

TAX DESIGN, ECONOMIC EFFICIENCY AND GROWTH

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1. Introduction

Since the role of the public sector as a purchaser or provider of *e.g.* infrastructure, education and research is crucial for the economic potential, the net growth contribution of taxation through these government activities is undoubtedly positive. However, because taxation by itself inevitably impinges on most aspects of economic activity, careful consideration must be given to its design – in addition to its level and hence the level of related expenditure. So long as taxation affects incentives it may alter economic behaviour of consumers, producers or workers in ways that reduce the amount or utilisation of physical, human and knowledge capital, and thus growth. Therefore, to the extent the tax system matters for economic efficiency, its costs are likely to rise with the level of taxation. Empirical research suggests that an increase in the tax share in GDP by 1 percentage point reduces output per working-age person in the long run by 0.6 to 0.7 percent.¹

Meanwhile, it would be inappropriate to design tax systems with only revenue-raising and growth objectives in mind. An equally important consideration is taxation's impact on the distribution of income and wealth across the population, which raises issues of equity, or fairness, which must be given substantial weight even if it entails costs in terms of economic growth. Moreover, the practical enforceability of tax rules and the costs arising from compliance are important considerations, the more so since these are both affected by, and have implications for, the efficiency and public perceptions of the fairness of tax systems. Indeed, the key challenge for tax policy is to strike the best possible balance among these issues.

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¹ See OECD (2000d).

In a recent OECD study² we have pulled together the findings for a selection of OECD countries whose tax systems have been reviewed in the past few years in the periodical *Economic Surveys*.³ The study benchmarked these tax systems against a set of best-practice principles and put forward a large number of policy recommendations. Behind these recommendations stand empirical analyses of how tax systems distort saving, investment, labour markets and product markets, on which the present paper heavily draws. The following sections discuss the impact of taxation on, respectively, saving (Section 2), capital formation and business organisation (Section 3), the labour market (Section 4) and product markets (Section 5). Section 6 concludes.

2. The impact of taxation on saving

2.1 *The impact on aggregate saving*

Saving is essential for raising economic performance in the medium and long run, as it is the final constraint on investment which, in turn, is key to raising productivity and economic growth. Some strands of the economics literature suggest that increased taxation and public spending may have been important contributing factors to the OECD area-wide trend decline in private savings.⁴ Reasons why this may have occurred are that higher taxation reduced the incentives to save (by reducing the rate of return on saving or providing public insurance against loss of income) and the income stream from which savings are generated (because it increased the tax wedge on wages and salaries).⁵

² See OECD (2001d).

³ The countries reviewed are (in chronological order): Mexico, Switzerland, Japan, Poland, Spain, the Czech Republic, Norway, Korea, Greece, New Zealand, Iceland and Portugal (see the respective *Economic Surveys*; tax reviews in this series are forthcoming for the United States and Finland). In addition, prior to this series ad hoc tax reviews in the *Economic Surveys* of Canada (1997), Austria (1998), Sweden (1999), have been carried out.

⁴ Tanzi and Zee (2000) have recently derived some empirical evidence from a panel set covering 19 OECD countries over the period 1971-95. They estimated negative coefficients of the tax/GDP ratio to be particularly high for income taxes but much lower for consumption taxes, as is predicted by economic theory. It is also found that, when controlling for the impact of the overall tax revenue/GDP ratio on the household saving rate, the household saving rate remains negatively correlated with the income tax revenue/GDP ratio in a statistically significant way, but its correlation with the consumption tax revenue/GDP ratio becomes statistically insignificant.

⁵ Moreover, income derived from savings is usually taxed in nominal rather than real terms, which can lead to very high effective tax rates on the real return.

However, the OECD country reviews do not convey a strong impression that the effect of taxes on aggregate savings is quantitatively important. New Zealand is the only reviewed country that appears to have shaped its tax policy with a view to stimulating national saving considering its large and persistent current account deficit. In particular it has provided a rationale for the introduction (in 1986) of VAT and maintaining a large share of VAT in the total tax mix. Such a shift in the tax mix towards consumption taxation has been advocated in the academic literature as a way to reduce the double taxation of savings.⁶ It might be argued that for an open economy with access to world capital markets, like New Zealand, there is no particular reason for economic policy to be concerned with domestic saving levels since any lack of domestic savings can be covered by inflows of foreign savings. However, to the extent that foreign debt places a risk premium on such foreign savings inflows, a call for higher domestic savings may be justified. A shift towards consumption taxes has occurred in Japan as well to stimulate national savings to prepare for population ageing, but the overall approach remains eclectic, combining elements of consumption and income taxation into the tax system. This seems to be wise, particularly in view of the perceived income distribution effects stemming from a shift towards consumption taxation.⁷

⁶ Proponents of consumption taxation – particularly in the United States – have suggested abandoning the entire income tax system and replacing it by some form of “pure” consumption taxation, see *e.g.* Boskin (1996) and CBO (1997a). This could be an income tax with net savings allowances or an expenditure-based tax such as VAT. Although no OECD country has opted for a radical switch towards “pure” consumption taxation, it has emerged in the academic literature as a benchmark for assessing the merits of consumption *vis-à-vis* income taxes. It has been advocated as a particularly promising route for countries that face strong growth in revenue needs in the future (Auerbach, 1997). The overall impression is, however, that a move towards “pure” consumption taxation risks having disruptive transition effects while the effects on savings are expected to be relatively small and uncertain (Bradford, 1995). One reason often quoted is that income effects might outweigh the substitution effects stemming from a shift towards consumption taxation, and hence savings may actually decline (Engen/Gale, 1996 and Feldstein, 1995). Even though that outcome would reduce the excess burden of the tax system and thus generate welfare gains, it conflicts with the objective of raising national savings to cope better with macroeconomic constraints.

⁷ It is often argued that consumption taxation is not progressive, particularly with reference to indirect taxes, as these are flat rate. However, much of the discussion of the “fairness” or progressiveness of consumption taxes hinges on the time frame of analysis. In a lifetime perspective, consumption tax is broadly proportional to life-time income. Moreover, as Gentry and Hubbard (1997) have argued, a consumption tax exempts only the pure interest component of capital income (*i.e.* the opportunity cost of capital investment), but eventually does tax rents and the risk premium. As the latter tend to be skewed towards the top end of the income distribution, consumption taxation could be more progressive than generally assumed.

2.2 *The impact on the composition of saving*

While the empirical evidence for a significant impact of taxation on aggregate savings is weak, tax systems are clearly non-neutral with respect to specific forms of savings, and thus affect the composition of saving.⁸ These therefore distort market signals with respect to the true comparative rates of return on each of these savings vehicles, and thus generate efficiency losses. Among the countries that went furthest in eliminating non-neutralities of income taxation across savings instruments are New Zealand and the Scandinavian countries that have been reviewed, Norway and Sweden. Norway and Sweden have moved in the early 1990s to a system that taxes all sources of capital income (including *e.g.* imputed rental income of owner-occupied housing) at a similar rate irrespective of the source of income or the income or other characteristics of the final investor. By contrast, loopholes have remained in New Zealand due to the absence of a broad-based capital gains tax and non-taxation of imputed rents of owner-occupiers.⁹

It has remained common in most OECD countries to use tax facilities to subsidise private pension plans (including life insurance), which regularly exceed a full percentage point of GDP (Adema, 1999). This has taken a variety of forms, most prominently the granting of tax allowances for private pension contributions and exempting returns on fund assets, while benefits are taxed (so-called EET tax treatment, with the initial saving Exempt, the return on assets Exempt and benefits Taxed; see Table 1).¹⁰ This approach represents a more favourable treatment of pensions than of other kinds of saving, which are normally taxed when the saving is made (*i.e.* there is no deduction from personal income tax) and when a return is earned, whereas the liquidation of the investment remains untaxed (TTE tax treatment, or savings Taxed, the return Taxed and benefits Exempt).¹¹ Moreover, among the countries that apply EET, taxation at retirement is often relatively light. Only a minority of countries (Australia, the Czech Republic, Luxembourg, New Zealand and Sweden)

⁸ OECD (1994), Bernheim (1999) and Arthur Anderson (1999).

⁹ However, it should be noted that the application of taxes on capital gains of equities that are attributable to retained profits distorts corporate funding decisions (see below).

¹⁰ In some countries a range of schemes applies, *e.g.* in the United States, where there are three main forms with preferential tax treatment, and in the United Kingdom, where nine different tax-favoured retirement savings vehicles exist (Banks and Emmerson, 2000).

¹¹ See Dilnot (1992), Arthur Andersen (1999) and Dalsgaard and Kawagoe (2000).

Table 1**Tax treatment of private pensions in OECD countries**

	Contributions out of taxed income or exempt	Fund income tax or exempt	Pension benefits taxed or exempt	
			Annuities	Lump sum
Australia	T	T	T	T/E
Austria	P/C	E	P/T	..
Belgium	C	E	T	T
Canada	E	E	T	T
Czech Republic	T	E	T	T
Denmark	E	T	T	T
Finland	E	E	T	T
France	E	E	T	E
Germany	T/E	E	T	T/E
Hungary	E	E	E	E
Iceland	E	E	T	T
Ireland	E	E	T	T/E
Italy	E	E	T	T
Japan	E	E	T	T
Korea	T/E	T/E	E	E
Luxembourg	T/D	T	T	T/E
Mexico	E	E	T/E	T/E
Netherlands	E	E	T	T
New Zealand	T	T	E	E
Norway	E	E	T	T
Poland	E	E	T	..
Portugal	E/C	E	T	T
Spain	E	E	T	T
Sweden	E	T	T	..
Switzerland	E	E	T	T
Turkey	E	E	E	E
United Kingdom	T/E	E	T	E
United States	E	E	T	T

Source: OECD Tax Database.

Note: Key to abbreviations

G = credit; E = exempt; T = taxed; P = partial.

apply some variant of TTE treatment of pension saving akin to the treatment of savings deposits, although even some of these countries still subsidise private pension saving to some extent.¹² Denmark is the only country to apply ETT (saving Exempt, the return Taxed and benefits Taxed), which is broadly equivalent to TTE treatment.

While in most countries both mandatory (including public) and voluntary retirement contributions are tax privileged, tax incentives are instrumental only with respect to voluntary provision. Nonetheless, governments justify tax privileges even for forced pension savings in several ways. Pension savings to be paid out as annuities after retirement are illiquid and the return may be eroded by inflation. Therefore, higher after-tax rates of return may be required to compensate for these drawbacks. Furthermore, forcing people to participate in a private retirement savings program beyond the public system of social security contributions might be difficult to defend, unless this is tax-favoured or otherwise supported. Countries with an ageing problem who are moving away from a PAYG-system to pre-funding may find tax privileges an adequate compensation for the “double burden” hitting present workers, since they are required to finance both current and future pension payments.¹³ However, the double burden of present generations could be justified as these generations have saved on raising children – *i.e.* they preferred and benefited from lower fertility than previous generations (Sinn, 1999).¹⁴

The favourable treatment of long-term savings through private pension plans raises several issues of economic efficiency. By granting tax favours for private pension plans, governments pursue several social and

¹² For instance, the pension tax regime in Australia imposes tax at all three stages (contributions; earnings; and benefits), but at relatively low effective rates. It hence offers some subsidisation of pension saving, but there is a significant reduction in the net value of benefits received compared with an EET treatment (Atkinson *et al.*, 1999).

¹³ In the United States and some other non-European OECD member countries, tax incentives for retirement savings are seen as a way to overcome a lack of national savings. However, empirical estimates on this are not conclusive. Some have found these tax-preferred vehicles to encourage aggregate savings, and others concluded that they induce merely a reallocation of existing savings across savings vehicles or a joint rise in saving and borrowing (see *e.g.* Bernheim, 1999).

¹⁴ However, there might still be a case for tax privileges on inter-generational equity grounds: higher current PAYG contributions are a transfer from the current working population to the old, who also did not raise sufficient children, but did not have to save for their retirement. Therefore, it could be argued that the tax privileges compensate for the higher *current* PAYG contributions, for which the present working population is not responsible. Nevertheless, the line of arguing could be different once bequests are taken into account (see *e.g.* Miles and Eben, 2000).

economic objectives, but their effectiveness in this regard may be questioned. Most prominently, these favours aim to encourage long-term saving by households to ensure that households are less prone to moral hazard – *i.e.* rely excessively on social assistance at old age. However, while the proneness to moral hazard may be reduced, tax favours for pensions are susceptible to substantial dead-weight losses since the group that will be affected is much larger than the target group.¹⁵ There is also an undesirable effect on the income distribution since in most tax systems the “tax value” of the deductions or exemptions is largest for higher income groups.¹⁶ In addition, tax incentives for pension saving tend to favour a particular set of financial intermediaries (pension insurance providers) relative to other providers, thus distorting competition and encouraging rent seeking. It also favours investment in low-risk assets (government bonds) which have a relatively large weight in the portfolio of such intermediaries (OECD, 1998c), to the detriment of small (start-up) companies that depend on high-risk capital, including venture capital.

Households in all examined countries are encouraged by the tax system to use their home as vehicles for long-term private wealth formation. House-ownership produces notional rent income and may give rise to capital gains. Hence tax issues arise at three levels: the acquisition of the house (which is equivalent to a financial investment), the imputed rent and capital gains (equivalent to a return on investment) and the liquidation of the invested capital when the house is sold. The tax-neutrality criterion suggests that these components should be taxed in the same way as alternative investments, according to a TTE or ETT schedule. However, most countries apply a TEE tax schedule (acquisition cost is not deductible against the personal income tax and hence taxed, both imputed rental income (after deduction of mortgage interest payments) and capital gains are exempt and the liquidation of the house does not lead to taxation, see Table 2). Indeed, by exempting the imputed rent and/or capital gains from taxation, a tax preference is allowed to such investment compared with financial investments (although transaction

¹⁵ Moral hazard may not be an issue at all to the extent that investment in private pension schemes is mandatory. However, compulsory savings might be considered as if they were payroll taxes and could therefore lead to labour market distortions. If the resulting labour market distortions are substantial, some have argued it might even be optimal to remove mandatory pension savings and accept moral hazard (Homburg, 2000).

