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Further Advancing Pro-  
growth Tax and Benefit  
Reform in the Czech  
Republic

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**FURTHER ADVANCING PRO-GROWTH TAX AND BENEFIT REFORM IN THE CZECH  
REPUBLIC**

**ECONOMICS DEPARTMENT WORKING PAPERS No. 758**

**by Zdeněk Hrdlička, Margaret Morgan, David Prušvic, William Tompson and Laura Vartia**

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## ABSTRACT/RÉSUMÉ

### **Further Advancing Pro-Growth Tax and Benefit Reform in the Czech Republic**

In 2008, the Czech government implemented a major overhaul of the personal income tax (PIT), replacing the previous progressive rate schedule with a single 15% rate levied on an enlarged base. This was accompanied by significant changes to the corporate income tax (CIT) and an increase in the concessionary rate of value added tax (VAT) applied to many goods and services. The reform made the tax system more transparent and was broadly consistent with OECD recommendations concerning pro-growth tax reform. These tax changes followed the adoption of significant changes to the benefit system, particularly housing and social assistance benefits, in 2006-07. This paper describes the main elements of these tax and benefit reforms and provides an initial assessment of their impact, with particular emphasis on changes in the effective tax rates of workers and firms. It begins with an overview of the systems and a summary of recent changes. This is followed by an evaluation of those reforms. A final section explores the scope for further reforms in future.

This paper relates to the *2010 OECD Economic Survey of the Czech Republic*. ([www.oecd.org/eco/surveys/czech](http://www.oecd.org/eco/surveys/czech)).

*JEL Classification:* H20; H21; H23; H24; H25; J20; I38

*Keywords:* tax; reform; benefits; VAT; personal income tax; corporate income tax; property taxes; excise taxes; environmental taxes; labour market; emissions trading; carbon tax; maternity

\* \* \* \* \*

### **Poursuivre la réforme de la fiscalité et des prestations visant à favoriser la croissance en République tchèque**

En 2008, le gouvernement tchèque a procédé à une vaste refonte de l'impôt sur le revenu des personnes physiques (IRPP), remplaçant le barème progressif précédemment en vigueur par un taux unique de 15 % prélevé sur une assiette élargie. D'importantes modifications ont aussi été apportées à l'impôt sur les bénéfices des sociétés (IS) et le taux réduit de la taxe sur la valeur ajoutée (TVA) appliqué à de nombreux biens et services a été relevé. La réforme, qui a rendu le système fiscal plus transparent, était globalement conforme aux recommandations de l'OCDE sur la réforme de la fiscalité favorisant la croissance. Ces changements ont fait suite à l'adoption de profondes modifications du système de prestations, notamment de logement et d'assistance sociale, en 2006-07. Cet article décrit les principaux éléments de ces réformes de la fiscalité et des prestations et présente une première évaluation de leurs répercussions, en mettant plus particulièrement l'accent sur l'évolution des taux d'imposition effectifs des travailleurs et des entreprises. Il s'ouvre sur une présentation générale des systèmes et sur une synthèse des changements intervenus récemment. Il expose ensuite une évaluation de ces réformes et s'achève sur une analyse des réformes à envisager.

Ce document se rapporte à l'*Étude économique de l'OCDE de la République tchèque, 2010* ([www.oecd.org/eco/etudes/tcheque](http://www.oecd.org/eco/etudes/tcheque)).

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## FURTHER ADVANCING PRO-GROWTH TAX AND BENEFIT REFORM IN THE CZECH REPUBLIC

By

Zdeněk Hrdlička, Margaret Morgan, David Prušvic, William Tompson and Laura Vartia<sup>1</sup>

### The Czech tax system

#### *The tax system relies heavily on direct taxes, due chiefly to very high social security contributions*

The tax/GDP ratio in the Czech Republic prior to the reform package introduced in 2008 was fairly stable at around 37%, somewhat lower than the EU15 but slightly above the OECD average and higher than in Poland and Slovakia. In 2008, the ratio fell only slightly, to 36%, since the tax reform had been designed in such a way as to limit the immediate revenue losses. The Finance Ministry actually estimated the revenue impact of the changes to be slightly positive in 2008, although it was expected to reduce tax revenues by around 0.5% of GDP in 2009 and 0.8% in 2010.<sup>2</sup> The fiscal squeeze that accompanied the recession, however, prompted postponement of some tax reform measures as the government sought to shore up its revenue base.

Czech tax policy in recent years has in many respects followed broader trends in the OECD. In many countries, there has been a “flattening” of income-tax schedules. Though only a handful of OECD members have moved towards flat-rate PITs, many have cut top statutory rates, sometimes quite dramatically. Corporate income tax (CIT) rates in many countries have also been cut, usually financed in part by base broadening, and top marginal rates on dividends have decreased, mainly as a result of the reductions in CIT rates. The share of consumption taxes in total revenues has declined gradually, with the mix of taxes on goods and services evolving towards greater reliance on general consumption taxes (mainly VAT) and away from taxes on specific goods and services (Johansson *et al.*, 2008).

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  2. When the tax package was adopted in 2007, the finance ministry expected that the net impact of these measures would be neutral for 2008 but negative for 2009 and 2010, due to further cuts in the CIT rate; see OECD (2008a:45-46) for details.

Nevertheless, the structure of tax revenues in the Czech Republic is unusual, by the standards of both the OECD and regional peers, in several respects (Figure 1):

- The shares of both personal income taxes (PIT) and property taxes in total tax revenues are unusually low. PIT revenues accounted for about 10.8% of tax revenues in 2008, well below the averages for the OECD (24.9% in 2006) and EU15 (25.2%). Property taxes provided just 1.2% of tax revenues that year, compared to an OECD average of 5.7% for 2006 (EU15: 5.6%).
- Social security contributions (SSCs), by contrast, account for a larger share of total tax revenues than in any other OECD member – just over 45% in 2008,<sup>3</sup> as against an unweighted OECD average of 25.3% in 2006 and 28.2% for the EU15. The Czech figure is also well above the corresponding figures for Poland (36%), Hungary (32%) and Slovakia (40%). This partly reflects the fact that the overall take from other taxes is lower in the Czech Republic than in many other OECD countries but it is also the case that SSC rates are among the highest in the OECD, relative to both GDP and labour costs.<sup>4</sup> Employers pay 34% of gross earnings for each employee and employees 11% on earnings up to six times the average wage; self-employed persons pay 42.7% (44.1% if they opt to participate in the public sickness insurance scheme). In 2008, SSCs amounted to 16.2% of GDP, as against an OECD average of just under 10%.
- Reliance on the CIT, which generated about 13% of tax revenues in 2008, is also high in comparison with the averages for the OECD (10.9% in 2006) and EU15 (9.0%). The Czech Republic in recent years has consistently ranked fifth in the OECD in terms of the ratio of CIT revenues to GDP. However, the statutory CIT rate is low by OECD standards and not out of line with those of regional peers. Reliance on CIT revenues is largely the product of economic structure: the corporate sector's share in value added is among the highest in the OECD area, a reflection of the concentration of activity in sectors like manufacturing, where the corporate form of business organisation predominates.<sup>5</sup> CIT revenues have changed little relative to GDP or total tax revenues in recent years, despite a series of reductions in the rate of CIT, although they are projected to drop sharply in 2009, owing to the recession.

The share of consumption taxes in total tax revenues, at 28.9% in 2008, is fairly close to the averages both for the OECD (31.6% in 2006) and the EU15 (30.1%).

Despite a relatively low, flat rate of PIT, the total tax wedge on labour is still above the OECD average, thanks chiefly to the burden of large SSCs (Figure 2). However, even more striking than the average wedge are differences in the tax wedges confronting different household types in different situations. The OECD calculates the combined burden of PIT and employee and employer SSCs across eight different household types, less the value of tax credits and other tax breaks to which each specific family-type is entitled. In 2008, the Czech Republic stood out for the size of the gap between childless and child-rearing households in otherwise similar situations: for both singles and couples, the degree of tax and benefit relief granted to those with dependent children is among the most generous in the OECD. For all

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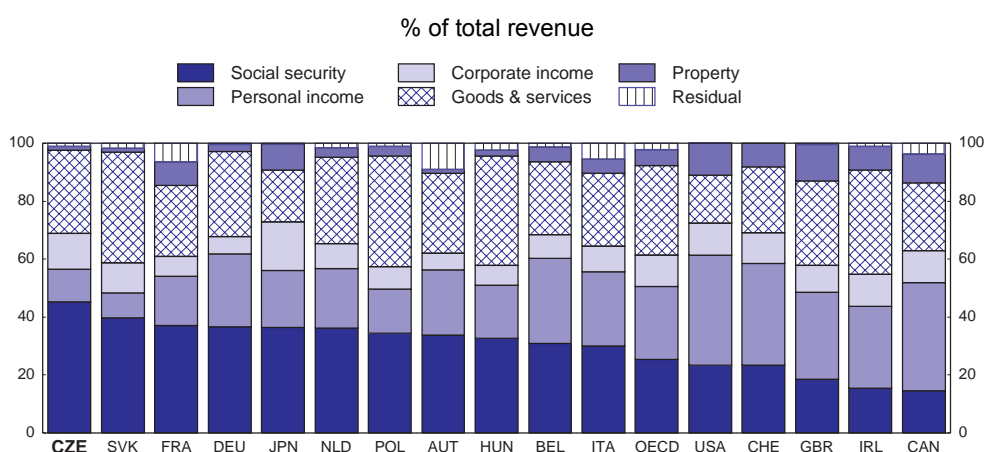
3. The figure for 2008 was little changed from the 44-45% recorded in previous years, despite the introduction of the 2008 tax reforms.

4. Relative to labour costs, Czech SSCs are estimated to have been the fourth highest in the OECD in 2008 (they exceed one-third of total labour costs); as a share of GDP, they ranked third in 2006.

5. In 2007, the Czech Republic ranked fifth in the OECD in terms of the corporate share of value added, behind Luxembourg, Norway, Switzerland and the Netherlands. Of course, the question of economic structure is not entirely exogenous: the tax system itself influences choices about forms of business organisation, but the evidence does not suggest that this is a major factor underlying the relatively large size of the corporate sector in the Czech Republic.

categories of childless household, the wedge in the Czech Republic was well above the OECD average (Table 1). It was slightly above average for two-earner households with children, but the wedge for single-earner households with children was substantially below average (OECD, 2008c). As will be seen, however, although this system provides considerable support for families, it often confronts the second earner in such a household with very high average effective tax rates.

**Figure 1. Tax mix**

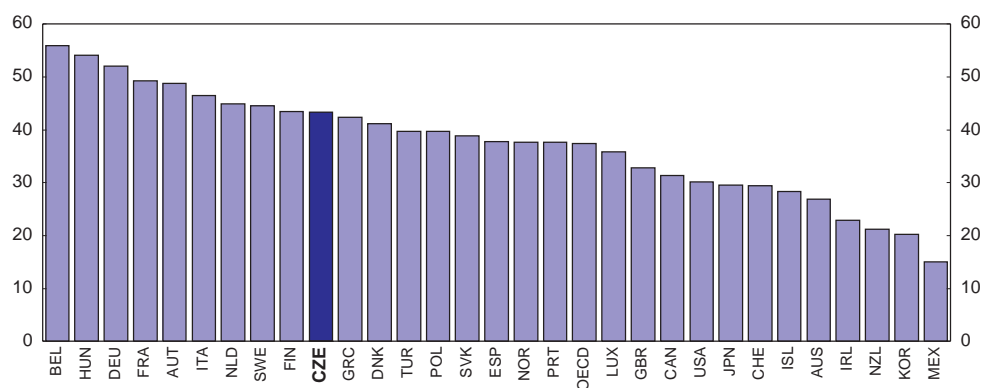


Note: Data refer to 2008 for the Czech Republic and 2007 for other countries.

Source: Ministry of Finance of the Czech Republic, *Fiscal Outlook*, October 2009; OECD (2009) *Revenue Statistics*; OECD calculations.

**Figure 2. Labour tax wedge, 2008**

Income tax plus employees' and employers' social security contributions as % of labour costs



Note: Data refer to a single individual without children at the income level of the average worker.

Source: OECD, *Taxing Wages 2008*.



**Table 1. Tax wedges for different household types in the Czech Republic**

Income tax plus employee and employer contributions less cash benefits (as % of labour costs), 2008

Household type	<i>No children</i>		<i>Two children</i>		<i>Difference in tax wedge between childless households and those with children</i>	
	Single	Married	Single	Married	<i>Single 67</i>	<i>Married 100 + 33<sup>1</sup></i>
Wage level (% average wage):	67	100 + 33 <sup>1</sup>	67	100 + 33 <sup>1</sup>	<i>Single 67</i>	<i>Married 100 + 33<sup>1</sup></i>
<b>Czech Republic</b>	<b>40.0</b>	<b>41.3</b>	<b>14.8</b>	<b>30.4</b>	<b>25.3</b>	<b>10.9</b>
Germany	47.3	47.2	34.8	41.4	12.5	5.8
Hungary	46.7	50.4	29.8	42.8	16.9	7.6
Poland	38.7	38.7	33.7	34.4	5.0	4.2
Slovak Republic	36.1	36.1	24.2	30.1	11.9	5.9
OECD <sup>2</sup>	33.5	34.3	18.4	29.4	15.2	4.9

1. Two-earner family, one earning the average wage (AW) and the other earning 33% of the AW.

2. Unweighted average.

Source: OECD, *Taxing Wages 2008*.***A major tax reform was implemented in 2008***

A series of tax changes took effect at the beginning of 2008. The most important concerned the overhaul of the PIT and the introduction of a cap on income subject to SSCs at four times the average wage (about CZK 90 764 per month in 2008). In late 2009, this ceiling was raised to six times the average wage from 2010, as part of the government's fiscal consolidation package. Most other major taxes were also affected by the 2008 reform in one way or another. The main aim of the reform was to promote growth and employment by simplifying the tax system, lowering tax rates while broadening tax bases, and gradually shifting towards greater reliance on indirect taxes. The government argued that the changes would strengthen the incentives for labour-market activation. It was also hoped that the flat-rate PIT would encourage human capital formation, since the returns on investment in human capital would be taxed less heavily. The changes to capital taxation arising from both the PIT reform and the reduction in the CIT rate were meant to boost investment and also make the allocation of capital more efficient.

The PIT reform introduced a flat-rate system based on direct labour costs (often referred to as "super-gross" earnings), with a fixed rate of 15% to replace the previous progressive scale, which comprised 12, 19, 25 and 32% brackets. The so-called "super-gross" tax base for employees comprises the gross salary and the employer's health and social insurance contributions, which are equivalent to 35% of gross salary. The 15% rate levied on this base is roughly equivalent to a rate of about 23% for dependent employees under the pre-reform PIT. The 15% headline rate was to have fallen to 12.5% from 2009, but in late 2008, the PIT rate cut was set aside in favour of a 2.5 percentage-point reduction in social security contributions adopted as part of the government's response to the economic crisis.<sup>6</sup> The reform significantly increased various credits, including the personal tax credit,<sup>7</sup> the tax credit for a non-earning spouse and the tax credit for children. These changes were intended to avoid any increase in the tax burden on those previously taxed at rates below 23%. The relatively high basic tax-exempt income threshold also allowed some progressivity in the average tax rate to be retained: even a single earner with no children enters the PIT net

6. The rate was reduced by 1.5 points for employees and by 1 point for employers. In fact, some reduction in SSCs was already under discussion, but the crisis gave the issue new urgency.

7. The reform increased the personal tax credit from CZK 600 per month to CZK 2 070 (just over 8% of the average monthly wage) in 2008. This was scheduled to fall in 2009, when the PIT rate was cut, but the reduction in the credit was set aside along with the rate cut.

only at about 45% of the average wage. For many earners, PIT liabilities first bite at still higher levels: for a single earner with two children, the basic tax-exempt income threshold rises to 130% of the average wage. The joint taxation of couples with children was abolished – there is little advantage to joint taxation under a flat-rate PIT – but an increased tax credit for a dependent spouse is reckoned to compensate those who might nevertheless have lost out as a result of the change. Other changes included greater tax relief for students and holders of medical disability cards, and changes in the tax-exemption rules applying to the sale of securities.

The position of self-employed persons is somewhat more complicated than that of dependent employees, owing to other changes. Like dependent employees, the self-employed benefit from a lower tax rate and a larger personal credit, but under the super-gross system, they are no longer able to deduct their social and health insurance from their tax base. On balance, the new system offers them relief, because they pay lower SSCs and are thus less affected by the adoption of the new larger base. Moreover, the minimum tax for the self-employed was abolished. Self-employed persons already benefited from a cap on earnings subject to SSCs, and the reform raised this cap to the level of that introduced for dependent employees.

The reform also cut the statutory CIT rate from 24% in 2007 to 21% in 2008 and 20% in 2009, continuing a trend that began in 2000, when the rate fell from 35 to 31%.<sup>8</sup> All withholding taxes on capital returns were unified at a 15% rate, the minimum allowed under EU regulations. These rate reductions were accompanied by some broadening of the tax base, most notably the tightening of thin capitalisation rules and limitations on financial expenditure. The CIT fell to 19% in January 2010, though this will affect cash flows only in 2011.

The preferential rate of VAT applied to a range of basic goods and services rose from 5 to 9%. The increase in the concessionary rate of VAT served to offset the revenue losses arising as a result of the changes to the PIT and CIT. However, while reducing the gap between the two rates, the reform expanded the reduced-VAT group to include certain environmental fuels (*e.g.* biofuels) and technologies in an effort to stimulate demand for more environmentally friendly products. Both the standard and lower VAT rates were raised by one percentage point in 2010, as part of the government's fiscal consolidation efforts.

