

Monitoring tax revenues and tax reforms in EU Member States 2010

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Directorate-General for Economic and Financial Affairs
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Monitoring tax revenues and tax reforms in EU Member States **2010**

Tax policy after the crisis

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AETR	Average effective tax rate
AW	Average wage
CIT	Corporate income tax
CCCTB	Common Consolidated Corporate Tax Base
DG ECFIN	Directorate-General Economic and Financial Affairs
DG TAXUD	Directorate-General Taxation and Customs Union
EC	European Commission
ECB	European Central Bank
ECOFIN	Economic and Financial Affairs (Council)
EPC	European Policy Committee
ESA79	European System of Accounts 1979
ESA95	European System of Accounts 1995
EU	European Union
FAT	Financial activity tax
FTT	Financial transaction tax
GDP	Gross domestic product
ITR	Implicit tax rate
METR	Marginal effective tax rate
NMS	New Member States
OECD	Organisation for Economic Cooperation and Development
PIT	Personal income tax
pp	percentage points
SSC	Social security contributions
VAT	Value added tax

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SUMMARY AND CONCLUSIONS

The financial and economic crisis resulted in severe challenges for public finances in many EU Member States. Tax revenue, which had been boosted during the boom years by tax-rich growth and rising asset prices, plummeted as a consequence of the automatic stabilisers inherent in the tax system, a reversal of the revenue windfalls from asset prices and the discretionary measures taken in support of domestic demand. Against this background, the report analyses tax revenue developments and recent tax reforms in EU Member States. It looks at tax policy issues related to the crisis and how reforms of the tax system could contribute to bringing public finances back on a sustainable path in a growth-friendly way, including the role tax coordination in the EU might play in this context.

Despite a general trend of cuts in tax rates in recent years, the EU remains on average a high-tax area. While tax ratios differ widely across Member States, a convergence process can be observed over time. The crisis has not only impacted on the level of tax revenue but also on its composition. In the period from 2007 to 2010, the tax composition in terms of the type of tax levied shifted towards social security contributions and away from direct taxes as the revenue from the latter has been most affected by the crisis. In a longer-term perspective, the share of the three main tax categories (direct taxes, indirect taxes and social security contributions) has, however, remained relatively stable with each one contributing around one third to overall tax revenues. At the same time, differences in tax composition across countries remain large.

Tax policies have played an important role in countering the financial and economic crisis. Policy responses varied markedly between Member States, mirroring to a large extent the evolution of macro-economic and financial conditions. Discretionary budgetary measures necessary to support the ailing financial sector and temporarily bolster aggregate demand clearly dominated the later part of 2008 and 2009. After the strong fiscal boost in 2009, in the aggregate, fiscal policy is expected to remain growth supportive in 2010. However, in some Member States fiscal stimulus ended due to the lack of fiscal space and the emergence of macro-economic vulnerabilities. Tax reforms enacted during this period have been broadly in line with recent trends in tax policy. In particular, measures to support labour supply via a reduction in personal income taxes have contributed to a reduction in the share of direct tax revenues. The tax burden on labour, as measured by the tax wedge, has gone down in almost all Member States in the recent past, especially for low income workers. Meanwhile, the quest for higher revenues to curb budget deficits has typically resulted in increases in indirect taxes.

There is wide consensus that the crisis was primarily triggered by factors that are outside the domain of taxation. Nevertheless, specific elements of the tax systems could have contributed to the crisis in some countries. In particular, current corporate tax systems in the EU favour debt-financing over equity-financing. This could lead to a higher leverage for firms, especially during an economic boom, and to liquidity constraints once the economy turns. The report discusses two different ways to overcome this bias: an allowance for corporate equity, i.e. granting of a deduction for the return on equity, or disallowing the deduction of interest payments on debt (comprehensive business income tax). A combination of these two measures could mitigate the bias from both directions and could a-priori be designed revenue-neutral. The analysis also shows that tax incentives may have played a role in the development of the housing bubble. The main options in order to reduce a potential bias of the tax system in favour of investment in housing are the taxation of imputed rents and/or the reduction or abolition of mortgage interest deductibility. Higher property taxes would be partly equivalent to the taxation of imputed rents and could be the source of stable additional tax revenue though this may require improved valuation systems in order to create a reliable tax base.

Taxation also contributed to countering the crisis via the automatic stabilisers inherent in the tax system. The size of the automatic stabilisers is primarily related to the overall tax-to-GDP ratio. While, theoretically, tax progression and the tax mix also play a role, available evidence indicates that changes in these elements cannot be expected to lead to substantial increases in demand stabilisation. Moreover, reforms that have the potential for increasing the automatic stabilisation function of the tax system would have to be carefully assessed against the aim of growth-friendly tax systems. The analysis also shows that

personal income taxation has a bigger potential as an automatic stabiliser than the corporate income tax, with indirect taxes only playing a marginal role.

A key question emerging from the recent crisis is the extent to which the financial sector is providing a fair contribution to the repayment of the cost of the crisis. There is a theoretical case for the existence of economic rents in the financial sector, which results from the sector's specific role in the economy and the implicit state guarantee. A possible way to capture these rents would be by means of a Financial Activities Tax that takes the sum of profit and remunerations as taxable base, therefore mimicking value-added. To the extent that these rents are captured by managers via bonuses and specific executive compensation schemes, a tax on bonuses might also be considered. Such a tax could also contribute to reducing short-termism induced by those performance-related compensation schemes. A Financial Transaction Tax, which is also discussed in the report, would aim in the same direction as the above proposals with the broad objective to stabilise financial markets by reducing speculative and technical trading while raising significant revenue. The report also briefly refers to the proposals for a bank levy in the context of bank resolution frameworks.

An important question in the current debate is whether it is possible to change the tax system such that it yields additional tax revenue, thereby contributing to the forthcoming consolidation effort needed in many countries, while minimising the distortionary effects on growth. The report concludes that in general this could be best achieved by shifting the tax structure towards taxes on property and consumption and environmental taxes. Revenue increases should preferably be attained by a broadening of tax bases, including by cuts in tax expenditures, rather than by increasing tax rates. Moreover, in many Member States there is a potential for raising revenue by improving the efficiency and effectiveness of tax collection and tax administration. Measures to this effect would also be conducive to making the tax system more equitable.

The shift in the tax structure has been rather modest in recent years in most Member States. This might partly be due to the distributional effects of potential tax shifts and political economy reasons. Some reforms may also have been held back by a lack of coordination at the EU level since cross-border spillover effects may constrain the taxing capacity of an individual Member State. Moreover, the high integration of the economies of the European Union is not without consequences for the potential economic effects of tax reforms. Carried out individually, some tax reforms may entail a risk for the proper functioning of the Single Market. Thus tax coordination in some specific areas would be a prerequisite for reaping the full benefits of the Single Market. But progress in the past years has been slow and it remains to be seen whether national fiscal exit strategies in a post-crisis economic and budgetary environment provide new impetus.

The report "A new strategy for the single Market – At the service of Europe's Economy and Society" by former Commissioner Mario Monti points to the most important areas where tax coordination should be reinvigorated: (i) corporate taxation, with a wider examination of the effects of harmful regimes, mismatches and other negative effects of tax competition, and the work towards the definition of a common base; (ii) consumption taxation, particularly VAT; and (iii) environmental taxation, the latter being likely to play a key role in the near future. These are the areas where reforms would benefit most from coordination at EU level because either they target mobile tax bases or affect in an asymmetric way the competitiveness of companies. Coordination of tax reforms could also be instrumental in reducing compliance costs for citizens and enterprises and reducing the occurrence of double taxation.

1. INTRODUCTION

In 2009, the first edition of the report 'Monitoring revenue trends and tax reforms in Member States' was published. The report was drawn up in response to the request by the 5 June 2007 ECOFIN Council *'for Member States to exchange information on current and planned tax reforms and their impact on growth and employment within existing procedures'*.

Based on the mandate of the ECOFIN Council, the present report reviews recent developments of the revenue side of government budgets with a view to providing a basis for informed policy choices aimed at improving the quality of public finances in the EU. In line with last year's edition, the 2010 report presents a succinct analysis of tax revenue trends and an overview of recent major tax reforms, as well as a discussion of selected topical tax policy issues.

The report is prepared jointly by DG ECFIN and DG TAXUD of the European Commission. It builds on a substantial body of work carried out by the Commission services, including assessments of the budgetary implications of tax reforms, analyses on the key role of revenue systems for the sustainability of public finances and studies considering their effects on employment, growth and equity and their contribution to the achievement of environmental policy objectives.⁽¹⁾ Rather than aiming at a comprehensive overview of the structure of revenue systems in the EU⁽²⁾, the present report focuses more on specific aspects and recent developments that are relevant for growth and employment.

A particular focus of this year's edition is the consequences of the global economic and financial crisis on revenue systems and the need to provide adequate policy responses. Public finances have deteriorated substantially in the wake of the crisis due to massive and unprecedented fiscal interventions and fiscal stimulus packages, aimed at supporting the financial sector and aggregate

demand, in conjunction with the operation of the automatic stabilisers. According to the Commission services' spring 2010 economic forecast, the EU-wide general government headline deficit is expected to reach 7.2% in 2010 and 6.5% in 2011, up from 0.8% in 2007; the debt level is forecasted to increase from 58.8% in 2007 to 83.8% in 2011. In view of this dramatic deterioration of government finances, EU Finance Ministers agreed at their meeting on 20 October 2009 on the need for a co-ordinated and comprehensive approach on exit strategies. Starting in 2011 at the latest, annual consolidation efforts in most Member States will have to be well above the 0.5% of GDP *per annum* benchmark in structural terms stipulated in the Pact. Meanwhile, for some countries, fiscal consolidation will have to start well ahead of that date.