¹⁶ Except for dual income tax systems where deductions are against the flat rate for capital income which corresponds to the lowest tax bracket for personal income.

Table 2

Tax treatment of owner-occupied housing in OECD countries

	Acquisitions cost payable out of taxed income or deductible	Interest on loan for acquisition payable out of taxed income or deductible	Capital gain taxable or exempt	Imputed rental income taxable or exempt
Australia	T	T	E	E
Austria	PD	PD	E (if owner occupied for at least 2 years)	E
Belgium	D	D	E	T
Canada	T	T	E	E
Czech Republic	T	D	E (if owner occupied for at least 2 years)	E
Denmark	T	D	E (if owner occupied for at least 2 years)	T
Finland	T	D	E (if owner occupied for at least 2 years)	E
France	T	T	E	E
Germany	T	T	E (if owner occupied for at least 2 years)	E
Hungary	T	PD	T	E
Iceland	T	T	E (if owner occupied for at least 2 years)	E
Ireland	T	T	T	E
Italy	T	D	E	E
Japan	T	T	T	E
Korea	T	T	T/E	E
Luxembourg	T	D	T/E	T
Mexico	D	T	E	E
Netherlands	T	D	E	T
New Zealand	T	T	E	E
Norway	T	D	E	T
Poland	D	T	T/E	T
Portugal	PC	PC/C	E	E
Spain	PC	PC/C	E	E
Sweden	T	D	T	T
Switzerland	T	D	T/E	T
Turkey	T	T	E	T
United Kingdom	T	PD	E	E
United States	T	D	E (if owner occupied for at least 2 years; subject to a ceiling)	E

Source: OECD Tax Database.

Note: Key to abbreviations:

D = deductible; PC = partial credit; PD = partially deductible; E = exempt; T = taxed; C = credit.

taxes and property taxes may provide a partial offset).¹⁷ In fact, some countries even allow a tax deduction or credit for the acquisition of the house (*e.g.* Mexico, Poland and Spain). Meanwhile, countries that do tax imputed rental income (after deduction of mortgage interest payments) apply very favourable effective tax rates as rental values are generally under-assessed.

Tax favours for housing distort the allocation of resources towards owner-occupied housing at the expense of possibly more productive uses, and also have questionable distributional consequences. Comparing historical returns it is clear that pre-tax returns to housing investment are significantly lower than that on *e.g.* equity. However, when taking into account the tax advantages allowed to housing, the relative after-tax performance of housing against other saving instruments is more favourable. There are strong indications that such tax subsidies for housing are reflected in a higher level of house prices. Given that transaction costs (stamp duties, fees for real estate agents) are usually proportional to house prices, this tends to lock in large amounts of capital and reduce the geographical mobility of production factors (labour in particular). This is a pertinent finding for Spain, while lock-in effects are also prevalent in Japan. From an income-distribution perspective, the main drawback of such tax-driven lock-in effects is that it hits future generations twice: via higher house prices and via heavier taxation or lower public expenditure to fund the tax subsidy.

Aside from income taxation, the taxation of real and financial wealth is at the root of serious distortions of savings in several countries. In Austria, the widespread use of anonymous savings accounts has been instrumental in keeping savings deposits outside the tax net and therefore rendered the enforcement of inheritance tax difficult. The envisaged phasing-out of the anonymous savings accounts should improve the situation in this regard. By contrast, the taxation of savings deposits under the wealth tax in Switzerland, Norway and Sweden is heavy compared with alternative savings vehicles such as real estate and shares. Indeed, in the Scandinavian countries the wealth tax works strongly against the neutrality gains achieved by the system of uniform capital-income taxation. An abolition of the wealth tax could be instrumental in removing this

¹⁷ Exemption of capital gains on housing could be justified by horizontal equity and efficiency moves: it avoids an unfavourable tax treatment of geographically mobile taxpayers who are more often involved in housing transactions and as a result may realise these capital gains more frequently.

distortion. In Japan and Korea, the taxation of land (*e.g.* inheritance, property and transaction tax) favours farmland over land used for urban development which, given the specific geographical conditions of these countries, leads to inefficient land use. With land ownership concentrated in the hands of a few very wealthy landowners, property taxation in Korea has been a longstanding controversial issue. Prices have been pushed up by low controlled interest rates in the past and excessive regulations that limited the supply of land for development. While there are anti-speculation taxes in place – transaction tax on real estate and a capital gains tax of 40 percent if the real estate is held less than two years – it is questionable whether this has curbed speculation and it may have further contributed to higher prices through lock-in effects.

2.3 *The impact on international saving flows*

Globalisation and the associated growth in international financial transactions, while creating new tax bases, pose a growing tax policy challenge as new possibilities for evasion and avoidance emerge. An important set of issues arises from taxation of income from savings invested in portfolio instruments abroad and cross-border flows of interest and dividend income.¹⁸ The existing international tax system, developed through an expanding network of bilateral tax treaties, accords both source countries (where income is generated) and residence countries (where income is received) the right to tax investment income, with various mechanisms used to avoid double taxation.¹⁹ Taxing rights for portfolio investment income, however, are largely balanced towards residence countries. For example, source country withholding tax on portfolio interest is capped at 10 percent under the OECD model tax convention. This is intended to give countries the ability to collect tax on interest earned on foreign assets of resident investors at corporate and personal income tax rates, generally set in excess of source country withholding tax rates.

A divergence in source country (withholding) and residence country (income) tax rates creates tax evasion incentives to shelter income from home country tax by having that income accrue to intermediaries subject to

¹⁸ OECD (1999d).

¹⁹ However, in the case of dividends, bilateral treaties in most cases do not eliminate economic double taxation – see section 2 below.

no or low taxation, or simply to not report the income to tax authorities. At the same time, investors may seek debt securities subject to no or low withholding tax at source to minimise the overall tax bill. Faced with these difficulties, governments have responded in a number of ways. One response, observed in a number of Nordic countries is to adopt a dual income approach.²⁰ The essential feature of a pure dual income tax system is to tax capital income at a relatively low flat rate, while taxing earned income (mainly, wages, salaries, transfers) under a progressive tax rate schedule. Several other countries have adopted separate capital income tax systems to move in this direction as well (*e.g.* France, Spain and Italy). Schedular taxation of income from capital at a low flat rate recognises the incentive, and expanding scope, for tax evasion where such income is subject to tax at a relatively high rate, and the fact that taxpayer compliance may be enhanced and administrative costs reduced through adoption of a dual income tax system, rather than a system based on a comprehensive income tax concept.²¹

Growing concerns over international tax evasion have also motivated efforts for a co-ordinated response. In particular, the Council of the European Union (EU), in December 1997, adopted a tax package that included, among other components, a resolution on taxation of savings. The draft directive was originally based on the so-called “coexistence” model, which envisaged a 20 percent withholding tax on cross-border interest payments to individual residents of another member state or, alternatively, the provision of information about such payments to the authorities of the member state in which the investor is resident. The withholding tax option, which waives tax where a beneficial owner can provide evidence that the income will be subject to tax in his/her home country, was favoured by many EU countries. Others, concerned with capital flight to non-EU financial centres and recognising potential efficiency benefits under a residence-based approach, preferred exchange of information as the mechanism to address the growing problem of taxing savings.

At the ECOFIN Council on 26-27 November 2000 agreement was

²⁰ Denmark introduced a dual income tax system in 1987, followed by Sweden (1991), Norway (1992) and Finland (1993).

²¹ However, this has generally not been the main motivation for moves from comprehensive to dual income taxation: the objective has mostly been to make investments in the home country more attractive to resident investors, and to reduce the practice of transforming dividends into interest payments that were traditionally taxed at lower rates in most OECD countries.

reached on the substantial content of the directive. The principal feature of the directive is that all member states will be required to exchange information with each other, on interest payments to individuals, seven years after the directive enters into force. Until then (during the so-called "transition period") member states other than Austria, Belgium and Luxembourg will exchange information automatically on interest payments, without reciprocity reservations. During the transition period Austria, Belgium and Luxembourg will apply a non-final withholding tax at a 15 percent rate for the first three years and 20 percent for the remaining four years. However, member states operating a withholding tax are required to transfer 75 percent of the revenue earned to the state in which the investor is resident. The Council will decide no later than 31 December 2002 on the adoption and implementation of the directive on the basis of assurances which are to be sought from key third countries (the United States, Switzerland, *etc.*) and dependent or associated territories of member states regarding the application of equivalent measures in those countries.

Although conditional on assurances from non-EU financial centres and on progress in implementing the *Code of Conduct* (see Joumard, 2001) element of the tax package, this is a major step forward. It is noteworthy, in this respect, that in January 2001 the United States published draft regulations extending the information reporting requirements for bank deposit interest paid to non-resident individual resident in other treaty countries.

3. The impact of taxation on business funding, organisation and location

Corporate tax reform measures in OECD countries throughout the mid- to late-1980s were geared largely towards broadening corporate tax bases and lowering statutory corporate income tax rates. The move away from special tax incentives for business investment, including accelerated or enhanced depreciation of capital costs, flat or incremental investment tax credits, and an array of special financing incentives, was often based on findings that the revenue and dead-weight costs linked to these incentives outweighed possible benefits from incremental investment encouraged by the tax relief. In a number of countries, broadening of the corporate tax base continues to shape current reform efforts. In Germany, for example, new rules to tighten depreciation allowances have been introduced, in part

to raise revenues to finance significant tax rate cuts. A review of tax changes introduced during the 1990s shows ongoing interest in a number of countries in lowering statutory tax rates as a means of lowering marginal and average corporate tax burdens. However, progress remains uneven across OECD countries, which is reflected *inter alia* in the development of an extensive international industry that uses aggressive tax planning to serve both final investors and companies minimising their tax bill.

3.1 *The impact on corporate funding decisions*

The tax system may be said to be neutral towards corporate financing and investment decisions if a given pre-tax flow of corporate profits at the margin produces the same after-tax income for final investors, whether the return takes the form of interest payments, dividends, or capital gains. Moreover, this condition should hold also across capital assets such as commercial real estate, equipment, inventories or intangible capital. In practice no tax system in OECD member countries fully satisfies this neutrality criterion, but some countries are closer to meeting it than other countries. In most OECD countries the marginal effective tax rates vary substantially across financing vehicles, with a bias mostly in favour of debt financing (Table 3; see Box 1 for some methodological issues regarding the measurement of the marginal effective tax rates reported in this table), thus making companies more prone to insolvency. Retained earnings also are treated more favourably than new equity financing in some countries due to lower rates of capital gains tax at the individual level, including in some countries a zero rate if shares are held for more than a certain period (Austria, Belgium, Czech Republic, Germany, Greece, Mexico, Netherlands, New Zealand, Spain and Switzerland). The favourable treatment of retained earnings may lock in profits in the corporation, which may have undesirable effects on the liquidity of capital markets and corporate governance.

The wide variation in marginal effective tax rates reported in Table 3 mirrors the different approaches that co-exist in the OECD area concerning the taxation of distributed profits. A minority of OECD countries applies a pure “classical” system (Luxembourg, the Netherlands, Switzerland and the United States). According to this approach distributed profits are taxed twice, first at the level of the corporation, and subsequently when after-corporate-tax profits are paid as a dividend to the shareholders, at whatever (marginal) rate applies under the progressive personal income

tax. By contrast, interest payments, while taxed as personal income at the level of the final investor, are deductible from the corporate income tax base. Other countries (Austria, Belgium, Hungary, Italy,²² Japan, Poland and Sweden) also use a classical system but apply a lower flat tax rate on dividends – which replaces the personal income tax – to reduce the all-in tax burden on distributed corporate income. The remaining countries have introduced relief for double taxation by granting a tax credit against the liability for dividend tax, corresponding to a legally fixed share of the corporate tax paid by the companies that pay out the dividend (the so-called partial imputation system, applied in Canada, Denmark, Ireland, Italy, Korea, Portugal, Spain, Turkey and the United Kingdom). A number of countries have opted for full rather than partial imputation (Finland, France, Mexico, New Zealand and Norway), while some of these countries have recently moved away from this approach (see below). Greece, finally, has removed double taxation by simply exempting dividends for the personal income tax.²³

It is important to highlight that imputation relief is normally confined to residents investing in domestic corporations, unless there are special provisions included in bilateral tax treaties.²⁴ This may be seen as a source of non-neutrality, as it results in a different treatment of foreign investors investing in domestic corporations and domestic investors investing in foreign corporations. Aside from the international distortions of foreign direct investment, which will be discussed in some more detail below, this feature has encouraged tax-planning activities, such as dividend stripping.²⁵ A number of European countries, including Germany, France

²² Italy allows investors to choose between final withholding or partial imputation. It also grants a corporate tax rebate for investment financed through new equity or retained earnings to balance the relative cost of debt and own-capital funding of new investment.

²³ Alternatively, (full or partial) relief from double taxation can also be granted through the corporate tax system, by applying a lower rate on distributed profits (so-called “split-rate” system, such as in Germany (until 2001) and Mexico). For a discussion see OECD (1991). The Czech Republic, Iceland and Spain apply a partial deduction system, instead, by which the distributing company may deduct from its corporate tax liability a fixed share of the withholding tax relating to the dividend.

²⁴ For example, prior to 1999 the United Kingdom granted imputation tax credits in respect of corporate income tax to foreign portfolio and direct shareholders resident in countries with which it had signed a tax treaty providing for such treatment. In 1999, however, the government introduced rules reducing the imputation tax credit rate from 20 to 10 percent. The reduction ensured that under the standard United Kingdom treaty article, foreign portfolio shareholders would no longer receive a tax credit repayment. Foreign direct investors entitled to half tax credit would receive a relatively small repayment, equivalent to less than 0.3 percent of a dividend.

