

Does work pay? Incidence of unemployment and inactivity traps in the Czech Republic

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Abstract

Using distributions of net replacement rates between non-work and work household income, we investigate labour supply incentives stemming from the Czech tax and benefit system. Using microsimulation model, we simulate transitions of employed persons into unemployment and of non-employed persons into employment. In accordance with evidence on labour market flows, our results indicate that the combined effect of taxes and benefits distorts work incentives of low wage earners and families with children. We illustrate how two specific reform proposals would change the incidence of work disincentives.

Keywords: net replacement rate, microsimulation, work incentives, unemployment trap, inactivity trap, Czech Republic

JEL Codes: H22, H31, H53, J22, J64.

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1. Introduction

The role of labour market institutions and policies is to contribute to smooth functioning of the labour market. This is particularly important in transition economies. In the Czech Republic, the economic transition towards a market economy which started in the early 1990s was accompanied by immense changes on the labour market. While declining industries were shedding unnecessary labour, the demand for labour emerged in other sectors, often in need for specific skills. This created pressures on reallocation of labour with particular attention to effective training and adaptability of the educational system.

How effective has the Czech labour market been in reallocating the labour? Until 1996, the unemployment rate remained at record low levels by international comparison. The economy was hit by a recession in 1997 which lasted until 1999. That period was characterised by considerable changes in labour market flows and a consequent surge in the unemployment rate. In particular, the inflow rate into unemployment increased from about 5 % in 1996 to more than 20 % in 1999. While the outflow rate has been declining throughout the same period, the unemployment rate rose from 3 to 9 % between 1996 and 1999. After the recession of 1997–1999 faded out, the unemployment rate decreased slightly in 2000 and 2001, but did not return to the level observed before 1997. The unemployment rate started to rise again during the slowdown of the economy in the late 2001. Although this rise in unemployment can be attributed, at least partially, to the business cycle, the steadily declining trend in the rate of outflow from unemployment also suggests that unemployment is not going to fall back rapidly to the level observed during the previous expansionary period.

A number of authors pointed that the Czech labour market exhibits significant hysteresis effects. The hysteresis, following an adverse demand shock, translates into an irreversibly higher unemployment rate as skills and the search effort of jobless are not fully upgraded during the consequent labour demand surge.¹ Flek and Večerník (2005) argue that “the high unemployment in the Czech Republic ... resembles a vicious circle, resulting in the emergence of the ‘unemployment trap’ and benefit dependency, accompanied by a measurable extent of labour force deprivation.”

The existence of hysteresis effects suggests that labour supply incentives may be distorted by the combined effect of taxes and benefits. The evidence on significant unemployment traps on the Czech labour market resulting from the system of taxes and benefits is provided by OECD using make-work-pay indicators such as average (marginal) effective tax rates and net replacement rates (OECD, 2004). In particular, high effective tax rates or high net replacement rates indicate that taxes and benefits entail work disincentives because transitions from unemployment to employment are associated with too low difference in the net income. OECD (2004) provides evidence that labour supply incentives in the Czech Republic may be distorted particularly for the long-term unemployed persons with low earnings potential living in households with children.

While the Czech tax system is comprehensively described, for example, in Bronchi and Burns (2000), there is only scant evidence on the interactions between taxes and benefits and their

¹ Hysteresis effects emanate from the prolonged duration of unemployment when skills and the job search effort of the jobless decrease. Based on parameter changes of the matching function, Galuščák and Münich (2005) provide evidence on the presence of significant hysteresis effects on the Czech labour market. Jackman et al. (1990) shows that hysteresis effects prevail in many European labour markets.

impact on labour supply.² This paper is aimed at filling this gap. We calculate average effective tax rates for a range of wage levels and particular family types to show how individuals are potentially affected by a joint effect of taxes and benefits in terms of the financial reward when moving from unemployment to employment. In order to assess how net income positions of whole households change when one member of the household moves between labour market states, we concentrate on net replacement rates defined as the ratio of net household income when the person is non-employed and the net household income when the person works.

The micro-based measures of effective tax rates and net replacement rates describe work (dis)incentives of representative individuals or households. They do not contain information on how the tax burden is distributed across households.³ We therefore analyse the distribution of net replacement rates for various family types using microsimulations based on the sample of Czech households Mikrocensus 2002. We calculate net replacement rates for both the employed and the unemployed. In the former case, we simulate transitions into unemployment, and, in the latter case, transitions into employment. The incidence of high replacement rates indicates potential unemployment traps. In particular, employees with very high net replacement rates are at risk of being trapped in the unemployment upon losing jobs. In the case of the jobless, very high net replacement rates suggest that these persons face significant financial disincentives for active job search. We investigate main determinants of net replacement rates, focusing on the household composition. In the next step we examine how particular reforms which have been proposed in the Czech Republic recently would alter the distribution of net replacement rates and thus the incidence of unemployment traps. In comparison with the baseline results for 2002, we examine the budgetary impact of the reforms, assuming that all individuals do not change their labour market status and their work effort. The aim of this paper is to demonstrate the importance of microsimulation modelling in the investigation of potential labour supply effects of tax and benefit reforms. However, this is only a partial analysis of reform proposals, focused primarily on the impact on work incentives. We do not discuss social objectives of the reforms and their impact on the income distribution and the incidence of poverty.

The paper is organised as follows. In Section 2 we define average effective tax rates and net replacement rates and introduce the concept of microsimulations. Section 3 shows profiles of average effective tax rates and distributions of net replacement rates in 2002. We investigate changes in the make-work-pay indicators and their distribution after applying two specific reforms. We focus on how the reforms in consideration would alter the incidence of high net replacement rates and thus alleviate the extent of unemployment traps on the Czech labour market. The last section concludes.

² For example, Večerník (2002) or Schneider and Jelínek (2001) concentrate on distributions of household income or benefits. None of these studies examines combined effects of taxes and benefits on labour supply. At the EU level, Carone and Salomäki (2002) comprehensively describe labour supply effects of tax-benefit scheme reforms.

³ Immervoll (2002) investigates the distribution of average and marginal effective tax rates in EU member states using the EUROMOD, a microsimulation tax-benefit model for 15 EU countries. Immervoll and O'Donoghue (2003) utilize the EUROMOD to simulate the distribution of net replacement rates for 13 European countries. In particular, they compare household incomes in the current state with simulated in-work or out-of-work counterfactuals.

