges from 2-4 months' salary. If the contract was terminated because the employee was not suitable due to professional skills or health, the severance payment is 1 month's salary. In the public sector, the amounts of the severance payments can be much higher than in the private sector. The amount of the severance payment in the public sector de-

pends also on the length of previous employment and ranges from 2 month's salary up to 12 month's salary.

3.2.2 Impact of the reforms on employment and labour supply

There are many possible effects of the introduction of unemployment insurance system. First, unemployment insurance benefits should increase unemployment duration. Although exact quantitative estimates on the effects of the increase in unemployment insurance benefits on unemployment duration are missing in Estonia, a few studies suggest a possible relationship between the size of various benefits and job search intensity.

A study by Võrk and Leetmaa (2007), which evaluated the effectiveness of the service to those made collectively redundant, also included an analysis of the effectiveness of collective redundancy benefits (severance payments) on the probability to receive unemployment insurance benefits and working following the 1-6 months of the lay-off. They found that larger redundancy benefits significantly increased the probability to receive unemployment insurance benefits. For example, they estimate that workers who received redundancy benefits of more than 27 thousand EEK per worker had almost 20-30 percentage points higher probability to receive also unemployment insurance benefits, meaning that they were registered unemployed 1-3 months after lay-off compared to workers who received redundancy benefits that were less than 10 thousand EEK. An earlier study Leetmaa and Võrk (2004) also found that those persons eligible for redundancy benefits had lower hazard rates to leave unemployment compared to those who were not eligible for redundancy benefits. However, it is not clear whether the impact of redundancy benefits can be directly extended to unemployment insurance benefits.

But the small portion of unemployed who get both layoff compensation and unemployment insurance benefits are well protected and the income they receive at the beginning of the unemployment period as benefits exceeds their previous wages by 1.5 times. Those laid off in the public sector can feel especially secure, since their layoff compensation sometimes equals a year's salary. However, the level of insurance for the majority of unemployed is low. For instance, in 2006, only 25% of the newly unemployed people registered with the Labour Market Board received unemployment insurance benefits and approximately 46% received unemployment assistance benefits. Almost a third of the registered unemployed did not receive any benefits, but they had the

opportunity to apply for subsistence benefits. The main reasons for the low coverage of the unemployment insurance benefits include failure to comply with the qualification criteria (e.g., long-term unemployment) and voluntary unemployment (persons who terminate the work contract voluntarily or in agreement with the employer are excluded from unemployment insurance benefits). In recent years the coverage has increased, because a large share of unemployment is caused by collective lay-offs.

As for the majority of unemployed the benefits are still moderate (50% gross replacement rate during the first 100 days), the size of the unemployment traps is not very high. Marginal effective tax rate calculated by Eurostat was 63% in 2007 in Estonia, below the EU average. But it has steadily increased (from 48% in 2001) due to the implementation of the unemployment insurance system. As mentioned above, part-time working and receiving unemployment benefits is not allowed simultaneously, which may discourage a smooth transition from unemployment to work via part-time jobs.

In 2007 the unemployment insurance system changed slightly to make it easier to qualify for benefits. The reference period for fulfilling the minimum contribution period was extended. To be eligible one, initially, had to make contributions for at least 12 months during the previous 24 months prior to registering as unemployed. In 2007 the reference period was extended and now contributions are needed for at least 12 months during 36 months. This may potentially reduce the labour supply via the entitlement effect, as now it is easier to qualify for the benefits, but this effect is most likely small.

On 1 July 2009, the new Employment Contracts Act (*Töölepingu seadus*) took effect together with some changes in the unemployment insurance scheme. It was supposed to move the Estonian system closer to the flexicurity concept by making it easier and cheaper to lay off workers (increased flexibility) and raising unemployment insurance benefits (increased security). Because of the fiscal crisis only the first part actually was realised, the increase of benefits was postponed.

In order to increase labour market flexibility, dismissal procedures were made easier by reducing advance notice by 30 calendar days to between two weeks and three months, depending on the length of the previous employment contract. In addition, the redundancy benefit amount was reduced by one month's salary to between one and three months' average wages, depending on the length of previous employment. In the

case of people who have an employment tenure greater than 20 years, a five-year transition time will be implemented, during which they will retain the existing level of redundancy benefits – that is, four months' earnings.