Changes to other taxes were modest:

- Municipalities have been empowered to exempt farm land from the real-estate tax, though they can then withdraw the exemption if the land is close to a built-up area or is designated for construction. At the same time, they have been given the right to choose between four different tax rates for the real estate tax on buildings and non-agricultural land. The latter measure was intended to allow municipalities to offset revenue losses arising should they choose to exempt farmland. The reform also initiated the phase-out of the previous exemption of newly constructed buildings from the real estate tax for 15 years.
- New environmental taxes on electricity, coal and other solid fuels, and natural gas were introduced in compliance with the European Energy Taxation Directive (2003/96/EC). These reinforce the shift towards greater reliance on indirect taxes. Excise taxes were also revised to meet EU obligations, including higher rates on tobacco products. In 2008, mineral oils and tobacco products accounted for around 90% of revenues from these taxes, with liquor, beer and wine bringing in most of the rest. Taxes on electricity, gas and coal generated little revenue.
- Exemptions on gift and inheritance taxes were widened.

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8. The rate was reduced to 28% in 2004, 26% in 2005 and 24% in 2006.

Altogether, the reform package shifted the total tax burden slightly from direct to indirect taxation: the share of indirect taxes in total tax revenues rose by about 0.8 percentage points in 2008. This, however, followed an increase in the share of *direct* taxes of roughly 2.4 percentage points over the decade to 2007. There is thus considerable scope for further shifting towards greater reliance on indirect taxes.

### ***The benefit system has undergone many changes***

Recent tax changes must be assessed alongside the numerous adjustments to the benefit system that have been made in the last few years. The Czech Republic's three-pillar system of social protection (Box 1) is relatively extensive and is widely regarded as effective in reducing poverty and inequality. Like many small, highly open economies, the Czech Republic relies on relatively generous social protection to mitigate the adjustment costs that trade openness and product-market liberalisation sometimes entail.<sup>9</sup> Yet if the openness of the Czech economy constitutes an argument for a fairly extensive benefit system, it also underscores the importance of designing benefit policies so as to encourage work and avoid benefit traps. Over the long run, the sustainability of such systems of social protection depends on maintaining the high levels of employment needed to finance them. Ensuring that work pays has therefore been one of the main aims of benefit policy in recent years. Nevertheless, the numerous reforms adopted in recent years have not been entirely consistent.<sup>10</sup> Some tended to increase and others to curtail the generosity of various benefits. In particular, many benefit increases adopted in 2006 served to increase incomes of those not in work, thereby reducing their incentives to activate. Yet subsequent reforms aimed at clawing back some of these increases actually reduced the incentives to work even further, since they withdrew many benefits at lower incomes than before rather than cutting them across the board. This sequence of expansion and retrenchment thus highlighted the tension between limiting benefit expenditure, by effectively targeting those most in need, and encouraging activation, by ensuring that benefit withdrawal does not confront those entering employment or increasing hours worked with excessive average or marginal effective tax rates.

The run-up to the 2006 general election witnessed some very large increases in benefits available under state social support, with little accompanying reform. Parental allowance – the largest benefit paid under state social support – more than doubled in 2007, from CZK 3 696 to CZK 7 582 per month. Aggregate expenditure on parental allowance thus jumped from CZK 13.5 bn to CZK 28.7 bn. Expenditure on birth grants, which were also increased, rose by around one-third, and child allowances were also increased. In 2008, some of these changes were reversed. The birth grant was cut, and the child allowance was simplified, while eligibility was reduced. Previously, it had been paid at three levels, depending on household income, up to a threshold of three times the “Minimum Living Standard” (MLS, see below) defined for the household. Now there is only a single rate of benefit paid, which is available to households with incomes up to 2.4 times their MLS. At the same time, parental allowance was revised to allow parents the option to receive it over two, three or four years, albeit at different rates, so that the overall value of the benefit is roughly the same. The allowance now has three payout options: CZK 11 400 per month for two years; CZK 7 600 per month for three years; or CZK 7 600 per month until the child is 21 months old and then CZK 3 800 until he/she is 48 months old. Only around 5% of new parents have chosen the two-year parental leave option, with 42% opting for the extended, four-year arrangement. In 2009, the child allowance was increased again as a temporary measure, in an effort to mitigate the impact of the economic downturn on families with children, while eligibility was marginally relaxed.<sup>11</sup>

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9. On the relationship between social protection and globalisation, see, *inter alia*, Katzenstein (1985); Hays *et al.* (2005); Mares (2005); and Kim (2007).

10. This section focuses on changes to social support and social assistance; reforms to sickness insurance and disability pensions are treated separately below.

11. From 1 July to 31 December 2009, child allowance was paid to families with an income of less than 2.5 times the MLS and the monthly amounts of the allowance are increased by CZK 50, to CZK 550 for a

### Box 1. The system of social protection

The Czech system of social protection rests on three major pillars, a social insurance pillar financed from dedicated social security contributions and two non-contributory benefit systems financed from the state budget:

- The **social insurance** system, as its name implies, covers contributory benefits, including unemployment benefit, sickness insurance, and disability and old-age pensions. Contributions are defined as a percentage of gross earnings and are divided between employer and employee. Since benefits are paid in relation to previous net income, there is some relationship between contributions and benefits, but the formulae for computation of most benefits entail significant redistribution.
- **State social support** focuses on the needs of families with dependent children; the system covers child benefits, parental allowances, birth and death allowances, housing allowances, foster-care allowances and social supplements. Social support benefits are not means-tested but child allowances, housing allowances and social supplements are income-tested.
- The system of **assistance in material need** (hereafter simply “social assistance”), which underwent a major overhaul in 2007, provides safety-net income to individuals or families who meet certain eligibility requirements and whose income, including all other state support benefits, pensions or sickness insurance benefits, is insufficient to allow them to meet what are accepted to be basic living requirements. This is aimed at preventing poverty and social exclusion, especially of children. Benefits in this system are means tested (property and income). The system gives preferential treatment to recipients who are working or actively seeking work, though certain groups (pensioners, parents caring for children, etc.) are not required to seek employment. The level of benefit is determined by the living minima established for each member of the household: these minima depend on the ages of the recipients and the composition of the household.<sup>1</sup>

1. For example, the minimum for an adult living alone is higher than for an adult in a multi-member household; the minimum is higher for the first adult in the household than for other adults, and lower minima are defined for children and young people.

One of the most potentially far-reaching changes introduced in 2007, and one that affected a range of benefit calculations, was the revision of the formula for calculating the so-called “Minimum Living Standard” (MLS), which was meant to reflect the cost of living. This was used in calculating most benefits, which were typically stated in multiples of the MLS. Previously, the MLS was calculated in two parts: a personal MLS for each member of the household (there was a single value for all adults and a scale of four values for children, depending on their ages) and a household MLS, based on the number of persons in a household and intended to reflect housing expenses, in particular. The MLS for a household thus depended on the number of members and the value of the personal MLS of each member. Under the new system, however, there is only a single MLS calculation based on the number of persons in the household and their status: there are now just three age brackets for children, but the amount for the second and further adults in a household is lower than for the first; there is also a separately defined MLS for single-member households. In addition to the revised MLS, the authorities introduced a new “subsistence minimum” of CZK 2 020 per month – well below the MLS for an adult – which replaces the MLS when calculating social assistance benefits for unemployed individuals who do not co-operate with efforts to find them employment or otherwise improve their situations. Overall, the new MLS formula is less generous than the old, but the impact of this change was initially offset by adjusting the formulae for calculating some benefits so as to offset the effect of a lower MLS.<sup>12</sup>

child under 6, CZK 660 from 6 to 15 years of age, and CZK 750 from 15 to 26 years (provided the child remains in full-time education or vocational training, or is disabled).

12. For example, the most generous level of child benefit was previously 0.32 times the child’s MLS for households with income below 1.1 times the MLS for the household; in 2007, this changed to 0.36 times the child’s MLS up to a threshold of 1.5 times the household’s MLS. Similar adjustments were made in

Subsequently, a number of benefits were effectively “decoupled” from the MLS, being stated in cash amounts instead. This change affected the birth grant, the parental allowance, child allowances and housing allowance. The MLS remained the basis for social assistance payments aimed at the lowest-income households, but less targeted benefits were de-linked from it. The purpose of the change was to hold down the expenditure increases associated with increases in the MLS and thus to reverse some of the large benefit increases adopted prior to the 2006 general election (OECD, 2008a:73-74). The long-term implications of this shift are unclear. As the previous *Survey* suggested, there is a danger that some benefits may get more attention than others for political reasons, and regulations concerning indexation of the MLS and subsistence minima are in any case very light: increases are set by government decree, although the MLS must be increased at least in line with the CPI when inflation exceeds 5%. *While a period of discretionary indexation can provide fiscal savings, the authorities should ultimately consider a return to comprehensive automatic indexation on the basis of a formula that is transparent and fiscally sustainable.*

In the case of housing allowance paid under state social support, decoupling from the MLS came in the context of a shift towards defining housing benefits in relation to housing costs. Until 2007, housing benefit was defined purely in terms of the relationship between households’ net income and the various components of their MLS. Under the new formula, housing benefit covers the gap between prescriptive housing costs, defined according to family size, type of accommodation and location, and 30% of household income (35% in Prague). The cost estimates, set by government decree, are reckoned to be fairly conservative. At the same time, a new housing supplement was introduced under social assistance in order to provide additional support to households whose total net income, including housing allowance and living allowance, is still lower than the MLS. The combined effect of the two changes has been to increase the generosity of housing benefits overall but also to improve the relative position of the lowest-income groups, who appear to have benefited most from the changes (OECD, 2008a).

The upshot of the foregoing is that both tax and benefit systems have undergone numerous changes in recent years, some of them quite substantial and not all of them entirely consistent with one another (Table 2). While governments since 2006 have taken steps to reverse some of the benefit increases adopted prior to the general election that year, they have also increased the generosity of other benefits. Moreover, in a number of instances, they have accelerated benefit withdrawal rates rather than reversing benefit increases overall. This means that benefits are arguably better targeted at those most in need, but, as will be seen, it also increases the marginal and average effective tax rates faced by many non-working individuals should they enter employment.

### **Labour taxation, the benefit system and labour supply**

This section considers the implications of recent changes in the tax and benefit system, particularly in terms of their impact on work incentives. It looks first at the impact of the changes to the PIT, SSCs and social benefits on households, particularly their labour-supply decisions. The impact of both tax and benefit reforms can be assessed by analysing average and marginal effective tax rates (AETRs and METRs). The interaction of the tax and benefit systems can create high effective rates for certain groups, affecting labour-force participation, working hours and employment. The importance of work incentives is likely to increase in the near future. Labour-market outcomes have worsened considerably in the current

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respect of the calculation of other levels of child benefit, of the “social supplement” paid under social assistance, and so on.

**Table 2. Major changes in tax and benefit systems, 2004-09**

Year	Measure
2004	Increase in unemployment benefit after three months raised to 45% of previous net wage Differentiation of duration of unemployment benefit entitlement according to age (15-50, 50-55 and 55+)
2005	Introduction of joint taxation of married couples with children Replacement of tax deductions for children by a payable tax credit for children
2006	Reduction in the basic rate for the first two PIT brackets Increase in the ceiling for the lowest PIT bracket
2007	Change in the calculation of the minimum living standard (MLS); introduction of a lower “subsistence minimum” as a sanction for those not co-operating with labour offices Introduction of new form of housing allowance, based on the relationship between household income and “prescriptive” housing costs, which are linked to municipality size <sup>1</sup> Extensive reform of assistance in material need, introduction of a new living allowance and a housing supplement New maximum for unemployment benefit set at 0.58 times the average wage for the first three quarters of the calendar year preceding the year in which the application for unemployment benefit is made
2008	Introduction of single flat rate for personal income tax, based on “super-gross” income, expansion of basic tax credits Abolition of joint taxation of married couples with children Introduction of a ceiling on income subject to social security contributions (SSCs) for dependent employees, increase in the SSC ceiling applied to the self-employed to match the new ceiling for employees Reform of parental allowance, allowing parents to choose the period over which it is drawn down (2-4 years) Revision to child allowance, payable in fixed amounts to families up to 2.4 times the living minimum, with simplification and reduction of eligibility
2009	Reduction in social security contributions paid by employers (1 p.p.) and employees (1.5 p.p.), the former to be phased out in 2010 <sup>2</sup> Increase in tax credit for children Increase in child allowance (valid until end-2009 only) Replacement rate for unemployment benefit to be raised to 80% for the first two months and 55% thereafter, as from 1 November 2009 (never implemented) <sup>3</sup> Introduction of a three-day waiting period for receipt of sickness insurance benefits and employer responsibility for sick pay from the fourth through the fourteenth day of a sickness spell

1. If actual housing costs are lower than “prescriptive” costs, then allowances are based on actual costs.

2. The phasing out of the temporary reduction in employer SSCs was accelerated as part of the fiscal consolidation package adopted in the autumn of 2009.

3. Legislation adopted prior to the crisis would have reduced benefit duration by one month while raising replacement rates; the government’s anti-crisis package raised replacement rates further and restored the extra month to the duration of the benefit. This was reversed again, however, by the fiscal consolidation package, which returned to the less generous policy settings.

Source: Pavel (2009) and Ministry of Finance (2009).

economic downturn. The experience of past recessions suggests that there is a high risk that many newly unemployed individuals will either become long-term unemployed or will simply withdraw from the labour force. Current policies need to aim at supporting unemployed individuals in such a way as to facilitate their speedy return to employment. This being the case, the benefit and tax systems and the incentives created by their interaction may become more important in shaping labour-market developments and will have important fiscal consequences. For example, although the duration of unemployment benefits

is relatively short for most workers,<sup>13</sup> the interaction of the benefit and tax systems will be crucial in avoiding the creation of unemployment traps.

***The PIT reform and the cap on SSCs had a limited effect on the tax wedge***

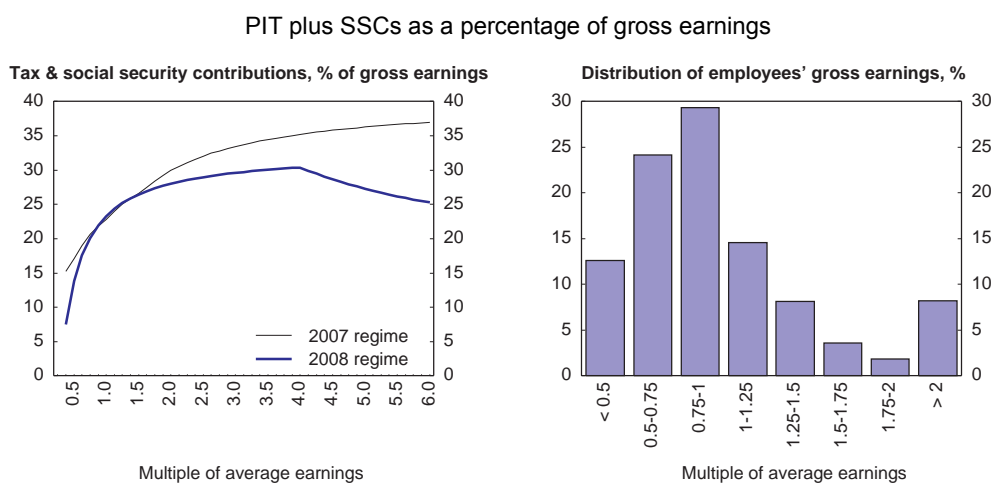
A large body of research suggests that tax changes can have a significant impact at the margin on the labour supply of specific groups, even if their aggregate impact is limited. While hours of work are relatively inelastic for men overall, some recent work suggests that the participation rates of low-skilled men may be more responsive to changes in incentives than previously thought (Meghir and Phillips, 2008). It is widely accepted that the participation of married women and single parents can be quite sensitive to taxation, though once active, their effort, in terms of hours worked, appears to be only slightly more responsive to taxes than of than main breadwinners. For highly skilled men, participation rates appear to be unresponsive but higher marginal rates seem to discourage effort. Finally, the self-employed appear to be more responsive to taxes than dependent employees.<sup>14</sup> This result is consistent with OECD work suggesting that high marginal tax rates discourage entrepreneurship and, by extension, may dampen productivity growth (Johansson *et al.*, 2008; and Vartia, 2008). The results reported by Bičáková *et al.* (2008) in a study of Czech labour supply are broadly congruent with these findings from studies elsewhere. Overall, the Czech Republic conforms to the general rule that high participation rates are inversely related to the wage sensitivity of labour supply: Czech participation rates are high and wage elasticities are generally low. However, the elasticities for low-wage men are about six times the average for all men. Women's elasticities are about triple those of men, on average, and vary little with income. These findings point to some initial expectations about the likely impact of the recent Czech tax reforms.

Taken together, the reform of the PIT and SSCs brought little change in the tax wedge for most dependent employees but did result in significant reductions for those well above average earnings and those at the very bottom of the wage distribution (Figure 3). On its own, the reduction in the wedge for low earners constitutes an incentive to seek and accept vacancies. However, as will be seen, the real impact of this change on the low-paid depends on its interaction with the benefit system: many low earners may face steep rises in their marginal effective tax rates (METRs), even if their average effective tax rates (AETRs) have fallen. Moreover, benefit changes in some cases result in increased AETRs for households that gained from the PIT reform. The drop at higher incomes is partly the result of the PIT reform but mainly, at very high incomes, a product of the cap on SSCs, which affected roughly the top 1.8% of earners in 2008; the new, higher cap in effect from 2010 will affect still fewer. The ceiling is unlikely to have a big impact on labour supply, since the affected groups are already in work, by definition, and research suggests that their marginal supply is fairly insensitive to tax changes (Meghir and Phillips, 2008).