2. Methodology

Income consequences of transitions between employment and non-employment may be expressed using the average effective tax rate. It measures what part of additional income resulting from the transition between non-employment and employment is taxed away through the combined effect of taxes and benefits. The average effective tax rate is defined as

$$AETR = 1 - \frac{\Delta y_{net}}{\Delta y_{gross}} = 1 - \frac{y_{netIW} - y_{netOW}}{y_{grossIW} - y_{grossOW}}, \quad (1)$$

where Δy_{gross} is the difference between the gross in-work (IW) income and the gross out-of-work (OW) income (which equals to zero in the case of non-employed persons). On the other hand, Δy_{net} is the change in the income net of taxes and including benefits.⁴

The AETR is an indicator measuring the influence of taxes and benefits on individual's financial work incentives, assuming that the labour market status and income of other household members are unchanged (OECD, 2004). Since the income of other household members cancels out in (1), the AETR depends solely on the level of the individual's earnings. However, the individual's work incentives are associated with changes in the net *household* income. It is therefore more appropriate to use the net replacement rate as a measure of work incentives. It is defined as the ratio of the out-of-work net household income and the in-work net household income:

$$NRR = \frac{y_{netOW}}{y_{netIW}}. \quad (2)$$

The net replacement rate depends on the income position of other household members as their income appears both in the nominator and the denominator in (2).

We investigate the distribution of net replacement rates using Mikrocensus 2002, a sample of 7,373 households providing the information on the household composition and on individual characteristics, incomes, taxes, and benefits of 19,002 individuals. The data contain the information on gross and net earnings, taxes, and various benefits received by individuals and households in 2002.

The observation unit in our analysis is an individual either employed or non-employed. In order to simplify our calculations, only dependant workers or non-employed persons remaining in the same labour market state during the whole year are included. Persons with any irregular income from dependent work, income from self-employment or old-age or disability pensions are excluded.⁵ Regarding family types, we restrict the sample to households with one or two adults living either with or without children. In addition, we exclude households with property income less than half of the sum of income from paid work plus any social income. These assumptions leave us with 3401 individuals (household heads and spouses) in employment or non-employment living in 2078 households.

Microsimulations are used to calculate net replacement rates for the employees and the unemployed represented in the data. In particular, we simulate out-of-work net income of the employees persons and in-work net income of the unemployed. In the latter case we assume

⁴ Other studies call this indicator the marginal effective tax rate of unemployed persons ($METR_{UP}$) for transitions from unemployment to employment, or the marginal effective tax rate of inactive persons ($METR_{IP}$) describing transitions between inactivity and employment.

⁵ The income of self-employed persons includes irregularities which would complicate the analysis.

that the entry wage equals two thirds of the average wage.⁶ Given that our simulations do not cover all benefits provided by the Czech benefit scheme, we also simulate in-work net income of employees and out-of-work net income of the unemployed. In all cases we calculate the net household income by adding the spouse's net income and benefits for which the household is eligible.

Starting with the gross earnings, we calculate the net earnings by deducting social security contributions and the income tax paid by an employee. The net earnings of the other spouse, if present, are adjusted for tax allowances as a result of the labour market transition of the first spouse. From the individual's gross earnings we calculate unemployment benefits.⁷ Then given the information on the total household income net of taxes and on the household composition, we examine the eligibility for the parental allowance, child benefits, housing benefits, social supplement when caring for a child or children, and social assistance. In all cases we assume full take-up rates, i.e. all individuals or households claim all the benefits for which they are eligible.

Details of the system of taxes and benefits in 2002 are provided in the first column of Table 1. Social contributions paid by employees are deducted from gross earnings. Tax allowances are applied per person, per inactive spouse and per dependent child. While unemployment benefits depend on the previous individual net income, other benefits are defined using the minimum living standard (MLS) and tested against the net household income including some of the benefits. The MLS is defined so as to cover minimum living expenses per person and minimum household expenses. The MLS of family consists of age-specific amounts for each dependent child, amounts for adults, and the household part. The household part of the MLS depends on the number of persons living in the household.

The parental allowance is provided to parents carrying personally for a child or children up to the age of 4 years. The parent is eligible for the allowance given that he or she earns less than the MLS of the adult individual. Child benefits are provided for each dependent child in the household if the net household income including unemployment benefits and the parental allowance is less than $3 \times \text{MLS}$ of the whole family. Given that the same net household income including child benefits is less than $1.6 \times \text{MLS}$ of family, the household is eligible for the housing benefit and for the social supplement. While the housing benefit is related to the household part of the MLS and thus covers expenses for household needs, the social supplement is provided to contribute to expenses for children. Finally, the social assistance is the benefit of the last resort. If the net household income including all other benefits is lower than the family MLS, social assistance benefits are provided so that the total net income of household is equal to the MLS.

Given the net household income in the factual and the counterfactual labour market state, we calculate the net replacement rate using (2). In the case of employees, we consider net replacement rates for transitions to short-term unemployment with unemployment benefits and to long-term unemployment when unemployment benefits are not provided. In both cases the eligibility for other benefits is tested using parameters provided in the first column of

⁶ We should assume that the jobless would become employed at the same wage level as in their previous work. Given that the information on the previous wage could be retrieved from the level of their unemployment benefits only and that most of the unemployed do not collect unemployment benefits, an alternative is either to estimate the potential entry wage or to assume that the unemployed would start working at a particular wage level. We apply the latter case, assuming two thirds of the average wage for simplicity.

⁷ Unemployment benefits as well as all other benefits are not subject to taxes.

Table 1. In the case of unemployed persons in the sample, we include the unemployment benefit given that it is observed.⁸ We investigate distributions of net replacement rates with respect to the household composition. We particularly focus on the presence of spouse in the household and ask to what extent the work activity of the other spouse affects work incentives of the first spouse.⁹

Against the baseline of 2002, the other columns in Table 1 show parameters of two reform proposals as if they were implemented in 2002. Reform I introduces a tax credit per child instead of the tax allowance, with the desired effect that all families paying taxes would benefit an equal sum of money, while the current system provides a higher benefit to high-income families. The level of all benefits except the social assistance is the same as in 2002. Reform I reduces the generosity of social assistance benefits by redefining the minimum living standard. In particular, additional members of the household face lower amounts of the MLS. The purpose of Reform I is to reduce high replacement rates for specific households. It particularly attempts to reduce the disincentives emanating from relatively high means-tested benefits for low-income families with children and to stimulate work incentives for the long-term unemployed.