Initially it was planned that the unemployment insurance benefit would be raised from 50% to 70% of the previous earnings during the first 100 days of unemployment, and from 40% to 50% after that period. In addition, to increase the number of persons eligible for the unemployment insurance benefit, persons who left their job voluntarily would also be eligible for unemployment insurance benefits. In the latter case, the rate of the unemployment insurance benefit would have been 40% of the previous average remuneration and the person must have been employed for at least four years during the last five-year period. Because of the fiscal difficulties of the current government the increase in benefits was postponed.

The most plausible result of the reforms is that the flow into unemployment will increase as it is cheaper for firms to fire employees. Basic economic theory also suggests reduced firing costs should also stimulate hiring. The reduction in redundancy benefits reduces income of the unemployed which may increase incentives to search for a job. However, the positive effects on hiring and labour supply are likely to be modest in the current economic crisis.

3.3 Other benefit schemes

3.3.1 Introduction of parental benefits

There are the following major types of family benefits in Estonia in 2009:

- universal child allowance and child care allowance, which depend on the number of children and their age, paid from the central government budget,
- maternity benefits, paid from the health insurance fund during pregnancy and shortly after child birth,
- parental benefits, introduced in 2004, related to previous income of the parent, paid from the central government budget after maternity benefits have exhausted,
- other minor benefits (e.g. refund of study loans for parents with children, additional vacation days, special benefits for disabled children, conscript's child benefit, etc).

In 1998-2003, universal family benefits were the major instrument in supporting families. This was justified as nearly one third of children lived below the absolute poverty line. So the benefits were relatively well targeted to the poor, equal and easy to administer. As employment rates increased, and poverty rates decreased, the focus of the family support shifted from poverty alleviation to influence the very low rate of fertility. It was stipulated that the birth of a child should not in itself carry a risk of poverty and decline in the quality of life, including those households who had high labour earnings. In 2004, the discussion culminated with the introduction of new very generous measure called parental benefit (“vanemahüvitis”), which guaranteed the previous wage of a parent (100% replacement rate) up to 11 months after child birth. There was a minimum benefit for those who had not worked before or who had very low earnings, and a high upper ceiling (three times the national average wage two years back). The benefit was extended to 14 months in 2006 and to 18 months in 2008. (If a parent received maternity benefit, the period for parental benefit was slightly shorter.) In addition, the birth allowance, a one-off flat rate benefit for the parents, was also increased in 2006.

The work by Võrk, Karu, and Tiit (2009) suggest that the parental benefit has indeed influenced fertility behaviour, especially among high-earning women who gained most from the new benefit. They also show that the parental benefit scheme raised the labour force participation of low wage earners before child birth. This entitlement effect is caused by the fact that those who have worked previously, even part-time, receive higher benefits than those who have not worked at all. On the other hand, the benefit has reduced the speed of returning to the labour market after childbirth, especially among the top quintile of wage earners (see *Figure 6*). In 2002, 30% of women whose labour earnings were among the top quintile worked sixth months after childbirth. In 2004 this has dropped to 12%. As the parental benefits were prolonged from 11 months to 14 months the return to the labour market was postponed even further.

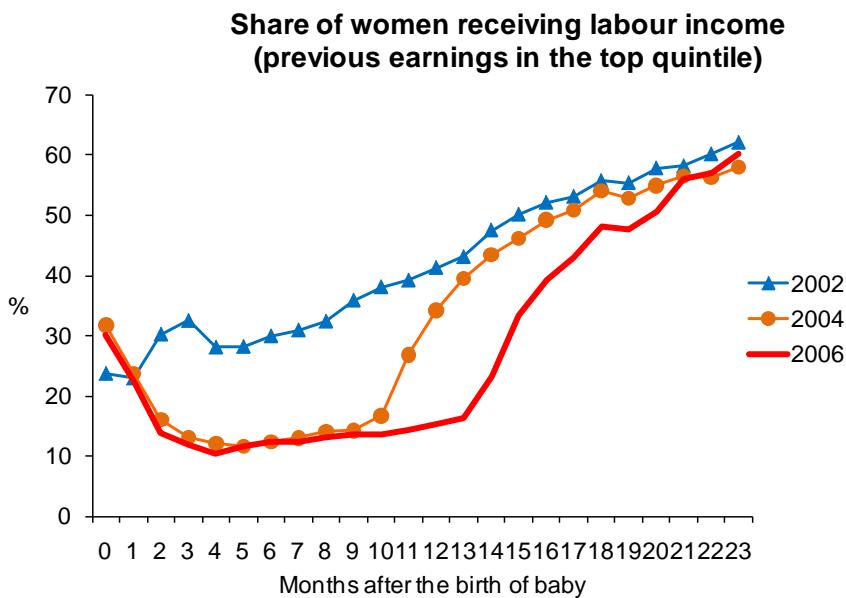


Figure 6 Share of women receiving labour income 0-23 months after giving birth in 2002, 2004 and 2006.