²⁵ Dividend stripping relies upon two transactions between residents and non-residents. A (continues)

(draft legislation) and Sweden, have now abandoned imputation relief.²⁶ In part, these changes may be viewed as addressing the non-neutrality and tax-planning concerns expressed above. They may also be judged as preferable to extending imputation relief to non-resident shareholders that could entail too high a revenue loss, relative to general investment incentive benefits operating through a reduction in the cost of capital. At the same time, parallel restrictions on imputation relief provided to domestic shareholders serve to not discourage foreign investor participation, insofar as domestic double taxation relief has the effect of lowering after-corporate (but pre-personal) tax rates of return.

Even if several countries have (partially) removed double taxation of dividends, there remains double taxation of retained profits. This form of double taxation occurs to the extent retained profits are reflected in capital gains and hence taxed again at the level of the final investor to the extent that capital gains taxes are a feature of the tax system. Only one country, Norway, has introduced relief for this form of double taxation by way of the so-called “opening value adjustment” method. According to this method, capital gains are taxed only to the extent the increase in market value of the company exceeds the increase in the stock of retained earnings. As an alternative, New Zealand has abolished the taxation of capital gains on shares altogether.²⁷ Both countries also maintain a full imputation system and moreover apply (practically) the same tax rate across all forms of capital income. Hence their respective tax systems are the most neutral ones from the point of view of corporate funding – although Australia, Mexico, Denmark, Italy and Korea also have relatively neutral systems in this regard (but, as noted, at the risk of introducing non-neutralities *vis-à-vis* foreign direct and portfolio investment).

non-resident who owns a participation in a domestic company sells it temporarily to a resident (before dividend distribution), who will profit from the imputation tax credit. After the distribution, the sale is reversed.

²⁶ Germany has enacted legislation to take effect in 2001, replacing its split-rate imputation system with a partial (50 percent) dividend inclusion system. The split-rate imputation system taxes retained earnings at 40 percent and distributions at 30 percent, with full imputation for the 30 percent tax corporate-level tax provided to domestic shareholders. The new system introduces a single uniform corporate tax rate of 25 percent and denies imputation credits, but under partial inclusion, taxes only half of distributed income. The partial inclusion applies to both domestic and foreign shareholders, with the statutory withholding tax rate falling from 25 to 20 percent, with a possible further reduction under treaty arrangements. France is considering similar changes to its current imputation system.

²⁷ While this eliminates the problem of double taxation, the broader scope of the New Zealand exemption distorts the choice of investments to areas where other types of capital gains are likely to arise.

The challenge to protect their neutral taxation of capital income from distortions stemming from progressive income taxation was an additional motive for the Nordic countries to implement a dual income tax system in the early 1990s. As noted above, under a dual income tax system, all capital income is taxed at a separate proportional rate, while labour income remains subject to the progressive personal income tax rates. In order to minimise tax arbitrage, the capital income tax rate is (ideally) aligned with the corporate income tax rate.²⁸ By doing so, the system departs from the conventional global income tax, under which a common progressive schedule is applied to the sum of income from all sources. There are certain advantages to dual income tax systems. Lower and proportional rates for capital income could be defended on horizontal equity grounds, as part of the capital income may in fact serve to offset real capital losses due to inflation. Furthermore, labour taxation leaves (idle) human capital always untaxed, whereas financial capital and real estate are often subject to, respectively, wealth or property taxation (Nichen and Sørensen, 1997). Moreover, optimal tax theory suggests the application of lower rates on capital as opposed to labour, as it is more mobile and its supply more elastic. The uniform rate also mitigates the tax avoidance possibilities of progressive taxation and reduces incentives for tax planning (Cnossen, 1995). Finally, from a tax administration and compliance point of view, it is important to note, that the separate taxation of capital and labour income makes the tax system more easily adjustable to international developments in the taxation of capital income. However, the experience in the Nordic countries has shown that maintaining a dual income tax with a large public sector is challenging. If the statutory progressiveness of labour income tax is too steep, incentives for tax shifting threaten to undermine the system. In particular, the introduction of dual income taxation requires a careful trade-off between the efficiency gains stemming from neutral and low taxation of capital income and the efficiency losses associated with the opening-up of opportunities for arbitraging between labour and capital income by small entrepreneurs. Moreover, the political consensus underlying a dual income tax may be fragile due to equity concerns.²⁹

²⁸ The Norwegian system is closest to the dual income tax ideal, followed by Finland. Sweden and Denmark only exhibit some of the features of a “pure” dual income tax. For an overview of this approach as well as for a comparison of the four systems, see Cnossen (1999).

²⁹ Equity concerns seem to have been one of the reasons behind Denmark’s decision to move away from the dual income tax in 1994 (see Sørensen, 1998) and Norway’s recent decision to introduce a dividend tax, which clearly goes against the principles of the dual income tax and tax neutrality (see the 2001 *OECD Economic Survey* of Norway).

Box 1. Measuring marginal effective tax rates on corporate investment

The marginal effective tax rates (METRs) on returns to investment, under alternative financing methods, reported in Table A.4 make use of a method developed by King and Fullerton (1984) and extended by the OECD (1991). The methodology assumes that final investors (shareholders and bond owners) are remunerated at a particular real after-tax rate of return. In order to ensure that this is achieved for each type of physical investment (machinery, buildings and inventories) and funding method (bonds, new equity and retained profits), a specific real pre-tax rate of return (or cost of capital) is required at the company level for each of these items. This cost of capital depends *inter alia* upon the tax treatment of various forms of capital income, the statutory depreciation schemes for the three different kinds of physical assets considered, and the economic depreciation rates. Subtracting the after-tax rate of return from the cost of capital results in the effective marginal tax wedges, which can be converted into METRs by expressing the wedges as a percentage of the cost of capital.

This method, while attractive for its simplicity, makes several rather bold assumptions, calling for vigilance when interpreting METRs. In particular:

- The pre- and after-tax rates of return are valid only for a marginal investor since infra-marginal returns or “economic rents” are ignored. This allows many of the complexities of the tax system that do not affect the marginal investor (*e.g.* regarding reserves and tax allowances) to be left aside.
- In any particular application, such as the calculations reported in Table 3, a set of specific assumptions has to be made. In this case, the representative investor is assumed to be a resident person, taxed at the highest possible marginal income tax rate. In some countries, however, the typical investor may in fact be, for example, a tax-exempt institution, which would significantly alter the picture. These METRs also ignore the taxation of non-residents and resident investing in foreign assets. These calculations also take no account of special depreciation schemes or rules for carrying forward losses.
- In order to facilitate cross-country comparisons, several additional assumptions have been introduced in the METR calculations. Perhaps the most crucial and controversial ones are those of uniform inflation and real rate of return before personal tax across countries. Care is therefore needed in interpreting the results to compare METRs across countries in which these factors differ substantially.
- Finally, constant weights are used to combine the METRs for machinery, buildings and inventories into an average value for each source of finance. The METR for any particular investment project will differ from the values reported in Table 3 to the extent that the importance of these various components of capital differ from these weights.

Table 3

Marginal effective tax wedges in manufacturing¹
(percent, 1999)

	Sources of financing ²			Standard deviation
	Retained earnings	New equity	Debt	
Australia	2.02	0.81	2.11	0.59
Austria	0.74	2.65	0.06	1.10
Belgium	1.36	2.54	-0.60	1.29
Canada	4.48	5.63	1.98	1.52
Denmark	1.89	2.43	2.49	0.27
Finland	2.20	0.85	0.85	0.64
France	3.58	7.72	0.67	2.89
Germany	0.89	2.53	1.28	0.70
Greece	0.92	0.92	-0.58	0.71
Iceland	1.82	2.28	-0.08	1.02
Ireland	1.52	4.12	0.69	1.46
Italy	1.27	1.27	0.39	0.41
Japan	3.30	5.50	-0.09	2.30
Korea	0.61	1.59	1.59	0.46
Luxembourg	3.57	2.37	1.62	0.80
Mexico	0.77	1.04	1.04	0.13
Netherlands	0.46	5.33	2.46	2.00
New Zealand	1.48	1.48	1.48	0.00
Norway	1.06	1.06	1.06	0.00
Portugal	1.13	2.50	-0.25	1.12
Spain	3.20	2.23	1.65	0.64
Sweden	2.07	2.83	0.77	0.85
Switzerland	0.38	3.49	1.81	1.27
United Kingdom	2.88	2.40	1.55	0.55
United States	1.66	4.79	1.42	1.54
OECD ³	2.02	4.03	1.09	1.23
EU ³	1.95	3.24	1.01	0.91

Source: OECD Secretariat.

1. These indicators show the degree to which the personal and corporate tax systems scale up (or down) the real pre-tax rate of return that must be earned on an investment, given that the household can earn a 4 per cent real rate of return on a demand deposit. Wealth taxes are excluded. See OECD (1991), *Taxing Profits in a Global Economy: Domestic and International Issues*, for discussion of this methodology. Calculations are based on top marginal tax rates for the personal income tax and a 2 per cent inflation rate.
2. The weighted average uses the following weights: machinery 50%, buildings 28%, inventories 22%.
3. Weighted average across available countries (weights based on 1995 GDP and PPPs).

3.2 *The impact on organising business*

One important set of tax issues relates to the choice of the way of organising business. As noted, most tax systems in the OECD favour debt financing over alternative funding modes such as new equity and retained earnings at the company level. As a result, they favour large established companies over small companies and start-ups, which are susceptible to less favourable terms on debt financing and therefore have to rely on equity capital to a greater extent. Moreover, to the extent that tax rates applied to capital gains decline with the holding period of stock, it also penalises start-ups due to a reduced liquidity of stock markets. A number of striking country-specific features also stand out. For example in the Czech Republic and Korea the tax code fails to recognise holding companies (which are normally granted double taxation relief for vertical dividend transfers), thus promoting large horizontal corporate structures which are difficult to manage.

Some countries have attempted to gear the corporate tax system to support smaller businesses, notably through a progressive corporate tax rate structure or “simplified” tax regimes. There may be a case for favouring small corporate business to the extent it is prone to market failure, for example due to imperfections in patent systems penalising start-ups, high cost of compliance with regulations due to diseconomies of scale and reduced access of smaller firms to venture capital. Unfortunately, however, there is a risk that progressive corporate taxation gives rise to abuse, with large companies splitting their activities up in order to qualify for favourable treatment (Mexico). Moreover, simplified regimes that aim to facilitate tax compliance of small businesses also produce incentives for larger companies to abuse this facility through under-invoicing and under-reporting (Mexico and Korea). Hence while tax preferences for small firms may be motivated by a need to correct market failures they can introduce other distortions.

The reviews suggest that the tax treatment of the self-employed is often the Achilles heel of the system of income taxation. In tax systems where the self-employed face low effective tax rates as compared to dependent employees, incentives to be self-employed may be strong also in activity areas where this is not necessarily optimal. There may be various reasons for low effective tax rates for self employed. It may be that they have more scope for deductions and credits regarding expenses that qualify as necessary for carrying out their business than dependent employees, as is reported for Austria. Another reason may be that the self-employed pay

less social security contributions in proportion to their labour income, as is the case in the Czech Republic and Portugal. Underreporting of income of the self-employed is also widespread due to self-assessment of taxable income and weak auditing by the authorities, notably in Korea, Portugal and Greece, or lump-sum settlements of income tax or social security contributions which are applied in, respectively, Spain and Greece. In Mexico, the self-employed escape taxation almost entirely, hence the tax incentives to operate as a private micro-business as opposed to dependent employment are extremely powerful.

Conversely, if taxation of self-employed income is more severe than taxation of corporate business income, incentives to incorporate may be strong. A specific problem associated with the dual income tax systems operated in Sweden and Norway is that the self-employed and small business owners have strong incentives to incorporate and qualify as “passive” shareholders to avoid high taxation of labour income. The dual income tax requires self-employment income to be split into labour and capital components each taxed at a specific level. Since the statutory tax rate on labour income is high, incentives to incorporate and to convert labour income into capital income (dividends) are powerful, especially in Norway where there is full imputation relief for dividends. The tax authorities in these countries have attempted to counteract these incentives by establishing a special regime of “closely-held corporate business”, with total business income split into labour and capital components according to a complex set of rules in order capture labour income. However, loopholes prove difficult to close, the more so since pressure groups have successfully lobbied for exemptions. The efficiency of dual income tax systems would benefit from limiting the incentives to incorporate by diminishing the difference in statutory and effective tax rates on capital and labour income, especially at the upper end of the pay schedule.

Corporate tax codes in many OECD countries contain a plethora of special allowances, exemptions and credits to favour certain geographic locations, which are also not captured by the marginal effective tax rates reported in Table 3.³⁰ For example, in Poland the corporate tax regime offers exemptions in Special Economic Zones and the Czech Republic also offers a wide range of special arrangements, while in Spain tax-induced

³⁰ Although there is evidence that OECD Members countries are moving away from such tax incentives to regional grants, they remain sizeable. Meanwhile, the remaining tax incentives become increasingly tailor-made as investors bargain with national or regional investment promotion agencies (UNCTAD, 1998).

location shifts of companies to benefit from the favourable Basque special regime are reported. Japan and Korea maintain special depreciation allowances for investment in developing areas. In some countries of the European Union several of such special regimes exist as well.³¹ Some countries provide time-constrained exemptions from corporate tax, or so-called “tax holidays” (France, Poland). Such arrangements may be defended in some cases as a way to correct market failure.³² However, they often act to create arbitrage opportunities, eroding the tax base and distorting the allocation of resources. Support for investment in depressed areas could be justified on equity grounds, but tax incentives are generally not the most effective way of doing so, as they do not overcome initial location shortcomings.³³ Measures that lower the overall cost of doing business in a certain region, such as infrastructure development or the provision of training facilities, while comparable both in terms of net budget cost and in value for the individual firm, are more transparent and likely to create stronger positive externalities.