Reform II represents a different approach, relying on a simplification of the tax and benefit system based on a flat tax rate. It introduces a negative income tax which is applied if the total household income net of social security contributions and tax allowances is negative. The negative income tax replaces unemployment benefits, means-tested child benefits and the social assistance. The parental allowance, housing benefits and the social supplement are provided at the same level as in 2002. Reform II is focused on increasing work incentives for the long-term as well as the short-term unemployed.

We investigate the budgetary impact of the reforms. In particular, we compare sums of expenditures and tax revenues with the baseline results for 2002. In such a way we assess whether the reforms are budget neutral or whether their budgetary effect is positive or negative.

The simulations are based on simplistic assumptions which do not cover all aspects of the proposed reforms. The results should be therefore interpreted as an illustrative example of how the reform proposals would change the distribution of net replacement rates and consequently work incentives.

3. Results

The inspection of average effective tax rates helps us to assess work incentives of non-employed persons, abstracting from the income of other household members. Assuming the previous earnings at two thirds of the average wage, Figure 1 illustrates AETRs in 2002 for

⁸ As we mentioned, we assume that the counterfactual wage of the unemployed is equal to two thirds of the average wage. According to the Czech Statistical Office, the average gross wage was 17201 CZK per month in 2002. It covers employees in firms with more than 20 workers in the business sector and all employees in the public sector. In contrast to OECD (2004), we use average wage instead of average productive wage. The difference is translated into rescaling the results which is not crucial as we do not provide international comparison.

⁹ While analysing a sample of individuals, we treat both spouses equally. In other words, we do not distinguish primary and secondary earners.

persons with or without unemployment benefits, for single individuals and for one earner couples. While the upper panel concerns childless households, the lower panel displays the same categories for households with two children. The horizontal axis in Figure 1 shows the entry wage level.

The baseline results for 2002 indicate that in all cases the AETRs are very high at low entry wages. In particular, the tax rates are as high as 80% for entry wages between 30 and 50% of the average wage for single adults and lone parents. When commencing work at the same level as was their previous wage (two thirds of the average wage), these persons face the AETR from 60 to 70%. While these values may be recognized as disincentives for active job search, the AETRs are even higher at about 80% for one earner couples with or without children. Although the presence of children leads to higher AETRs, the difference is even greater with an inactive spouse in the household. The profiles of AETRs shown in Figure 1 suggest that although low-wage earners face significant work disincentives embedded in the system of taxes and benefits, the disincentives are particularly strong for unemployed individuals with non-employed spouse. In what follows we therefore examine net replacement rates which take into account the income of the other spouse.

We investigate the incidence of work (dis)incentives using distributions of net replacement rates. The upper panel of Figure 2 displays the distribution of NRRs for employees, assuming that after experiencing a certain spell of unemployment they would return back to work and earn the same wage as in their current job. Although more than 50% of employees face NRRs greater than 60%, the work disincentives are particularly significant for 30% of employees facing NRRs greater than 80% (top left chart in Figure 2). This means that almost one third of all employees in 2002 are at high risk of being trapped in the (short-term) unemployment when unemployment benefits are provided. The work disincentives are somewhat lower after unemployment benefits expire (i.e. after 6 months), but still almost 50% of employees would probably not return to work. These persons would face NRRs greater than 60% which, in particular after experiencing longer spells of unemployment, might reduce their job search effort.

The significant incidence of potential unemployment traps for employees is supported when examining distributions of NRRs among job searchers and inactive persons (see the lower panel of Figure 2). About 30% of the unemployed receiving unemployment benefits face NRRs greater than 80%, indicating very strong work disincentives in this case. Work disincentives are to some extent mitigated when unemployment benefits are not provided, as is the case of the long-term unemployed, but still at least eight non-employed out of ten face NRRs greater than 60%.¹⁰

At the economy-wide level, we find sizable work disincentives, especially in the case of short spells of unemployment when unemployment benefits are provided, but work incentives are also attenuated for many inactive persons. As we have seen, the analysis of AETRs suggests significant unemployment traps for households with a spouse. We therefore concentrate on these household types and ask how the presence of spouse and his or her work activity alters work incentives of the first spouse in terms of net replacement rates.

Figure 3 shows distributions of net replacement rates of employees and non-employed in relation to the presence of spouse. As for employees, the presence of spouse indicates much

¹⁰ The results are sensitive to the choice of the entry wage. The incidence of work disincentives among the jobless is significantly greater when assuming the entry wage lower than two thirds of the average wage.

higher incidence of high NRRs as compared to single individuals. While NRRs may be high particularly for short-term unemployed when the spouse is working, the spouse's labour market status does not affect the incidence of high NRRs in the case of long-term unemployed.

What the presence of spouse means in terms of risk of long spells of unemployment? The lower panel of Figure 3 suggests that greater proportion of the jobless with a spouse face greater work disincentives as compared to singles. Particularly the presence of inactive spouse is associated with very high NRRs exceeding 80%, indicating that unemployment in the Czech Republic affects whole families due to work disincentives emanating from the system of taxes and benefits.

The results suggest that any reform of taxes and benefits should cope with work disincentives associated with low-wage earners, households with a spouse, and also households with children. While work disincentives are sizeable particularly for short-term unemployed receiving unemployment benefits, they are also significant for the long-term unemployed or inactive persons.

Figure 1 illustrates how the reforms we consider change the AETRs and, consequently, work incentives. Both the reforms reduce AETRs in all cases except Reform I in the case of childless unemployed persons receiving unemployment benefits. Reform I reduces the effective tax rates for inactive persons as a result of less generous social assistance benefits. The implementation of tax credit per child in Reform I may have some effect in boosting work incentives for low-income families with children. This is indicated by reduced AETRs for persons with unemployment benefits from households with children. In contrast to Reform I, Reform II reduces the AETRs in all representative household types. AETR profiles shown in Figure 1 suggest that except Reform I in the case of childless short-term unemployed persons, both the reforms may deliver similar results in enhancing work incentives.