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13. Five months for those under 50 years of age, eight months for those 50-55 and eleven months for workers over 55.

14. See Meghir and Phillips (2008). In the Russian case, Duncan and Sabirianova-Peter (2009) find that the flat-rate PIT introduced in 2001 does appear to have had a small but statistically significant impact on male hours of work, with implied elasticities with respect to tax rates that are in line with other estimates of male labour-supply elasticities. Simulations of the introduction of a flat-rate PIT in Belgium point to a similar conclusion. See Decoster *et al.* (2008); and Paulus and Peichl (2009).

**Figure 3. Impact of the new personal income tax: single person with a standard deduction**

Note: The distribution of employees earnings is based on 2006 data.  
Source: Czech Statistical Office, OECD calculations.

The SSC ceiling was not, strictly speaking, part of the tax reform package at all: it was adopted separately. Its principal rationale was to reflect the fact that pensions and other social security benefits are subject to maximum levels, regardless of contribution history. Since these systems are meant to operate as social insurance rather than forms of social assistance, it was argued that a ceiling on income subject to SSCs would strengthen the link between contributions and benefits. Such caps on SSCs are a feature of many OECD tax systems. They are typically aimed at limiting the degree of cross-subsidy in pension and social insurance systems and at strengthening the link between contributions and benefits. However, most countries with an SSC ceiling also have PIT systems with progressive rate schedules. The combination of the SSC ceiling and the flat PIT is thus unusual, though not unique, in the OECD. The sharp drop in the METR at such a high level of income, and the fact that it implies steadily declining *average* effective tax rates for high earners has prompted criticism on grounds of equity.

It is important to set the equity implications of the reform in context. First, income distribution in the Czech Republic is unusually compressed by OECD standards and the incidence of poverty is lower than in almost any other OECD country. Secondly, questions of equity are better assessed in terms of the tax and benefit system as a whole. Thirdly, any assessment of the system's equity needs to look not only at the degree of redistribution that it effects but also at its impact on labour-market incentives and opportunities. A more "generous" or "progressive" system may seem more equitable at first glance, but if it creates inactivity traps or disincentives to increase earnings, then its claim to equity is open to question. It could, moreover, be argued that the SSC ceiling will benefit the whole economy, as it represents a form of tax competition for the most internationally mobile workers, and that, at least at the margins, it reduces incentives for tax evasion. It might also generate some positive externalities by increasing incentives to invest in human capital or engage in entrepreneurship (OECD, 2008a, Johansson *et al.*, 2008). Nevertheless, even bearing these considerations in mind, the SSC ceiling looks like an anomaly. Since it affects fewer than 1% of earners, it would also be difficult to argue that it does much to strengthen the contributions-benefits link in the social insurance system or that its impact on labour-market incentives is very great. It introduces a marked discontinuity in the effective marginal tax schedule. This contrasts starkly with the steeply rising METRs faced by many on low incomes and is at odds with the goal of flatter and smoother schedules. Finally, it leaves a very small minority of very high earners with lower AETRs than those affecting less well off income groups. *The current ceiling on SSCs is difficult to defend on equity grounds and unlikely to have much impact on labour-supply decisions. It has already been raised once since its introduction, and the government should consider eliminating it altogether.*



***The impact of the tax changes on labour supply depends on their interaction with the benefit system***

In principle, the impact of tax and benefit reforms on labour-market behaviour should depend on the path of average effective tax rates (AETRs), which primarily influence the decision to *enter* the labour market, as well as changes in marginal effective tax rates (METRs), which mainly influence the incentives to work one hour/one unit more (Carone *et al.*, 2004). The analysis presented here uses a modified version of the OECD's *Tax and Benefit Model* to assess the impact on households of the numerous changes to the tax and benefit systems adopted in recent years.<sup>15</sup> The *Tax and Benefit Model*, despite some limitations, offers perhaps the best available basis for an initial assessment, since the detailed data needed for an empirical analysis of household behaviour in response to the most recent reforms do not yet exist.<sup>16</sup> Moreover, since there have been more or less continuous changes to the system in recent years (Table 2), it would be extraordinarily difficult to assess the behavioural response even to some less recent reform measures, and it would be hard to distinguish between the impact of the current economic situation and the effect of the reforms. The analysis that follows looks first at changes in AETRs under the recent reforms, before turning to an analysis of the reforms' impact on the METR profile facing different sorts of households as they move up the earnings scale. It should be noted at the outset that the model does not cover disability pensions or sickness insurance, both of which have likewise been the subject of important recent reforms; these are discussed separately below.

Overall, the model suggests that the most significant changes in the tax and benefit system include the introduction of a higher standard tax credit (2008), the change in housing allowance and the social assistance supplement for housing (2007), the changes in family benefits (2007-08), the reform of the MLS and the introduction of the single PIT rate. The first four of these reforms apply primarily to households with earnings below the average wage (AW). Since the evidence suggests that low-income workers are more responsive to financial incentives, they are arguably well targeted to achieve a labour-supply response. The flat PIT rate, by contrast, has its greatest impact on households earning more than 160% of the AW. The cap on SSCs is not captured in the analysis, since the model focuses on wage levels up to 200% of the AW, well below the level at which the cap takes effect.

***Average effective tax rates are above the OECD average for many household types***

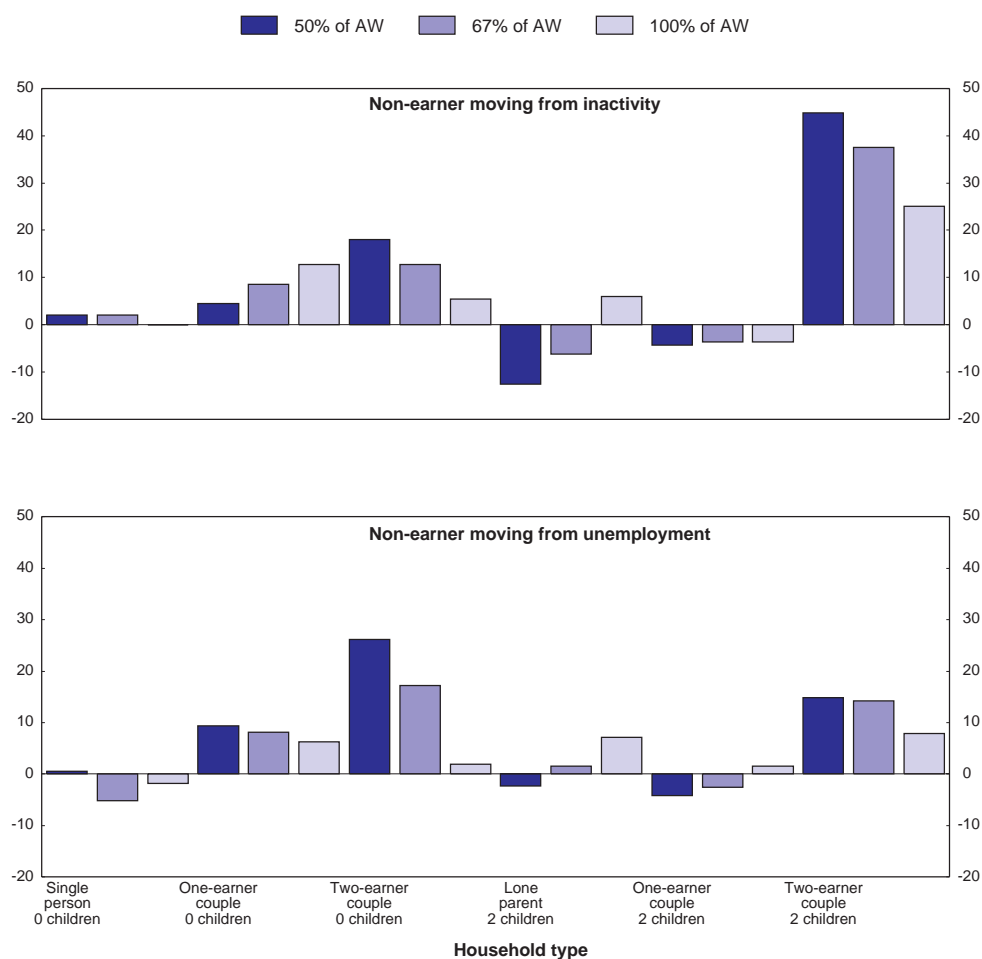
The AETR reflects the tax and benefit incentives to participate in the labour market and to take up a job, as it measures the part of any additional gross earnings that are "taxed away" when moving from inactivity or unemployment to full-time employment. Overall, it seems that the AETRs facing individuals moving into low-wage jobs are somewhat higher than the OECD average for most household types (Figure 4). However, most of the differences are fairly small; the larger ones concern two-earner families with and without children. The AETRs for these groups suggest that there may be disincentives for second earners to work. Furthermore, the AETRs are comparatively high not only at low income levels but also at the level of the average wage. As in many countries, the incentives to work in the Czech Republic are lower for households entitled to unemployment benefits (Figure 5), although the limited duration of those benefits for most workers means that this probably matters less than in many other OECD economies. The relatively high AETRs on labour supply are matched to some extent by factors that tend to depress demand for low-skilled labour, such as high severance costs and employer-paid social charges (CNB, 2008).

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15. The model and the adjustments made to it for this analysis are described in Annex 1 below.

16. Where cross-national comparisons are presented, the standard model is employed; the rest of the discussion, focused only on the Czech Republic, uses the extended model, which presents a more detailed picture of the Czech system.

Figure 4. AETR: Czech Republic minus OECD average



Note: In a one-earner household the base case earnings are 67% of the average wage (AW). The graph shows the average effective tax rate (AETR) when an individual in the base case household moves to fulltime employment at 50%, 67% and 100% of AW. Simulations refer to the systems in 2008 and 2007 for the Czech Republic and OECD respectively. Twenty-four members are included in the reported OECD average.

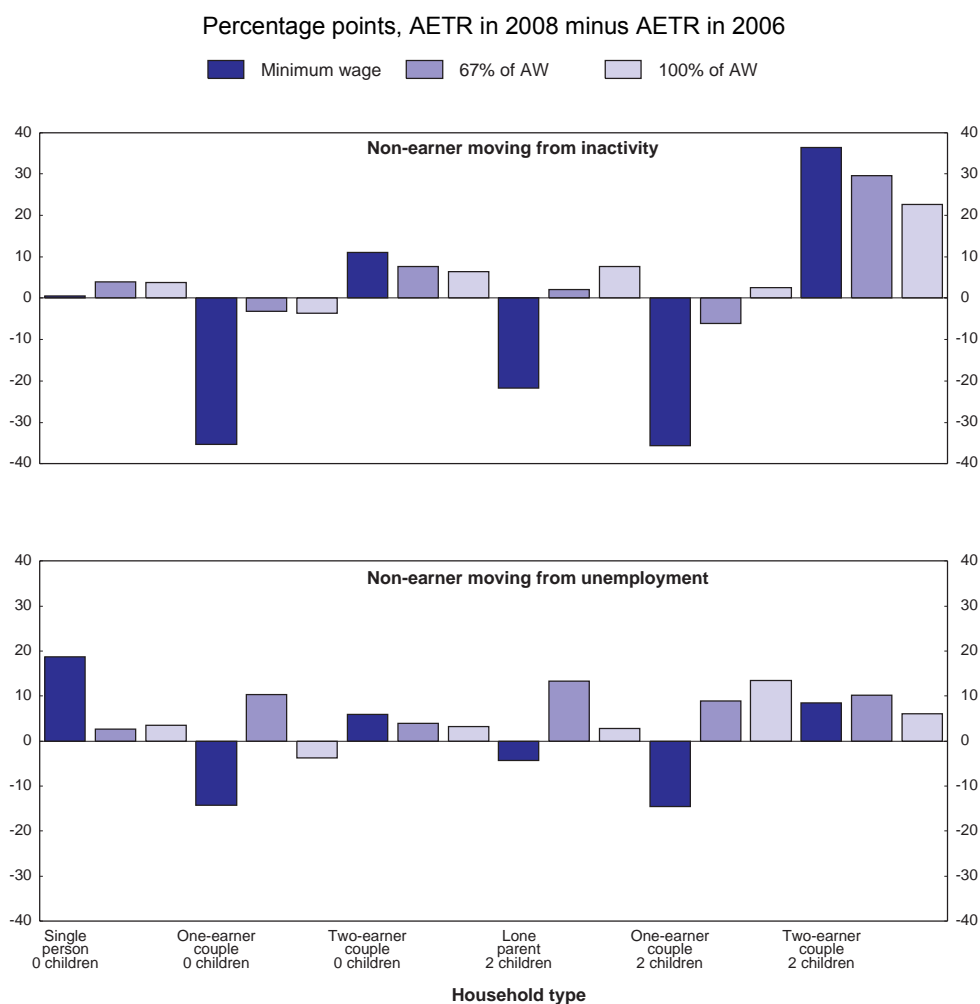
Source: Ministry of Finance, Ministry of Labour and Social Affairs, and OECD, *Tax and Benefit Model*.

### *The impact of the reforms on AETRs has been limited*

Given the relatively low estimates for the wage elasticity of labour supply in the Czech Republic, the size of most of the changes in Figure 5 suggests that the tax and benefit reforms adopted in 2006-08 had little impact on the overall incentives to move from inactivity/unemployment to full-time employment for most households, except for couples with children and some minimum-wage workers. The changes in the personal income tax system in 2008 have clearly had a smaller impact on AETRs than the changes to the benefit system. Moving to the flat tax rate system with increased tax credits reduced the AETR for most households, though it increased slightly for certain households whose tax liability exceeded the tax credits but whose income was too low to benefit from the flat rate – *i.e.* their pre-reform tax rate was lower than the flat rate equivalent of 23% (Figure 3 above). However, the reforms give a particularly beneficial treatment to households with children, making the work incentives relatively low for the second earner in

the household.<sup>17</sup> Family benefits, including both child allowance and social allowance, have become more generous at low income levels for households with children (Figure 6). This increases the second earner's AETR and thus reduces incentives to activate. Furthermore, the withdrawal of family benefits takes place at a lower income level than previously, which is likely to increase AETRs when moving from inactivity or unemployment to full-time employment.

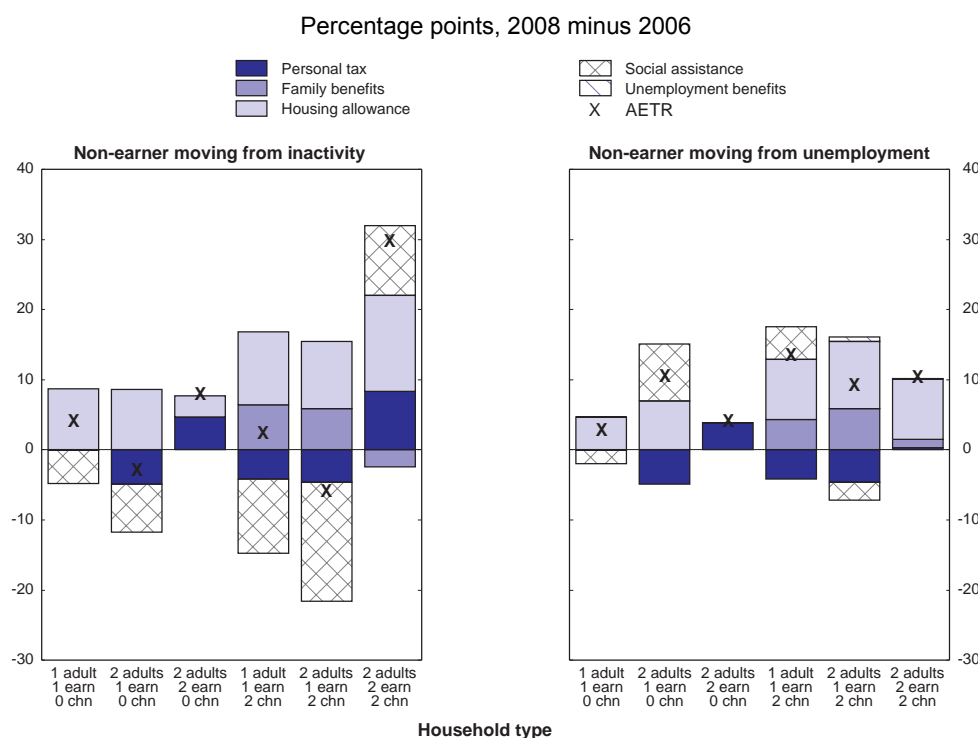
**Figure 5. Changes in AETRs for different household types, 2006 and 2008**



Note: In a two-earner household the second spouse is assumed to have full-time earnings equal to 67% of the average wage (AW). The graph shows the average effective tax rate (AETR) when an individual moves to full-time employment at the minimum wage, 67% of AW and 100% of AW. Simulations refer to the systems in 2006 and 2008.

Source: Ministry of Finance, Ministry of Labour and Social Affairs, and OECD, *Tax and Benefit Model*.

17. CNB (2008:89) also draws attention to the very high net replacement rates for families with children, whether recently unemployed or long-term unemployed.

**Figure 6. Changes in the AETR and its components, 2006-08**

*Note:* In a two-earner household the second spouse is assumed to have full-time earnings equal to 67% of the average wage (AW). The graph shows the change from 2006 to 2008, in the effect of an individual in the base case household moving to full-time employment at 67% of AW. Personal tax is income tax and social security contributions.