There are also special arrangements favouring specific industries still being operated in several countries. The corporate tax code favours capital intensive heavy industries in Korea and mining in Canada. In Greece and Norway the special, more generous, tax schemes for shipping companies generate incentives for tax shifting. In Norway the high marginal tax rate in the special regime for the offshore oil and gas sector (to capture natural resource rents) provides an incentive for companies to shift deductible interest expenditure into that regime. Special corporate tax regimes may be unavoidable in countries where the government is committed to capturing natural resource rents. However, tax authorities should guard against incentives for tax shifting, for example by adopting or enforcing “thin capitalisation” rules. In contrast, OECD countries are taking concerted steps to eliminate preferential tax regimes for certain

³¹ For example, concerning the *Mezzogiorno* (Italy), Northern Ireland (United Kingdom), designated enterprise zones (Denmark, until 1999), polar region (Finland, Norway), Shannon Airport Zone and Dublin Custom House Docks (Ireland), Basque Country, *Navarra*, *Ceuta* and *Melilla* (Spain), *Azores* and *Madeira* (Portugal).

³² Regional investment support may be warranted if information asymmetries lead to a higher perceived risk and, thereby, to higher required rates of return. Furthermore, proponents argue that by compensating for, e.g. higher transport costs, investment inducements might contribute to achieving the socio-political objective of fostering “competitive neutrality” among regions. They might therefore be considered as an appropriate supply-side measure for regional development, especially if the establishment of one industry is followed by others.

³³ Most empirical studies available conclude that tax incentives have only a small, albeit statistically significant, impact upon location behaviour (Papke, 1993 and Wasylenko, 1997).

mobile business activities (*e.g.* shipping) to reduce the opportunities for aggressive tax planning that they represent.

3.3 *The impact on international investment flows and the financial structure of multinationals*

Notwithstanding the general trend towards lower corporate tax rates and broader bases, some narrowing can be observed over the past decade in a number of countries, including tax allowances granted in several EU countries for start-ups, SMEs, IC technology and R&D. The proliferation of ‘beggar thy neighbour’ policies in the area of business tax incentives led the Council of the European Union to implement a “Code of Conduct” to address this issue (see Joumard, 2001).

Of course, the code of conduct only applies to EU countries, and the country chapters reveal that several non-EU countries have policies to attract foreign direct investment. These are Korea, Poland and the Czech Republic. The example of the Czech Republic is of particular interest because the 1993 tax reform abolished tax holidays for foreign investors and only allowed limited activity-specific allowances and credits. However, this policy of reducing incentives was reversed in 1998 with the introduction of a new set of incentives. This suggests that the Czech government felt that it was losing foreign investment as a result of its earlier cutback in incentives. This contrasts with the widespread view among international tax specialists that tax incentives have very little effect on FDI, partly because tax is only one of a large number of considerations that influence business location decisions and partly because such tax incentives are often offset by increased taxation by the country of residence. However, the Czech experience is consistent with an emerging new view, that incentives will not motivate large changes in location but could influence the choice between countries that are close together and similar in many respects. Thus, the Czech Republic could be seen as participating in a very competitive market to attract FDI, consisting of the transitional economies of central and Eastern Europe.³⁴

Moreover, recent empirical work indicates that the financial structure of multinational firms is influenced by the tax regime of the host country alongside that of the residence country, and confirms the central

³⁴ The likely impacts of alternative incentives are explored in OECD (2001a).

role played by the host country statutory corporate income tax rate in influencing chosen debt/equity ratios.³⁵ In particular, a high statutory corporate tax rate in the host country encourages borrowing in that country, tending to erode the corporate tax base. Similarly, empirical work examining transfer-pricing behaviour shows the incentive to use non-arm's length prices to artificially shift profits to relatively low-tax countries.³⁶ These issues can also arise to some extent within countries, especially federal ones or ones that have granted tax autonomy to certain regions.

4. The impact of taxation on the labour market

For several decades labour markets' performance has been unsatisfactory in many countries in the OECD area, especially in countries of the European Union where the average structural unemployment rate rose from around 4 percent in the 1970s to 7 to 8 percent in the 1990s. Other salient features of labour market outcomes in past decades have been the lengthening average duration of joblessness, the concentration of unemployment among the young and the falling employment rate of older and low-skill workers. The factors explaining these trends have been extensively analysed in the framework of the OECD *Jobs Study*, which highlighted a number of features of taxation that impinge on labour market outcomes:

- By boosting labour cost, heavier taxes on labour have adverse effects on structural unemployment, especially if labour cost increases persist for longer periods due to wages not responding promptly to lower labour demand.³⁷ Specifically for low-income earners offsetting reductions in their wages may not be feasible at all due to minimum wage rules. For them, higher labour taxes almost unavoidably translate into lasting higher wage cost and reduced employment.
- The interaction between labour taxes and social benefits distorts work-leisure trade-offs, resulting in reduced labour supply. In particular it produces weak work incentives among older workers, but also among secondary workers and lone parents. Concerns over the efficacy of social expenditure have prompted many countries to target social safety

³⁵ See for example, Hines and Hubbard (1990) and Grubert (1998).

³⁶ See for example, Grubert and Mutti (1991) and Hines and Rice (1994).

³⁷ See for some recent evidence also Daveri and Tabellini (2000).

nets on the truly needy and withdraw benefits as income increases. Such means testing, in combination with the tax system, weakens the incentives for job search and enhanced work effort further.

The *Jobs Study* therefore recommended that governments should “reform unemployment and related benefit systems – and their interaction with taxation – such that societies’ fundamental equity goals are achieved in ways that impinge far less on the efficient functioning of the labour markets”.³⁸

The analysis in the country reviews has focused on the tax-related incentive structures that discourage employment through the above channels in the countries concerned. For this purpose the surveys have relied on the statutory labour tax wedges, *i.e.* the gap between labour compensation and take-home pay generated by the tax system, for earnings levels at specific points or intervals of the income distribution.³⁹ Statutory average tax wedges, together with information on the incidence of taxes on the worker’s take home pay, gauge the impact of taxation on the labour cost for the employer, and thus provide an indication of adverse labour demand impulses stemming from taxation. The analysis of average and marginal statutory tax wedges in combination with information on the interaction between tax and benefit systems, can be used to gauge the work incentives associated with work-leisure tradeoffs.

4.1 *The impact on labour demand*

Raising public expenditure amid pressure to keep taxation of “mobile” tax bases low has resulted in a secular increase in the effective tax rates on labour income in many countries. This reflects a widening of the statutory labour tax wedges over a wide range of earnings levels, which may explain the decline in employment rates and rising structural unemployment rates in some countries. An international comparison of the most recent available statutory average tax wedges on labour in OECD countries is shown in Figure 1, with a breakdown into personal income tax, employers’ and employees’ social security contributions. As may be

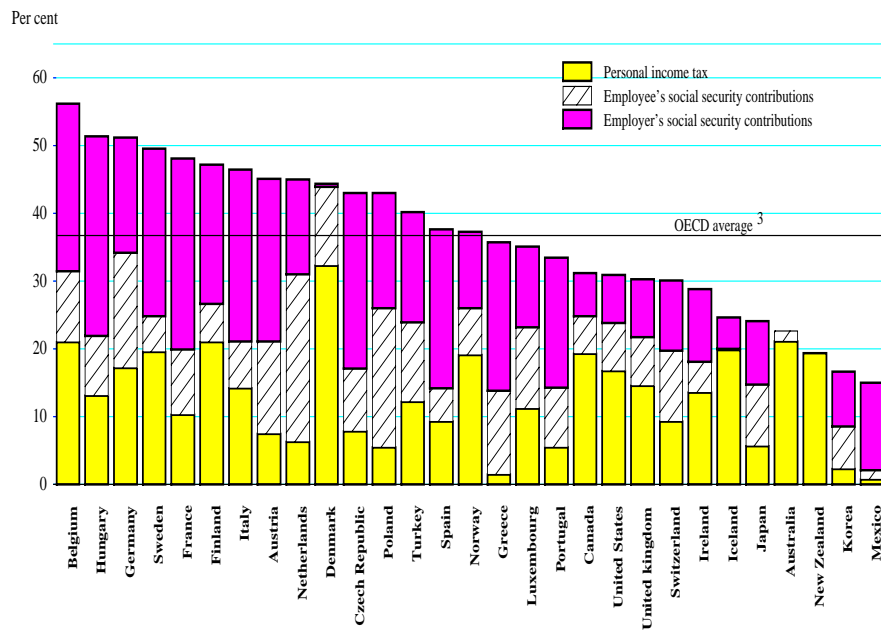
³⁸ OECD (1997a).

³⁹ OECD (1999a) and OECD (1999b). Statutory wedges do not necessarily coincide with the actual tax wedges that can be calculated from the Revenue Statistic or National Accounts which reflect also the impact of tax avoidance and evasion on the relevant tax base.

expected, the wedges are generally the highest in countries of the European Union (EU), where they average 43 percent of the total labour compensation. However, the variation within the EU is wide, ranging from almost 60 percent in Belgium and around 50 percent in Germany and Sweden to well below 40 percent in the examined countries Spain, Greece and Portugal and around 30 percent in Ireland and the United Kingdom. As may be expected, the examined transition economies Czech Republic and Poland portray tax wedges akin to the EU countries that are at the upper end of the range, and so does Hungary. The other examined countries all have comparatively small labour tax wedges (in ascending order Mexico, Korea, New Zealand, Japan, Iceland, Switzerland, the United States and Canada).

Fig. 1

Tax wedges on labour, 2000¹
(percentage of gross labour costs²)



Source: OECD, *Taxing wages*, 1999-2000.

1. For a single individual at the income level of the average production worker. Data for 2000 are based on estimated wage levels of the average production worker.
2. Gross wage plus employers' contributions.
3. Unweighted average.

Importantly, the cross-country variation in labour tax wedges is largely explained by the variation in social security contributions, most prominently employers' contributions. This is a concern to the extent employers tend to bear most of the incidence of their contributions. The reason is that higher employee taxes initially reduce the after-tax wage, as gross wages may be slow to respond, while, in contrast, employer payroll taxes will raise the labour costs of firms immediately. Therefore employers' contributions are expected to have stronger adverse employment effects than other forms of labour taxation. Countries that rely mostly on employers' social security contributions – including the countries reviewed Czech Republic, Spain, Greece, Portugal and Mexico – seem to have little scope for exploiting this tax base to a larger extent, and a shift in the tax mix towards consumption taxes may prove beneficial. On the other hand, some labour taxes, including employers' contributions, are less tax-like than others to the extent their payment gives rise to benefit entitlements and therefore meet different degrees of workers resistance to cuts in take-home pay. In this regard it is interesting to note that the Poland review reports the credibility of future public pension entitlements to be key to the impact of taxation on labour market performance in the years ahead.

Rigidities in wage formation are instrumental in shifting the incidence of labour taxation onto employers, and hence increasing unemployment. The countries in the European Union are particular prone to such effects, including the examined countries Austria, Sweden and Spain, while there are indications that the transition countries Czech Republic and Poland are increasingly confronted with this “tax penalty on employment” as well. For example in Spain, workers' resistance to accept cuts in their take-home pay due to labour taxation is particularly strong, even though the Spanish average tax wedge is low by EU standards (but exceeding the OECD average). An explanation put forward in the review is that high severance payments give workers a strong bargaining power. In addition, wage bargaining rarely takes place at the company or local level and thus fails to internalise the impact of wage demands on individual firms and local jobs prospects.⁴⁰ The Spanish review mentions a low level of competition in sheltered sectors and a malfunctioning housing market as additional factors hampering labour mobility and wage adjustment. There is evidence that such labour and product market rigidities, combined with

⁴⁰ See Scarpetta (1996) and Elmeskov *et al.* (1998).

sectoral wage bargaining, contribute to high structural unemployment in several other EU countries as well (Joumard, 2001). On the other hand, it is striking that Norway is reported to achieve a low level of structural unemployment despite the average labour tax wedge being similar to that of *e.g.* Spain, which may be attributable to the prevailing centralised wage bargaining structure.

Although the reviews do not provide numerical evidence on the impact of labour taxation on structural unemployment, it is possible to make a rough estimate based on available regression analysis (see Elmeskov *et al.*, 1998). Table 4 shows the change in the labour tax wedge during the 1990s for countries that are characterised by, respectively, low, intermediate and high centralisation and co-ordination of wage bargaining. Intermediate-level wage co-ordination and bargaining is an exclusive feature of EU countries, notably Belgium, Finland, France, Portugal, Spain and Sweden. Several of these countries portray, moreover, very large labour tax wedges. Centralised wage bargaining occurs in other EU countries, where tax wedges are wide as well, and Norway. Other OECD countries typically combine low tax wedges with decentralised wage bargaining structures, which is least detrimental to labour demand. For each country the contribution of the change in the tax wedge to the change in structural unemployment has been calculated, taking into consideration the prevailing wage bargaining structure, which is also shown in the table. From the estimates can be inferred that:

- In several EU countries with intermediate-level wage bargaining, notably Belgium, Finland, Spain and Sweden, the labour tax wedge widened in the first half of the 1990s with the increases in social security taxes associated with the recession at the beginning of the decade. The estimated effect on structural unemployment stemming from the wider tax wedge in these countries is of the order of ½ to 1 percentage-points. On the other hand, Japan, Denmark, Ireland, the Netherlands and Norway achieved a narrowing of the tax labour tax wedge in this period, which is estimated to have contributed to a reduction in the structural unemployment rate.
- Labour tax wedges have mostly stabilised or declined in the second half of the 1990s, with the exception of several EU countries, notably Belgium, Sweden, Austria and Germany. As a result Austria and Sweden are estimated to have seen their structural unemployment rate somewhat increase in the second half of the decade as a result of a wider tax wedge. By contrast, New Zealand and Finland have in this

Table 4

**Estimated change in structural unemployment due to changes in the
labour tax wedge¹**
(percent)

	Change in tax wedge on labour income ²		Contribution from the change in the labour tax wedge to change in structural unemployment rate	
	1991-95	1995-99	1991-95	1995-99
Low centralisation/co-ordination of wage formation				
Australia	1.2	1.4 ³	0.1	0.2
Canada	2.5	0.3	0.3	0.0
Japan	-2.0	-0.2	-0.2	0.0
New Zealand	0.7	-5.1	0.1	-0.6
United Kingdom	0.2	-2.4	0.0	-0.3
United States	0.3	0.1	0.0	0.0
Intermediate centralisation/co- ordination of wage formation				
Belgium	2.6	0.7	0.4	0.1
Finland	6.7	-3.1	1.0	-0.5
France	-2.5	-1.2	-0.4	-0.2
Portugal	-0.2	-0.3	0.0	0.0
Spain	2.0	-1.1	0.3	-0.2
Sweden	3.3	1.2	0.5	0.2
High centralisation/co-ordination of wage formation				
Austria	2.1	4.8 ⁴	0.1	0.3
Denmark	-1.5	-0.9	-0.1	-0.1
Germany	3.8	1.7	0.2	0.1
Ireland	-2.9	-4.3	-0.2	-0.3
Italy	1.5	-3.0	0.1	-0.2
Netherlands	-1.7	-0.4	-0.1	0.0
Norway	-3.7	-0.2	-0.2	0.0
OECD	0.6	-0.6	0.1	-0.1
European Union	1.0	-0.6	0.1	-0.1

Source: OECD.