Distributions of net replacement rates shown in Figure 4 support the view that Reform I does not cope with significant unemployment traps for unemployed persons receiving unemployment benefits. In this case, the proportion of individuals with very high NRRs (exceeding 80%) is virtually the same as in Figure 2. In comparison with Figure 2, Reform I reduces the incidence of very high NRRs for persons not eligible for unemployment benefits, i.e. for long-term unemployed and inactive persons. In contrast to Reform I, Reform II removes work disincentives for short-term job seekers. In the case of unemployed persons, both the reforms leave about 70% of the (long-term) unemployed with NRRs between 60 and 80%.

The baseline results for 2002 reveal that the presence of spouse in the household leads to higher NRRs (Figure 3). In Figure 5 we provide detailed results on how the reforms change distributions of NRRs with respect to the presence of spouse in the household and her or his economic activity. In comparison with the baseline results for 2002 provided in Figure 3, Reform I does not reduce the incidence of potential unemployment traps for households of employees with working spouse (top left chart in Figure 5). In this respect Reform II is more successful than Reform I. In Figure 3 we have also identified that unemployed persons with non-employed spouse face significant work disincentives. A closer look at Figure 5 suggests that both the reforms enhance work incentives for these household types.

Table 2 shows total sums of taxes and benefits in 2002 and in the case of the reforms. The implementation of tax credit per child in Reform I reduces income tax revenues. On the expenditure side, stricter eligibility criteria reduce significantly the sum of social assistance benefits, leading to the drop in expenditures. Overall, the budgetary effect of Reform I is almost neutral. In the case of Reform II, income tax revenues drop markedly. Although this reform introduces the negative income tax which replaces unemployment benefits, child benefits and social assistance benefits, total expenditures on social benefits reduce significantly. The overall budgetary impact of Reform II is negative primarily due to the income tax cut. These calculations are based on the assumption that all individuals do not change their labour market status or hours of work which may not be the case particularly for Reform II.¹¹

To summarise the results, we find that while low wage earners and families with children face work disincentives resulting from the system of taxes and benefits, work incentives are particularly attenuated for employees with working spouse. Furthermore, the combined effect of taxes and benefits distorts significantly the job search effort of unemployed persons with non-employed spouse, indicating that unemployment affects whole families. We examine how two specific reform proposals would change the incidence of work disincentives. While these reforms differ in their nature, both of them pursue enhancing work incentives for vulnerable groups of individuals. However, Reform I is not designed to cope with the incidence of short-term unemployment traps. We find that while the budgetary impact is neutral in the case of Reform I, it is negative for Reform II. This finding is based on the assumption that the labour market status and work effort of individuals do not change.

The results rely on specific assumptions. In particular, we assume that individuals and households are eligible for benefits without any delay. While this assumption is well justified for long-term unemployed or inactive persons, it may not be the case for short-term unemployed individuals as unemployment benefits are provided in the Czech Republic in the period of six months upon registering with a labour office. Short-term job seekers may be entitled to housing benefits and social supplement since eligibility rules for these benefits refer to income from previous calendar quarter. On the other hand, eligibility criteria refer to household income in the previous calendar year for child benefits and in the last six months in the case of social assistance. This indicates, for example, that unemployed persons receiving unemployment benefits may not be eligible for social assistance benefits even if their current net household income is lower than their minimum subsistence amount.¹²

In addition to the eligibility rules assumption, we treat both spouses in the household equally. In other words we do not distinguish first and second earners. This assumption explains why we find work disincentives in the case of employees with working spouse. Furthermore, we

¹¹ It should be noted that the total sums in Table 2 refer to dependant workers and to unemployed and inactive persons remaining in the same labour market state during the whole year. Persons with additional or irregular income from dependent work, income from self-employment or any kind of pensions are excluded. We also do not consider households with a significant proportion of property income. Furthermore, we restrict the analysis to specific household types.

¹² This is so because the net income of unemployed persons receiving unemployment benefits always contains some proportion of their previous earnings. OECD (2004) assumes that job seekers receiving unemployment benefits do not collect social assistance „top-ups”. To provide a comparison, we replicate the results in Figures 2–5 for the baseline of 2002 and for Reform I without considering social assistance benefits (Reform II does not have them at all). We find that the results are almost the same for simulated transitions between employment and unemployment with unemployment benefits. This supports our findings of significant short-term unemployment traps which are particularly important for low-income employees within working spouse.

restrict our analysis to employees without any additional work activity. We keep these assumptions in order to simplify the analysis. The analysis is focused primarily on work (dis)incentives, neglecting other aspects of reforms.

4. Conclusions

Relying on simplistic assumptions, we provide evidence on the extent and determining factors of unemployment traps emanating from the system of taxes and benefits. We find that work incentives are significantly distorted for (low-paid) employees with working spouse, indicating that the tax and benefit system is designed to favour one earner households. Furthermore, the job search effort is particularly attenuated for unemployed individuals with non-employed spouse. This means that unemployment affects whole households. The results suggest that work disincentives resulting from the system of taxes and benefits may contribute to hysteresis effects which are observed on the Czech labour market.

We examine how two specific reform proposals would alter the incidence of work disincentives. While the reforms differ in their nature, they deliver similar results in terms of enhancing work incentives for vulnerable groups of individuals except that one of the reforms is not designed to reduce the incidence of short-term unemployment traps. Assuming that all individuals do not change their labour supply, we find that the budgetary impact of one of the reforms is negative.

The analysis is limited to dependant workers without additional or irregular work activity and to unemployed and inactive persons. We associate work or job search effort disincentives with net replacement rates greater than 80 %. This level is chosen arbitrarily. While concentrating on work disincentives stemming from the tax and benefit system, we do not assess other aspects of reforms, such as the net income distribution and the incidence of poverty. For example, one of the reforms leaves a significant proportion of households with net replacement rates lower than 20%.

The aim of this paper is to show that potential effects of tax and benefit reforms should be examined ex-ante using make-work-pay indicators and their distributions across households. When designing reforms, all relevant parameters should be provided in order to simulate this kind of analysis.