In view of the sizeable consolidation requirements, many countries will not be able to achieve this solely by expenditure restraint; hence a contribution from the revenue side will also be needed. This does not necessarily or exclusively mean increasing tax rates, but also reviewing "tax expenditure" (e.g. a broadening of tax bases) and improving the efficiency of tax collection and administration (e.g. combating tax fraud and evasion, administrative cooperation between tax authorities, etc.). Whatever choices are made, it will be important to devise the right strategies so as to avoid stifling the nascent recovery and to prevent harmful consequences for competitiveness. Moreover, in order to avoid cross-country spillover effects undermining national policy strategies, enhanced coordination of tax policies will be an important element for a successful consolidation strategy.

The report pursues several objectives. First, it identifies the way in which European revenue systems are evolving and the related fiscal, economic, and social challenges that policy makers are facing in their pursuit of improved revenue systems. Second, it looks at various tax reforms that have been enacted or are being considered in the Member States. Finally, it reviews various policy options that are presently considered in the policy debate, such as the taxation of profits in the financial sector via a financial activity tax.

(1) See, e.g., European Commission (2008a, 2010a, 2010b, 2010d, 2010e) and Hemmelgarn and Nicodeme (2009).

(2) With the annual report "Taxation Trends in the European Union prepared by DG TAXUD and Eurostat (cf. European Commission (2010a)) a comprehensive overview of the level and structure of taxation is available on a yearly basis.

The report aims further to contribute to enhanced communication and exchange of best practice among Member States on tax reforms and to encourage an intensified debate on the role of improved revenue systems for growth, employment and equity. Better communication can reveal common challenges and may suggest ways for Member States to coordinate their actions to achieve better outcomes for all. An intensified discussion of tax reforms will also raise the awareness of potential spill-over effects of particular tax policies of one Member State on others.

The report may also play a role in advancing the reduction of differences among revenue systems in the EU where this is appropriate. Making tax and social security regulations increasingly compatible across Member States reduces compliance costs for firms and citizens, thereby encouraging cross-border activities by firms and worker mobility within the EU. As highlighted in the May 2010 report of former Commissioner Mario Monti ⁽³⁾, increased coordination of revenue system design, convergence towards more compatible tax policies and eliminating tax barriers can reduce tax-induced distortions of the internal market and thus contribute to raise the efficiency of European factor and product markets.

Respecting the inter-temporal government budget constraint implies that, in the long run, the level of government revenue is largely determined by the level of government expenditure. However, revenue systems are much more than the pure budgetary counterpart of government spending since they have important implications in terms of the allocation of economic resources. They impact on key economic decisions, such as physical and human capital investments, labour supply and labour demand, the decisions to engage in entrepreneurial activity and to start up a business, innovation decisions, and many others. Taxes also redistribute economic resources between economic agents. These effects at the micro-level translate into the aggregate, so that the design of revenue systems substantially impacts on macroeconomic outcomes in terms of employment, growth and equity. Therefore, the proper design of revenue systems represents a key determinant of a strong

employment and growth performance while ensuring fairness and social equity.

From a policy perspective, improving the structure of revenue systems has a key role to play for the successful implementation of the Europe 2020 strategy, in particular in the context of activating employment policies and in the promotion of investment and innovation. As highlighted by the strategy, particular attention should be given to the quality of the revenue/tax systems. Where taxes may have to rise, this should, where possible, be done in conjunction with measures to make the tax systems more employment, environment and growth-friendly, for example by shifting the tax burden to environmentally harmful activities.

The importance of sound revenue systems is also reflected in the movement towards including tax reforms more closely in the monitoring of the implementation of structural reform efforts by Member States. The Commission is currently establishing a new database (TAXREF) on tax reforms in the Member States. ⁽⁴⁾ This database will complement the databases on labour market (LABREF) and product market reforms (MICREF), which contain comprehensive overviews of Member States' reform efforts in key structural reform areas. The TAXREF database will similarly allow Member States and the Commission to track better tax reforms to assess progress in making European revenue systems more supportive of employment and growth.

The recent economic crisis also offers an opportunity to rethink tax systems and to restate the objectives of taxation, taking into account the potential impact on the fairness of tax systems. Given the high policy relevance of revenue systems, policy makers need sound advice regarding the direction of reform. To define this direction, it is important to consider the various shortcomings of current systems and assess the available alternatives using an appropriate set of criteria for sound revenue systems. While there is no consensus in the literature, some observers have singled out high levels of taxation as a key reason for low employment levels and unsatisfactory

⁽³⁾ See Monti (2010).

⁽⁴⁾ The TAXREF database will be managed by the European Commission (DG TAXUD) and build on the existing 'Taxes in Europe' database and the information provided by Member States in the context of the Working Group "Structures of the Taxation Systems".

economic performance in the EU. High income taxes can discourage labour supply and demand, and reduce investment incentives. However, some EU Member States have been able to combine relatively elevated levels of taxation with a strong economic performance and low unemployment. This indicates that the determination of the optimal aggregate level of taxation is not straightforward and may be of secondary importance. Rather, this highlights the relevance of the optimal structure and design of the tax system for a given level of revenues, along with the structure and cost-efficiency of public spending. Thus, there is great potential in tax reforms that improve the structure of the tax system. Such reforms need to address issues related to the optimal tax composition, but also the details of the tax schedule (in particular regarding tax progressivity) and the interaction of taxes with the benefit system. Moreover, since revenue-neutral tax reforms do not, in principle, require adjustments on the expenditure side, such reforms may be easier to implement politically than measures that aim to reduce the overall level of expenditures and taxation.

An optimal revenue system should fulfil several criteria. In particular, it should be efficient, ensuring growth, a desired distribution of income, and the necessary public funds for spending on publicly provided goods with minimal distortions.⁽⁵⁾ It should avoid excessive negative incentive effects for employment, investment, and innovation, and it should properly internalise social costs and benefits of, e.g., research and development, human capital formation and polluting activities. An optimal tax system should also be fair in order to be accepted by citizens and move the economy towards a desired distribution of income. Furthermore, it should be simple and transparent and minimise incentives and opportunities for tax avoidance, evasion and fraud. Finally, it should have low administrative demands and low compliance costs.

Such criteria for sound revenue systems make it possible to consider the current state of revenue systems in the EU and to assess whether ongoing

tax reforms are moving European tax systems closer towards such optimal revenue systems and what kind of reforms may be appropriate to better achieve these objectives.

In view of the above-mentioned criteria for sound revenue systems, more attention ought to be given also to the various aspects of an appropriate management of tax systems. According to some estimates, in many Member States there seems to be a significant potential to raise tax revenue by improving the efficiency and effectiveness of tax administration and tax collection. In some countries, tax compliance could also be increased by making the tax code simpler and more transparent. Measures to this effect would also be conducive to making the tax system more equitable. While a more in-depth discussion of these issues is beyond the scope of the present report, there is a clear case for raising these aspects of tax systems in the policy debate.

The report is structured as follows. Section 2 describes the level, structure and trends of taxation in the EU. Section 3 discusses common developments in European revenue systems in the aftermath of the global economic and financial crisis. After a general overview of the role of revenue side policies in addressing the challenges posed by the crisis, it outlines the major tax reforms carried out by Member States over the past two years. A particular focus is on the impact of changes in the tax and benefit systems on labour supply and demand. Section 4 discusses several tax policy issues that have recently become highly topical, given their relation to the financial and economic crisis. It analyses how far taxation has contributed to the crisis and the role of taxation as an automatic stabiliser in the crisis. Reflecting the ongoing debate on how to recover the cost of direct financial support to the banking sector, the section finally discusses possibilities for the taxation of profits in the financial sector. Section 5 looks at the link between taxation and growth, particularly in regard to the tax dimension of the single market and the potential benefits of EU-wide coordination of tax policies in certain areas.

(5) This is in fact the key question in the literature on optimal taxation: How can the government maximise the welfare of its citizens subject to the requirement of raising a given amount of tax revenue to provide public goods and services or to redistribute income subject to technical and informational constraints?

2. LEVEL, STRUCTURE AND TRENDS OF TAX REVENUES IN THE EU

2.1. TAX STRUCTURES AND RECENT DEVELOPMENTS IN THE EUROPEAN UNION

This section provides an overview of the structure of revenue systems in the EU and their evolution over time, thereby setting the stage for the discussion of key developments in the following sections. While it draws on the more detailed findings presented in the Commission's annual report on "Taxation trends in the European union" (see European Commission 2010a) for 1995-2008, it also sheds light on more recent developments in 2009 and 2010. ⁽⁶⁾ In particular, the section looks into the level and trend of both total taxes and their decomposition (by type of tax and economic function), including an investigation of convergence/divergence across Member States.

2.1.1. Level and long-term development of the overall tax burden

The overall tax burden in the European Union, measured by total taxes (including social security contributions) as a percentage of GDP, is relatively high by international standards (see Graph 2.1). In 2008, the overall tax-to-GDP ratio in the EU amounted to 39.3% ⁽⁷⁾, more than one third higher than the levels recorded in the United States and Japan, and 3½ percentage points higher than the arithmetic OECD average (including 19 EU countries).⁽⁸⁾

Tax ratios differ widely in the EU ...