1. Based on Elmeskov *et al.* (1998).

2. For a single average production worker.

3. The number for the period 1995-2000 would be considerably lower due to a tax reform in 2000.

period made comparatively large inroads into their labour tax wedges, which is estimated to have had significant favourable effects on structural unemployment of the order of ½ percentage-point or more.

In most countries the statutory progressiveness of combined income and social security taxation is moderate or virtually absent for top earners in the majority of the examined countries. This is due, in most cases, to ceilings on social security contributions or tax-deductibility of social security contributions offsetting part of the statutory progressiveness of income taxation. The progressiveness of taxation across income levels matters for labour demand as well. Progressiveness may be detrimental for labour demand to the extent that earnings growth over time pushes more workers into higher income-tax brackets (bracket creep), which could in turn be shifted into higher wage claims. Some authors have suggested that union wage demands may in fact become more moderate, and hence more favourable towards unemployment, with greater income tax progressiveness, as it diminishes the take-home value of pay rises.⁴¹ However, the empirical support for this view is weak. A concern – underscored in the reviews of Austria, Sweden and Spain – is that greater reliance on social security contributions, which are usually flat-rated without a tax-free threshold, can make it particularly unprofitable for employers to hire workers on a part-time or temporary basis. In some countries (Austria, Spain) this problem is heightened by nominal floors in the social security system, with a fixed minimum amount of contributions levied irrespective of the number of hours worked or income earned (see Box 2). Importantly, as there has been increased reliance on social security contributions to finance the expanding social transfer systems, these mechanisms have become more rather than less pervasive. While this problem has prompted several countries – notably Austria, Belgium, France, Greece, the Netherlands, Spain and the United Kingdom – to implement cuts in social security contributions on low-paid or low-qualified workers in recent years, they may add to the complexity of the tax system and may entail dead-weight costs.

⁴¹ Tyrväinen (1995).

Box 2. Social security contribution ceilings and floors

In many OECD countries, social security contributions are often levied only up to a certain maximum level of wages, earnings above this ceiling being exempt. Earnings below a particular threshold are often exempt as well, which is referred to as a floor (type A). Alternatively, floors can take the form of a “lump sum” minimum contribution (type B). The rationale behind ceilings and type B floors is the linkage of benefits and contributions since benefits are usually also subject to floors and ceilings. Type A floors are in fact tax allowances, and serve vertical equity.

There are several problems associated with floors and ceilings:

- Contributions with ceilings introduce a regressive element into the tax schedule and produce higher marginal tax rates below the ceiling (see *e.g.* Coronado *et al.*, 2000). In addition, ceilings and floors lead to kink points in the tax schedule, which might result in “bunching”, although empirical evidence suggests this phenomenon is rather weak (for the United States, see *e.g.* Saez, 1999).
- Moreover, contributions subject to ceilings or type B floors are non-neutral regarding part-time, seasonal employment, job sharing or shorter working hours. In the presence of ceilings and type B floors, the wage cost for a given amount of labour will increase with the number of employees but not with the number of hours worked per person. Type A floors have the opposite effect of encouraging the atypical forms of employment. If ceilings and floors are imposed relative to the hourly wage and not to total wages, they would be neutral regarding “atypical” labour (Euzéby, 1988).
- Finally, floors and ceilings increase the complexity of the tax system, particularly for those having multiple jobs or those that are changing their employment (see Hotz/Scholz, 2000).

4.2 *The impact on labour supply*

The decision of an individual of working age to participate in the labour market occurs in two forms: whether to participate in the labour market at all and how many hours to work once working. Taxes may have important effects on both these decisions, and the effects may differ

markedly for main or single earners in a family, secondary earners or lone parents. Moreover, the direction of these tax impacts is a priori ambiguous: the decline in after tax wage income associated with a widening in the tax wedge has an income effect, which raises labour supply, and a substitution effect which lowers labour supply. The labour supply response to taxation therefore hinges on the elasticity of labour supply with respect to real after tax wage. In a nutshell, the following basic profiles of workers' responses to income taxation emerge:

- *Single or primary earners* often have little choice about labour participation, hence normally work fulltime so that tax considerations should have little effect on their labour supply (though not so in quality since this depends on the return on human capital invested). In other words, while there may be an incentive for substitution between leisure and work it is typically offset by the income effect (except at high income levels where the substitution effect may outweigh the income effect). However, this would still imply a distortion to the extent the total utility derived from consumption and leisure declines.⁴² Moreover, this situation may change considerably as workers approach the age of retirement as there may be tax incentives to retire early.
- *Secondary earners* are likely to be particularly sensitive to the relative price between work and leisure, hence to taxation, both in their decision to work and in the number of hours worked, as they normally face a wider set of options. Importantly, in countries where the basis of taxation is the household unit, the marginal tax rate applying to the first unit earned by a secondary worker is equal to that of the last unit earned by the primary worker. In those countries, secondary earners' labour supply response to taxation crucially depends on their partner's earnings.⁴³ The response of secondary earners also depends on where they are on the labour supply curve. For those working few hours the substitution effect most probably outweighs the income effect whereas for (almost) full-time working secondary earners the reverse is more likely.

The distortions stemming from tax incentives on the number of hours of work supplied may be gauged by the marginal tax wedge, *i.e.* the

⁴² It can be shown that the "excess burden" of taxation is independent of the income effect and just depends on the substitution or "compensated supply" effect.

⁴³ Mothers, moreover, face high fixed costs connected with childcare upon entering the job market, which acts like an extra tax.

gap between labour compensation and take home pay as a percentage of labour compensation for an additional hour of work. A key finding is that workers across a wide range of earnings levels face significantly higher marginal wedges in the EU and the transition economies than in other OECD countries, although the United Kingdom, Portugal and Greece are at the lower end of the range (Figure 2). Particularly high marginal wedges are found in Belgium, Germany, Hungary, Finland, Ireland, Austria, Italy and France. By contrast, comparatively low marginal tax wedges are found in Mexico, Japan, New Zealand and Korea – although the top marginal wedge in Japan is relatively high it kicks in only at extremely high earning levels (Table 5). These cross-country differences would be even more pronounced if the marginal tax wedge included the taxation of (additional) consumption, given that consumption tax is also lower in the latter group of countries.

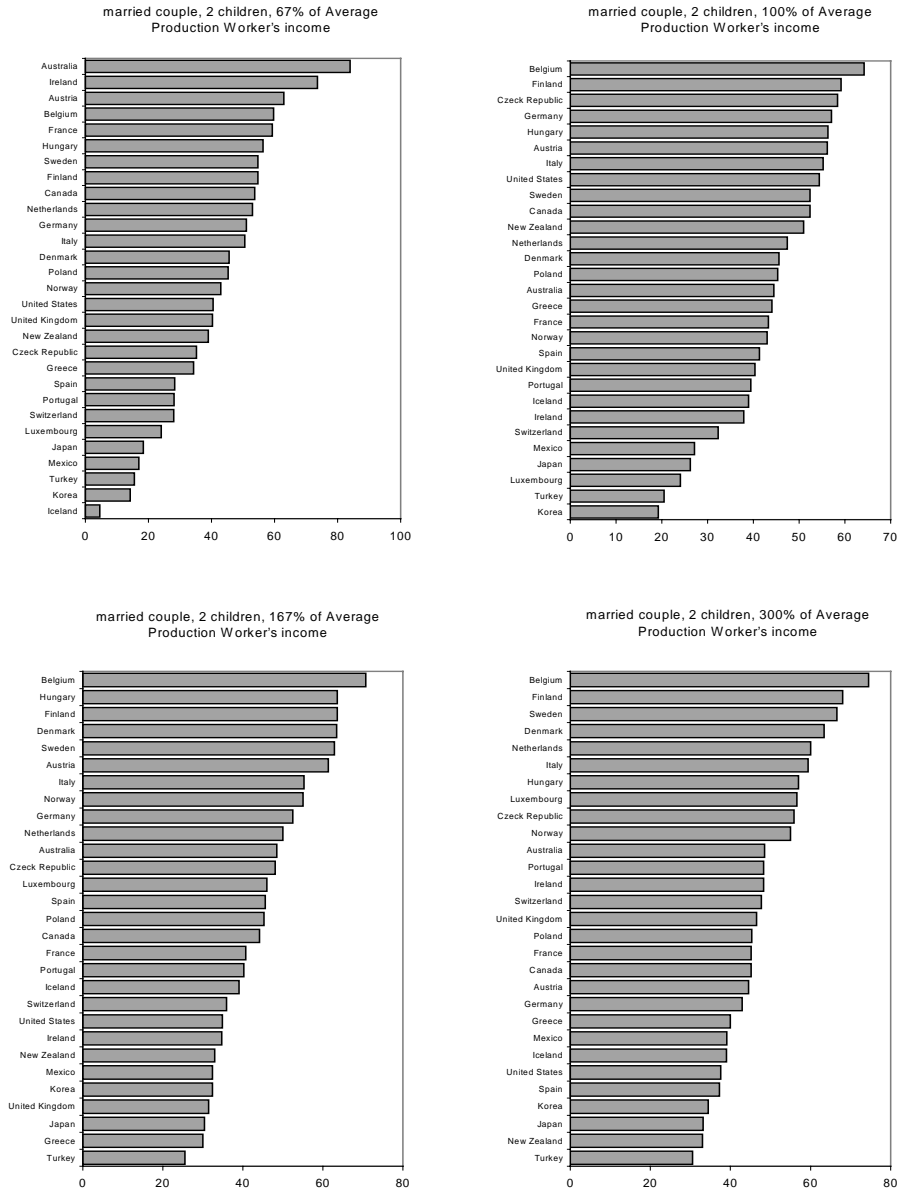
A measure of tax incentives with regard to the decision to participate in the labour market at all looks at the tax wedges including the impact of benefit withdrawals on after-tax earnings as persons accept a job (Figure 3). This measure provides evidence that adverse work incentives stemming from taxation and benefit withdrawals, while dependent on the specific family situation, are again generally strongest in EU countries. In particular, Figure 3, which assumes full-time earnings to correspond to the “average production worker wage” level, indicates that:

- In families where the principal earner is full-time employed, secondary earners moving from non-employment to part-time or full-time employment face wedges below 30 percent in the United States, Japan, Korea, Spain, Portugal, Greece, Switzerland, Ireland, the United Kingdom and the transition economies.⁴⁴ However, in the other countries, most of which are in the EU, wedges are found for the most part to be in the range of 40 to 60 percent, with Germany and Belgium being at the upper end of the range.
- If the principal earner is unemployed, the effective wedges for a secondary earner entering the labour market varies widely across OECD countries, but are again generally the highest in the EU. In cases where a secondary earner accepts a part-time job (40 percent of normal working time), the spread is particularly large. It ranges from nil or almost nil in the United States, Japan and Korea to 118 percent in

⁴⁴ In France this METR is below 30 percent only if the secondary earner accepts to work full-time but rises to 40 percent when accepting a part-time job.

Fig. 2

Marginal statutory all-in tax rates on labour
1999



Source : OECD Tax Equations, 1999.

Table 5

Rate schedules of central government personal income tax
(single person, no dependants, January 1998¹)

	Lowest standard rate	Number of tax brackets	Highest standard rate	Starting point (times APWwages) ²
Australia	20	4	47	1.4
Austria	10	5	50	2.3
Belgium	25.75	7	56.65	2.2
Canada	17.51	4 ³	31.3	1.8
Czech Republic	15	5	40	5.9
Denmark	8	3	29	1.1
Finland	6	6	38	2.2
France	10.5	6	54	2.2
Germany	formula	4	53	2.1
Greece	5	4	40	2.5
Hungary	20	6	42	1.7
Iceland	29.31	2	34.31	1.8
Ireland	26	2	48	0.7
Italy	19	5	46	3.5
Japan	10	5	50	7
Korea	10	4	30	5.5
Luxembourg	6	17	46	2.4
Mexico	3	8	35	7.5
Netherlands	8.85	3	60	1.9
New Zealand	15	3	33	1
Norway	18.8	3	32.5	1.1
Poland	19	3	40	4.7
Portugal	15	4	40	4.5
Spain	17	8	47.6	4.6
Sweden	25	1	25	1.1
Switzerland	0.77	10	11.5	10.4
Turkey	25	7	55	28.5
United Kingdom	20	3	40	1.8
United States	15	5	39.6	9.7

Source: OECD.

APW = average production worker.

1. Deductions or allowances related to specific income sources are not included.
2. Indicates salary level at which the highest income tax rate begins to apply; for example, in Australia, the highest starts at 1.4 times the APW wage.
3. Formally, the Canadian system has only three brackets, but beyond a certain threshold (which lies part way through the second bracket) a surtax is imposed.