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Table 1: Taxes and benefits

	<u>2002</u>	<u>Reform I</u>		<u>Reform II</u>
Social security contributions (%)	12.5	dtto		dtto
Tax allowances (CZK per month)				
person	3170	dtto		4000
spouse*	1810	dtto		4000
dependent child	1960	--		2000
tax credit per child	--	800		--
Income tax (CZK per month, %)				
0-9100	15	dtto		15
9101-18200	20	dtto		15
18201-27600	25	dtto		15
27601 and more	32	dtto		15
Negative income tax (%)				
net household income<0	--	--		60
Minimum living standard (CZK per month)				
Dependent children		1 adult	2 adults	
less than 6 years	1690	1500	1050	dtto
6-10 years	1890	1840	1290	dtto
10-15 years	2230	1840	1290	dtto
15-26 years	2450	2100	1480	dtto
Adult individuals	2320	2320	2320+2060	dtto
Household				
1 member	1780	--	--	dtto
2 members	2320	--	--	dtto
3 or 4 members	2880	--	--	dtto
5 and more members	3230	--	--	dtto
Unemployment benefit**	0.5*previous net earnings	0.5*previous net earnings		--
Parental allowance***				
child < 4 years	1.1*MLS _i	dtto		dtto
Child benefits				
I ₁ <1.1*MLS _f	0.32*MLS _{ch}	dtto		--
1.1*MLS _f < I ₁ <1.8*MLS _f	0.28*MLS _{ch}	dtto		--
1.8*MLS _f < I ₁ <3*MLS _f	0.14*MLS _{ch}	dtto		--
Housing benefit				
I ₂ <MLS _f	MLS _{hh} - MLS _{hh} / 1.6	dtto		dtto
MLS _f < I ₂ <1.6*MLS _f	MLS _{hh} - (MLS _{hh} * I ₂) / (1.6*MLS _f)	dtto		dtto
Social supplement				
I ₂ <MLS _f	MLS _{ch} - MLS _{ch} / 1.6	dtto		dtto
MLS _f < I ₂ <1.6*MLS _f	MLS _{ch} - (MLS _{ch} * I ₂) / (1.6*MLS _f)	dtto		dtto
Social assistance				
I ₃ <MLS _f or I ₃ ^{RI} <MLS _f ^{RI}	MLS _f - I ₃	MLS _f ^{RI} - I ₃ ^{RI}		--

Notes: dtto as in 2002; -- not applied

MLS_f minimum living standard of family, MLS_f consists of the individual part for all persons and the household part

MLS_i minimum living standard of the adult individual

MLS_{ch} minimum living standard of a child or children

MLS_{hh} household part of the minimum living standard

* in 2002, spouse inactive or earning less than the basic tax allowance per person

** maximum amount 2.5*MLS_i

*** in 2002, the allowance is provided if the individual earns less than MLS_i

Benefits are not subject to taxes.

I₁ = net earnings of both spouses + unemployment benefits + parental allowance

I₂ = I₁ + child benefits

I₃ = I₂ + housing benefit + social supplement

Reform I

MLS_f^{RI} minimum living standard of family

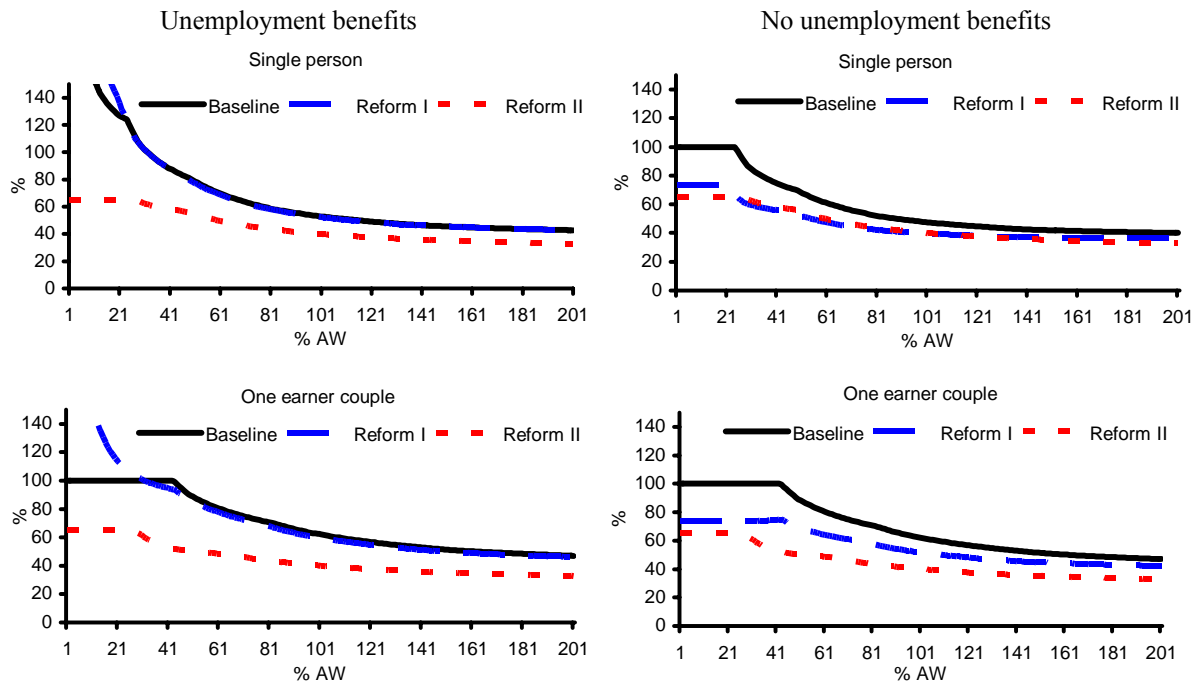
I₁^{RI} = 0.7*(net earnings of both spouses) + unemployment benefits + parental allowance