Source: Estonian National Social Insurance Board microdata; own calculations

For high-earning women the postponed return to the labour market may be due to the partial restriction on receiving parental benefits and high wages simultaneously (see the upper kink in *Figure 7*). Also the scheme discourages working at a low wage (around the minimum wage) while on parental leave. Although it has been suggested to remove these kinks in the benefit formula, the lower kink was made only slightly smaller in September 2007, but without any change in the upper kink.

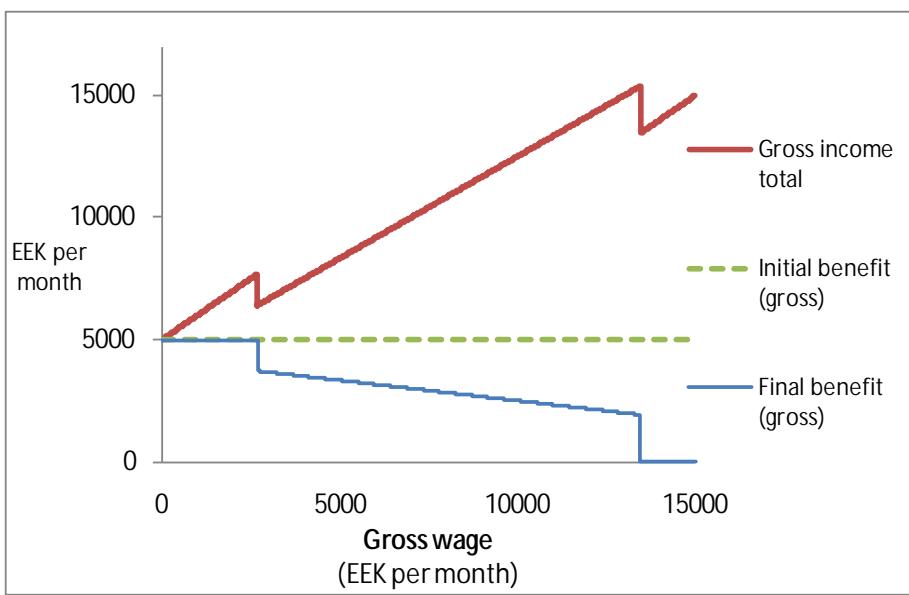


Figure 7 Parental benefits and gross earnings in August 2007

3.3.2 Subsistence benefits scheme

Subsistence benefits in Estonia are a state aid (social assistance benefits) to needy people paid by local governments. Subsistence benefits are paid only in case all other measures aimed at alleviating poverty and need have proven ineffective in increasing an income. Subsistence benefits guarantee the income level, which should protect people from suffering severe poverty.

Subsistence benefits are provided to a person living alone or to a family whose monthly net income, after the deduction of the housing expenses (up to a certain limit), is below the subsistence level. The subsistence level is based on minimum expenses made on consumption of food, clothing, footwear and other goods and services which satisfy the primary needs. The subsistence level is fixed for each year by the state budget. In 2009, the amount was 1000 EEK per month for a person living alone or for the first member of the family. The subsistence level of the second and each subsequent member of a family is 80 per cent of the subsistence level of the first member of the family.

The minimum income guarantee, which takes into account the person's work income, may influence the person's motivation to seek a low-paid job. Kuddo *et al* (2002) found that despite the relatively small amount of social benefits and the decrease of their

real value, in quite a few cases (depending on family structure and income of the second earner) it can still be more beneficial to live off the social benefits than to get a job with a minimum wage or a wage close to it. This is due to the fact that additional labour earnings reduce the subsistence benefit by the same amount. Thus, the effective marginal tax rate (METR) when receiving subsistence benefits is 100% (see *Figure 8*).