There are, however, wide differences in tax levels across the Union. There are two groups of high-tax countries, the Nordic countries (i.e. Denmark, Sweden and Finland), and a cluster of five Member States, namely Belgium, Austria, Italy, France and Hungary, all of which had a tax ratio in excess of 40% of GDP in 2008. Neighbouring Germany and the Netherlands are just below this level at 39.3% and 39.1% of GDP respectively.

With the exception of Cyprus, the geographically more peripheral countries tend to show lower tax ratios, particularly in Eastern Europe.

The differences reflect, on the one hand, political choices such as public or private provision of services, e.g. in the area of old-age and health risk protection. On the other hand, technical factors play a role: some Member States provide social or economic assistance via tax reductions rather than direct government spending, while social transfers are exempted from taxes and social contributions in some Member States but not in others; these factors thus affect the measured tax-to-GDP ratios without reflecting differences in the underlying tax burden.

Historically, the variation of tax ratios in the Union has been determined by two factors. First, the dispersion of tax ratios across countries has usually increased on the occasion of each enlargement. With the exception of the 1973 enlargement, the inclusion of new Member States has led to a significant rise in the dispersion of tax ratios as measured by the coefficient of variation (Graph 2.2).⁽⁹⁾ A remarkable jump in this dispersion occurred in 1981 with the entry of Greece, which had a tax ratio of less than one third of the average rate of the incumbent Member States, but also in 1986 with the entry of Spain and Portugal, where tax rates were around ten percentage points below the previous average. Similarly, as a result of the generally low tax ratios in the twelve recently acceded Member States, the 2004 and 2007 enlargements again raised the dispersion across the Member States. ⁽¹⁰⁾ Second, however, there has been a general trend of convergence of tax ratios over time for any given composition of the Union, with new entrants often adjusting their tax ratios rather quickly towards the mean. Since 2004, for instance, tax ratios have risen in most of the twelve new Member States. This, together with the expansion of the euro area to a growing number of new Member States, has largely eliminated the positive gap of the tax ratio in the euro area as

⁽⁶⁾ Information from DG ECFIN's Ameco database – adjusted for differences in the definition of the tax indicators – is used to extrapolate the time series published in European Commission (2010a) for the years 2009 and 2010.

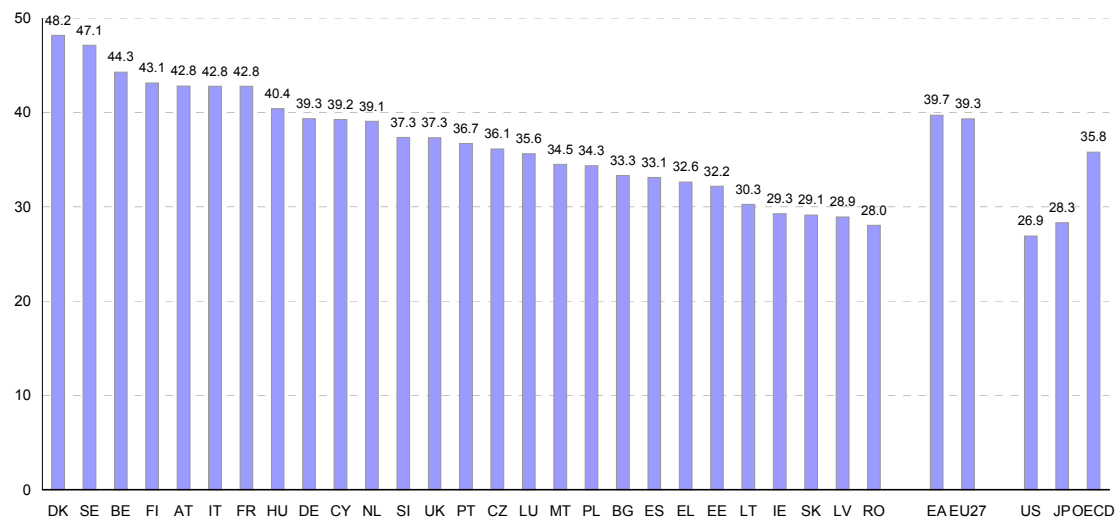
⁽⁷⁾ Unless stated otherwise, averages quoted in the report are GDP-weighted.

⁽⁸⁾ See OECD (2009).

⁽⁹⁾ The coefficient of variation is a normalised dispersion measure. It is computed as the standard deviation divided by the mean (both unweighted).

⁽¹⁰⁾ The total tax-to-GDP ratio in the new Member States was six percentage points lower than the average of the former EU15 in 2008.

Graph 2.1: Overall tax-to-GDP ratio (incl. SSC) in the EU, US and Japan- 2008, in%



Note: Data for Japan and the OCED refer to 2007. Figures for US are provisional.
Source: Commission services for the EU countries, OECD (2009) for the US and Japan.

compared to the EU as a whole (37.6% vs. 37.0% of GDP in 2008).

...but converge over time

The small window in Graph 2.2 testifies the trend towards a convergence of tax ratios for the current EU27 Member States since 1995.⁽¹¹⁾ The dispersion of tax burdens diminished rather steadily between 1996 and 2007. In 2008 and 2009, it picked up as a consequence of the uneven impact of the economic and financial crisis on tax revenues. While in countries with important housing bubbles, such as Spain and Ireland, the tax ratio started to fall markedly already from 2008, in other countries, such as Germany and Austria, tax ratios stabilised or even rose. With the effects of the crisis on tax revenues gradually abating, the dispersion of tax burdens is projected to decrease again in 2010.

High tax levels as a legacy of tax hikes in the 1970s to early 1990s

The high tax-to-GDP ratios in the EU, particularly in the former EU15, are to a large extent the result of the persistent upward trend in the tax burden in the 1970s, and to a lesser extent also in the 1980s

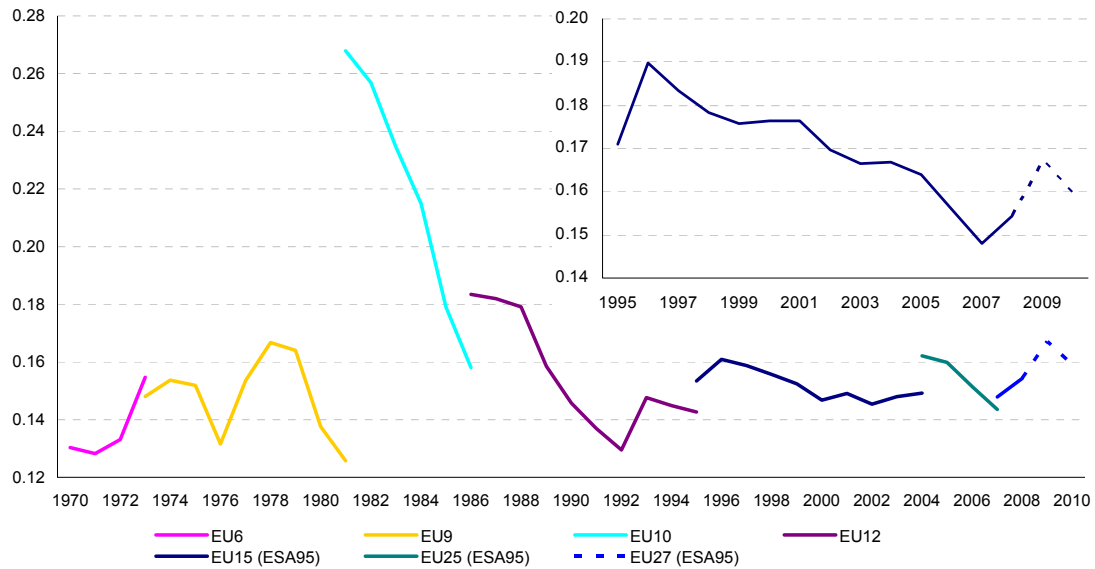
and early 1990s (see Graph 2.3)⁽¹²⁾. This long-run increase in the overall tax burden was the result of the growing share of the public sector in the economy in those years, as taxes and social contributions were raised in order to finance increasing government spending; labour taxes, in particular, increased steadily in order to finance expenditure on the welfare state, including a persistent rise in expenditure on unemployment benefits as a result of the secular rise in unemployment rates.

From the early 1990s, the Maastricht Treaty and subsequently the Stability and Growth Pact resulted in the set-up of a multilateral budgetary surveillance framework committing Member States to undertake fiscal consolidation efforts. For a number of Member States, the fiscal consolidation effort needed in the run-up to the EMU ruled out any major tax cuts. In the late 1990s, several countries started to take advantage of their improved budgetary position to reduce the tax burden through cuts in personal income tax, social contributions and also in corporate income tax. However, the overall tax ratio decreased only from 2000, as the economic boom of the late 1990s

⁽¹¹⁾ Missing values for Bulgaria at the beginning of the series are substituted by the first available data point (1998).

⁽¹²⁾ European Commission (2000) reports a long-run increase of 11 percentage points in the euro area between 1970 and 1999, compared with a relatively small increase of 2.5% of GDP recorded in the United States. Similar differences are reported in OECD (2002a).

Graph 2.2: Dispersion (coefficient of variation) of total taxes,% of GDP



Note: The break in 1995 partly reflects the change in statistical classification from ESA79 to ESA95.