I₂^{RI} = I₁^{RI} + child benefits

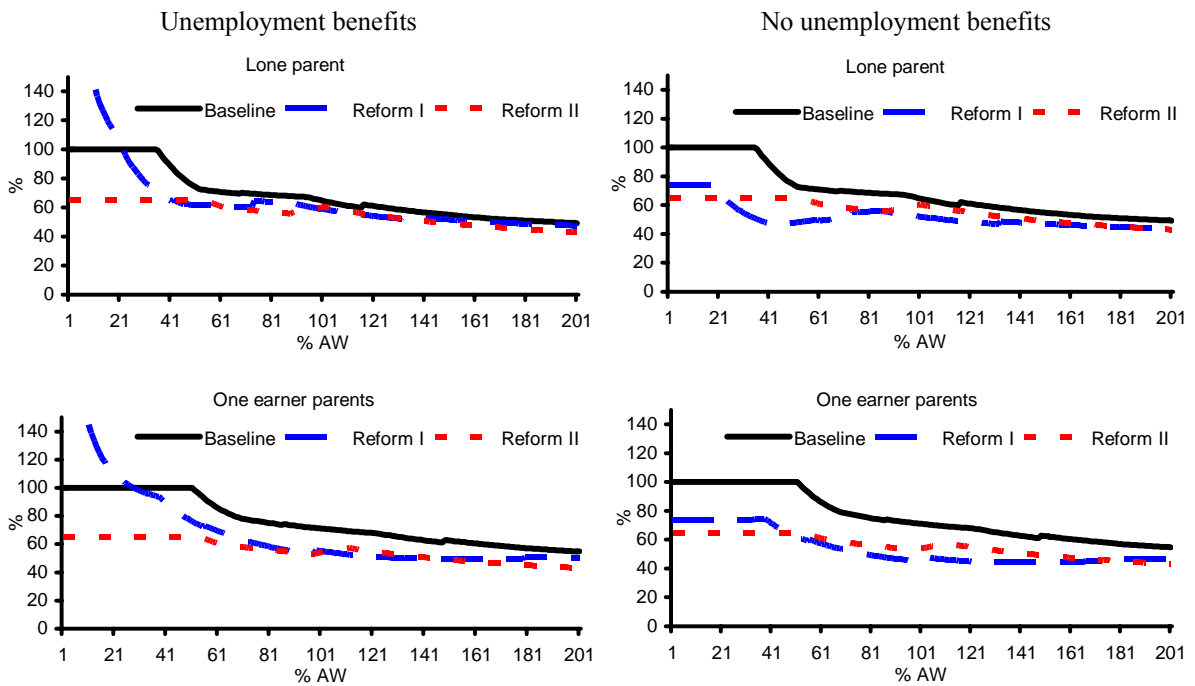
I₃^{RI} = I₂^{RI} + housing benefit + social supplement

Figure 1: Average effective tax rates (as in 2002)

I. Childless households



II. Households with children



Note: The previous wage is assumed at 2/3 of the average wage. The horizontal axis shows the entry wage level.

Figure 2: Distribution of net replacement rates (baseline results in 2002)

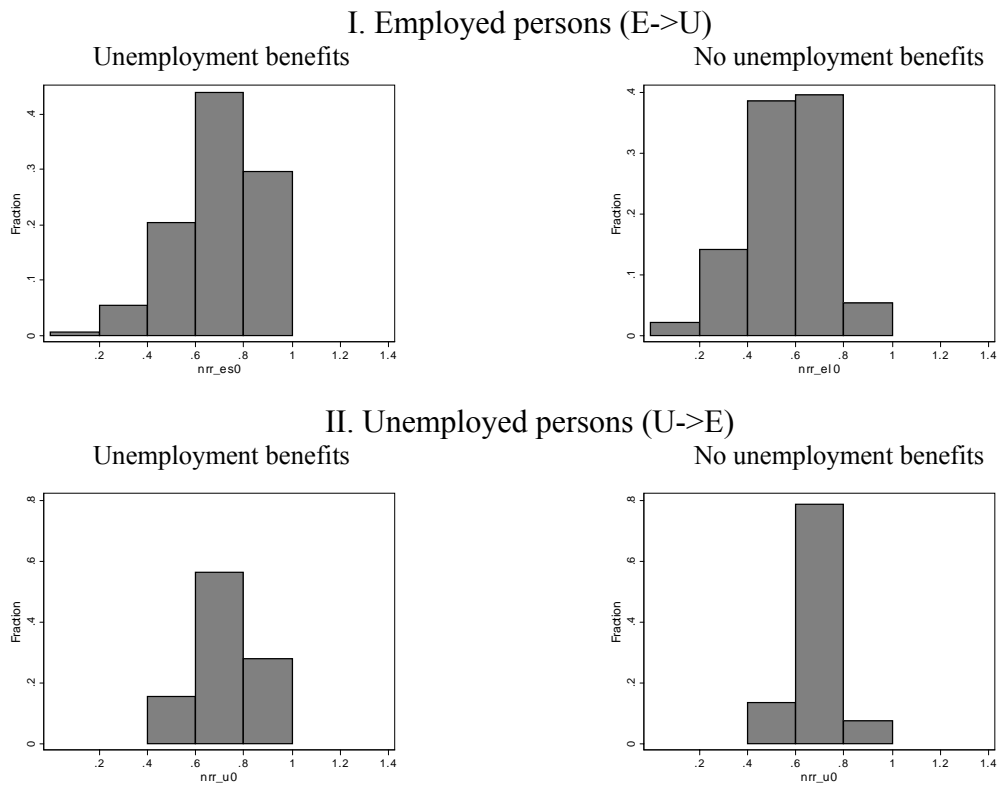
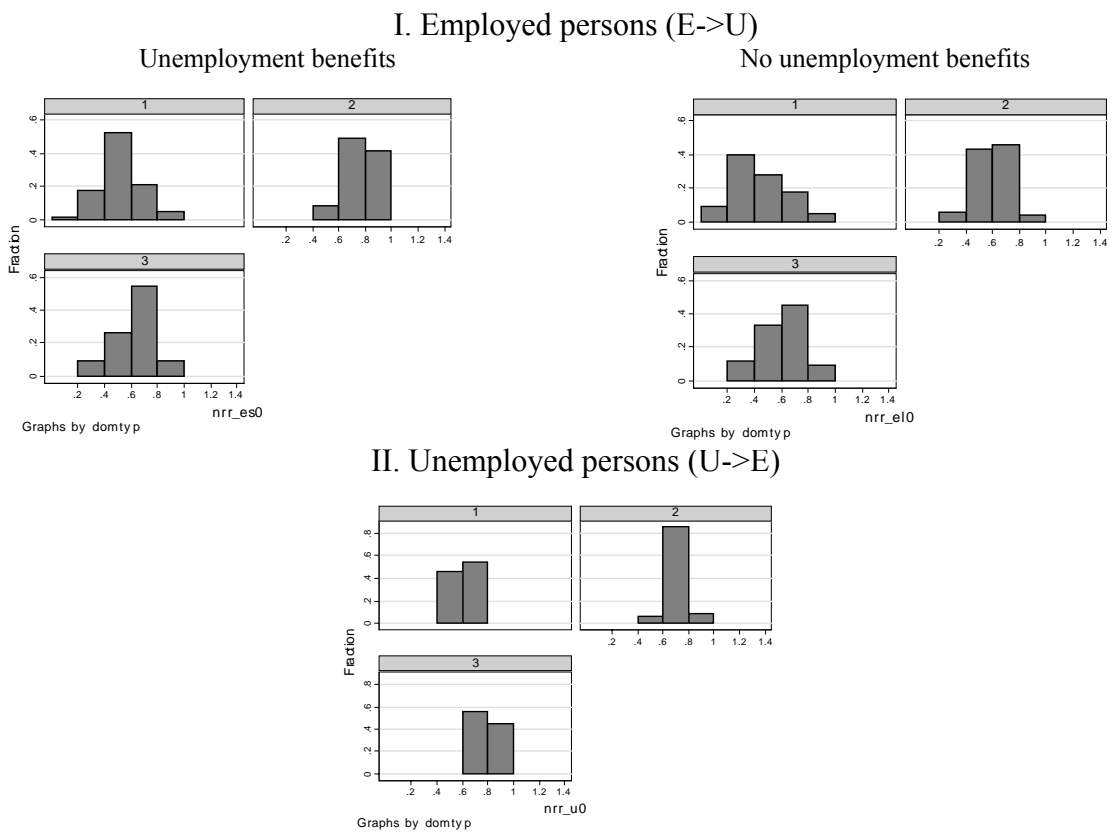