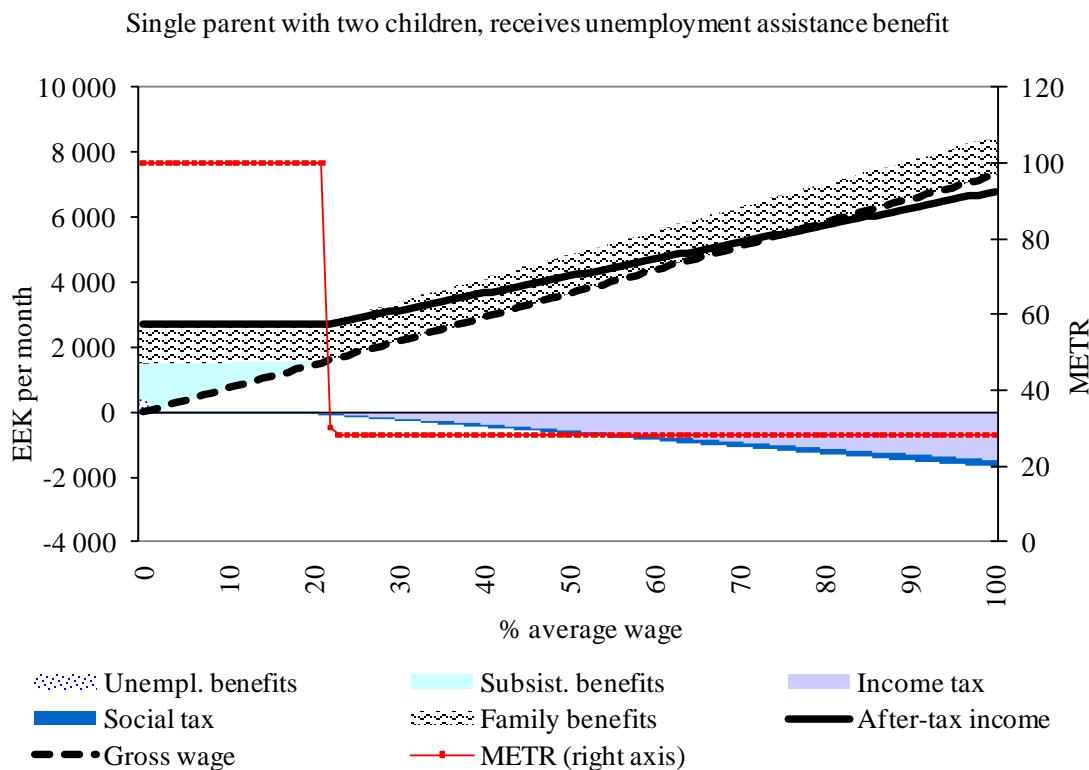


Figure 8 Decomposition of taxes and benefits for a single parent with two children who receives unemployment assistance benefit and enters into employment, in 2004

Thus the subsistence benefit system hides in itself an inactivity or low-wage trap (people may lack the motivation to increase their work effort). Estonian municipalities who pay out the benefits have the right to refuse the payment of benefits to people in working age and capable for work, but who do not study or work, and who have repeatedly, without good reason, refused to accept suitable work. This constitutes a mechanism that makes people in working-age return to the labour market.

Võrk and Paulus (2006) analysed the labour supply incentives, especially for low-wage earners, in the Estonian tax-benefit system. The analysis used a static tax-benefit microsimulation model that included parameters of the Estonian tax-benefit system in 2000–05, and it relied on Estonian Household Budget Survey data 2000–04. The labour supply incentives were measured as marginal effective tax rates (proportion of labour earnings taxed away as a result of increased labour taxes and reduced benefits) and net replacement rates (ratio of income after taxes and benefits in two situations) when moving from inactivity or unemployment to employment, or increasing work effort from part-time to full-time work. Both typical households (e.g. as in Carone et al 2003) and distribution of actual households (e.g. as in Immervoll 2004) were used. The analysis was supplemented with a comparison of Estonia to other EU (old and new) member countries using graphical analysis and simple correlation of Eurostat indicators of marginal tax rates, and tax wedges, respectively, and employment rates in various demographic groups in 2002. As the Estonian labour taxation system is straightforward (proportional income taxes and social contributions with few allowances and exceptions), the main focus of the paper was on the benefit side. The paper included an in-depth analysis of the Estonian subsistence benefit system and its interaction with family benefits and labour earnings. But also incentives in the unemployment benefit, parental benefit and the old-age pension system were described and briefly analysed.