Source: Commission services.

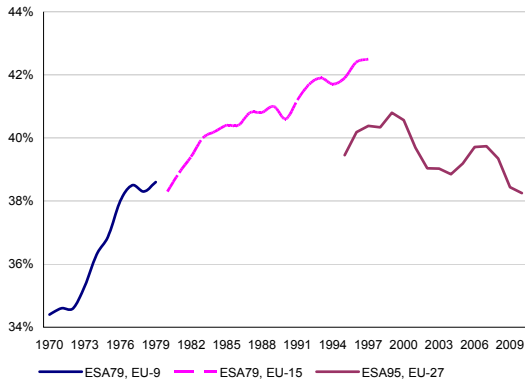
boosted the measured overall tax burden despite substantial cuts in statutory tax rates. Following a decrease in the first half of this decade, the tax burden increased again in the years between 2005 and 2007. In 2008, the economic and financial crisis started to drive down tax revenues, even though the bulk of the effect came through only in 2009, when the tax burden fell by more than one percentage point. On current projections, it will continue to decrease in 2010.

Tax ratios show pro-cyclical behaviour

It is evident from the above that, in the short term, tax ratios are affected by cyclical developments, with tax ratios normally buoyed during cyclical upswings while cyclical downswings have a dampening effect on tax ratios. In gauging developments over past years, it is therefore important to disentangle the changes in the overall tax-to-GDP ratio that are due to the impact of the cycle from those that reflect policy change. In order to abstract from the impact of the business cycle on tax revenues one can compare revenues in similar stages of the cycle. Given the unprecedented and atypical sharpness of the output loss and its exceptional impact on tax revenue in 2009, it seems preferable to look at the situation in

2008, i.e. the year after the peak of the current business cycle in 2007 and before the 2009 slump. A comparable reference year would be 2001, which is the year following the peak of the previous business cycle. Compared to that year, the tax-to-GDP ratio in the EU was only slightly lower in 2008, by around $\frac{1}{4}$ of a percentage point. In thirteen countries, the overall tax ratio actually increased, in some of them by significant amounts. The increase in Cyprus stands out for its size (almost 8% of GDP, more than half of which in 2007 alone), while another large increase, by more than 4% of GDP, took place in Malta. Relatively large increases, amounting to more than 2% of GDP, were also seen in Bulgaria, the Czech Republic, Estonia, Hungary, Portugal and Poland. While Spain saw a significant increase in revenues until 2007, this was more than reversed by the steep drop in 2008, amounting to 4% of GDP. Among the countries that reduced the tax burden over the period 2001-2008, the most remarkable cases are Luxembourg and Slovakia, where the tax burden fell by around 4 percentage points. In the case of Slovakia, this happened after the overall tax ratio had already been cut by more than seven percentage points from 1995 to 2001. The tax burden was also significantly reduced in Austria and Sweden, by around $2\frac{1}{2}\%$ of GDP.

Graph 2.3: Long-term trends in the overall tax ratio (including SSC)% of GDP



Note: The break in 1995 is due to a change in classification from ESA79 to ESA95.
Source: Commission services.

Convergence trend confirmed

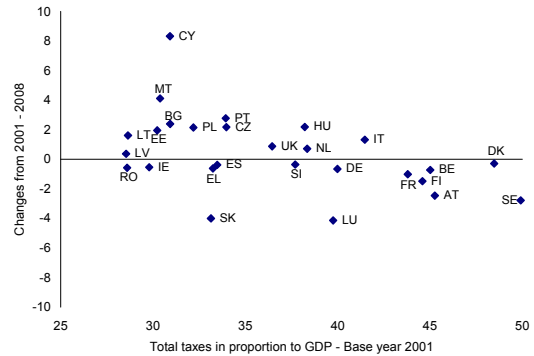
Graph 2.4 displays the change in the tax-to-GDP ratio between 2001 and 2008 in percentage points of GDP against the prevailing tax ratio in 2001. The purpose of the graph is to show the extent to which countries starting with a higher-than-average (lower-than-average) tax ratio tend to reduce (increase) it over time. The top half of the graph shows Member States for which the overall tax ratio increased since 2001, while the bottom half shows those for which it decreased. The right-left dimension of the graph identifies the starting point just after the peak of the previous cycle in 2001; that is, countries that displayed a higher-than-average tax ratio in 2001 are on the right while countries that displayed a lower-than-average tax ratio are on the left. The graph shows a majority of countries in the upper/left and lower/right quadrant, indicating that over time there is a tendency for tax ratios to converge towards the mean. This supports the results already derived with the help of the dispersion measure.

Revenue decline during the crisis largely driven by stimulus measures...

The decline in tax ratios became more pronounced in 2009 under the impact of the crisis. This was due to two factors. Firstly, many countries adopted significant fiscal stimulus packages under the European Economic Recovery Plan, in the form of both expenditure increases and tax cuts to support

household's purchasing power and relieve enterprises. The revenue-based stimulus measures were around ¾% of GDP in 2009 and 2010.

Graph 2.4: Level in 2001 and change of tax-to-GDP ratio until 2008 in%



Source: Commission services.

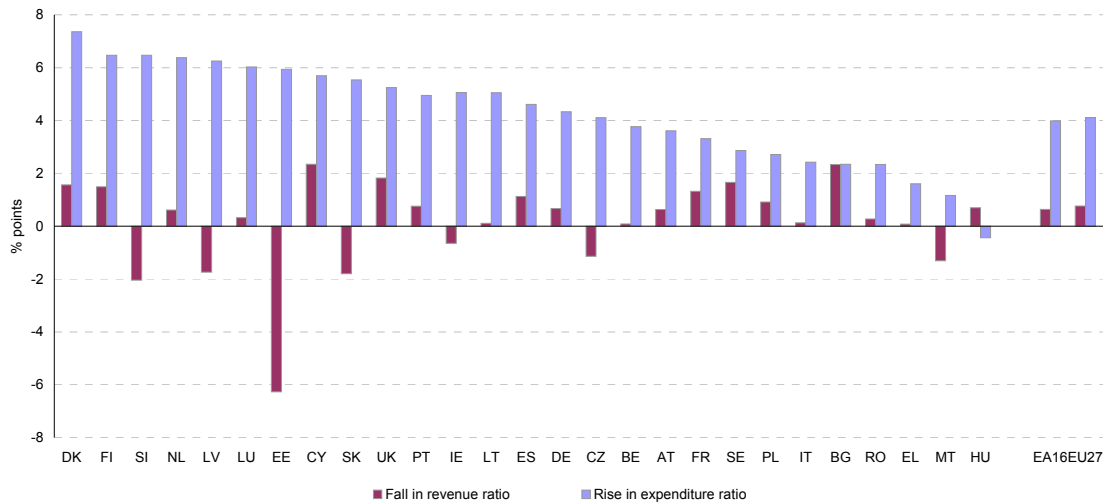
Secondly, the declining tax ratio mirrors a more than proportional fall in certain tax categories, particularly in property taxes, in response to the sharp drop in economic activity, thereby reversing the windfall revenues collected during the preceding boom years.

...but contained when compared to expenditure boost

In terms of its contribution to the change in budget balance, government revenue is however paled by expenditure (Graph 2.5).⁽¹³⁾ With the exception of Hungary, the expenditure ratio increased more or less sharply in all Member States, adding up to an increase of 4% of GDP for the EU as a whole. By contrast, the aggregate revenue ratio fell by a moderate 0.8% of GDP. There are marked differences at the country level, with some countries seeing relatively sharp drops (e.g. the Nordic Member States, Cyprus, UK, Spain, and Bulgaria), while seven countries (the Czech Republic, Estonia, Ireland, Latvia, Malta, Slovenia, Slovakia) even registered an increase compared to 2008 (as a share of GDP).

⁽¹³⁾ The graph is based on general government revenue, which is a broader measure than the overall tax and social contributions revenue usually utilised in this report. However, given that taxes and social contributions constitute the bulk of government revenue, the development of the two series is similar.

Graph 2.5: Contributions to changes in budget balances (2008-2010)



Note: The definition of the bars is such that a negative fall in the revenue ratio translates into an increase, while a negative rise in the expenditure ratio translates into a decrease.

Source: Commission services.

2.2. TAX COMPOSITION

By looking at the components of tax revenues, revenue systems across countries can be described in more detail. The composition can be considered in terms of the type of tax levied, i.e. indirect taxes, direct taxes and social security contributions (SSCs) (section 2.2.1), or in terms of a classification of taxes according to economic function, i.e. consumption taxes, taxes on labour and capital and environmental taxes (section 2.2.2).⁽¹⁴⁾

2.2.1. Decomposition by type of tax

The analysis of the 'tax mix', i.e. the composition of tax revenues, shows that the vast bulk of revenue raised in the EU - indeed more than 90 per cent - comes from three main sources: indirect taxes (VAT, taxes on consumption, production and imports, excise duties), direct taxes (current taxes

on income and wealth, capital taxes) and social security contributions (SSCs). When considering the evolution of tax revenues from these three broad categories, it is important to recall that tax revenues from different sources are differently affected by the business cycle. This complicates the interpretation of changes in the importance of these tax components over time. Direct taxes are most pro-cyclical because of the sensitivity of corporate taxes to the business cycle and because of the progressive nature of personal income tax (PIT) schemes. SSCs, which are closely related to the aggregate wage bill, tend to be less responsive to the cycle, reflecting caps on maximum contributions and the relative inertia of the wage bill. Therefore, the SSC-to-GDP ratio should display some degree of counter-cyclicity. Finally, indirect taxes theoretically evolve proportionally to output, i.e. the ratio to GDP should be relatively stable over the cycle.