*Source:* Ministry of Finance, Ministry of Labour and Social Affairs, and OECD, *Tax and Benefit Model*.

The 2007 reform of social assistance implied changes in the living allowance, but it also included the introduction of the housing supplement – a new component of social assistance. In general, the post-reform living allowance is less generous at low income levels, but eligibility for the allowance was extended to higher income levels – in other words, it is withdrawn less quickly. In addition, the housing supplement partly compensates for the lower living allowance. The comparison of the impact of these reforms on AETRs at different income levels shows that the level of social assistance for an inactive single person or a single-earner household with zero gross income is lower after the benefit reform, whereas there is no change in the benefit level at an income of 67% of the average wage: at this level, the household was not and is not eligible for social assistance. The lower AETRs faced by households at 67% of the average wage thus reflect a reduction in net income when inactive. The reform of social assistance also reduced the AETRs of single-earner households with children. For households with two earners and no children, the benefit situation remained the same: they are not eligible for the benefit. However, the new social assistance system gives more favourable treatment to low-income couples with children: under the pre-reform system, such households were not eligible for social assistance, but under the current system they are covered by social assistance at low income levels. The new housing allowance scheme, which was reformed to reflect housing costs, is more generous for all households with income levels eligible for this benefit.<sup>18</sup> However, the increase in the housing allowance was relatively higher for lower income households. Thus, the reform implies higher AETRs for households moving from inactivity to full-time work. In particular, the allowance increased AETRs of households with children.

18. The reform also implied that eligibility for the scheme was extended to higher household income levels.

### ***Marginal effective tax schedules have become flatter for most household types***

This section assesses the impact of the reform on *marginal* effective tax rates (METRs) for different types of households at different points in the income distribution (Figure 7). Attention is focused on those spikes in METRs that fall at or above the minimum wage, which is about 30% of the average wage: discontinuities in METRs below this level would affect incentives only for part-time workers, which is an issue that will be discussed separately. The METR takes into account not only the nominal marginal rate of tax but also any loss of welfare entitlement that an individual may experience as result of increased earnings. It thus reflects the share of an additional unit of income that the individual can expect to keep. Overall, the results show that the tax and benefit reforms have made the METR schedule somewhat flatter, which is to be welcomed, although the ceiling on income subject to SSCs introduced a very large discontinuity at four (from 2010, six) times the average wage, with the METR falling sharply. The flattening of METR schedules is particularly evident in respect of households without children and those on higher incomes. Both the profile of the METR schedule and the extent to which it has changed in recent years depend not only on income level but also on the type of a household.

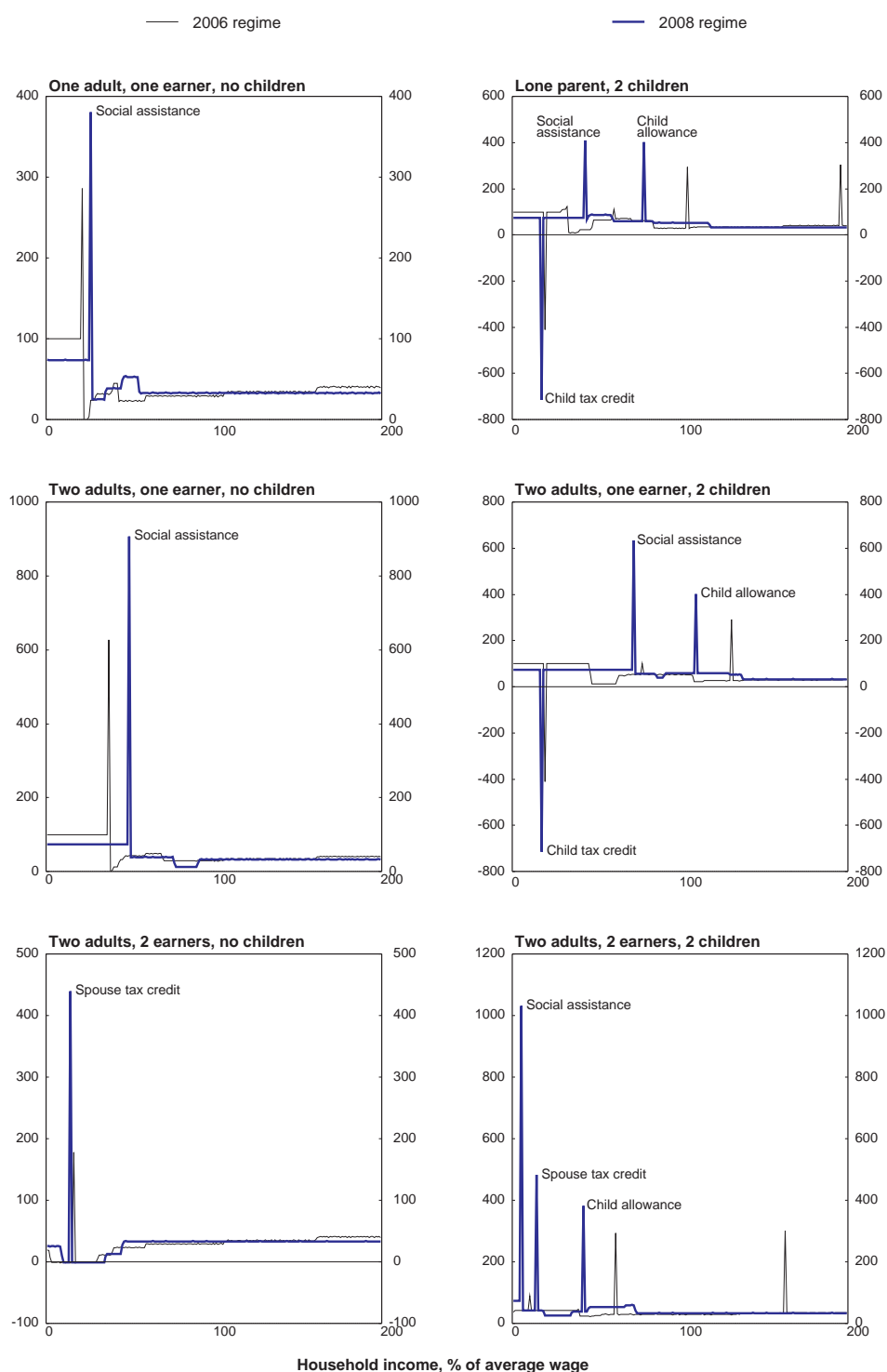
### ***Disincentives to work exist for certain groups and in some cases have been reinforced***

An assessment of changes in the tax and benefit system over 2006-08 reveals no simple picture of the effects of successive reforms. On the one hand, the 2008 PIT reform has made the METR profile flatter for most household types, although they do face larger stepwise jumps in marginal rates, due to the combination of an expanded standard tax credit and an effective flat PIT rate that is higher than were the lower brackets under the old system. On the other hand, the benefit system continues to create discontinuities in METR schedules and substantial changes in net income (Figure 7). In a number of cases, the “spikes” in the METR profile, reflecting a fall in net income, have simply been shifted along the wage scale: family benefits are withdrawn at a lower income level in the post-reform system, whereas social assistance is withdrawn at a higher level. Similarly, stepwise jumps in the METR profile have also moved up the wage scale, as the standard tax credit has been enlarged and the housing allowance is now withdrawn at higher income levels than before.

In general, the benefit and tax reforms have strengthened the incentives to increase work effort for most household types at very low wage levels. In 2006, virtually all single-earner households encountered METRs of 100% or more at very low income levels, implying that working another additional unit would not have increased the net income of these households. This disincentive to work was partly due to the way the living minimum was defined and used in the calculation of social assistance. Since the reform in 2007 changed the definition and the calculation of social assistance, this disincentive has been reduced. However, for two-earner households, the situation is different: the reformed benefit system discourages the second earner from working at low income levels, even on a part-time basis. At higher income levels, the introduction of the flat-rate PIT in 2008 reduced METRs, thereby increasing work incentives.

As is clear from Figure 7, the most apparent difference in impact concerns the relative positions of households with and without children. For households without children, the reforms brought little change, although single-person households face somewhat higher METRs at wage levels between 43% and 106% of the average wage than they did in 2006. For households with children, the METR profile is characterised by numerous ups and downs, and it is hard to generalise about the reform’s impact on their work incentives. The benefit reforms in 2008 simplified the calculation and the withdrawal of the child allowance and thus reduced the number of “spikes” in the METR profile. However, this reform had little impact on the difference in net income (the AETR) in and out of work or METRs at other income levels. In terms of net income, the impact of the reform of social assistance, *i.e.* living allowance and the housing supplement, was considerably larger. Households with children confront considerable peaks in the METR

Figure 7. METRs for different household types, 2006 and 2008



Note: In a two-earner household the second spouse is assumed to have full-time earnings equal to 67% of the average wage (AW). The graph shows the marginal effective tax rate (METR) as an individual increases earnings to 200% of the AW. Individuals are assumed to have no entitlement to unemployment benefits. Social assistance is living allowance and housing supplement.

Source: Ministry of Finance, Ministry of Labour and Social Affairs, OECD, *Tax and Benefit Model*.

profile and drops in net income due to benefit withdrawal, implying that the reforms may have reduced the incentives to increase working hours. For example, the withdrawal of social assistance at the 43% of the average wage has a significant negative effect on the net income of lone-parent households. They have to increase earnings by around 50% in order to obtain the same net income as before the withdrawal. Two-adult households face similar drops in net income due to the withdrawal of social allowance. The second earner, in particular, is discouraged from increasing hours worked. Another disincentive to work for the second earner is the abrupt loss of the spouse tax credit once the spouse earns more than a half of minimum wage, *i.e.* 16% of the average wage.

Another benefit withdrawal that creates a spike in the METR profile and a substantial drop in net income is the withdrawal of unemployment benefit, which is lost once a beneficiary begins earning more than half of the minimum wage. Hitherto, this has affected a relatively small number of households, because there are very few part-time workers, and the duration of unemployment benefits is only six months. In the years prior to the crisis, roughly half or more of the unemployed in the Czech Republic at any given time were long-term unemployed (over one year) and roughly 70% had been unemployed for over six months, so the benefit withdrawal disincentive would have affected only a minority of unemployed persons, even assuming that all those unemployed for less than six months were eligible for unemployment benefits. However, this may become a larger problem as a result of the surge in unemployment since late 2008.

Overall, the reformed tax system increases work incentives at the margin, due to the flat rate, although once the standard tax credit is fully exploited, the METR increases. At certain wage levels, this confronts households with much higher METRs than previously. On the other hand, the benefit system still creates disincentives, as many benefits are withdrawn abruptly. Although these disincentives may concern only a specific group, such as second earners and single parents at low income levels, *smoothing the withdrawal of social assistance and the spouse tax credit, in particular, could improve employment possibilities and widen the choice of employment for different household types.* Also helpful are activation measures that reinforce a mutual-obligations approach to social protection, such as the new programme allowing social assistance recipients to increase their benefits by doing work for municipalities.

Since many of the biggest spikes in the METRs occur at very low gross earnings, fully realising the potential to increase the labour supply of second earners and others who are inactive is likely to require reducing other barriers to part-time work. Part-time employment accounted for only about 3.5% of total employment in 2008, the third-lowest level in the OECD and far below the OECD average of 15.5%.<sup>19</sup> The actual incidence of part-time work in the Czech Republic may in fact be somewhat higher – some research suggests that a significant proportion of those registered as “self-employed” are in fact dependent workers, many of them part-timers (Baštýř and Vlach, 2007; and Halá, 2007). Nevertheless, this only accounts for a part of the differential: part-time employment is still much rarer in the Czech Republic than in most other OECD members. A number of factors appear to underlie this phenomenon. Relatively low real incomes mean that both partners in most two-earner couples work full-time, and the relative under-development of the services sector, where part-time employment tends to be more common than in industry, probably contributes to low demand for part-timers. However, the causal relationship here may run on both directions: making part-time work easier and more attractive could facilitate service-sector growth. Part-time work is also discouraged by the obligation of employees earning less than the minimum wage to pay health insurance contributions based on the minimum wage for full-time workers, unless they are unemployed, taking care of children or receiving living allowance.<sup>20</sup> This increases the SSC burden on

19. These figures are taken from OECD data using a common definition and thus differ from estimates derived from national sources and based on national definitions.

20. The employee pays the normal contribution 12.5% of her/his wage and on top of this health insurance contribution for the difference between the minimum wage and her/his wage.

part-time employment disproportionately. Furthermore, the employer pays only that portion of the employer's contribution which corresponds to actual pay. The employee is obliged to pay the difference between the employer's share based on the actual wage and the employer contribution due for a full-time minimum-wage worker. The requirement to pay a minimum social security charge even in the case of part-time, low-wage work should be abolished for social assistance recipients and others on very low incomes.

***Policies encouraging new parents to exit the workforce should be reconsidered***

This paper's conclusions concerning the exceptionally large work disincentives for second earners, particularly in families with children, find confirmation elsewhere, including in analyses conducted by the Czech authorities (CNB, 2008:89; Galuščák and Pavel, 2007; Pavel, 2009). Data on employment rates among women in the Czech Republic are congruent with these findings. Although the overall employment rate for prime-age women (25-54) has consistently been above the OECD average, it is in fact well below average up to about age 35 and well above for older cohorts. This appears to reflect the tendency of Czech women to spend several years out of the labour force when they have children.<sup>21</sup> The apparent connection between child-bearing and employment rates looks still stronger when female employment rates are broken down according to maternity status. In 2003, the gap between the employment rates of prime-age (20-49) women with children under twelve and those without children, at just under 32 percentage points, was by far the largest in the EU. The employment rate for childless women was the highest in the Union and that for mothers was second-lowest.<sup>22</sup> Moreover, most of the difference arises in respect of women with very small children, suggesting that the parental leave and other benefit arrangements affecting new parents are indeed at work. In 2006, the country had the eighth-lowest employment rate in the OECD for women with children under 16, as against the fourth-lowest among those with children under two. A woman with children under three was less likely to be working in the Czech Republic than in any other OECD country (Figure 8).<sup>23</sup>

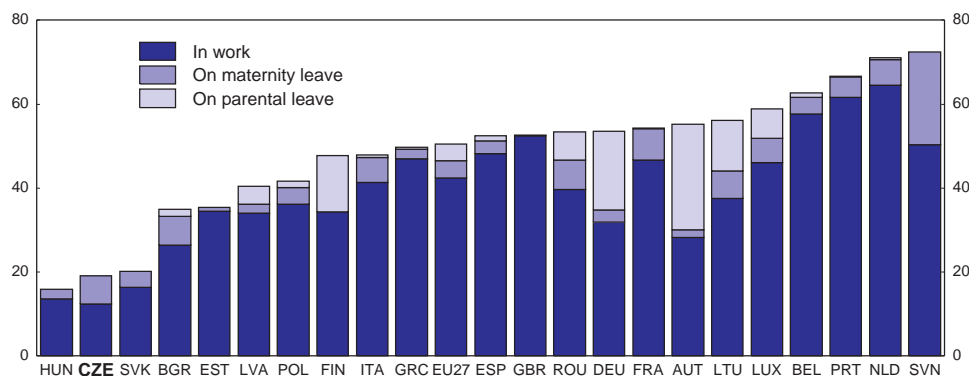
Such sharp differences in female employment according to the age of the youngest child suggest that benefit disincentives do play a role, but other policy settings reinforce this tendency. First, there are no statutory provisions allowing the use of parental leave on a part-time basis. Secondly, municipalities are responsible for pre-school childcare, but they receive central funding for this purpose only for staff salaries, and they are not subject to mandatory service obligations for children under five, apart from health and safety standards. Here, too, the extent and quality of municipal services are probably negatively affected by the existence of far too many very small municipalities (OECD, 2006). Access rates for children under three in licensed early childhood education and care (ECEC) are the lowest among the OECD members for which data are available (OECD, 2006b:86). Moreover, since parental allowance is aimed at enabling new parents to stay home with their children, parents in receipt of it are allowed only up to five days per month of public childcare for children under three and up to four hours a day for children above that age. Returning to work with the aid of public childcare effectively means forfeiting the allowance. This severely constrains the ability of parents to make the best choices for themselves when balancing work and family life, especially when compared with countries that combine relatively generous parental leave provisions with high-quality provision of ECEC services.

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21. OECD (2008:72-74) notes that employment rates for the 25-29 age group have been rising, while those for the 30-34 age group have fallen, which may reflect a tendency for women to begin their reproductive careers somewhat later than in the past.
  22. The EU25 average differential was just 14.7 percentage points, and second-largest and in only five countries did it exceed 20 points.
  23. The difference between the country's position on the latter two indicators is instructive: while two-year leaves are not uncommon in the OECD, the three-year norm leaves the Czech Republic at the extreme end of the OECD distribution.



**Figure 8. Employment/leave status of mothers with children under 3**

% of all women with children under 3 years of age



Note: Data refer to 2006. Concepts differ across countries. For example, some countries include persons on child-related leave as employed and others do not. See [www.oecd.org/els/social/family/database](http://www.oecd.org/els/social/family/database) for details.

Source: OECD, *Family Database*.

Further steps could be taken to make it easier for mothers to return to work via some period of part-time employment. In a number of OECD countries, part-time work is very common for women with children and enables them to avoid total absence from the labour market for long periods while still leaving time for family responsibilities. Its availability is also associated with considerable increases in the employment rates of older cohorts. Yet, as noted above, the availability of part-time work is limited, and there are significant disincentives to taking it up. In 2007, the Czech Republic had the second-lowest incidence of part-time employment among women in the OECD. There are concerns that part-time jobs may marginalise women in the labour market, especially when such jobs are characterised by poor wages and benefits, weak security of tenure and few opportunities for training or advancement. Increasing the availability of affordable childcare can help mitigate this risk by making it easier for women to return to more promising full-time jobs if they wish. A number of countries also grant parents greater rights to change working hours (including the right to work part-time for a period before resuming full-time employment) for an extended period after a child is born (Jaumotte, 2003; OECD, 2007a).