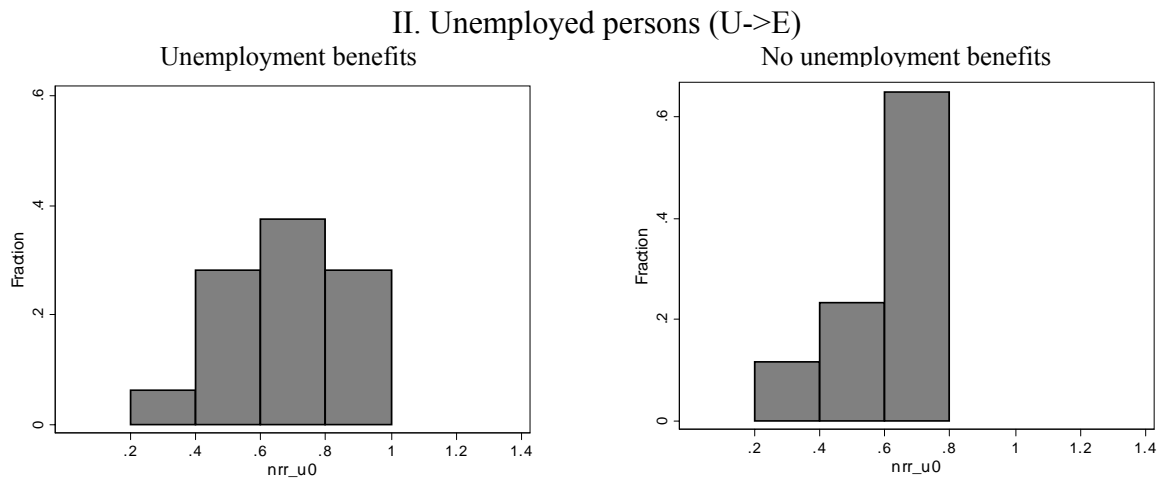
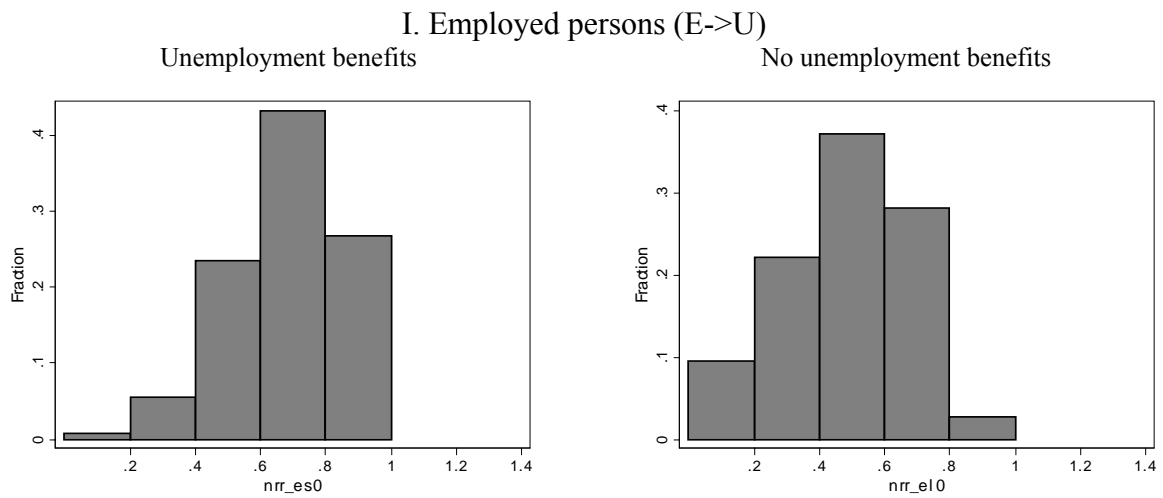
Figure 3: Spouse in the household (baseline results in 2002)



Note: 1 no spouse, 2 working spouse, 3 not working spouse

Figure 4: Distribution of net replacement rates (reforms)