Their analysis showed that for a household with two adults and two children there is no incentive to work at the minimum wage when the other adult is inactive as the final income of the household does not increase. The same holds true for a household with a single parent and two children, see *Figure 8*. Gross wage must be at least 25% of the average wage in order to have a motivation to supply labour.

The microsimulation analysis by Võrk and Paulus (2006) still suggested that there are only about 1% of employed people and 2% of inactive or unemployed people in 2004 who faced really 100% or higher marginal tax rate when increasing their work effort marginally or starting to work with minimum wage respectively. It means that these potential disincentive effects fortunately do not affect labour supply significantly.

4 Conclusions

In this paper we give an overview of labour supply incentives present in the Estonian income support system and how changes during the last ten years in the Estonian benefit system have influenced the incentives. As both taxes and social expenditures are relatively low, they generate high motivation to actively participate in the labour market, in general. Also the gradual introduction of contribution based and earnings related benefits, such as unemployment insurance benefits, parental benefits, a fully funded pension scheme together with earnings-related public pensions, have all significantly increased rewards from employment and are often associated with increased labour supply and reductions in undeclared work. The increase of the statutory retirement age for men and women has increased average employment rates of the elderly, but also retirement through alternative schemes, most notably disability pensions and early retirement pensions.

In a few cases, Estonian benefit schemes generate disincentives job search, especially low-paid job, or provide effort, affecting people both with low and high earnings. In the case of unemployment benefits and early retirement benefits, even marginal income from labour leads to loss of all benefits, discouraging part time work. Also there are very high effective marginal tax rates when increasing work effort when receiving subsistence benefits and parental benefits, in certain cases. Although the opportunity to work and receive wages is partially built into the parental benefits system, surveys point to fact that the speed of high-salaried women returning to the labour market has declined due to parental benefits (Võrk, Karu & Tiit 2009).

At the same time, the rapid employment growth experienced in recent years in Estonia and also empirical research (see Võrk and Paulus 2006), suggest that during the period of economic growth in 2000-2007, the social benefits system as a whole has not reduced people's motivation to go to work. However, there is reason to believe that the connection between work incentives and social benefits, on the one hand, and part-time employment, on the other, will become important again when wages drop in the next few years and finding jobs becomes increasingly difficult again. Already in 2009 we see skyrocketing unemployment rates, reductions in wages and increasing numbers of families receiving various social benefits. Then it is crucial that long-term unemployed

or inactive people are encouraged to return to the labour market also gradually via part-time jobs.

How the Estonian tax-benefit system develops in the near future is full of uncertainty. There are continuous debates about what direction Estonian social policy should go. This year is influenced by the government's goal to join the Euro-area in 2011, in order to establish confidence of foreign investors and lenders towards Estonia. To fulfil the 3% budget deficit Maastricht criterion, the government has reacted to declining tax revenues with cutting down expenditures from the central government budget, from social insurance funds, and has also set strict limits for local governments to take any loans.

Also several taxes and benefits have been changed. Unemployment insurance contributions have been raised significantly from 0.9% in January 2009 to 4.2% since 1 August 2009. Also, since 1 July 2009, temporary sickness benefits have been reduced through lengthening of waiting time (from one day to three days) and a drop in the replacement rate from 80% to 70%, in case of own sickness, and from 100% to 80%, in case of child's illness. Moreover, an employer co-payment was introduced for temporary sickness benefits; now employers have to pay from the fourth to the eighth day.

The near future may see additional changes in benefits that influence labour supply. It has been proposed that parental benefits should have a lower ceiling, effectively reducing benefits for high-earning parents. This may influence labour supply both via the entitlement effect and the income effect. There is also a proposition that some additional family benefits should be introduced for children whose both parents are registered unemployed, reducing poverty risk of children, but also increasing unemployment traps. And there have been also radical propositions that the whole benefit system should be restructured and benefits should rely more on means-testing, totally changing labour supply incentives. Concerning taxation, the introduction of progressive income tax scales has been proposed. So the whole range of issues affecting labour supply incentives is on the table and whether anything will change now depends on developments in tax revenues and the social situation in the near future.

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