It could, of course, be argued that current policies reflect a deliberate choice to encourage mothers to devote at least three years to full-time parental childcare following the birth of a child and that such a policy facilitates healthier child development, stronger families or other positive social externalities. It is also the case that gains from the activation of women now engaged in full-time unpaid childcare might be partly illusory. Women currently doing unpaid work would “outsource” that work in the formal economy and move into employment, so a part of the increase in recorded value added would simply reflect the transformation of non-market into market work. Recorded real GDP *per capita* would thus rise more than actual living standards, at least in the short run, even if both would be expected to increase. Over the long term, however, encouraging such a shift should raise both *per capita* GDP and living standards, because an economy in which women’s labour-market entry decisions are biased towards unpaid work at home will operate inside its production frontier, with unused scope for further division and specialisation of labour. This productivity effect is distinct from the impact of additional labour utilisation on GDP *per capita*. As the population of the Czech Republic ages and labour-force growth turns negative, moreover, increasing productivity, not least via greater investment in human capital, will be a key factor in the country’s ability to converge relatively rapidly with the levels of *per capita* income characteristic of the more advanced OECD members. The long-term consequences of policies that inhibit the growth of human capital for a large segment of the population thus merit serious consideration.

There are also important issues of gender equity at stake, since the potential productivity gains that are forfeited when such policies are in place also impose significant costs on the women involved. These costs go far beyond the wages forgone at the time. The evidence suggests that long periods outside the workforce result in lower wages over the rest of the working life.<sup>24</sup> Human capital deteriorates during such spells, while opportunities for advancement are missed. The prospect of lower lifetime earnings, in turn, tends to depress the returns to investment in human capital and may thus encourage women to invest in skills less than they otherwise would.<sup>25</sup> Long absences from the labour force may also explain why the Czech Republic – a country with some of the highest estimated returns to tertiary education in the OECD – has the third-largest gap between men and women in the economic returns from investment in tertiary education among the 20 OECD members for which data are available. As a share of average earnings, this gap is about 1.7 times the OECD average.<sup>26</sup> There is also evidence from many countries that women may self-select into occupations where entry and exit are easier and part-time or flexible working-time arrangements are more common; typically, such occupations pay lower wages and offer fewer opportunities for advancement or human-capital development (Cleveland and Krashinsky, 2003). Moreover, the spouse who takes time out to care for a child full-time is likely to be at a permanent financial disadvantage in the event of divorce, unless child support and other transfers from the former partner are extremely generous (Lundberg, 2002). The situation may be mitigated by income assistance for single parents, but this merely shifts some of the risk onto the taxpayer. Thus, while some period of paid leave helps to maintain labour-market attachment, too long a leave raises the risk of skills degradation, damaging future earnings and career trajectories (Jaumotte, 2003; OECD, 2007a).

Viewed from a child-welfare perspective, the issues are less clear-cut, but the three-year parental leave norm looks questionable and should at least be reviewed. As regards questions of early childhood development, OECD (2007a) finds that an infant needs full-time personal care for at least 6-12 months and cites evidence that cognitive development benefits from good-quality formal care and interaction with peers from around two years of age. Some studies point to significant and lasting benefits even where children enter childcare during the second year of life (Andersson, 1992). Investment in early childhood education also generates significant social returns, and the evidence strongly suggests that the more disadvantaged the child's home environment, the greater the advantages of good-quality early childhood education and care for his/her cognitive development.<sup>27</sup> Nevertheless, it must be acknowledged there is ongoing debate about the virtues of institutional childcare for children between 6 months and 3 years of age.<sup>28</sup> That said, if childcare provision and attendance leads to higher permanent family income, some or all of the possible early negative effects on the child may be offset. In any case, the uncertainty surrounding these issues reinforces the case for making the benefit system more neutral, so as to give parents greater freedom to make the choices they think best for their own welfare and that of their children

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24. See, *inter alia*, Joshi (1990); Joshi and Davies (1992); Gray and Chapman (2001); Joshi and Davies (2002); Davies and Pierre (2005).

25. Note that the cost of education is the same for women and men; where tertiary education involves tuition fees, lower earnings make it harder for women to pay off loans taken out to finance their studies.

26. See OECD (2009b). Several other countries with very large gaps between men's and women's returns to education also exhibit a pattern of women leaving the labour force for long periods after childbirth.

27. The expectation of net social returns from investment in all children already underlies the provision of free schooling, but here, too, it is likely the less well off who benefit most, as long as quality education is provided. See, in addition to OECD (2007a), OECD (2006a); Heckman (2005); Cleveland and Krashinsky (2003); OECD (2001a); and Datta Gupta *et al.* (2007).

28. There is a strong consensus that it is beneficial for cognitive development above that age.

Consideration of all the issues involved – labour supply, gender equity, child welfare and work/family balance – suggests that the three-year norm is too long and that *combined maternity and parental leave should be reduced to two years*. Even this may need to be taken more flexibly than at present, and *the possibility of replacing some child benefit expenditures with childcare subsidies should also be considered*, perhaps targeting the former to low-income families and making the latter contingent on employment or at least on active job search. At a minimum, the practice of withdrawing childcare benefits if working mothers use childcare facilities should be scrapped. The cross-country empirical evidence shows that childcare subsidies do increase female labour supply, particularly full-time supply (Powell, 1998; Jaumotte, 2003). To the extent possible, these measures should be focused on low-skilled women, who are likely to face the largest distortions to their labour-supply decisions. Such changes to leave and benefit arrangements could, in tandem with steps to reduce the barriers to part-time employment, lead to less fragmented careers for women who have children.

The problem, it should be emphasised, is not the use of the tax and benefit system to promote higher levels of fertility; there are good reasons why policies are in place in many OECD countries to reduce the economic burden associated with bearing and raising children. What is at issue is rather the way in which benefits in the Czech case are structured to favour labour-force withdrawal; many OECD members attempt the opposite, using the tax and benefit systems to make it easier to combine work and family life. The issue is not a choice between policies promoting high fertility and low employment or low fertility and high employment: policy can be structured so as to favour both high fertility and high employment. Indeed, whereas there was a broadly negative relationship between female employment and fertility in OECD countries in 1980, by the mid-2000s the relationship was positive, suggesting that women are likely to have more children where structures are in place to support combining family and work rather than forcing a choice between them. Allowing parents to choose between benefits for full-time care and, for example, childcare subsidies, could go a long way towards making the system more neutral in respect of the choices that families make. It is also important to recognise that pro-fertility/pro-family policies are not concerned solely with women's working conditions. It would also be advisable to move ahead with more flexible arrangements for fathers, such as proposals for paternity leave and related benefits.

Of course, any shift towards a more neutral approach will take time, as it will require substantial investment in good-quality childcare. A woman wishing to combine child-rearing and a career will consider not only the direct tax and benefit implications of her choice but also the availability of good-quality, licensed and affordable ECEC services. This is a very important part of the whole picture, as ECEC services can too easily be viewed as an adjunct to labour-market policies rather than an investment in the children's future. Yet research suggests that over the long run, such investment is like to yield substantial returns for the children involved, their families and the society as a whole (Cunha *et al.*, 2005; Masse and Barnett, 2002). *The government should move ahead with the development of existing proposals for more family-friendly policies, including expansion in the scale and variety of ECEC services available, more flexibility in arrangements for maternity and parental (including paternity) leave, and measures to promote greater opportunities for jobs with flexible hours.*

### ***The tax treatment of the self-employed needs to be reconsidered***

The relatively favourable position of the self-employed with respect to the PIT and SSCs has long been debated in the Czech Republic, and government policies have alternated over the years between tougher and more generous treatment of this group. Many tax systems include special provisions applying to small firms and the self-employed, for a number of reasons. First, the fixed costs involved in paying and collecting taxes mean that the costs of compliance are relatively greater for small firms and unincorporated entrepreneurs, while the tax authorities find collecting from them to be expensive relative to the revenue raised. In the Czech case, one recent assessment estimated the cost of collecting PIT revenues from the self-employed at up to one-third of the revenue collected (Vítek and Pavel, 2008). Secondly, there is considerable empirical evidence that the self-employed in many countries are more prone to tax evasion

than wage earners.<sup>29</sup> Thus, simpler, less burdensome tax schemes for them may improve small business compliance by both reducing incentives to evade and making enforcement easier (OECD, 2008e:22). However, preferential schemes can also *encourage* evasion, if they encourage false self-employment. They may also create other distortions, if they tend to bias incentives towards self-employment activities or discourage small business growth.

The evidence suggests that the tax system and other factors are indeed encouraging false self-employment, but the scale of the problem is hard to assess. Although the incidence of self-employment is somewhat above the OECD average, the difference is not enormous and the country is not an outlier in the OECD area or the region. In 2008, the self-employed accounted for about 19.2% of total employment, as against an OECD average of 16.6%.<sup>30</sup> Though above the levels recorded in Slovakia and Hungary, the Czech share was far lower than the Polish figure and also relatively low by comparison with some Mediterranean countries, where self-employment rates are very high.<sup>31</sup> Nevertheless, research in the Czech Republic suggests that a substantial proportion of those declaring themselves to be self-employed are *de facto* dependent employees: recent estimates vary between 13 and 25%.<sup>32</sup> Moreover, trends in self-employment seem to have been sensitive to changes in tax and regulatory policies. The introduction in 2004 of a minimum tax for the self-employed, along with legislation aimed at restricting opportunities to treat *de facto* employees as independent contractors, led to a decline in the number of self-employed. In a number of sectors, this decline was matched by growth in dependent employment of similar magnitudes.<sup>33</sup> The growth of self-employment resumed in 2007, when the legislation was repealed, and picked up further in 2008 when the minimum tax was abolished.

The use of fictitious self-employment status is often encouraged (or even imposed) by employers, as it relieves them of the burden of both SSCs (34% of the gross wage) and compliance with the Labour Code.<sup>34</sup> This makes employing the self-employed both cheaper and more flexible. For the individuals concerned, the tax advantages of self-employment stem chiefly from the fact that they pay social security contributions on only half their taxable income. The implicit assumption underlying this provision is that the mixed income of a self-employed individual is split 50/50 between capital and labour components, which is probably rather generous to small self-employed craftsmen and professionals in labour-intensive sectors. The self-employed also benefit from the availability of large lump sum deductions for “expenses” that need not be documented when calculating their PIT and SSC bases (Table 3). These deductions run from 40% for the independent professions to 60% for most other trades and 80% for workers in agriculture and the craft trades.<sup>35</sup> These arrangements enable many of the self-employed to declare minimal incomes and, as a consequence, to avoid much higher tax bills. Finally, participation in the sickness insurance system is voluntary for the self-employed, which means that their total SSC rate may be 2.3 percentage points below that of the combined employer and employee contributions for a dependent worker.

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29. For an overview of this evidence, see Annex 2.A1 of OECD (2008e).

30. OECD data; the Czech Statistical Office estimate is 18.1%.

31. The Czech Republic’s heavy concentration in manufacturing makes the level of self-employment puzzling, since self-employment is typically far more common in services and relatively rare in manufacturing.

32. See Baštýř and Vlach (2007); Halá (2007); Doleželová (2008); and Novak and Doleželová (2009).

33. During the period of the ban, the number of own-account workers in construction fell by 15 200 and the number of employees rose by 15 500. For details, see OECD (2008e:58).

34. Self-employed workers’ contracts fall under the commercial code rather than the Labour Code, so employers are free of obligations in respect of such things as severance rights, paid holiday, etc.

35. Legislation raising the thresholds for many groups was adopted in late 2009, with retroactive effect from the beginning of that year. However, the increases were mostly clawed back as from 2010 in the fiscal consolidation package.

**Table 3. Lump-sum deductions available to the self-employed**

As a % of gross earnings

Sector	1993-2005	2006-08	2009	2010
Agriculture	50	80	80	80
Crafts	50	60	80	80
Other trades	25	50	80	60
Independent professions	25	40	60	40

Source: Ministry of Finance.

This state of affairs not only makes for immediate revenue losses to the budget, it also means that a significant part of the workforce are not making sufficient pension contributions to ensure themselves an adequate income in retirement. Since it is unlikely that any government will wish to leave a large group of pensioners in poverty, this could constitute a large additional strain on public finances in the future. Previous *Surveys* have pointed to the need for steps to level the tax treatment of the self-employed and dependent employees, but the 2008 reforms seem to have increased the incentives for to declare self-employment. Clearly, reductions in the tax wedge on employees and greater flexibility in the Labour Code would both reduce such incentives, but tax policy has a role to play. *Differences in the tax treatment of dependent employees and the self-employed should be reduced. Possible steps might include making participation in the sickness insurance system mandatory for the self-employed, gradually lowering the share of income that can be deducted as expenses without providing documentation or a phased increase in the share of income included in the SSC base. Some form of simple minimum tax might be reintroduced for those on very low incomes.*

#### ***Initial results of disability pension and sickness insurance reforms are promising***

Sick pay and disability pensions are not included in the OECD's *Tax and Benefit Model*, because entitlement depends on specific contingencies that must be assessed on a case-by-case basis, and benefit calculations are highly individualised, depending on contribution history. Overall spending on sickness and disability programmes, which was running at about 2.1% of GDP prior to the downturn, is not far from the OECD average, but some other indicators have pointed to problems with these programmes in the past:

- In 2007, just over 11% of the labour force was in receipt of full or partial disability benefits, among the highest rates of disability in the OECD. This is partly a statistical artefact. Many of these persons would be on old-age pensions if they did not receive disability benefits, because individuals awarded disability pensions continue to receive them after they reach retirement age; in future, full disability pensions are to be converted into old-age pensions of the same amount when the recipients reach 65. However, this explains only part of the gap between the Czech Republic and the OECD average. In 2006-07, roughly 7% of the working-age population were in receipt of disability benefits, ranking sixth among the 24 OECD economies for which data are available. Inflows into disability have remained substantial and, in the case of partial disability, they have grown especially rapidly. The Czech Republic in 2005 had the highest rate of unemployment among the disabled among the 27 OECD economies for which data were available.
- Sickness absences have also been a problem, though the situation has recently improved considerably. In the mid-2000s, the Czech Republic recorded the highest rates of sickness absence in the OECD area, with over 6.5% of the workforce reporting sick on an average day. This has since fallen sharply, in large measure thanks to recent reforms (see below), but the sickness absence rate in 2009, at 4.9%, was still well above the OECD average.

The Czech experience with disability pensions is typical of many OECD countries, which have seen disability recipiency rates rise as the numbers receiving unemployment benefits have fallen – often in roughly similar proportions (OECD, 2009b; Prinz and Tompson, 2009). The evidence suggests that in many countries there is considerable substitution between the two benefits. Unemployment policy in much of the OECD over the past two decades has been driven by an activation agenda, with increasingly strict participation and job search requirements and, in some countries, stricter limits on eligibility for and duration of unemployment benefits. Yet until recently, most countries adopted no such approach to disability benefits, which therefore came under increasing pressure as “benefits of last resort”. This was particularly common where – as in the Czech Republic – unemployment benefits were not particularly generous (OECD, 2009f). Over the last decade, however, many OECD countries, including the Czech Republic, have moved to rectify this, tightening access to disability schemes and strengthening support for rehabilitation and reactivation (OECD, 2006c, 2007b, 2008b).

In an effort to tighten access to partial disability pensions, the authorities have approved the transition to a three-category definition of disability to replace the current distinction between full and partial disability. This is a key step, given that partial disability has accounted for most of the growth in the incidence of disability pensions in recent years. The reform will allow the introduction of a single disability benefit linked to the level of actual disability. The current full disability pension (at least a 66% loss of work capacity) will be re-designated as a disability pension for third-level disability and will be awarded henceforth only to those with an assessed loss of work capacity of 70%. The current partial disability pension will be seen as a disability pension for second-level disability, if the individual’s assessed earning capacity has been reduced by at least 50%. Where the capacity loss is assessed at less than 50% but more than 35%, a smaller disability pension for a first-level disability will be paid. The assessment of work capacity was also tightened and greater consideration is to be given to the potential for rehabilitation and retraining.<sup>36</sup> There will be no elimination of eligibility for disability pensions that have been awarded hitherto but some individuals may experience a change in the percentage amount of the pension paid. New inflows into the disability pension scheme should be curtailed, largely because of the tougher screening and the lower benefits available to first-tier disabled persons. The finance ministry estimates that around 75% of those currently categorised as partly disabled would fall into this first tier under the new criteria. For many of them, disability pensions are likely to cease to be an attractive option for labour-market exit.

The picture with respect to sickness insurance (SI) is also promising, as a result of recent reforms. As noted above, the rate of sickness absences fell sharply in 2008. In 2009, a combination of further reforms and the economic downturn pushed this figure still lower: the number of sickness spells fell by over 30% year-on-year in 2009. Two major reforms of SI were initiated in 2008.

- SI benefits for the first three days of a sickness spell were eliminated: this measure was overturned by the Constitutional Court in mid-2008 but reinstated in a constitutionally acceptable fashion as from 1 January 2009. There is some concern that this may go too far. A waiting day is a common feature of SI schemes, but three days is a comparatively long waiting period. While it doubtless discourages workers from taking fraudulent short sick spells, it may prompt some workers to continue working when they should not do so, with negative consequences for their health and, in the case of infectious conditions, for that of their colleagues. This is particularly a risk in respect of the low-paid, whose replacement rates are higher<sup>37</sup> and for whom the loss of three days’ sick pay would be harder to bear. A very long waiting period may also encourage

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36. The previous implementation and assessment guide was 15 years old and was updated to take account of changes in technology and medical knowledge.