Reform I



Reform II

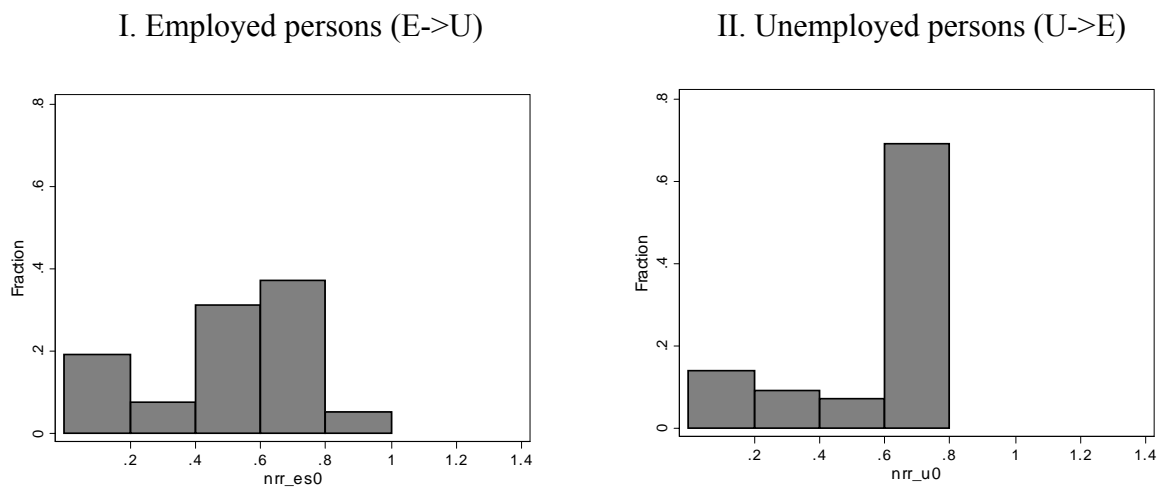
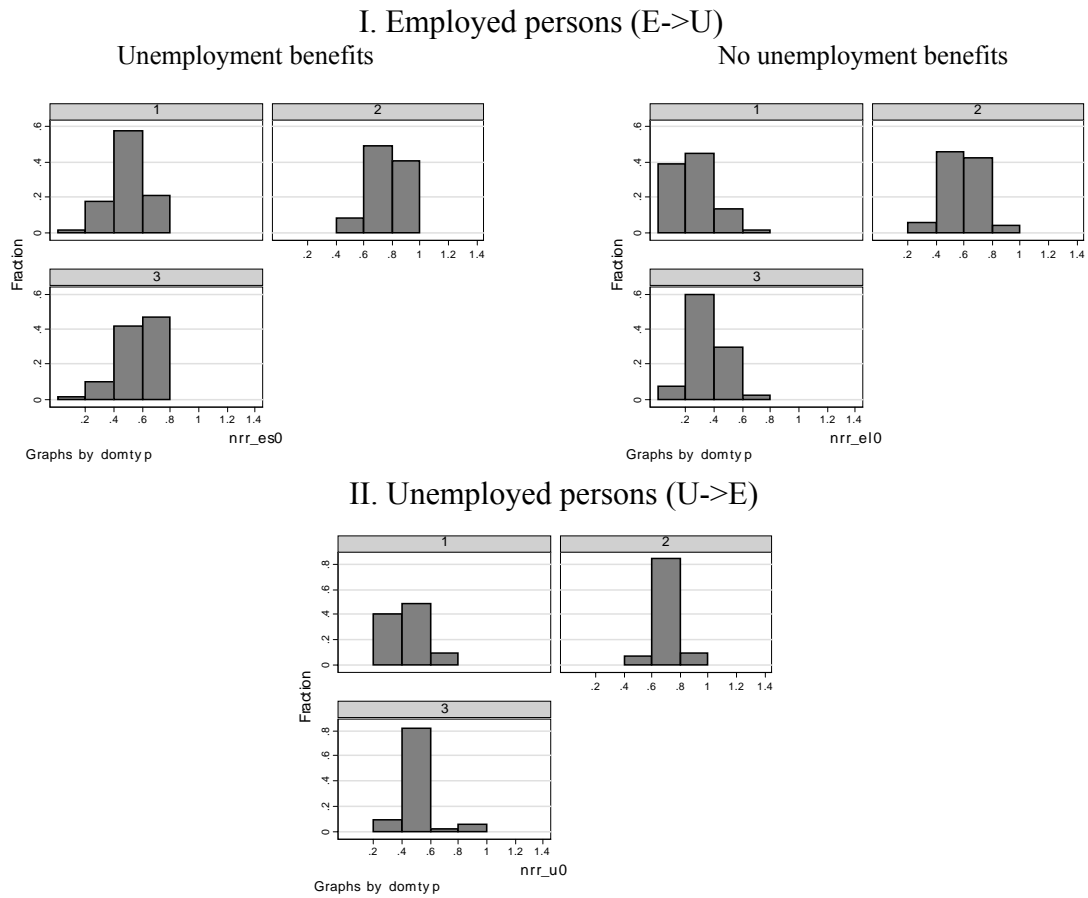
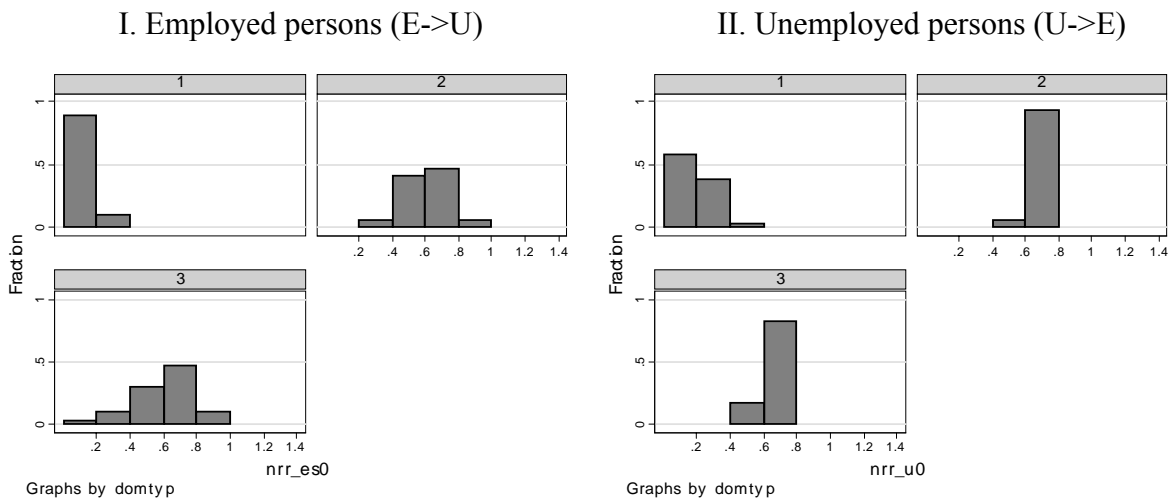


Figure 5: Spouse in the household (reforms)

Reform I



Reform II



Note: 1 no spouse, 2 working spouse, 3 not working spouse

Table 2: Budgetary impact of reforms (billions CZK per year)

	2002	Reform I	Reform II
Revenues	48.9	42.5 (-6.4)	32.1 (-16.8)
Expenditure	39.0	32.8 (-6.2)	25.8 (-13.2)
Balance	9.9	9.7 (-0.2)	6.3 (-3.6)

Note: Changes with respect to 2002 are shown in parentheses.