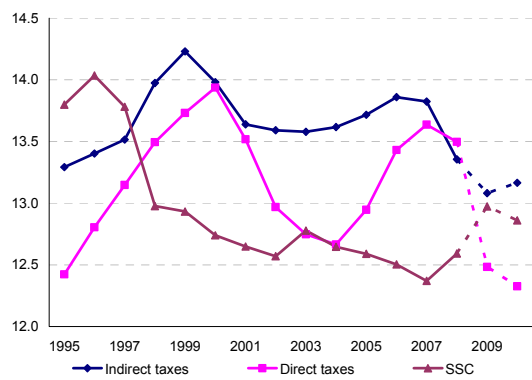
The crisis led to a strong decline in direct and indirect taxes

Graph 2.6 displays the evolution of tax revenues from indirect taxes, direct taxes and SSCs in the EU from 1995-2010. The significant fall in the ratio of indirect taxes to GDP since 2008 greatly exceeds its (moderate) previous increase until 2006/07, in sharp contrast to the symmetric pattern

⁽¹⁴⁾ There are, of course, potentially other ways to decompose tax revenues. The current decomposition follows the one applied in European Commission (2010a). 'Annex C: Methodology and explanatory notes' of that publication gives extensive details on the underlying methodology. The data may also be found in electronic format from the Eurostat web page and via the following link to the DG Taxation and Customs Union homepage: <http://ec.europa.eu/taxtrends>.

observed in the previous cycle. While this might point to negative confidence effects of the current crisis, leading to heightened precautionary saving, it also reflects discretionary tax cuts in some countries. With such measures partly expiring in 2010 and private consumption to recover slowly, the ratio is set to pick up again.

Graph 2.6: Indirect taxes, direct taxes and SSCs, % of GDP, EU27



Source: Commission services.

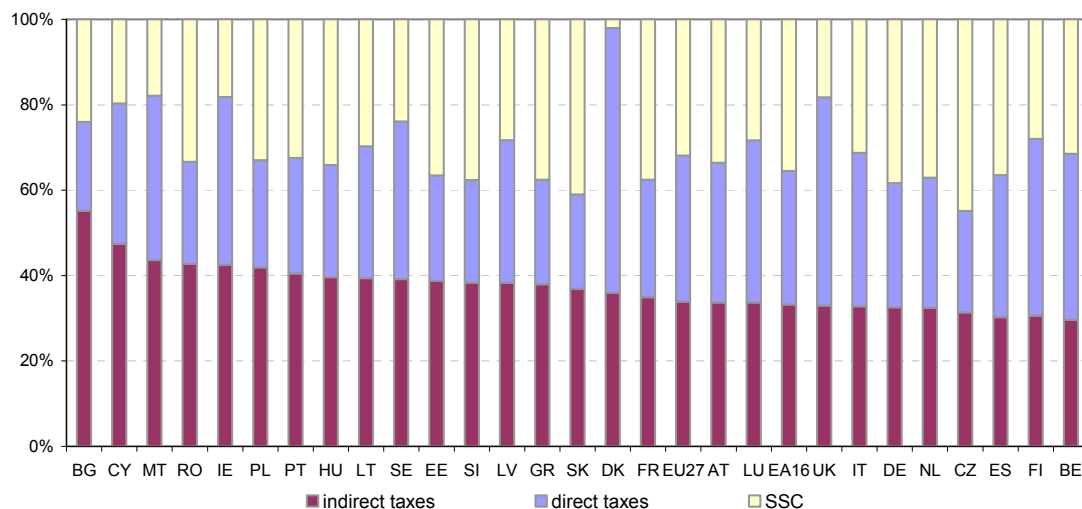
Direct taxes exhibit the expected pronounced cyclical pattern. While the fall in 2008 was still relatively contained, tax revenue from corporate and personal income taxes plunged in 2009 and is set to continue to fall this year.

Apart from a large fall in 1998, which mirrors significant reductions due to reforms in two big Member States (France and Italy), SSCs as a percentage of GDP evolve in a relatively stable manner over the sample period, displaying, as expected, a slight counter-cyclical pattern. After a gentle downward trend until 2007, which might reflect governments' efforts to reduce the tax burden on labour, the SSC-to-GDP ratio picked up markedly in 2008 and 2009. This can be explained by the schemes implemented in many countries to shield the labour market from the severe impact of the crisis on output, leading to a considerable degree of labour-hoarding, and thus robustness of the SSCs' tax base. Indeed, the losses in employment in 2009 were relatively moderate relative to those in output (-1.8% compared to -4.2%). However, given the usual time lag of employment changes with respect to changes in output⁽¹⁵⁾, the SSC-to-GDP ratio is projected to decline again in 2010.

Overall, it is difficult to detect clear-cut longer-term trends in tax composition at the EU level. Table A1.1 in Annex 1 provides a more detailed overview of the developments of indirect and direct taxes and SSCs since 2000, including a more detailed disaggregation of these tax categories.

⁽¹⁵⁾ For more information on the labour market outlook in the EU, see European Commission (2010c).

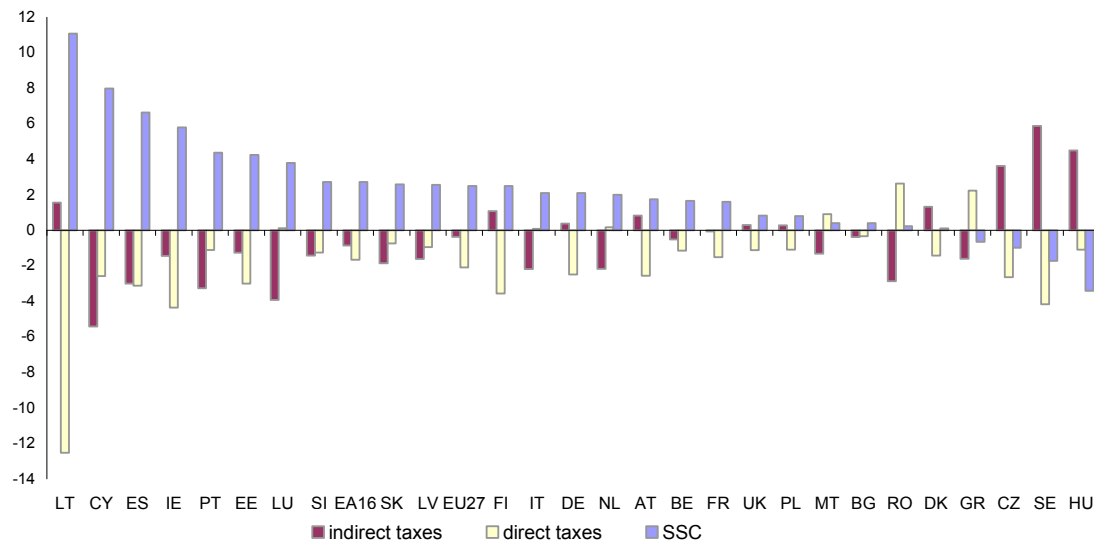
Graph 2.7: Tax composition in 2008, % of total taxes



Note: Countries ordered by the share of direct taxes.

Source: Commission services.

Graph 2.8: Changes in tax composition, % of total taxes, 2007-2010



Note: Countries ordered by the change in SSC.

Source: Commission services.

Large differences in tax composition across countries

There is substantial variation across Member States in the importance of indirect taxes, direct taxes and SSCs (Graph 2.7). In 2008, indirect taxes accounted for less than 30% in Belgium but for over 55% in Bulgaria. The share of direct taxes in total taxation varied from around 21% of total taxes collected in Bulgaria to over 62% in Denmark where the social security system is financed out of general tax revenues. Finally, SSCs represented only about 2% of total taxation in Denmark, and also played only a rather small role in Ireland, the UK, and Malta, but made up almost 45% of the total taxes in the Czech Republic.

Shift towards SSCs in the course of the crisis

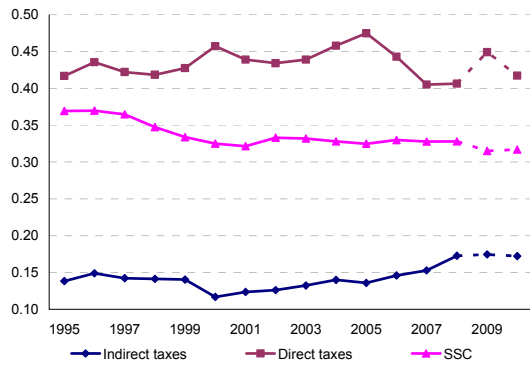
Graph 2.8 sheds some light on the effects of the crisis on tax composition across Member States. In line with the developments at aggregate level, there is a general tendency for a growing relative importance of SSCs at the expense of revenues from direct and indirect taxes. This pattern is particularly marked for countries with high structural adjustment needs following the crisis (Lithuania, Spain, Ireland, Portugal, but also Cyprus). At the other end of the scale is a group of

three countries (Sweden, Hungary, Czech Republic) where the tax composition shifted towards a higher contribution from indirect taxes during the crisis.