37. Limits on the level of SI benefits mean that replacement rates are far higher at low wages.

unnecessary prolongation of sick spells, since workers face significant losses if they return to work prematurely and suffer a relapse (Johansson and Palme, 2002).

- Responsibility for sick pay for the first 14 calendar days of a sickness spell was transferred to employers. Sickness benefits are paid from the public SI scheme only from day 15. This should strengthen employers' incentives both to try to keep employees healthy, and to crack down on fraudulent sickness claims. It should also eliminate any incentive for them to use SI for short-term adjustment of their workforces. SI was indeed used in this way in the past, but employers in 2009 became both less do so and much more aggressive in policing unwarranted sickness absences on the part of workers.

The issue is now of increasing importance as a result of sharply rising unemployment. OECD (2009c) highlights the tendency of governments in past downturns to open up sickness and disability schemes to newly unemployed individuals whose health problems or disabilities would not otherwise have warranted such assistance. This can create precedents that are very difficult to overturn, even when economic conditions improve. Moreover, the individuals channelled into such schemes tend to be very difficult to reactivate. Careful screening of new disability pension recipients will therefore be important in ensuring that the short-term impact of the crisis on the labour market does not turn into a long-term reduction in labour-supply. *It is important for the authorities to sustain the recent reform of the SI system and to resist pressures to relax access to disability pensions.*

## **Taxation of capital income**

### ***There is little scope for further reductions in corporate tax rates***

In analysing the impact of recent changes on capital formation, it is important to distinguish between the implications of reform for the *level* of capital formation and its impact on the *allocation* of capital and hence capital productivity. The level of investment is likely to be affected chiefly by the change in the overall tax burden on capital. Recent OECD work shows that high corporate taxes have a negative effect on the level of domestic investment. Moreover, the evidence suggests that lowering statutory CIT rates can lead to particularly large productivity gains in firms that are dynamic and profitable (Johansson *et al.*, 2008). However, the implications of reform for capital allocation depend more on the degree to which the changes make the tax system more or less neutral with respect to returns on investments financed by debt, equity or retained earnings, as well as with respect to different asset types. Furthermore, international allocation of capital and productivity may be influenced by tax incentives on FDI, although the evidence suggests that labour taxes are even more important than the CIT in influencing FDI flows (Hájková *et al.*, 2006).

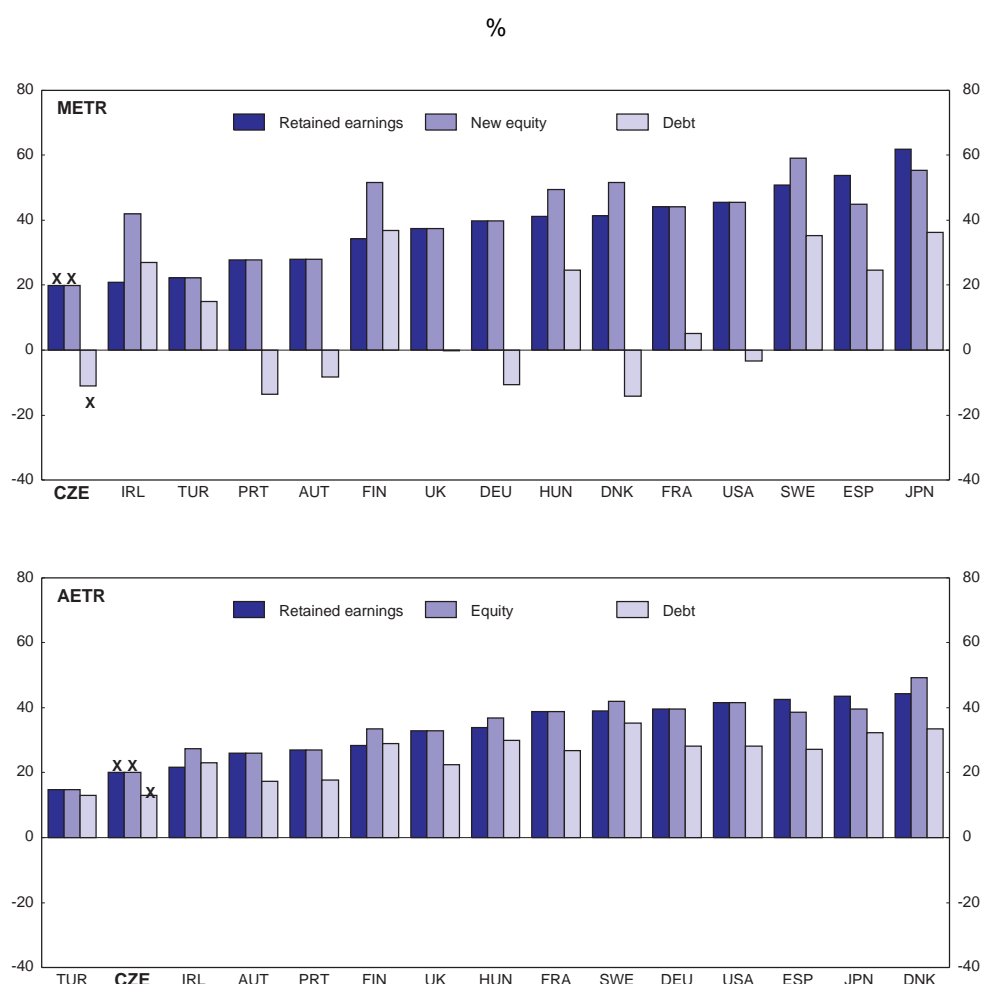
There are thus reasons to expect that the CIT reforms of recent years will serve to boost investment, though it is not so much the most recent changes that matter as the secular trend: the most recent cut represents the culmination of a process that has reduced the statutory CIT rate by 15 percentage points over the course of the decade. The current statutory rate of 19% is well below the (un-weighted) euro area average of 25.7% and comparable to those of regional peers, including Poland (19%), the Slovak Republic (19%) and Hungary (20%, comprising the CIT and the Solidarity Surtax for companies). However, to capture the full impact of the CIT and other corporate taxes, it is useful to look at broader measures than the statutory rate. Average and marginal effective corporate tax rates (ECTRs) take into account both the tax rate at which corporate profits and capital income are taxed and the tax base to which they are applied (Box 2). ECTRs may thus better capture the overall impact of corporate tax reforms on capital formation and productivity. Indeed, recent OECD work finds that average ECTRs do have an impact on productivity (Johansson *et al.*, 2008; Vartia, 2008).

### Box 2. Calculating effective corporate tax rates

Effective tax rate computations are based on investment models in which firms maximise the after-tax net present value of their investment projects given the tax system. A marginal effective tax rate (METR) is applied to incremental investment earning the minimum required rate of return, whereas an average effective tax rate (AETR) is applied to discrete investment projects earning some economic rent. The effective tax rates analysed in this section are based on a Centre for European Economic Research (ZEW) project financed by the European Commission. The focus is on two main elements of corporate tax codes: depreciation allowances and the statutory corporate tax rates. In addition, the effective rates take into account the tax deductibility of interest paid, shareholder taxation in the form of dividend and capital gains taxes, and taxes on interest income. In the Czech Republic dividends are taxed under a modified imputation system and are subject to a final 15% withholding tax paid at a company level. Capital gains from the sale of securities held for more than six months are exempt from the personal income tax.

Source: Devereux *et al.* (2008).

Figure 9. Effective corporate tax rates



Note: The marginal effective tax rate (METR) is defined as the difference between cost of capital and post-tax real rate of return. The average effective tax rate (AETR) is a measure of the present value of taxes paid, expressed as a proportion of the net present value of the income stream. For further details see Devereux *et al.* (2008). The METR applies to a marginal investment which earns zero economic rent, whereas the AETR applies to a discrete investment with economic rent. The graph shows effective rates based on the assumption of a non-qualified zero-rate shareholder. Rates are simple averages over the different types of assets. Simulations refer to the system in 2009 and 2007 (symbol X) for the Czech Republic and 2007 otherwise. Ranking is by retained earnings.

Source: Project for the EU Commission, TAXUD/2005/DE/3 10, Centre for European Economic Research (ZEW).



Czech AETRs and METRs for companies are relatively low by international standards, and the recent cuts in the statutory rate, which now stands at 19%, have further reduced effective rates (Figure 9).<sup>38</sup> Furthermore, the effective rates are below those of the Czech Republic's regional peers, which may matter if foreign investors compare countries within regional groups when making their investment decisions. Overall, effective corporate taxation in 2010 appears to be relatively low. Thus, any further cuts in the statutory rate of CIT would not bring about a significant change in the tax position compared to other countries and they would result in revenue losses to the budget.

### ***The preferential tax treatment of investment in machinery should be reconsidered***

As in other OECD countries, there are differences in the tax treatment of assets and types of financing in the Czech Republic. Looking at the asset-specific AETRs and METRs, investments in intangible assets or in machinery bear the lowest effective tax rates in many OECD countries. The highest rates apply to investments in financial assets. The differences in these rates mainly reflect variation in the generosity of depreciation allowances. Financial assets do not receive any capital allowances for tax purposes, since there is no account for economic depreciation. AETRs are lowest for machinery and intangibles, since for these two assets the depreciation allowances for tax purposes over-compensate the actual economic depreciation rate in most countries. While accounting conventions may make some differences in asset-specific AETRs and METRs unavoidable, the Czech CIT is rather extreme in the case of machinery, a fact that reflects in part the specific tax incentives used to encourage investment in new machinery.<sup>39</sup> The estimated METR for investment in machinery in the Czech Republic in 2007 was less than 70% of the average across all categories of asset, while in other EU countries this ratio was typically around 90%. This may encourage overinvestment in machinery at the expense of other assets (Elschner and Vanborren, 2009). As noted in OECD (2010), the Czech economy is relatively concentrated in a few manufacturing industries that are likely to be characterised as heavy investors in machinery. CIT distortions that favour such investment may tend to foster over-specialisation in these sectors. The previous *Survey* also pointed to signs that this specialisation had indeed been reinforced by particular investment-support policies (OECD, 2008a:97). *Making the tax system more neutral in its treatment of different asset types could facilitate progress towards a more diversified economic structure. Investment incentives that promote investment in new machinery, in particular, should be reconsidered.*

### ***Differences in the tax treatment of forms of financing create significant distortions***

Another distortive element of the tax system is the differential treatment of types of financing. In the Czech Republic, as in most other OECD countries, investment financed by debt is taxed at lower effective rate than investment financed from retained earnings. Financing through new equity faces the highest effective tax rates of all. This may render companies more prone to insolvency and discriminate against small companies and start-ups that have limited access to, and less favourable terms for, debt financing. In addition, corporations that own intangible or very specific assets, against which it is difficult to borrow, are placed at a relative disadvantage by the favourable tax treatment of debt-financed investment (OECD, 2007). Moreover, the current financial crisis must in any case raise questions about the wisdom of tax-encouraged increases in leverage. This distortion in the CIT arises in most countries, because interest payments for debt-financed investments are often fully deductible from the tax base; only the residual income is taxed at the corporate level. In the case of equity-financed investments, such a deduction is not generally available, although some countries, such as Belgium, do allow for a notional interest deduction in

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38. This finding is in line with the evidence presented in Dalsgaard (2008) on the effective tax rates.

39. Companies may deduct 10-15% of the cost of new machinery and technology, provided they are the first owners or leaseholder. There are also VAT exceptions for the purchase of new machinery. See OECD (2008a:96-97).

order to achieve neutrality with respect to the source of finance.<sup>40</sup> Furthermore, if companies are expected to maximise the after-tax income of their shareholders, personal income taxes faced by shareholders should be included in the effective tax rates for equity-financed investment. In this case, the higher effective rates on new equity-financed investment reflect taxes on dividends, interest income and capital gains.<sup>41</sup>

Overall, the preferential tax treatment of debt-financed investment is comparatively important in the Czech Republic. For example, the METR applied to debt-financed investment is less than 50% of the average METR for all forms of finance, whereas the EU-wide average is 75%. The METR for debt-financed investment is slightly more than one-quarter that for equity financing. That said, the situation has improved recently, as a result of reductions in the statutory CIT rate. Other things being equal, the difference in the effective rates between debt- and equity-financed investment decreases as the statutory corporate tax rate is reduced, because a lower statutory tax rate reduces the impact of interest deductibility. Thus, cuts in the statutory rate of CIT over the last decade have reduced this distortion, but it still remains unusually large. In this context, the recent decision to reverse substantially the tightening of “thin capitalisation” rules that was adopted as part of the tax reform package must be seen as a step backwards. Under the reform legislation implemented in 2008, interest and other financial costs on loans in excess of six times a company’s equity were treated as non-deductible for purposes of the CIT. Deductible financial costs for loans from related parties were reduced. The new limit was three times equity in the case of related-party loans from banks and insurance companies, rather than six times equity, as before. The limit for related-party loans from other companies was lowered from four times equity to just two times.<sup>42</sup> The business community and tax professionals viewed this change negatively, and in early 2009, the thin capitalisation rules were revised and the limits returned to the levels prevailing before 2008. The application of the rules to transactions involving unrelated parties was cancelled, though the cost of loans from unrelated lenders may still be partly non-deductible if a related entity has provided security.

The neutrality of the tax treatment of different sources of investment finance could be enhanced by the introduction of a notional interest deduction for equity-financed investment, as in Belgium. However, this would require careful consideration of the interest rate employed, which should correspond as closely as possible to the actual cost of financing. The simpler and more attractive possibility would be to phase out altogether the interest-payment deductibility of debt-financed investment or to allow deduction of dividends at company level, taxing them only as income to shareholders. *Whatever, the chosen mechanism, the key priority must be to make the CIT as neutral as possible between sources of investment finance. At a minimum, the tighter thin capitalisation rules adopted in 2008 should be reinstated.* This would increase the tax burden of debt-financed investment, but such a move need not depress investment levels overall if other CIT provisions, which apply equally to all forms of investment finance, were relaxed.

### **Pro-growth tax reform in the wake of the crisis**

Clearly, prospects and opportunities for new tax reforms are constrained by the need to tackle a fiscal sustainability problem that has grown markedly worse as a result of the downturn. Any substantial reduction of the tax burden in general, or the tax wedge on labour in particular, will require structural cuts in government spending, which, in order to be sustainable, are likely to depend on reform progress in respect of healthcare, pensions and other fields of government expenditure. This implies that, for some time to come, any new tax reforms will have to be self-financing. The principal concern at present,

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40. This system is fairly unique although some countries have incorporated some elements of the system into their tax codes (Austria, Italy, Ireland, Luxembourg and Switzerland) and some countries have had such a system in place OECD (2009d).

41. For further detail on the effective rates, see Devereux *et al.* (2008) and Elschner and Vanborren (2009).

42. These limits also applied to loans from unrelated parties that were secured by a related entity.

therefore, should be to shift the tax system still further in the direction of recent reforms - towards greater reliance on less distortive taxes, increased simplification and a broadening of tax bases to allow lower tax rates. As noted above, the 2008 reforms shifted the balance between indirect and direct taxes only slightly; the weight of direct taxes in the Czech tax mix after the reform was still well above the OECD average and slightly greater than it was in the 1990s.<sup>43</sup> The discussion that follows is devoted to exploring ways to do shift this balance further. At the same time, changes to the benefit system and adjustments to the tax system should be considered in tandem, to ensure that they do not operate at cross purposes. Indeed, one of the major priorities for further reform should be to ensure that policies in respect of taxes, SSCs and benefits are better co-ordinated. Such co-ordination should apply not merely to the setting of tax rates or the determination of benefit levels. There is also significant scope for harmonising definitions, tax bases and collections in a manner that would reduce both compliance costs for taxpayers and administration costs for the authorities. These are addressed in OECD (2010).

***The tax-burden could shift further from labour taxes...***

As noted above, the labour tax wedge in the Czech Republic is fairly large, chiefly because SSCs constitute an extraordinarily large part of total revenues. There is no reason in theory why such a large tax wedge should necessarily reduce labour demand. In a well functioning market with no distortions, labour should earn its marginal product. A rise or fall in the tax wedge should result in changes in take-home pay rather than increases or decreases in employers' labour costs. However, the tax wedge in such a situation will still affect employment to the extent that workers respond to reductions in their take-home pay by reducing labour supply. Moreover, where rigidities exist, the tax wedge may also affect labour demand. The impact of the wedge on demand depends on the degree to which the tax is "shifted forward" onto producers' labour costs. If workers demand wage increases in response to a rise in taxes on their income, or resist wage cuts in response to an employer tax, the tax will increase labour costs and thus reduce demand. Since the elasticity of demand for labour is generally reckoned to be greater than the supply elasticity, the employment effects of the tax wedge are likely to result primarily from forward shifting. There is now substantial empirical evidence of a link between high tax wedges and low employment, and there is good evidence that this relationship is particularly strong in the case of the low paid.<sup>44</sup>

Forward shifting, in turn, is likely to be inversely related to labour-market flexibility. The more rigid the labour market, the more negative the employment effects of the tax wedge. In general, the Czech labour market is reasonably flexible, apart from restrictions on individual dismissals of regular workers, which are among the highest in the OECD. This flexibility may be one reason for the speedy labour-market response to the downturn, which was faster than has been observed in previous contractions, and it would suggest that forward-shifting might be less of an issue there than elsewhere. At or near the minimum wage, however, the tax wedge on labour cannot but reduce labour demand, since employers cannot push wages below the statutory minimum. Since very low-skilled workers make up the largest share of the long-term unemployed in the Czech Republic and their unemployment rates were, even prior to the crisis, relatively high, this is a real problem. Thus, while an overall reduction in the labour tax wedge would probably be a desirable long-term goal, *the first step in that direction might well be targeted reductions in SSCs for low-income workers*. This would maximise the employment benefits of the tax change at lower fiscal cost, since (formal sector) labour supply tends to be more elastic in the vicinity of the minimum wage than at

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43. Data for 2009 are likely to show a greater effect, because of the large crisis-induced drops in PIT, CIT and SSCs; VAT revenues have held up better through the downturn.