Greece, with most observations for EU countries in the 30 to 70 percent range.⁴⁵ The zero rate in the United States is explained by employment-conditional tax credits offsetting the loss of other means-tested allowances and benefits at the average earnings level, but the rate is generally positive for higher earnings levels. The other extreme observation for Greece reflects *inter alia* that unemployed principal earners lose part of their (tax-free) unemployment benefit once their partner accepts a job.

- A striking common feature of all the surveyed countries is the very high wedge facing unemployed workers with a non-employed spouse, although differences among countries are also very large. Assuming the unemployed principal earner accepts a full-time job, wedges are nowhere below 50 percent, except in Poland and Mexico where most workers escape the income tax net, and between 70 to 90 percent in most EU and the other transition countries. However, accepting a part-time (rather than full-time) job is a very costly decision, with wedges exceeding 100 percent due to the loss of tax credits or benefits reserved for poor families, even in countries that otherwise display small distortions, such as the United States, Japan and Korea.

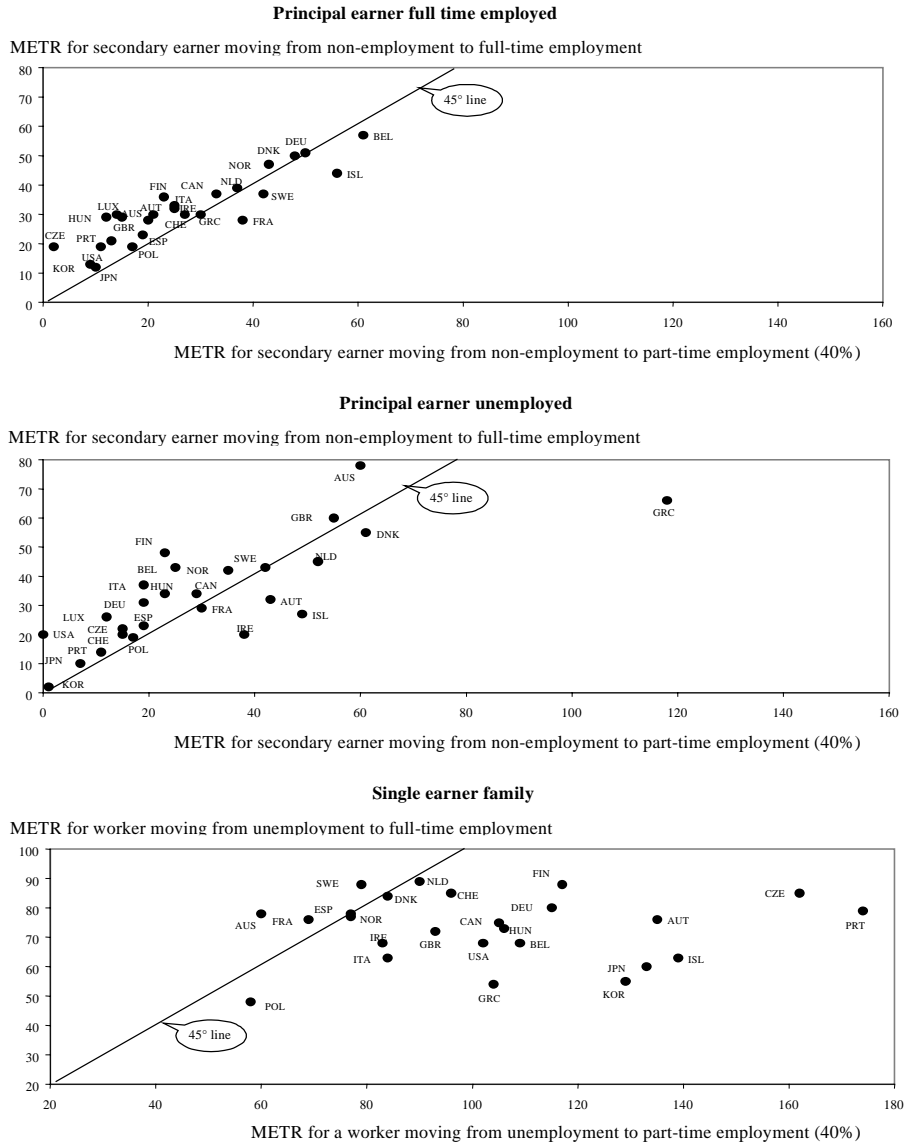
In recent years several countries have attempted to reduce the effective tax wedges for people entering the labour market by granting employment-conditional tax credits, akin to the Earned-Income Tax Credit (EITC) that has been operated for several decades in the United States.⁴⁶ An example is the Working Families Tax Credit in the United Kingdom. France, Finland, Greece, Ireland and New Zealand have similar programmes. Employment-conditional tax credits, unlike targeted cuts in social security contributions, impinge on labour supply rather than on labour demand, although both types of measures aim to favour labour market participation of lower qualified workers. While employment-conditional tax credits have the advantage of distributing income to the most needy and strengthen the incentives for jobless people to take a job, even if low-paid, they may also induce those already in low-paid work to reduce their work effort. For example, the review for New Zealand reports that the abatement of credits and welfare benefits as

⁴⁵ See OECD (1999b) for a fuller explanation of these results.

⁴⁶ The earned income tax credit (EITC) in the United States is an in-work benefit scheme, which uses the tax system as a means of transferring income. It is designed as a non-wastable tax credit supplement to earnings, which increases along with earned income up to a maximum limit, depending on the number of children, and is subsequently phased out.

Fig. 3

Marginal effective tax rates on household labour income



Source: OECD, Benefits and Work incentives Database.
 Note: The 45° line corresponds to a situation where there is neutrality between a person moving to part-time or full-time unemployment from a tax-benefit perspective. Observations below the 45° line point to an unfavorable treatment of part-time as compared to full-time work.

earnings grow implies very high marginal wedges for lone parents in the abatement range (roughly between one-third and two-thirds of the average production worker's wage), up to around 100 percent.⁴⁷ Nevertheless, employment-conditional tax credits are valued for their contribution towards encouraging workers who are active in the grey economy to surface in the official economy. Employment-conditional tax breaks are particularly powerful if the pre-tax income distribution is wide (*i.e.* sufficient low-paid jobs are available) and in combination with a binding minimum wage to ensure that take-home pay increases.⁴⁸ Under such conditions, moreover, employment-conditional tax breaks may be revenue-neutral (Audric *et al.* 2000).

It is clear that tax distortions at the lower end of the income distribution are not confined to labour/leisure substitution effects, but also involve substitution between the formal and informal sectors of the economy. Informal economies are reported to be large in Mexico, Greece, Spain, Portugal and Poland. In the former two countries this mainly reflects poor tax enforcement, but in the latter two countries incentives stemming from the tax code itself also play a significant role. In Spain, social security contribution floors in combination with labour market rigidities (notably high levels of protection and severance payments) underpin the extensive informal labour market for lower qualified work. While this phenomenon is particularly widespread in Spain it may to some extent be representative for other EU countries with relatively rigid labour markets. The obvious policy response is to reduce wedges on labour income at the lower end (*e.g.* by removing social security floors type B; see Box 2) and to enhance tax enforcement. In Poland, in contrast, informal labour is concentrated in sectors where economic activity for statutory reasons largely remains outside the tax net (notably agriculture). Bringing such activity into the tax net and enforcing the tax law should be instrumental in closing this loophole.

As noted, contribution ceilings and tax deductibility of contributions in the social security system act to reduce progressiveness at the upper end

⁴⁷ This is confirmed by empirical studies suggesting that, as a result of the EITC, labour supply increases only in terms of the number of people working, with overall hours worked remaining broadly unchanged; see Ochel (2000), Liebman (1998), OECD (1997), L'Horty (2000), Kramarz and Philippon (1999), Blundell (2000) and Bertola (2000). But, even if the number of hours worked does increase only slightly due to offsetting effects, there may still be positive externalities associated with raising the number of people working (Phelps, 2000).

⁴⁸ Low qualified labour supply tends to be relatively wage-elastic, see for example Koskela and Schöb (2000), Assouline *et al.* (1997) and Pearson and Scarpetta (2000).

of the earnings distribution, thus generating a further taxation bias in favour of highly qualified and at the detriment of low skill labour. It is indeed striking how little effective progression labour tax systems in OECD countries produce as a result. Tax privileges for in-kind compensation and other non-wage components of executives' earnings which are not included in the statutory tax wedges presented here, further accentuate this bias.⁴⁹ Stock options usually receive a favourable tax treatment relative to the alternative of investing traditional labour compensation in stock to the extent that no capital gains tax is levied on the spread between the market value and the acquisition price of the stock. Moreover, several countries apply favourable tax rates if the options are held for a specified number of years (Belgium, France, Germany, Netherlands, United Kingdom and United States) or for start-up companies (France). While these tax privileges may offset some of the efficiency drawbacks of highly progressive the tax systems, the minimum holding-period requirements tend to reduce the labour market mobility of workers receiving remuneration in the form of stock options.

While these features may give rise to concerns over the limited income redistribution achieved through the tax system, it has the advantage of mitigating the incentives for tax avoidance and evasion of higher-income groups. Nevertheless, in a number of reviewed countries, notably Canada, Sweden and Norway, high progressivity at the upper end of the income distribution is reported to be a problem. In particular:

- In Canada, top income earners are prone to labour mobility *vis-à-vis* the United States, where income taxation is considerably lower at the top end of the income distribution. While cross-border labour mobility is a general feature of higher-qualified workers in most OECD countries, Canada is particularly sensitive in this respect given its geographical location and the limited linguistic or cultural barriers separating its labour market from that of the United States. Maintaining high tax progressiveness under such conditions frustrates the efficiency tax system without gaining much in terms of equity.
- Although most OECD countries tax labour and capital income at different final rates, the dual income tax systems adopted in Sweden and Norway go furthest in combining a relatively low taxation of capital

⁴⁹ Stock options have become the single largest component of executive pay in the United States to a point where they may have measurable effects on increased volatility in tax revenues (Goolsbee, 1997 and 2000).

income with high and strongly progressive taxation of labour income.⁵⁰ As a result, the incentives for human capital formation are weakened and top earners face strong incentives to move towards self-employment and eventually incorporate in order to be able to report a significant part of their earnings as lower-taxed capital income. It is therefore advisable for countries that maintain a dual income tax system to avoid excessive progressiveness of labour income tax and keep the gap between labour and capital taxation as small as possible.

In fact, high marginal tax wedges affecting the upper end of the earnings spectrum (of 50 percent or higher) are found in several other EU countries as well, notably Italy, France, Germany, Belgium, Denmark and the Netherlands (Figure 2). This points to incentives for tax planning and avoidance activities, with top earners attempting to reduce their tax bill by maximising tax deductions or by attempting to shift income into low-taxed jurisdictions or tax bases (dividend, capital gains, *etc.*). These disadvantages of high marginal tax rates explain why many OECD have substantially reduced their top rates of income tax in recent years.

Most countries, notably in the European Union, have implemented tax incentives for early retirement as a way to ease excess supply conditions on the labour market. There are large differences in these rates between countries, but some general patterns emerge.⁵¹ Tax rates on continued work are generally highest in continental European countries (Denmark, Portugal and Switzerland are notable exceptions) and lowest in the Anglo-Saxon countries (Australia, Canada, Ireland, New Zealand, United Kingdom and the United States) and Korea. Japan occupies an “intermediate” position. These differences generally tend to be even more pronounced when account is taken of the possibility that workers retire early through unlimited unemployment benefits, disability or special early retirement programmes: in some continental European countries implicit tax rates on continued work quickly rise to well above 50 percent.

The experience in some examined countries (Sweden, Norway) suggests that it is important to match the build-up of benefit entitlements, notably (credible) pension rights, with the payment of contributions into the social security system, according to the insurance principle. To the extent workers perceive social security contributions as an investment in

⁵⁰ Finland also applies a strict dual income tax system.

⁵¹ See Blondal and Scarpetta (1997).

pension annuities, the adverse impact of marginal wedges on labour market behaviour may be reduced. Indeed, as seems to be suggested by the Swedish and Norwegian experiences, making the “right” to benefit from the social transfer system (aside from minimum income support and in-kind transfers which are universally available) conditional on work history encourages labour market participation, including of secondary earners. This experience underpins the recommendation to governments of transition economies (in particular Poland) to ensure that public pension entitlements remain credible; otherwise the adverse impact of wide tax wedges for labour participation risks becoming stronger.

5. The impact of taxation on product markets

Indirect taxes have several favourable features, most prominently their relative neutrality from the point of view of savings and investment decisions and that they are comparatively easy to administer. Moreover, value-added tax (VAT), by far the most important indirect tax in most countries (constituting over half the indirect tax take), has “self-policing” properties since many payers of the tax have an interest to register in order to be reimbursed for their own VAT payments. Nevertheless, indirect taxation may also produce non-neutralities in product markets. For example, turnover taxes, which have been abolished in Europe several decades ago, were faulted for applying discriminatory rates to goods and services that depend on various productive stages, due to so-called “cascading” of taxation. This led to very inefficient organisation of work by discouraging outsourcing. The VAT served to eliminate cascading by exempting the purchase of intermediate goods and services from the tax base. Moreover, by introducing the destination principle (by taxing imports but exempting exports) VAT and sales taxes avoid distortions in consumer choice between imported and home-produced goods and services that would otherwise stem from international differences in tax rates. On the other hand, indirect tax systems that mostly rely on sales taxes – which are generally levied only on final consumption of tangible goods – insert a wedge between the relative prices of goods and services in favour of the latter. The indirect tax system of the United States continues to rely on sales taxes that are levied at the state and local level, while the federal

government collects excises and tariffs.⁵² Meanwhile in Canada, additional efficiency in tax collection and lower compliance costs have been achieved by harmonising the retail sales taxes in some provinces with the federal VAT (*i.e.* a single VAT is collected with revenue distributed to both the provincial and federal governments).