The dispersion across Member States of tax revenues from indirect and direct taxes and SSCs has remained relatively stable over the past one and a half decades (Graph 2.9). The dispersion of direct taxes is the highest. While some convergence took place in 2006 and 2007, the dispersion measure broadly returned to its average level during the crisis. The dispersion of SSCs appears to display a slight downward trend, although this decline had been levelling off prior to the crisis. The reduced dispersion of SSCs compared to 1995 might reflect some convergence in the financing of social protection across the EU. Some Member States that were traditionally relying mostly on SSCs to finance social spending have introduced several elements of tax financing and reduced SSCs. Indirect taxes (as a percentage of GDP) are the least dispersed in the EU, reflecting the comparably high level of harmonisation, e.g. in the form of minimum VAT rates. While the late 1990s saw some further convergence, revenues from indirect taxes have been slowly diverging again since 2000. Pointing to the impact of discretionary rate cuts in some

Member States as a response to the crisis, the level of dispersion increased further in 2008 and 2009, but is set to stabilise this year.

Graph 2.9: Tax dispersion (coefficient of variation) of indirect taxes, direct taxes and SSCs, EU27



Source: Commission services.

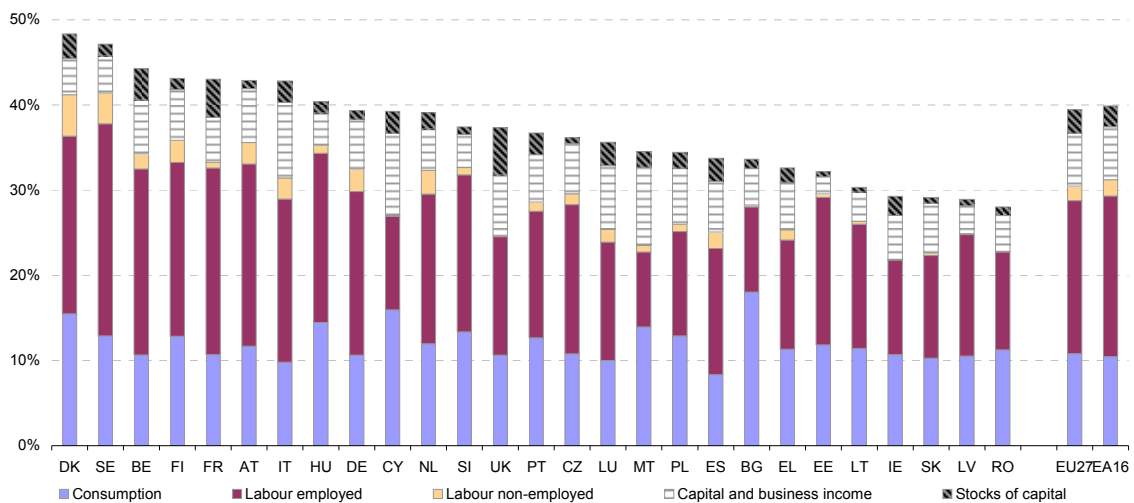
2.2.2. Decomposition by economic function

Graph 2.10 ranks Member States by overall tax burden and displays a breakdown of revenue by economic function - taxes on consumption, labour (employed and non-employed) and capital (capital and business income and stocks) - for the year

2008. ⁽¹⁶⁾ The graph shows quite a lot of variation both in terms of the overall level and in its composition. In particular, despite the fact that the most important indirect taxes are harmonised at EU level, there is substantial variation, even in the amount of revenues raised from consumption taxes. This is due to the fact that harmonisation usually does not directly translate into the setting of actual tax rates (e.g. equalising them), but that structures and minimum requirements are harmonised (e.g. minimum excise duties on mineral oils). Greater variation is visible in revenues from capital and business income, while some smaller revenue sources, such as taxation of stocks of capital/wealth and taxation of non-employed labour (essentially pensions and social security benefits) range from the significant to the negligible. This primarily reflects the choice made in the different Member States to provide social benefits and pensions either on a gross or a net basis. Overall, the taxes levied on (employed) labour income, which are usually withheld at source (i.e. personal income tax levied on wages and salaries income plus social contributions), represent the most prominent source of revenue, contributing around 50% to overall receipts on average in the EU, followed by consumption at over one fourth and capital at over one fifth.

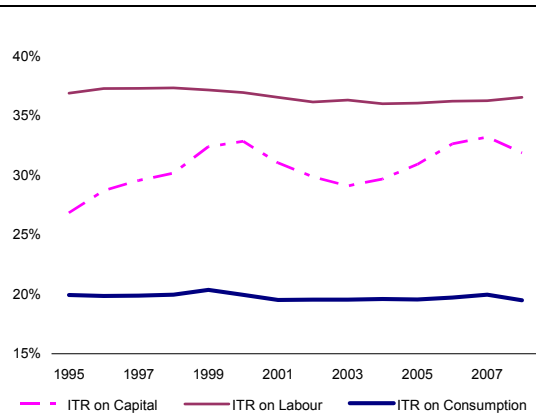
⁽¹⁶⁾ For a discussion of the tax burden by economic function see also De Laet and Woehlbier (2008).

Graph 2.10: Total tax burden according to economic function 2008, in % of GDP



Source: Commission services.

Graph 2.11: Development of implicit tax rates EU25 average, 1995-2008, in%



Source: Commission services.

The distribution of the overall tax burden by economic function has undergone some important changes since 2001 (see Table A1.1 in Annex 1), and the pattern is rather mixed across Member States. Overall in the EU, taxes on capital as a percentage of GDP decreased between 2001 and 2003, before progressively rising to 9.4% by 2007. In 2008, the ratio went down to 9.0%. However, this masks diverging developments in Member States. While almost all Member States (the exceptions being Hungary, Malta and Sweden) cut top corporate tax rates, some, such as Malta and Cyprus, envisaged a considerable increase in capital taxes compared to 2001. Compared to 2001, the contribution of labour and consumption taxes in the total has slightly declined; labour taxes as a percentage of GDP have increased in eleven Member States, while in the remaining 16 Member States they contributed to the reduction in overall taxation. Despite significant changes in many Member States, labour taxes as a percentage of GDP are, on average, only slightly below their 2001 levels. The same is true for consumption taxes. The biggest increase in consumption taxes occurred in the new Member States, where adjustments to EU requirements in these fields, such as the minimum tax rate on energy products, had to be made.

Graph 2.11 displays the evolution of the three main implicit tax rates (ITR) ⁽¹⁷⁾ on consumption,

⁽¹⁷⁾ The implicit tax rates try to estimate the real tax burden. They are computed as the ratio of total tax revenues of the category (consumption, labour, and capital) to a proxy of the corresponding tax base.

labour and capital between 1995 and 2008. These ITRs are here juxtaposed to highlight four main facts: first, implicit tax rates on labour remain above those for capital and consumption; second, after a declining trend, labour taxation stabilised from 2004 onwards; third, effective taxation of capital had been on the increase till 2007 despite considerable cuts in the top corporate tax rates, most likely indicating a base broadening; finally, from 2001 on consumption taxation had been trending upwards slowly, before falling slightly in 2008.

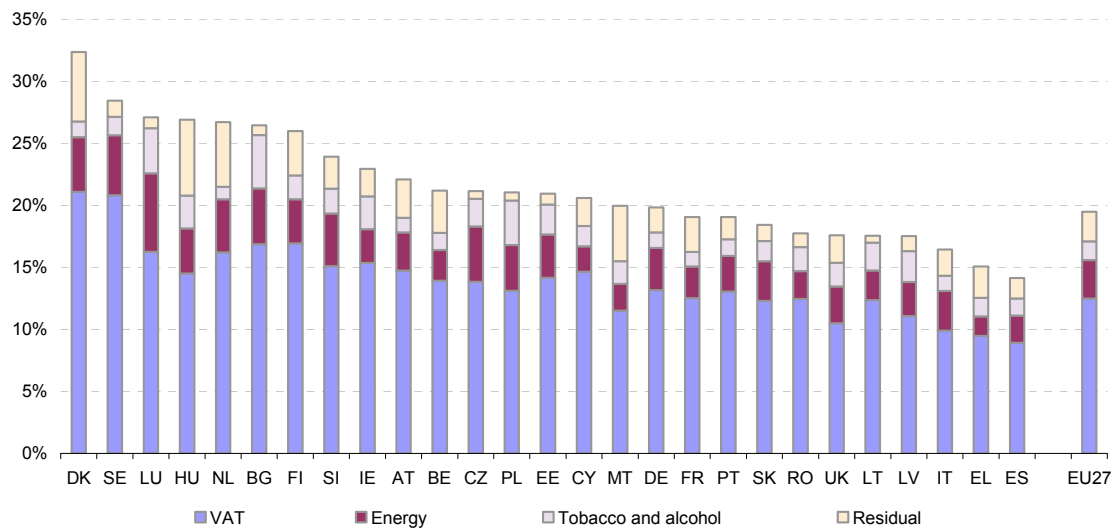
Consumption taxes

The economic and financial crisis has interrupted the broad trend towards higher consumption taxation that prevailed in a large number of Member States. The EU27 average ITR on consumption decreased by 0.5 percentage points from 2007 to 2008 to 19.5%. While final expenditure of households in the EU increased by 1.2% from 2007 to 2008, the revenues of consumption taxes decreased by 1.3%. In 2008, the ITR decreased in 22 EU Member States (see Table A1.2 in Annex 1). Some countries experienced particularly large decreases in their ITR in 2008: Estonia (-2.9 percentage points) and Ireland (-2.7 percentage points). The lowest ITR on consumption throughout the whole Union is observed for Spain (14.1%) followed by Greece (15.1%), Italy (16.4%), Latvia and Lithuania (both 17.5%). Among the countries with high consumption taxes, Denmark stands out with 32.4%, four percentage points above the second Member State, Sweden, followed by Luxembourg, Hungary and the Netherlands.