44. See OECD (2003, 2009); Daveri and Tabellini (2000); Nickell (2003); Carey (2003); and De Haan *et al.* (2003). With respect specifically to the eight new EU entrants in central and eastern Europe, World Bank (2005) finds that, for a given GDP growth rate, each percentage point increase in the tax wedge is associated with a decrease in employment growth of 0.5-0.8 percentage points. This finding, though suggestive, should be viewed with caution, however, owing to data limitations.

higher wages (Brook and Leibfritz, 2005). Such reductions should apply to employers' contributions, since for workers at or close to the minimum wage, changes in payroll taxes appear to have greater effects on employment than changes in wage taxes.<sup>45</sup> The aim is to reduce labour costs and thus raise labour demand rather than to increase the take-home pay of individuals already in low-wage employment.<sup>46</sup>

The Czech Republic is one of the few OECD countries where even very low wages are normally subject to full SSCs (from both employer and employee). Indeed, in some instances low-wage workers are liable to more than the normal level of SSCs: as noted above, the minimum contribution for health insurance is equivalent to the health insurance contributions due for a full-time minimum-wage employee. Targeted cuts in labour taxes for low earners have been implemented in a number of other OECD economies, with apparently positive results for the employment of low-skilled workers.<sup>47</sup> The fiscal costs of such a reduction could be financed, at least in part, by eliminating the SSC ceiling. The lower tax wedge should in any case be at least partly self-financing, through higher output and higher employment. If the change triggered some shifting of informal employment into the formal sector, especially in personal services, then VAT revenues would also increase.

There remains, nevertheless, the broader challenge of reducing the burden of SSCs further up the wage distribution. At its heart, this problem is directly linked to the need for structural pension reform and further reform of the healthcare system. Otherwise, very high SSCs will be needed to finance steadily rising expenditures in these two areas. That said, one way to reduce SSCs in the near term would be to transfer onto the state budget the financing of the pension and health funds' obligation to provide minimum benefits for persons who have not contributed sufficiently to the funds. The cost to the budget could be financed by increases in indirect taxation to offset the revenue foregone as a result of lowering the SSCs. This would also make the system more insurance-based which could also increase incentives to contribute to the funds, as the contributions would be more clearly linked to benefit entitlements.

### *... To taxes on consumption...*

One of the main OECD tax recommendations for many member states in recent years has been to move towards greater reliance on indirect taxes, particularly consumption taxes, because they are less distortive. The increase in the lower rate of VAT in 2008 and the one percentage-point increases in both the standard and reduced rates in 2010 were steps in this direction, albeit measures motivated chiefly by the need to offset the revenue losses rather than on structural grounds. The Czech VAT is currently levied at a standard rate of 20%, with a reduced rate of 10% applied to foodstuffs, water supply, pharmaceuticals, books and newspapers, certain medical equipment, special equipment for disabled persons, children's car seats, certain live plants, firewood, regular domestic passenger transport, admission to cultural and sporting events, hotel accommodation, medical care and social services (unless they are exempt), cleaning in private households, domestic care services, funeral services, the construction and transfer of social housing,<sup>48</sup> and renovation and alteration of housing.

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45. An increase in wage taxes over the lowest segment of the earnings distribution has no impact on employment because the minimum wage rate is still higher than the wage rate that would equate labour supply and labour demand; see Carey (2003).

46. The latter approach might stimulate some increase in labour supply, if it allows take-home pay to rise above the reservation wages of some workers, but, as noted above, the elasticities of labour demand tend to be greater than those of labour supply.

47. See, for examples, the experiences of France (OECD, 2005), Belgium (Carey, 2003) and the United Kingdom (Brook and Leibfritz, 2005).

48. For VAT purposes, "social housing" is defined as an apartment of no more than 120 m<sup>2</sup> or a house of no more than 350 m<sup>2</sup>.

**Table 4. Allocation of tax expenditures on low-rate VAT**

Per cent, unless otherwise indicated

	Income deciles										Avg.
	1	2	3	4	5	6	7	8	9	10	
Share of low-rated goods and services in consumption basket	46.6	42.8	44.2	42.6	42.4	41.5	41.0	37.3	36.7	37.0	41.2
Estimated tax expenditure on low-rate VAT, CZK bn	2 473	2 867	3 268	3 384	3 610	3 667	4 146	4 022	4 600	6 111	n.a.
Share of aggregate tax expenditures on low-rate VAT	6.5	7.5	8.6	8.9	9.5	9.6	10.9	10.5	12.1	16.0	n.a.
Effective rate of VAT	14.3	14.7	14.6	14.7	14.8	14.8	14.9	15.3	15.3	15.3	14.9

Source: Ministry of Finance, OECD calculations.

The principal argument in favour of such a two-tiered VAT is that differentiated consumption taxes can help reduce poverty, via exemptions and zero or very low ratings on certain goods and services, such as staple foods and other necessities. However, direct transfers to low-income households, depending only on their socio-economic characteristics, are likely to be better for both equity and efficiency than complex VAT arrangements, because higher-income households consume relatively more low-taxed goods and therefore benefit more from the lower rates than low-income households (Deaton and Stern, 1986; Ebrill *et al.*, 2001). This clearly appears to be the case in the Czech Republic. The lower rate of VAT covers around 41% of consumption of goods and services subject to VAT, and there is only limited variation in the share of such goods in the consumption baskets of households across the different income deciles (Table 4). Consequently, the reduced rate of VAT saves the average individual in the top income decile about 2.5 times as much as the average consumer in the bottom income decile. Altogether, those with incomes above the median consume about 60% of VAT tax expenditures. This is an expensive and inefficient way to protect those on low incomes; if it were an expenditure programme, rather than a form of tax expenditure, it would be difficult to defend on the grounds of equity or poverty alleviation.

The other argument in favour of differentiated consumption taxes is that they can be used to penalise the production and consumption of “bads”, while generating revenues that can offset reductions in other taxes, such as direct taxation of labour and capital income. They might also be used to encourage the consumption of goods and services thought to generate positive externalities. This, in essence, is the logic behind the inclusion of certain fuels and technologies in the lower VAT band on environmental grounds. A similar argument is often made for “bads” that affect consumers’ health and have potential externalities, such as tobacco or alcohol. However, to the extent that the tax system is used to address such externalities, it is likely to be administratively simpler to achieve such ends by relying on excise taxes on specific products rather than a complex structure of VAT rates.<sup>49</sup> *Unifying the VAT rates would reduce distortions and simplify VAT administration*, although progress in this direction must be gradual, as the authorities are already concerned about the potential impact of recent VAT increases on household consumption.

It is well known that VAT does not distort markets or incentives in the way that taxes on labour and capital can do. Under a VAT, it makes no difference what factors of production are employed to produce a good, how many times it is traded, how the production chain is organised or where the good is produced. However, there is a further argument for greater reliance on VAT in an economy as open to trade as that of the Czech Republic. VAT applies to all goods and services sold in the country, whereas direct taxes are levied only on domestic producers. A cut in direct taxation (in SSCs, for example) reduces domestic

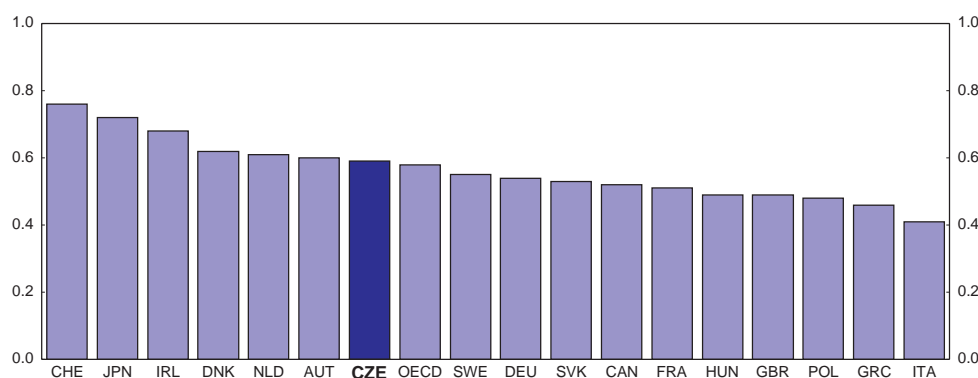
49. For more on the rationale for using special excise taxes or subsidies rather than VAT to address such externalities, see Ebrill *et al.* (2001).

producers' costs relative to those of their foreign competitors. Thus, a cut in direct taxes financed by an increase in VAT could actually be revenue-neutral and yet still improve the competitive position of the tradables sector. To be sure, the improvement would be a one-off: a change in the *level* of VAT would not affect the dynamics of real exchange rate appreciation or Czech producers' productivity performance. The case for shifting to greater reliance on VAT thus rests chiefly on other arguments. Nevertheless, the one-time relief provided to tradables producers as a result of such a change could be an added bonus.

Moreover, the VAT is a relatively efficient source of revenues. To assess the impact of the VAT reform on the efficiency of revenue collection, one may examine the so-called VAT revenue ratio (VRR).<sup>50</sup> This ratio is defined as VAT revenues relative to the tax base, consumption,<sup>51</sup> divided by the standard VAT rate. It measures the efficiency of the VAT system in respect to the breadth of the tax base and lower rates as well as in respect to the level of compliance and tax administration. The higher the value of the ratio the more efficient the tax system is in collecting revenues. In international comparison, the Czech Republic has a relatively efficient VAT tax system measured by the VAT revenue ratio. This ratio is around the OECD average and well above those of regional peers (Figure 10).

**Figure 10. VAT Revenue Ratio**

Ratio 0 to 1 indicating increasing efficiency



Note: Data refers to 2008 for the Czech Republic and 2005 for other countries.

Source: Ministry of Finance; OECD, *Consumption Tax Trends 2008*; OECD calculations.

### **... GHG emissions and other environmental "bads"...**

As noted above, the 2008 tax reforms included a range of new environmental taxes introduced in compliance with the European Energy Taxation Directive. Fiscal neutrality was one of the basic principles underlying this reform: direct taxes on labour (in the form of social security charges) were reduced to offset the rise in energy taxes. The sums involved in the 2008 reforms were in any case relatively modest, owing to the wide range of exemptions from environmental taxes allowed under the law. Total income from all environmental taxes fell in real terms in 2008, and the revenues raised by the new taxes on electricity, gas and solid fuels amounted to just under 0.07% of GDP. In line with EU directives, electricity is exempt when used for electrolytic, metallurgical or mineralogical processes. This compromises the environmental impact of the tax, but it prevents the tax from doing what is regarded as excessive damage to the competitiveness of energy-intensive industries. It also avoids punishing firms for investments

50. For more details on the VRR, see *Consumption Tax Trends 2008*.

51. The tax base is measured by the national accounts definition of final consumption and does not fully match with the actual VAT base.

undertaken under previous policies. Energy products used in the production of electricity are also generally exempt, to avoid double taxation.<sup>52</sup> From an environmental perspective, it would make more sense to tax the fuels rather than the electricity, so as to reflect better the emissions impact of different fuels. This could, however, complicate cross-border trade in electricity as well as efforts to administer the rules exempting certain electricity consumers from the tax. In both cases, it would be necessary to identify the precise fuel composition behind the electricity supplied.<sup>53</sup>

The 2008 reform was originally envisaged as the first step in a larger environmental tax reform process, but progress has largely stalled for the moment, owing to the political situation. Yet there is more to be done in this area and it is important that environmental tax reforms continue, including the introduction of a tax on greenhouse gas (GHG) emissions and changes to the administration of the Czech allocations under the EU's Emissions Trading Scheme (ETS). Phasing in such changes will be important, given the country's heavily industrial economic structure, but further reform is needed, particularly if the Czech Republic is to meet its international environmental obligations at least cost. At present, the country ranks near the top of the EU in terms of CO<sub>2</sub> emissions *per capita* and per unit of GDP.<sup>54</sup>

Like all EU members, the Czech Republic participates in the ETS, which covers large emitters of GHGs in power and heat generation and in selected energy-intensive industrial sectors. Member states have considerable freedom to decide how to allocate their emissions allowances under the national quotas fixed by the European Commission. The method of allocation of permits is of great importance in terms of both equity and efficiency. Broadly speaking, auctioning permits to the polluters covered by the system is preferable to distributing them free of charge to existing polluters ("grandfathering"). Auctions raise revenues that, depending on the circumstances, can be used to lower distortionary taxes or finance public expenditure, and they limit the realisation of windfall profits by the polluters who receive the initial credits. Moreover, OECD (2009e) concludes that permit auctions also stimulate environmentally friendly innovation more effectively than trading schemes with free allocations.<sup>55</sup> "Grandfathering" permits, which is often adopted under pressure from industry lobbies, is meant to alleviate concerns about the impact on industrial competitiveness of auctioning permits. However, it is the opportunity cost of permits (*i.e.* the price at which they could be sold) that determines their impact on production costs and hence competitiveness. Thus, the method of permit allocation should not make any difference to competitiveness, at least in the absence of market failures.<sup>56</sup>

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52. These fuel sources are also exempt when not used as fuel or to produce heat; here the logic is simply that they need not be taxed on environmental grounds if they are not burned.

53. The question of taxing electricity at all is open to debate, because electricity generation is covered by the EU ETS. Cross-border trade within the EU is no problem here, because it is measured emissions at power plants that form the basis of the ETS. The tax on electricity consumption therefore does not contribute to a reduction in EU-wide CO<sub>2</sub> emissions: these are governed directly by the "cap". Instead, the electricity tax helps lower permit prices, benefitting emitters in other sectors covered by the ETS and (rather perversely) the electricity generators with the largest relative CO<sub>2</sub> emissions – coal-based generators.

54. DG Env (2009) reports that in 2006 it ranked fourth among the EU25.

55. Grandfathered permits are identified as one of the *least* effective mechanisms for stimulating innovation.

56. Ekins and Salmons (2009). In practice, there is likely to be an impact on competitiveness, owing to imperfections in financial markets and the competitive structures of permit and product markets. The arguments for auctioning over grandfathering are canvassed at greater length in OECD (1995); OECD (2001a); OECD (2008f); and Ekins and Salmon (2009).

Hitherto, the Czech authorities have opted for a grandfathering scheme: under the National Allocation Plan (NAP) for 2008-12, allowances are distributed free of charge, except for unused allowances left in the reserve for new entrants, which will be sold at auction at the end of the second trading period.<sup>57</sup> *The government should consider moving away from grandfathering emission allocations in the next NAP. At a minimum, the free allocation should be substantially reduced, with the balance being auctioned.* This would be consistent with EU policy, which holds that buying permits should gradually become the norm. By signalling such a policy change now, well before the 2013-17 NAP comes into force, the government would give firms ample time to prepare for the new arrangement.

Even allowing for the further extension of emissions trading schemes – European or national – to other firms and sectors, some sort of emissions taxes are likely to be needed to ensure adequate incentives for emission reductions in areas where cap-and-trade schemes cannot realistically be applied, such as waste, agriculture and transportation. *The next government should press ahead with plans for a tax on GHG emissions.* In order to avoid undermining the competitiveness of Czech firms, some other tax relief may be warranted. However, the authorities should be wary of exemptions, rebates or other mechanisms for addressing competitiveness concerns that would undermine the environmental impact of the tax, such as exemptions or lower rates for more energy intensive production methods. This does not mean that a very heavy emissions tax must be imposed all at once: in designing the tax, the authorities should bear in mind that its environmental impact will depend on the tax paid on *marginal* emissions, not the average tax per unit emitted. There may thus be some scope for phasing the tax in or designing it in such a way as to avoid unduly penalising investment decisions made before it was adopted.<sup>58</sup>

Although most recent discussion of environmental taxation has focused on climate change issues, there is also a need to review the current system of environmental levies applied to various forms of water use, waste collection and disposal, air pollution (other than GHGs), freon use, forestry and mineral extraction. The system comprises a large number of relatively small charges administered by different agencies or levels of government. They are largely unco-ordinated with one another or with the tax system as a whole, and administration costs appear to be exceptionally high as a share of net revenues raised. High administration costs are to be expected where some environmental taxes are concerned – their object is to deter environmentally damaging behaviour rather than to raise income, so they functioning more like fines, with correspondingly high ratios of administration costs to net revenues. However, the very high relative administration costs in the Czech Republic mainly reflect the fact that charges are very low – often too low to influence polluter behaviour (Pavel and Vitek, 2007). A recent European Environment Agency (EEA) assessment of the charges levied for aggregate raw materials (stone, sand and gravel) highlights the problems that exist in respect of many environmental taxes and charges. The charges, introduced in 2002, vary with local conditions and environmental impact, but they appear to have been set too low to affect extraction activities or to influence recycling rates. Since the charges only apply to designated “reserved” deposits, simply raising them might trigger a shift to extraction from non-reserved sites (EEA, 2008). Raising the aggregate charges modestly, while extending them to cover all extraction, could provide needed additional revenues for municipalities. At the same time, it would be desirable to change the current complex formulae for calculating mining charges. *The government should consider a systematic rationalisation and streamlining of the system of environmental levies, with a view to simplifying the system, reducing administration costs and increasing environmental impact.* Here, as elsewhere, it is important to bear in mind not merely the costs of environmental taxes and charges or their direct impact on polluting behaviour but also their potential to stimulate “eco-innovation”. As OECD (2009e) makes clear, any assessment of the costs and benefits of environmental tax reform that ignores innovation is incomplete.