The country reviews highlight two other possible mechanisms through which indirect taxes produce distortions:

- Exemptions or taxation at lower or zero rates of certain goods and services, which are a widespread feature of indirect taxation systems, may distort choices among various consumption or production alternatives. However, it may be successful in relieving regressive effects of indirect taxation on the income distribution.
- Product-specific sales taxes, or excise taxes, may aim to enhance economic efficiency by internalising harmful external (*e.g.* environmental) or hazardous health effects and discouraging economic activities and consumption that carry such external effects. Others raise revenues by taxing goods that carry a low price elasticity heavily, in accordance with Ramsey's rule.⁵³ However, in many instances the tax structure is modified to protect certain industries so that neither of these objectives is achieved.

5.1 *The impact on consumption and production patterns*

While the majority of OECD countries have achieved efficiency gains by introducing VAT, rate differentiation and exemptions produce non-neutralities. Low indirect tax rates and exemptions are often motivated by concerns over indirect taxation hitting disadvantaged groups heavily or, in the case of exemptions from registration of small companies, to facilitate compliance. However, rate differentiation may also be motivated by industrial policy objectives, although this is not very effective as VAT is neutral between imports and domestic production (except in, for example, the international tourism industry), or may have simply emerged from ad hoc revenue-raising measures. While most countries have these features in

⁵² With the introduction of a General Sales Tax as of July 2000 in Australia, the United States is the only remaining OECD country not to apply a VAT.

⁵³ Ramsey's rule states that the excess burden is minimised if the product of tax rates and price elasticities is equalised across all goods.

common to some extent, several of the reviewed countries stand out. Notably in Korea many fees, charges and contributions are levied in a discretionary and non-transparent manner and excise taxes are complex. Moreover, major loopholes erode the VAT base and undermine neutrality, including the special regime for small businesses, the zero VAT for “indirect exporters” and for inputs into agriculture/fisheries as well as the exemption of agricultural products. A streamlining of the indirect tax structure in Korea should clearly receive priority.

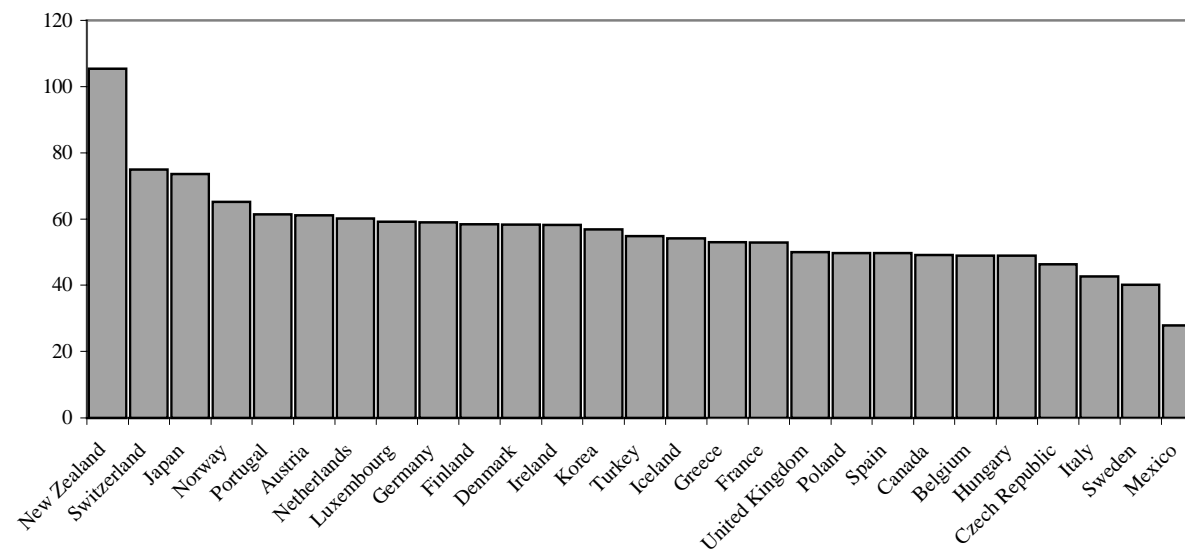
A synthetic indicator of the neutrality of VAT rate structures across goods and services is the ratio between the average effective and the statutory standard rate of VAT (Figure 4). If this ratio is close to one, it points to a relatively neutral and efficient VAT system in the sense that rate differentiation and exemptions are not very pervasive and that base erosion is moderate. Conversely, if the ratio is closer to zero, the VAT system may be poorly performing in either or both ways. While this indicator should be interpreted with caution, it broadly confirms the above findings drawn from the country surveys.

- New Zealand has an almost perfectly neutral VAT system, owing to the single uniform tax rate of 12.5 percent and the virtual absence of exemptions.⁵⁴ This has resulted in the highest effective tax rate relative to the standard statutory rate in the OECD area.
- At the other extreme, Mexico stands out by a very low ratio of effective over statutory standard VAT rates. This reflects the many loopholes and incentives for evasion associated with widespread exemptions and zero-rating of certain goods and services, while there is evidence of transactions being falsely attributed to zero rated tax bases. A serious non-neutrality stems from a high threshold below which sales are tax exempt – the VAT-exempt threshold in Mexico is very high by OECD standards, broadly matched only by Japan (Table 6) – which favours the set-up of micro-businesses that are particularly difficult to monitor.
- Most other countries have ratios of effective over statutory standard rates that are within some reasonable margin around the OECD average, but clearly below 100 percent. With compliance being mostly satisfactory, this suggests that VAT systems are non-neutral, for a

⁵⁴ The uniform 10 percent rate of the new General Sales Tax (GST) that has been implemented in Australia represents a move in the same direction, although the exemption of basic food diminishes the simplification gains and leaves scope for tax avoidance schemes.

Fig. 4

Effectiveness of value added taxes (1998)
(percent)



Source: OECD, *Revenue Statistics*, 1965-1999, OECD, *Consumption Tax Trends*, 1999 and OECD calculations. See also Carey (2000).

Note: Effectiveness of VAT is measured as the effective VAT rate as a per cent of the standard statutory rate, where the effective rate is VAT revenues divided by the potential VAT base (*i.e.* consumption minus VAT). The effectiveness of the VAT reflects the broadness of the VAT base and the level of compliance. The VAT effectiveness for New Zealand exceeds 100 per cent due to differences between the actual VAT base and consumption as measured in the national accounts.

variety of reasons. As noted, in Japan the VAT (registration) threshold well exceeds those of other OECD countries, hence small business units (including farms) pay less VAT (since their intermediate consumption and investment are not exempted). Korea maintains a “special regime” for small businesses largely to the same effect and, as indicated, extends zero-rating of exports to “indirect exporters” (industries that provide inputs into exporting industries). In the European Union and Norway, where standard VAT rates are around four times higher than in Japan (which has a standard rate of only 5 percent), the proliferation of reduced rates and exemptions also acts to lower VAT neutrality.

Several countries extensively use the VAT system as a vehicle for income redistribution, most prominently Mexico (see above) and the transition economies, Poland and the Czech Republic, at the expense of serious distortions in the resource allocation and dead-weight losses. In Poland, a harmonisation of the VAT with EU rules to prepare for accession started to come into effect in 2000. However, bringing the agricultural sector – which accounts for 27 percent of employment but only 4 percent of GDP – into the VAT net to comply with EU accession requirements, remains on the agenda. In the Czech Republic a reduced VAT rate is applied to an exceptionally wide range of “socially sensitive” items, including heating and telecommunications, which is also in violation of EU regulations.⁵⁵ In addition Korea exempts both inputs and sales of agriculture and fisheries while Norway exempts long-distance public transportation to favour remote (mostly rural) areas.⁵⁶ There is evidence to suggest that countries that extensively use VAT rate differentiation for income redistribution purposes are prone to large dead-weight losses, as consumption patterns are similar across a wide range of income levels. Under such circumstances efficiency gains could be reaped by cutting down zero or low rating to a few basic staples, while moving towards targeted aid through direct cash payments, in-kind benefits and vouchers.

⁵⁵ Just adjusting the VAT rate on heating would generate enough extra revenue to allow the standard rate to be reduced for 22 to 19 percent. The situation in Hungary is largely similar in this respect.

⁵⁶ The airline industry has moreover the possibility to avoid (non-reimbursable) VAT on fuels by combining domestic with international flights.

Table 6**Turnover thresholds for VAT exemption***(1998)*

	Domestic currency	1998 US PPP
Austria	AUD 300 000	22 023
Belgium	BF 225 000 excluding VAT	5 954
Canada	CAD 3 000	25 659
Denmark	DKK 20 000	2 332
Finland	FIM 50 000	8 161
France	FRF 100 000 excluding VAT	14 917
Germany	DEM 32 500	16 202
Greece	GRD 1 800 000	7 451
Iceland	ISK 200 600	2 404
Ireland	IEP 40 000	57 552
Italy	ITL 5 000 000	2 987
Japan	JPY 30 000 000	182 935
Korea	KRW 24 000 000	35 886
Luxembourg	LUF 400 000	9 633
Mexico	MXP 1 000 000	198 037
Netherlands	Nex tax payable up to NLG 4 150	2 026
New Zealand	NZD 30 000	20 250
Norway	NOK 30 000	3 265
Portugal	PTE 3 000 000	15 986
Spain	Individual retailers	..
Sweden
Switzerland	CHF 75 000	37 707
Turkey	Varies with activity	..
United Kingdom	GBP 50 000	75 757

Source: OECD.

Note: These thresholds are for "common cases". Various deviations and special cases exist in several countries, cf. OECD, Consumption Tax Trends, 1999.

5.2 *The impact on cross-border and digital consumption flows*

VAT and sales taxes give rise to distortions where tax rates are not uniform across a country. Sales taxes in the United States are levied by individual states and are usually collected by requiring retailers in the state to collect the sales tax from their customers at the time of purchase. However, if a mail-order company does not have a business presence in the same state as the consumer, this approach does not work. Theoretically, in some states, the consumer is liable to pay the sales tax but this is virtually impossible to enforce and mail-order sales in the United States are seen as effectively free of sales tax, and hence the tax system favours this mode of retail trade over other modes.

This problem does not normally arise in sales between countries because of the basic principle that exported goods, having been relieved of VAT on dispatch, are then subject to VAT when they are imported into the country of receipt. This function is often, though by no means exclusively, frontier-based. Indeed, in 1993, the EU, having abolished internal border controls for fiscal purposes, had to develop a system whereby this principle could continue to apply but without frontier-based formalities. It has done so through the adoption of a system whereby intra-EU sales between businesses registered for VAT continue to be zero-rated on 'dispatch' with the receipt business accounting for VAT on 'acquisition' (under the rules applicable in the recipient Member state). This system is corroborated through an EU-wide VAT registration numbers verification system, and enhanced co-operation between the tax administrations. The EU system also has some special regimes which apply to certain intra-EU transactions (for example, to "distance selling", *i.e.* mail order sales to private consumers). Such special regimes introduce a degree of additional complexity, and can create additional compliance burdens for the businesses concerned. In some instances, therefore, the three-part regime in the EU is complex and generates additional compliance costs for business. In addition, there are concerns about the possibilities for fraud because sales to foreign businesses are crossing frontiers without having tax paid. This undermines the self-enforcing mechanism of VAT. However, closer examination of this point shows that this risk is not as great as might be thought. Businesses that are registered for VAT have no incentive to avoid declaration of their 'imports', because any VAT that they pay will be refunded. Indeed, they have an incentive to declare, because they need to put the cost of the inputs into their accounts so that their profits (and hence their corporation tax liability) are not overstated. This means that the

possibility of fraud only arises from the diversion of goods intended for VAT-registered businesses to private consumers or businesses that are not registered for VAT. This could happen either as a result of fraud on the part of the exporter or on the part of the purchaser (who could pretend to be VAT registered). Clearly, the possibilities of such fraud depend very much on the nature of the product being traded. It is more likely to fall into the hands of consumers the nearer it is to being a final product.

Overall, while the current EU system has appreciable drawbacks, so do the possible alternatives and this explains the lack of progress in moving towards a final system. The drawbacks of alternative systems would be reduced if VAT rates were harmonised between countries, but there are considerable political objections to this approach. With progress towards harmonisation of VAT rates being slow, distortions arising from “cross-border shopping” will thus also be a growing issue. Interestingly, countries that participate in the single market via the European Economic Area agreement seem to be already affected. For example, Norway is reported in the review to be prone to significant cross border shopping for food in neighbouring Sweden, which, like other EU member countries, applies reduced VAT rates for food products.

Meanwhile electronic commerce is growing rapidly and increasing the opportunities for, and the volume of, international trade. This different way of doing business poses challenges to traditional methods of tax collection both in terms of ensuring fair competition between electronic traders and more traditional businesses, and in terms of effective tax administration.⁵⁷ In considering commodity taxation, it is important to distinguish between commodities that are ordered electronically but delivered in a traditional way (whether to business or private consumers) and commodities that are delivered electronically (particularly to private consumers). The first category poses no substantive additional commodity tax issues (save for those posed by mail order sales to private consumers), even though there will be an increase in the quantity of goods crossing frontiers, and traditional customs based procedures for tax collection will need to be further streamlined to ensure that they can cope with this

⁵⁷ OECD countries are working, in partnership with the international business community and with non-member economies, to implement the core principles set out in the Taxation Framework Conditions (OECD, 2001b). These point, in short, to the application of existing taxation principles and norms to e-commerce, albeit with some clarification and development of those norms in selected areas. For consumption taxes, they point towards the goal of applying the principle of taxation in the place of consumption.

increased volume. It is the second category, products that are delivered electronically, that poses a real challenge. How can the delivery of such products be detected, and so be taxed?