The aggregate level of the ITR on consumption combines a number of taxes, which are different in nature and justification. Thus, a certain level of disaggregation is needed to highlight different components of the ITR on consumption and their share in the composition of the aggregate. The approach taken in this report has been to classify consumption taxes into three main sub-components: VAT, energy and excise duties on tobacco and alcohol, plus a residual ⁽¹⁸⁾ (see Graph 2.12). Not surprisingly, the VAT component is the

⁽¹⁸⁾ The residual covers items such as additional duties on pollution or transport, local taxes on company sales, etc. Its composition is largely country specific.

Graph 2.12: Decomposition of the implicit tax rate on consumption, 2008



Note: The ITR on consumption is the ratio between the revenue from all consumption taxes and the final consumption expenditure of households. Italian data on tobacco and alcohol include revenue from stamp duties.
Source: Commission services.

largest. Nevertheless, the non-VAT component of the ITR is far from negligible in all Member States.

Labour taxes

The tax burden on labour in the European Union started to grow strongly in the early 1970s, decelerating only slightly in the 1980s and the first half of the 1990s. The weighted EU15 average for the implicit tax rate on employed labour (ITR on labour) increased from about 28% (1970) to almost 42% (1997).⁽¹⁹⁾ Starting from the late 1990s, concerns about excessive labour costs prompted initiatives to lower the tax burden on labour income, in order to boost demand for labour and foster work incentives. Some Member States opted for across the board cuts in taxes or social contributions, while others focused on targeted reductions in social contributions for low-wage and unskilled workers. These cuts in social contributions were mostly aimed at granting relief to employers, although some countries have also implemented substantial cuts in employees' social contributions. Reforms of personal income taxes have varied, including lowering tax rates, raising

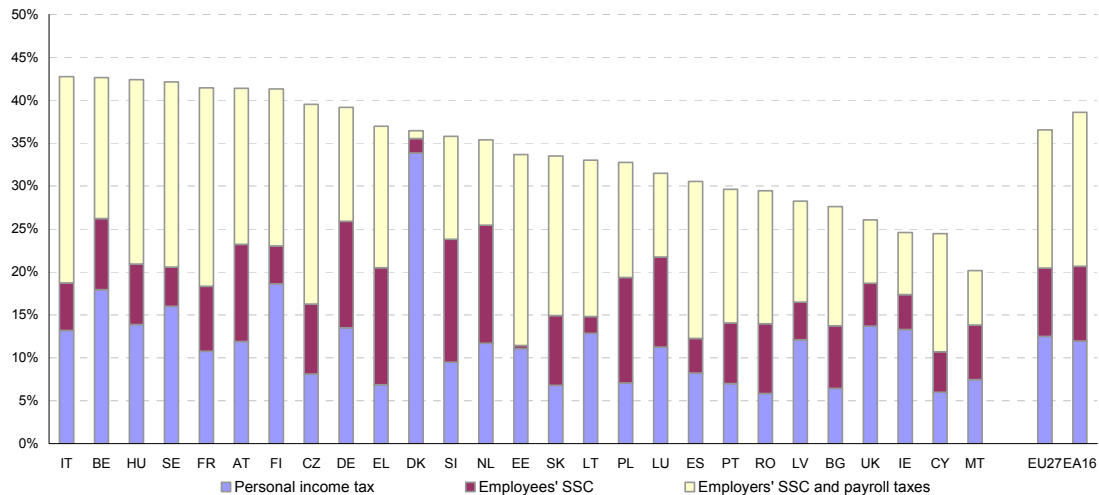
the minimum level of the tax exempt income or introducing specific deductions, allowances or credits for low-income workers. In 2008, the EU27 average regained its 2001 level, at 36.5%. Seven Member States have ITRs on labour below the 30% mark and seven are above the 40% threshold (see Table A1.2 in Annex 1).

The pattern of the changes over the period 2000–2008 is quite diverse across Member States. In general, the ten Central and Eastern European Member States that acceded to the EU in 2004 and 2007 show a much stronger decline than the arithmetic EU27 average over this time period: the average in these Member States went down by about 4.4 percentage points since 2000, while the arithmetic EU27 average decreased by only 1.6 percentage points.⁽²⁰⁾

⁽²⁰⁾ The tax burden on labour is essentially composed of personal income taxes and social security contributions. In most Member States the personal income tax contains several rates. However, a description of the entire rate structure goes beyond the scope of this report. The interested reader can find a complete description of the rate system and the brackets in force in the Member States in the 'Taxes in Europe' database on the EU website at the following url: <http://ec.europa.eu/tedb>. The database is accessible free of charge and updated annually. Table A.1.3 in Annex 1 contains the top PIT rates (including surcharges and local taxes) for the EU Member States.

⁽¹⁹⁾ See European Commission (2000). Data for the 1995–2007 period is based on ESA95 and not fully comparable with previous ESA79 data.

Graph 2.13: Decomposition of the implicit tax rate on labour, 2008



Note: The ITR on labour is calculated as the ratio of taxes and SSC on employed labour income to total compensation of employees.

Source: Commission services.

On average, nearly two thirds of the overall ITR on labour consists of non-wage labour costs paid by both employees and employers (see Graph 2.13). Only Denmark, Ireland and the United Kingdom have a share of personal income taxes in the total charges paid on labour income of more than 50%. In Denmark, the share of social contributions in government receipts is very low, as most welfare spending is financed by general taxation.⁽²¹⁾ As a result, Denmark has only the 11th highest ITR on labour in the EU, while the ratio of PIT (as a percentage of total labour costs) is, at around 36% in 2008, by far the highest of all Member States. In some of the Member States, namely Romania, Greece and Slovakia, less than 20% of the ITR on labour consists of personal income tax.

Taxes on capital

In recent years, growing policy attention has been paid to the taxation of capital⁽²²⁾ and in particular

to the level of corporate income taxation. At 9.0% of GDP on average for the EU, taxes on capital can be split up into those on corporate income (3.1%), capital income of self-employed (2.0%), households (1.0%) and the stock of capital (wealth) (2.8%). Corporate income tax, although usually considered the main tax on capital, is not a major source of revenue in any of the Member States. In 2008, it was less than 4% of GDP in all countries but four: Cyprus (7.1%), Malta (6.8%), Luxembourg (5.1%), and Czech Republic (4.4%). Compared to 2007, the EU-average decreased by 0.3 percentage points, partly attributable to the deterioration of the economic situation in 2008. After the inclusion of all other capital taxes, the revenue from overall capital taxation reaches more than 10% of GDP in some Member States.

In the European Union, countries moved towards lowering CIT rates and in one case (Estonia) even abolished the tax on retained earnings altogether. Taking local taxes and surcharges into account, the

⁽²¹⁾ A large part of employees' social contributions in Denmark comes from an 8% contribution paid on the basis of employees' gross earnings. Some studies classify this revenue as a SSC, while others report it as a separate type of personal income tax.

⁽²²⁾ Taxes on capital are a complex class that includes a variety of taxes paid both by enterprises and households: stamp taxes, taxes on financial and capital transaction; car registration taxes paid by enterprises; taxes on land and buildings; the part of personal income paid on earnings from capital, taxes paid on income or profits of corporations and taxation of capital transfer such as

inheritance taxes. It should be noted that under the definition used in this report, taxes raised on self-employment income are booked as taxes on capital, although *stricto sensu* earnings from self-employment include a return to labour as well as to capital. Given this complexity, one should be cautious in interpreting the available figures as the concept covers many sources of revenues that are of a different nature, and are earned by different recipients.

(arithmetic) average of the general corporate tax rate in the EU27 was reduced by 12.1 percentage points in the period 1995 to 2010 (see Table A1.3 in Annex 1). This reduction is, however, not a new phenomenon, as cuts in corporate tax rates started as early as in the 1980s. ⁽²³⁾ This policy was usually part of a tax-cut-cum-base-widening strategy. For example, the scope and scale of deductions and exemptions were reduced. Many Member States in recent years indeed enlarged the corporate tax base via less generous depreciation rules and deductions. This trend was also partly due to the Code of Conduct for business taxation (which has played a role in limiting preferential tax regimes) and to the necessity to conform to EU rules limiting state aid to enterprises (as some state aid is in the form of tax breaks).

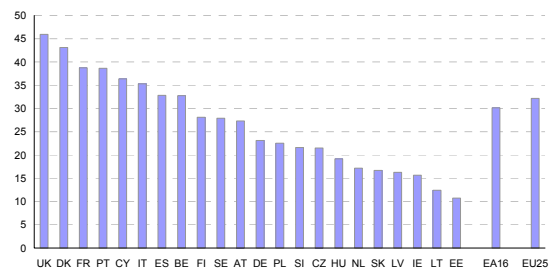
The ITR on capital for the EU27 increased dramatically between 1995 and 2001, before showing a three-year decrease and a new rise since 2003. From 2007 to 2008, the indicator declined again (see Graph 2.11). Interestingly, this evolution corresponds closely to the one of the business cycle. ⁽²⁴⁾ Comparing 2000 and 2008, the overall ITR on capital decreased in six Member States: Sweden (-15.3 percentage points), Finland (-7.9 percentage points), Slovakia (-6.2 percentage points), Germany (-5.3 percentage points), the Netherlands (-3.7 percentage points), and Austria (-0.3 percentage points). The ITR on capital rose ⁽²⁵⁾ in all other countries, with some very large increases recorded for example in Cyprus (12.9 percentage points) and Denmark (7.1 percentage points) (see Table A1.2 in Annex 1).