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57. The reserve for new entrants is equivalent to about 1.49% of the total quota.

58. OECD (2005:68-69) describes the attempt to introduce such a tax in France.



*... And real property*

Another OECD recommendation is to increase reliance on the taxation of real property. The advantage of taxes on land and buildings is that they have relatively little effect on the allocation of resources in the economy, because they do not affect the decisions of economic agents to supply labour, to invest in human or other capital, to produce or to innovate to the same extent as some other taxes (Johansson *et al.*, 2008). Another advantage of property taxes is that the tax revenue they generate is more predictable than the revenues obtained from labour and corporate taxes, partly due to less cyclical fluctuation in property values (Joumard and Kongsrud, 2003). Also, as real estate and land are highly visible and immobile these taxes are more difficult to evade. The immobile nature of the tax base may be particularly appealing at a time when the bases of other taxes are becoming increasingly internationally mobile. If well designed, property taxes may also encourage greater accountability on the part of government, particularly where they are used to finance local government. For this reason, the authorities might wish to consider increasing municipalities' freedom to adjust property tax rates as part of any larger property tax reform.

As noted above, taxes on real property are unusually low in the Czech Republic. The real estate tax, which provides the revenue base for municipalities, consists of two parts – a tax on land and a tax on buildings – and has many deductions. The tax base for buildings is defined in physical units (square metres), using the surface of the buildings as the basis for measurement. Tax rates are defined in monetary terms (CZK) and depend on the use of the buildings: residential and agricultural structures, for example, are taxed less than other buildings. In the case of residential buildings, the tax depends also on their location: it is higher in Prague and other major cities than elsewhere. The tax base for land is measured in physical units (square metres), except for agricultural land, and it, too, depends on the designated use of the land – whether it is built area, a building plot or another type of land. The location of the land also matters, as in the case of residential property. The basic rates are multiplied by coefficients ranging from 1.0 to 4.5, depending on the size of the municipality. Municipal authorities have limited discretion to adjust this coefficient and also to exempt farmland from the tax altogether. However, neither the tax on land nor the tax on buildings reflects actual market values. For example, in the current tax system, the real estate tax for residential buildings in the Prague area is CZK 4.5 per square metre, and for built land it is CZK 0.45 per square metre. Given current prices per square metre in Prague, this corresponds to an effective tax rate of roughly 0.013%. Linking the tax base to market values, moreover, has the advantage of increasing incentives to develop land. It may also reduce the pro-cyclicality of property taxes and reduce housing price cycles (Muellbauer, 2005).<sup>59</sup> *The tax mix in the Czech Republic should be shifted towards greater reliance on the taxation of real property by increasing the tax rates, by linking the tax to actual market prices or some combination of the two. It would also be desirable to limit those provisions that link property tax rates to designated use: the tax rate on an asset should not, as a general rule, depend on the use to which it is put.*

Nonetheless, there are two practical drawbacks to a significant shift towards greater taxation of real property. First, these taxes are very unpopular in many countries, at least in part because of their visibility and because they are less obviously linked to ability to pay than are most other taxes. The latter consideration makes them particularly vulnerable to criticism on equity grounds. In some respects, however, taxes on real property offer advantages in terms of equity. First, they tap into the economic rents that may accrue to asset owners for reasons unrelated to their activities. Secondly, they can help to recoup the cost of infrastructure investment from its principal beneficiaries. Their unpopularity could in any case

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59. In particular, it may limit the ability of households betting on a rising market to take on excessive mortgages, even if there are willing lenders available. If the tax on a property is too high relative to income, both borrower and lender will think twice about the transaction, even if it looks like a good speculative bet.

be reduced by the use of up-to-date valuations and provisions to deal with the situations of people with low incomes and illiquid assets. In the case of pensioners, one option would be to capitalise the property tax and take it from their estates, on death. However, it would not necessarily be desirable to do too much in this regard, since policies aimed at keeping house-rich but income-poor individuals in their current homes create distortions in the housing market than can impose (sometimes hidden) costs on other groups. The second practical drawback is that, as in most OECD countries, property tax revenues belong to local governments and so a shift towards property taxes would require some changes to revenue-sharing arrangements. However, this difficulty should not be over-estimated, as in most OECD countries local governments receive some income tax revenues, which could be substituted by property tax revenues, and/or substantial grants from higher levels of governments, which could be reduced as property tax revenues increased.

### **Box 3. Tax and benefit policy recommendations to enhance growth**

#### **The tax system should become less reliant overall on distortive tax sources**

Recent tax reforms have already helped shift the tax burden towards reliance on less distortive forms of taxation but there is much more that can and should be done:

- The tax burden should be shifted further from direct to indirect taxes, specifically from the taxation of labour and capital income towards taxation of consumption and real property.
- Reducing the labour tax wedge and, in particular, very high social security contributions, should remain a particular long-term priority.
- The trend towards lower tax rates and broader tax bases should continue, albeit with due consideration for the need to ensure that changes do not undermine the sustainability of public finances.

#### **Labour taxation and the benefit systems should be made more growth-enhancing by boosting labour supply and demand**

While the tax changes of 2008 helped increase work incentives, the interaction of tax and benefit systems means many groups still face very high average effective rates of taxation, which discourage activation, or very high marginal effective rates, which reduce the incentives for working individuals to increase their labour supply.

- Tax and benefit policies should be systematically co-ordinated. The authorities may want to consider constructing a tax-benefit model to analyse the tax-benefit interactions that arise when policies change.
- Where possible, the remaining spikes in marginal effective tax rates should be reduced or eliminated, by smoothing the withdrawal of some benefits, particularly unemployment benefit and living allowance, and by gradually withdrawing the spousal tax credit as the second earner increases earnings.
- The anomaly created by the combination of a flat-rate PIT and a cap on SSCs at high incomes should be corrected by eliminating the cap.
- A comprehensive review of the tax and benefit system provisions as they apply to families with dependent children should be undertaken with a view to reducing the disincentives for second earners to take up work by the reducing the very high average effective tax rates they may face.
- Steps should be taken to reduce the disparities in the tax treatment of dependent workers and the self-employed.

- Targeted reductions in social security contributions for low-wage jobs should be considered. In particular, the requirement for workers earning less than the equivalent of the full-time minimum wage to pay the minimum social contribution should be relaxed.
- Consideration should be given to a return to comprehensive automatic indexation of tax and benefit parameters, on the basis of a formula that is transparent and fiscally sustainable.

#### **Distortions in capital taxation should be further reduced**

The steady reduction in the statutory rate of corporate income tax (CIT) has itself helped to reduce some of the distortions that exist in the system of capital taxation. However, the system is still less neutral between forms of finance and asset types than many in the OECD.

- Some revision of the CIT and/or the taxation of dividends should be adopted so as to reduce the disparities between the tax treatment of different sources of investment finance. At the very least, thin capitalisation rules should be tightened.
- The neutrality of the CIT with respect to investment in different types of assets should also be increased. This may require revision of depreciation schedules and of targeted investment incentives now written into tax legislation.

#### **Further steps to reform consumption taxation should be considered**

- VAT should be levied at a single rate, with the number of exceptions and exemptions reduced to a minimum.
- Increased excise taxes on, for example, highly polluting fuels, should be considered where the government wishes to use consumption taxation to address environmental objectives or curb other social bads.
- A GHG emissions tax should be adopted.
- The next National Action Plan under the European Union's Emissions Trading Scheme should move away from the current practice of allocating emissions allowances to polluters free of charge.
- The system of environmental levies and charges should be rationalised and streamlined with a view to simplifying the rules, lowering administration costs and setting rates at levels that will influence polluter behaviour.

#### **Taxes on real property should be both overhauled and increased**

- The real estate tax should be increased by raising tax rates and linking the tax to actual market prices.

#### **Follow-through in implementing recent reforms through the downturn will be important**

- Implementation of recent reforms to disability pensions and sickness insurance should be monitored closely. Pressure to relax access to disability schemes or to compromise recent sickness insurance reforms as unemployment rises should be resisted.

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## ANNEX 1.

## EFFECTIVE TAX RATES ON LABOUR – METHODOLOGY AND ASSUMPTIONS

The analysis of effective tax rates in this paper closely follows the methodology used in the OECD *Tax and Benefit Model*, which is available for all OECD members and some non-OECD economies. However, due to its wide coverage and the necessity of employing some non-country-specific assumptions, the model does not fully capture the details of the Czech tax and benefit system. The analysis presented here is therefore drawn from a modified version of the model for the Czech Republic, which has been augmented with additional information on the Czech system. Information on the overall methodology used in the OECD *Tax and Benefit Model* can be found in OECD (2007c).

**The OECD *Tax and Benefit Model******Effective tax rates***

The analysis focuses on average and marginal effective tax rates (AETR and METR). They are calculated to measure the extent to which tax and benefit systems distort work incentives. The METR measures the share of one unit additional earnings that is “taxed away” through the combined effect of changes in taxes and benefits. Instead of measuring the impact of a one-unit change in earnings, the AETR captures the share of additional earnings that are “taxed away” due to changes in taxes and benefits as an individual moves from unemployment or inactivity to full-time employment. The METR and AETR are defined as follows:

$$METR = 1 - \frac{\Delta y_{net}}{\Delta y_{gross}} \quad (A.1)$$

$$AETR = 1 - \frac{y_{netIW} - y_{netOW}}{y_{grossIW} - y_{grossOW}} \quad (A.2)$$

where  $y$  refers to income and  $\Delta$  to a one-unit change in income. Sub-indices *net* and *gross* indicate net and gross income and IW and OW indicate employment status – full-time employment (“in work”) and inactivity or unemployment (“out of work”), respectively.

***Income definitions***

Gross income is defined as labour earnings before taxes and benefits. Only cash incomes are considered in the model. Net income is gross income minus income taxes and employee social security contributions plus cash benefits. Any taxes or contributions not paid directly by or to the wage earner or benefit recipient are not included in the income definitions.

Labour earnings are measured as a percentage of the earnings of the average worker (AW) and are expressed on an annualised basis. The annual AW wage in the Czech Republic in 2008 was around CZK 271 257. Average earnings are calculated for the business sector, that is, industries C to K of the United Nations International Standard Industry Classification (ISIC Rev. 3.1) and relate to the whole country.

### ***Time period***

All income measures are based on the tax-benefit rules and laws in force in a given year. For the Czech Republic the analysis focuses on 2006 and 2008. In international comparisons, the year of analysis is 2008 for the Czech Republic and 2007 for other countries.<sup>60</sup> Since the focus is on a given year, any time-lags delaying the assessment of entitlement or payment of benefits and taxes are ignored. For example, in the case where means-tested benefits depend on the previous year's income, these benefits are modelled on the basis of a household's current income situation.

### ***Household types and related assumptions***

Effective tax rates are computed for the following household types: single adult, one-earner married couple and two-earner married couple. All the three types are considered with two children and without children. Household adults (both male and female) are assumed to be 40 years old and children are assumed to be four and six years old.

In this analysis, effective tax rates are calculated for several different earnings levels. The AETRs focus on the earnings level of the minimum wage (8 000 CZK per month) and at 67% and 100% of the AW. Where the other spouse is also working, her/his earnings are assumed to be either 67% or 100% of the AW. METRs are calculated for all wage levels below 200% of the AW. The levels above this wage are not considered, as at such wage levels tax and benefit systems are unlikely to distort work incentives.

### ***Benefits***

Since only cash income is considered, all benefits "in-kind" are excluded from the model. In addition, benefits directly related to the purchase or reduced prices of particular goods and services (other than housing and child care) are excluded. The benefits included in the OECD model are unemployment insurance, unemployment assistance, social assistance, family benefits and lone-parent benefits, housing benefits, child allowance and employment-conditional "in-work" benefits. The model disregards, *inter alia*, old-age cash benefits, early retirement benefits, childcare benefits for parents with children in externally provided childcare, sickness, invalidity and occupational injury benefits, and benefits related to active labour market policies, as well as severance pay. A detailed description of the assumptions used in the model may be found in OECD (2007c). For the analysis of the Czech system, the relevant benefits include unemployment benefit, housing allowance, child and social allowance (family benefits), as well as living allowance and housing supplement (social assistance).<sup>61</sup>

### ***Taxes***

The calculation of taxes and social security contributions (SSCs) are based on the OECD Taxing Wages models. Only personal income taxes (PIT) on labour and SSCs payable by the wage earner are included. The analysis incorporates only standard tax reliefs which are unrelated to actual expenditures incurred by the taxpayer and are automatically available to taxpayers who fulfil the eligibility criteria. Non-standard tax reliefs excluded from the analysis are, *inter alia*, those related to cost of owner-occupied housing, mortgage interest payments and insurance premiums, contributions to saving or pension schemes and charitable donations. In the case of the Czech Republic, the relevant tax reliefs consist of the standards tax credit, spouse and child tax credit.

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60. At the time of writing, updates for other OECD countries were not available.

61. Parental allowance is not included, as families are entitled to this benefit only when children are under three years old and the assumption of the age of the children more than three years (four and six).

## Modifications to the OECD *Tax and Benefit Model* for the purposes of this analysis

The main differences between the current analysis and the results yielded by the standard *Tax and Benefit Model* are related to the assumptions concerning housing costs for the purpose of calculating housing allowance, the income definition used in benefit calculations, entitlement to the child tax credit and payment of SSCs below the minimum wage. In addition, the housing supplement is included in the category of housing benefits in the *Tax and Benefit Model*, whereas in the current analysis, it is considered as a part of social assistance. This is because it is, together with living allowance, the final source of support in the benefit system and is included in the system of social assistance in material need.

### *Housing costs*

The *Tax and Benefit Model* applies a simple assumption concerning the level of housing costs for the housing allowance calculations. These costs are assumed to be 20% of gross earnings of the average worker for all household types and all income levels. The current analysis incorporates more detailed assumptions of housing costs for benefit calculations by using the prescriptive housing costs set by law every year and used as the basis for calculating housing allowances.<sup>62</sup> Table A1.1 below presents the prescriptive costs for 2008. The cost used in the model for each family size consisted of a weighted average of the prescriptive cost for that family size, with the weights reflecting the distribution of that family type across the range of municipalities. Thus, the analysis allows, *e.g.* different housing costs for a single person and for a couple with two children.

**Table A1.1. Prescriptive monthly housing costs, 2008**

Number in household	Prague	Population				Weighted average for household type
		100 000+	50 000-99 999	10 000-49 999	<10 000	
1	4 182	3 383	3 155	2 895	2 747	3 131.4
2	6 091	4 998	4 686	4 331	4 128	4 534.2
3	8 401	6 971	6 563	6 099	5 834	6 518.3
4+	10 549	8 824	8 332	7 772	7 453	8 029.4

Source: Ministry of Labour and Social Affairs, OECD calculations.

### *Income definition used in benefit calculations*

Both eligibility for and the level of many benefits depend on family income. Thus, it is important to use the “right” income definition as a basis for benefit calculations. The OECD *Tax and Benefit Model* uses the basic net income definition as the income basis for calculation of the benefit entitlement and level, *i.e.* gross income after taxes and benefits. However, according to the Czech benefit system rules, the child tax bonus (a negative tax liability) is not included in the income definition. This lowers the net income used in the benefit calculations and thus makes the system more generous in eligibility and benefits levels. The current analysis incorporates this into the income definition. A second difference is that social assistance is not included in the income definition. Thirdly, individual benefits are included or excluded from the income definition depending on the benefit. These changes bring the definition of income used in the modified version of the model closer to the rules applied in the Czech system when assessing benefit eligibility and level. For example, only child allowance is included in the income definition when social and housing allowances, as well as the housing supplement, are calculated. Living allowance calculations include only taxes and social security contributions in the income definition. These differences in the

62. Both the current analysis and the OECD *Tax and Benefit Model* assume that housing costs are entirely rental costs.

definition of income lead to some differences in the effective tax rate calculations between the current analysis and the standard OECD model.

**Table A1.2. Income definitions used for specific benefits**

System	Benefits	Income included
Social insurance	Unemployment benefit	Gross income less PIT and SSCs
	Child allowance	Gross income less PIT and SSCs plus unemployment benefit
State social support	Social allowance	Gross income less PIT and SSCs plus unemployment benefit and child allowance
	Housing allowance	Gross income less PIT and SSCs plus unemployment benefit and child allowance

Source: Ministry of Labour and Social Affairs, Ministry of Finance.

### ***Entitlement to the child tax credit***

The current analysis also takes account of the fact that a household with children is eligible for the child tax credit only if at least one adult in the household is earning more than half of the minimum wage (CZK 4 000 per month). The standard model does not incorporate this rule.

### ***Payment of social security contributions***

The rate of employee SSCs is 12.5% of gross earnings in the OECD model.<sup>63</sup> This rate is applied to all income levels. However, at incomes below the minimum wage, employees are obliged to pay both employees' and employers' part of the health insurance contribution due for a full-time minimum wage worker, unless they are unemployed, engaged in full-time childcare or entitled to living allowance.

63. This has since fallen to 11.0%, but the analysis was conducted using policy settings for 2008.

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