Given the broad consensus internationally that such electronic deliveries should not be regarded as a supply of goods, they do not fall liable to customs duties and the only tax issue is the collection of VAT (or its equivalent) in the country of consumption. In a VAT system, the electronic delivery of commodities to VAT-registered businesses does not cause a problem. As with the current intra-EU system of transactions between VAT-registered businesses, the purchasing firm has no incentive not to declare the purchase.⁵⁸ Thus, the problems arise in connection with supplies to consumers and businesses that are not registered for VAT, a comparatively small part of the market. Under a traditional VAT model, the supplier should fulfil the VAT obligations in relation to such sales (*i.e.* to register with the tax authority, and to remit the VAT charged to customers). Such an approach becomes less tenable in the electronic environment when, for example, suppliers are non-resident (*i.e.* outside the jurisdiction of the consumer) and there is little or no incentive for those suppliers to undertake the VAT-related functions. Effective tax collection on these transactions (to ensure neutrality of treatment with domestic suppliers, and to safeguard the revenue at stake) begs some difficult questions, for example, about identification of suppliers, about the obligations that might bear upon them, and about the verification of the jurisdiction of consumers (since this is crucial to their being charged the correct tax rate).⁵⁹

⁵⁸ The emerging conclusion from the OECD's current work on this issue is that a self-assessment (or so-called 'reverse charge') mechanism can be applied to the cross-border consumption of such services.

⁵⁹ In the medium term, technology-facilitated systems offer the potential to support the tax calculation and remittal functions. In the interim, where countries consider the distortion of competition or revenue loss sufficient to merit action, a registration-based approach to collection is probably the only practical alternative. A highly simplified registration system would go some way to minimising related compliance burdens, and securing voluntary compliance on the part of non-resident suppliers.

5.3 *The impact on economic behaviour in the pursuit of environmental policy goals*

All OECD member countries levy excise taxes or user charges on specific products and public services, raising revenues in the range of 30 to 70 percent of the total indirect tax take. Excises and charges were originally mostly designed to raise revenues, which in many cases were either formally or informally earmarked for purposes such as maintenance of public infrastructure or subsidising welfare services. However, since a substantial share of the excises and charges is de facto levied on energy consumption, they have come to be seen as a means of internalising harmful external effects on the environment and to discourage economic activities that are at the root of these harmful effects. Since the early 1990s, several countries have introduced so-called green tax reforms, which have led to a restructuring of existing taxes and the introduction of new environmental taxes.

The GDP share of environmentally related taxes, nevertheless, still represent a rather small share of total tax revenues – 7 percent on average in the OECD in 1997 (see Table 7). Motor fuel and motor vehicle taxes, which, as noted, pre-date the wave of green tax reform and have been introduced for fiscal rather than environmental reasons, made for the bulk of these revenues. Other taxes on energy represented about 7 percent of total environmentally related taxes on average in the OECD, while more directly environmentally based taxes represented only about 1 percent of the total.⁶⁰ These averages obviously conceal differences across countries, with some countries already making a rather large use of environmental taxes. Mineral oil in particular is heavily taxed in the EU although some countries have cut fuel taxes recently in view of inflation and competitiveness risks and in response to the oil price hike. Within the European Union, Austria, Belgium and Spain are lagging the EU average. Among the transition economies, Poland and the Czech Republic portray low environmental taxes even if environmental pressures are strong. This is also true of Japan and Mexico.

There are several reasons why environmental taxes and other economic instruments such as trading systems may be preferred over

⁶⁰ However, these numbers may understate the actual importance of environmental taxes to the extent these have been instrumental in removing their own base (e.g. taxes on nickel-cadmium batteries in Denmark).

“command and control” types of regulation.⁶¹ First, by letting individual market agents decide upon how much and in which way to reduce pollution, they allow the agents with the lowest abatement costs to contribute the most to the total reduction in pollution, thereby minimising the overall cost of the policy (*i.e.* securing cost-effectiveness). This property is usually referred to as “static efficiency”. Second, in contrast with “command and control” regulation, which cannot be continuously adapted, economic instruments promote “dynamic efficiency” by providing permanent incentives for reducing emissions through technological improvement. Third, taxes and tradable permits (when sold or auctioned) provide revenues, which can be used to increase the overall efficiency, for example by reducing other taxes. Finally, as economic instruments work through the price system, they allow an effective integration between economic and environmental policies, (and avoid environmental policies simply curing the ills generated by sectoral policies).

Unfortunately, a key finding in the country surveys is that, overall, environmental tax rate structures are not only sub-optimal from a point of view of inducing cost-effectiveness but in some cases even perverse. In particular:

- Industrial use of energy is typically taxed at much lower rates than households’ energy consumption, even if the potential for pollution abatement in industry may be substantial. For example, in most countries unleaded premium petrol is taxed at higher rates than diesel fuel, notably in a host of EU countries, Japan, Korea, New Zealand and the transition economies, despite the heavy environmental burden associated with diesel combustion. Poland, moreover, has so far not implemented significant differentiation of excise taxes on unleaded and leaded petrol. Similarly, industrial use of electricity and gas is usually taxed at much lower rates than household use.⁶²
- Within industry, in most countries a preferential tax treatment is granted to heavy polluters (agriculture, energy-intensive manufacturing), while rate structures poorly reflect the pollution content of energy use or conversion. This is often done to protect the international competitiveness of the industries concerned, which is especially costly in the case of local pollution problems where shifting the most polluting

⁶¹ OECD (1999e).

⁶² See O’Brien and Vourc’h (2001).

Table 7

Revenues from environmental taxes

	Share of environmentally related tax revenue in total tax revenue, per cent		Share of environmentally related tax revenue in GDP, per cent	
	1994	1998	1994	1998
Austria	4.5	5.1	1.9	2.3
Belgium	4.3	5.0	2.2	2.3
Canada	4.9	5.5	1.8	2.0
Czech republic	7.4	7.4	3.2	2.8
Denmark	8.0	10.1	4.1	5.0
Finland	5.8	7.3	2.7	3.4
France	5.5	4.7	2.3	2.1
Germany	6.4	5.9	2.5	2.2
Greece ¹	12.7	11.7	4.0	4.0
Hungary	6.6	8.2	2.3	3.2
Iceland ²	9.0	9.5	2.8	2.9
Ireland	9.1	9.4	3.3	3.0
Italy ¹	8.0	7.3	3.3	3.3
Japan	6.1	6.1	1.6	1.7
Korea	10.2	13.5	2.1	2.9
Luxembourg	8.0	6.9	3.6	2.8
Mexico ²	10.8	7.2	1.8	1.2
Netherlands	7.7	8.7	3.5	3.6
New Zealand	4.5	5.1	1.7	1.8
Norway	8.8	8.2	3.6	3.6
Poland	4.1	4.4	1.8	1.7
Portugal	11.6	10.9	3.8	3.7
Spain	6.6	6.5	2.3	2.2
Sweden	6.0	5.9	2.9	3.1
Switzerland	6.1	5.9	2.0	2.1
Turkey	6.8	10.6	1.5	3.0
United Kingdom	8.4	8.3	2.9	3.1
United States	3.8	3.2	1.1	0.9
Average ³	7.0	7.4	2.6	2.8
Standard deviation	2.2	2.5	0.8	0.9
Coefficient of variation	0.3	0.3	0.3	0.3

Source: OECD Database on environmentally related taxes; OECD Revenue Statistics.

(1) 1997 instead of 1998.

(2) 1995 instead of 1998.

(3) Simple average excluding Iceland and Mexico.

activities abroad may in fact be part of a cost-efficient solution.⁶³ At the same time, while cross-border pollution calls for international co-ordination of environment related taxes, this has largely failed to date, with most green taxes being implemented unilaterally. A particular problem is associated with the coal sector in transition countries, where fees have been increased dramatically compared to the pre-transition regimes, but are still insufficient to induce investment in pollution abatement or alternative energy sources on a large scale.

One consideration when assessing the usefulness of environmental taxes is that these may be used to cut distorting taxes in other areas. However, such opportunities may be smaller than hoped for. Indeed, a shift in the tax mix towards environmental taxes away from labour taxation is not a sufficient condition for removing the “tax penalty” on employment. An additional important determinant is the tax incidence: if the burden of environmental taxes finally falls upon households through higher prices of consumer goods and services, the reduction in the labour tax wedge will be less effective and the employment effect reduced. Since labour is a relatively immobile factor of production, and capital relatively mobile, especially in open economies, this ultimate tax incidence on labour is likely to occur.⁶⁴

6. Conclusions

The above exposition aims to demonstrate that the distortions in economic behaviour stemming from taxation are substantial, and that the growth dividend arising from easing these distortions may be considerable.

Policies in this regard would need to involve the reduction of tax disadvantages to employment, especially in several European countries. Although recent reforms have been going in this direction, further efforts are needed to reduce the high tax wedges affecting low-income earners as well as those workers that are at the upper end of the income distribution – preferably combined with further broadening of tax bases to avoid an

⁶³ There are alternative methods of protecting industrial competitiveness, while providing some incentive to reduce pollution. It would be possible to apply the tax to imports of polluting products. It would also be possible to levy the tax in proportion to the consumption or emissions that are to be discouraged and to refund the revenues in proportion to sales or production.

⁶⁴ See OCDE (2001c).

increase in marginal tax rates of middle income earners. Such changes would be instrumental in raising the chances of lower-skill workers finding gainful employment while reducing tax planning and avoidance activities of the higher skilled that go against objectives of both economic efficiency and equity.

The neutrality of tax systems with regard to the choice of investment funding, business organisation and location are other priorities for reform, with a view to reducing the, potentially costly, distortions in these areas. Strengthening the neutrality of taxation across savings vehicles would be complementary to this approach. The tax regimes facing the self-employed are in need of streamlining to remove incentives for the shifting of smaller business activities either into the unofficial economy or into the corporate sector in areas where this is not necessarily the optimal organisation form of business. Meanwhile, taxes that have been designed to correct market failures could be made more efficient. For example, improvement in the effectiveness of environment taxation should definitely be on the policy agenda.

Admittedly, governments are often faced with trade-offs between equity and efficiency goals of tax policy. There is an abundance of examples of conflicts between equity and efficiency inherent in the taxation of income-generating activity. Specifically, the choice of progressive tax rate structures enhances so-called vertical equality – *i.e.* people on higher incomes pay a higher proportion of their income in tax, at least in statutory terms – but increases inefficiency by reducing incentives to utilise labour and capital resources and may prompt avoidance and evasion. Indeed, this conflict between equity and efficiency lies at the heart of many differences between OECD countries in their choices of tax rate. Evidently, this does not mean that there is no scope to improve both the equity and efficiency of existing income tax systems. Poorly-designed income taxes can distort economic behaviour without doing much to redistribute income, no matter what the level of taxation is. In such cases reform may not involve any trade-off between equity and efficiency at all.

Greater neutrality in tax systems is usually consistent with better horizontal equity, *i.e.* the requirement that people in a similar economic position should pay the same amount of tax. Hence in most cases it should not imply any conflict between efficiency and fairness either. For example, taxing all forms of saving at the same rate both limits economic distortions and is consistent with horizontal equity. Similarly, moves towards

uniformity in the tax treatment of different forms of corporate finance and different types of investment projects, and to the sales taxes applied to different consumption goods, would appear to be horizontally equitable. On the other hand, ambiguities remain. For example, the large number of income tax allowances available in most countries, while clearly non-neutral, can be seen by some as promoting horizontal equity by taking account of the detailed financial circumstances of households. But others may perceive them as a source of horizontal inequity because they produce differences in taxes paid between households on the basis of differences that reflect deliberate choices, as regards family circumstances for example, and are therefore irrelevant.⁶⁵ Similarly, taxing income from saving at low flat rates, as has become common in many OECD countries, may be considered as lacking horizontal equity. While this may be true in a “static” sense, it may also be seen as promoting horizontal equity in a “dynamic sense”, *i.e.* reducing discrimination between different lifetime profiles of saving and consumption.

A tax that is generally seen as unfair or arbitrary in its incidence can generate reluctance among taxpayers to comply. Neutrality is important not only for its favourable efficiency and horizontal equity effects, but also because it usually helps tax rules to be clear and simple to understand,⁶⁶ reducing both the administrative and compliance costs of taxation. Neutrality also reduces the incentives and possibilities for taxpayers to rearrange their financial affairs to minimise tax payments, and limits the lobbying and litigation that surrounds borderline decisions on how to classify particular types of income or goods for tax purposes.

But achieving greater neutrality of national tax systems is not a sufficient condition for better compliance and less distortions. The effectiveness and efficiency of tax collection, enforcement and administration needs to be improved. A key feature of these efforts must be improved co-operation between tax authorities in different countries, including effective exchange of information, as tax systems need to cope

⁶⁵ Aside from the choice of rate structures, horizontal equity considerations may affect the choice of tax bases, although there is some ambivalence in this regard as well. For example, countries which attempt to use comprehensive income (including, for example, fringe benefits or capital gains) as the predominant tax base are satisfying those who regard comprehensive income as the relevant income concept for judging the horizontal equity of tax systems. However, they are not satisfying those who regard consumption as a better indicator of lifetime welfare than current income, and so regard taxing consumption as more horizontally equitable.

⁶⁶ In some cases, such as the taxation of comprehensive income, including *inter alia* imputed incomes and fringe benefits, horizontal equity may require complex laws.

with increasingly mobile tax bases internationally. Recent advances in communication technologies, ongoing developments in complex, innovative financial instruments, and the expansion of tax havens and preferential “niche” regimes designed to attract mobile capital, particularly financial capital, are creating horizontal inequities between taxpayers and producing a misallocation of capital. Governments may find themselves competing for these mobile activities, but this is different from the sort of tax competition over generally applied tax rates that has been the subject of the economics literature. This literature shows that tax competition can be beneficial for economic performance, both by restricting tendencies towards excessive government spending and by providing individuals with a choice between locations according to their desired level of public provision. However, this reasoning does not hold for tax competition that is non-transparent or discriminatory, or where it facilitates illegal tax abuses that enable companies or individuals to reduce their tax liability without actually moving their residence away from a jurisdiction with high public provision. In many cases, tax havens do not attract much real activity; they simply provide a place to shelter the proceeds of real activity that takes place elsewhere.

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