⁽²³⁾ A similar trend towards lower statutory corporate tax rates also occurred — albeit less dramatically — in many third countries.

⁽²⁴⁾ The computation of the entire time series 1995–2008 for the ITR on capital is possible only for nine of the NMS-12, namely the Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Poland, Slovenia and Slovakia. Partial data are available for Bulgaria.

⁽²⁵⁾ A more pronounced increase could be observed for the overall indicator when using a simplified denominator referring to the net operating surplus of the whole economy. Carey and Rabesona (2002) who used a similar (biased) denominator also reported increases in the implicit tax rate on capital. Factors, which could affect/bias comparisons between Member States, are described in European Commission (2010a, Annex B, Part D). Their importance differs between Member States according — for instance — to a different share of financial companies making capital gains. Data limitations prevent the computation of the ITRs for Luxembourg, Malta and Romania.

Graph 2.14: Implicit tax rate on capital, 2008



Note: The ITR on capital is the ratio between taxes on capital and the aggregate capital and savings income. 2008 data for the ITR on capital is not available for BG, EL, LU, MT and RO.

Source: Commission services.

In terms of levels, in 2008 the UK tops the ranking with an ITR on capital of 45.9%. ⁽²⁶⁾ The values for Denmark, France, Portugal, Cyprus and Italy are above 35%. At the other extreme of the scale, Estonia at 10.7%, Lithuania at 12.4% and Ireland at 15.7% display very low levels of ITR on capital (see Graph 2.14).

Environmental Taxes

The introduction of environmental tax reforms gained increasing support during the 1990s as part of the endeavour to shift the tax burden from labour towards the use of natural resources and environmentally harmful goods and activities. Among others, Denmark, Finland, Germany, the Netherlands, Sweden, the United Kingdom, Estonia and Czech Republic have increased environmentally-related taxes and used additional tax revenues to finance tax cuts on labour or personal income, with the intention to boost employment.

However, despite their increasing importance in the policy debate environmental tax revenues have not been growing in recent years in the EU on average. In 2008, revenues from environmental taxes in the EU27 accounted for 2.4% of GDP and for 6.1% of total revenues. Compared to 1999, when environmental taxes reached their peak level of 2.9% in relation to GDP and 7.0% out of total

⁽²⁶⁾ The ITR on capital is biased upwards in the case of the UK compared to other EU countries because the ITR base does not capture the full extent of the taxable profits of financial companies. Also, the UK figures allocate tax on all occupational and private pension benefits to capital income whereas for most other MS occupational pension benefits are allocated to transfer income of the non-employed.

taxation, the fall is quite significant. This development measured at the weighted EU average level hides, however, substantial differences between the Member States. In fact, since 1995 the share of environmental taxation out of total taxation has increased in a number of Member States (Denmark, Estonia, Latvia, Netherlands, Austria, Poland and Slovakia), but remained stagnant or decreased in the others. Many big Member States figure in the last group, which explains the falling trend of the EU weighted average. In the new Member States, the increase has been largely driven by the EU accession process, although some of these countries used the occasion to increase energy tax levels beyond the strict requirement of the EU provisions. Also in some old Member States environmental taxes have been increased recurrently, often as a part of broader fiscal reforms.

Several factors could explain the fall of environmental tax revenues in relation to GDP. First, as many environmental taxes are levied per unit of physical consumption (unit taxes) and are usually fixed in nominal terms, their real value in relation to GDP tends to fall when they are not adjusted for inflation (so far only Denmark and Sweden use this option). Second, also as a result of the heightened importance given to energy efficiency, energy demand has a tendency to grow more slowly than income. Third, increasing energy taxes may have reduced energy consumption and thus eroded the tax base of energy taxation. The growing popularity of non-fiscal instruments such as emissions trading and high world prices for oil in the early 2000s might also have led to a reduced appetite for additional environmental taxation, at

least as far as energy is concerned.

A high ratio of environmental tax revenue to total taxation as such does not necessarily represent an indication of a high priority being attributed to environmental protection because it says nothing about the achievement of environmental policy goals. This suggests using an implicit tax rate for environmental taxes. An ITR focusing only on energy products has been constructed, measuring energy tax revenues in relation to their base. ⁽²⁷⁾

Table A1.3 in Annex 1 shows the amount of energy tax, in euro, levied per unit of final energy consumption. In recent years, Denmark displays the highest ratio by a wide margin, followed by Italy, the Netherlands, the United Kingdom and Sweden. Generally, the new Member States display markedly lower levels of taxation. However, all of the Member States in this group have been increasing energy taxes significantly. To abstract from tax increases due to inflation, a 'real' ITR on energy has been calculated. This adjustment shows that in real terms, taxation on energy has been trending downward, on average, since 1999, and that the fall has been sharpest in the more recent period. Overall, the average EU27 real ITR on energy in 2008 was clearly at the lowest level since 1995. Concerning individual countries, one can observe that the real burden of taxation on energy has been declining significantly in several old Member States (Denmark, Italy, Spain, United Kingdom), offsetting increases in most new Member States and the majority of old Member States (most significantly in the Netherlands, Ireland, Luxembourg, Austria, and Sweden) (see Table A1.4 in Annex 1).

⁽²⁷⁾ Note that the ITR on energy treats equally all kinds of energy consumption, regardless of their environmental impact; an energy unit produced from hydroelectric power has the same weight as a unit produced from coal. In many countries, however, renewable energy sources are subject to lower tax rates or altogether exempted. Paradoxically, a country with a large share of renewable energy will have a lower ITR on energy than a country, which relies largely on carbon-based energy sources.

3. RECENT REFORMS OF TAX SYSTEMS IN THE EU

3.1. GENERAL DEVELOPMENTS

Tax reforms implemented in the past two years have to be assessed against the background of the financial and economic crisis and the need for governments to provide an adequate policy response. Member States have been hit differently by the crisis depending on the sector composition and the degree of macroeconomic imbalances prevailing in the economy. In addition, fiscal room to manoeuvre at the outset of the crisis differed substantially between Member States, with some benefiting from robust budgetary positions and an absence of macro-economic imbalances and others being in a vulnerable state due to high public deficits and/or marked macro-economic imbalances. Policy responses therefore varied markedly between Member States, mirroring the evolution of macro-economic and fiscal conditions.

In the aggregate, discretionary budgetary measures necessary to support the ailing financial sector and to temporarily bolster aggregate demand clearly dominated the later part of 2008 and 2009. This resulted from sizeable expansionary measures in a vast majority of Member States, in line with the European Economic Recovery Programme, only partly offset by the implementation of deficit-reducing measures in a few countries where this was imposed by the fragility of the budgetary situation (e.g. Ireland, the Baltic States, Greece and Hungary). Fiscal policy continued to be expansionary in 2010, though this was clearly less pronounced than in the year before, with those Member States that entered the crisis with relatively healthy public finances contributing most to the stimulus (i.e. Germany, Austria, the Nordic Member States and the Czech Republic). At the same time, amid growing sustainability concerns, a number of Member States with rapidly deteriorating public finances started to reverse the stimulus of the previous year. Ultimately, the use of expansionary and consolidating measures over the period 2008-2010 has therefore been determined by the magnitude of the drop in output and employment, on the one hand, and the need to ensure the sustainability of public finances, on the other.

The revenue side contributed by more than one half to the overall stimulus from discretionary policies, with tax measures making up the lion's share. The impulse provided by discretionary tax measures has to be added to the significant stimulus stemming from the automatic deterioration of government revenues as a consequence of the drop in output growth. Abstracting from measures that consisted of a pure time shift of tax payments or refunds (e.g. deferral of income tax payments, acceleration of VAT refunds) a major part of the tax measures was implemented on a permanent basis. In addition to the introduction of changes in the tax code, discretionary changes were also implemented by postponing or revising reforms that had already passed legislation in previous years. Finally, governments have also used recent reforms as an opportunity to carry out much needed 'maintenance' of the tax system, e.g. by trimming some tax breaks at the same time as they introduced new incentives.

The question arises as to whether these measures, which were mainly induced by the urgent need to provide a policy response to the crisis, constituted a break with the general trends in tax reforms in the recent past and/or deviated from acquired principles regarding the desired quality of tax reforms. In considering recently implemented reforms, it is therefore important to assess whether they measure up to general tax policy goals or, more specifically, whether the reform steps bring the overall tax system closer to the benchmark of an "optimal" revenue system. Such a system should fulfil several conditions. First, it should be efficient. An efficient tax-benefit system ensures growth, moves the economy towards a desired distribution of income, and raises the necessary public funds for spending on publicly provided goods with minimal distortions. This includes the avoidance of excessive negative incentive effects for employment, investment, and innovation, as well as proper internalisation of social costs and benefits of activities that generate positive or negative externalities, such as research and development, human capital formation or polluting activities. It also encompasses dynamic efficiency, i.e. the avoidance of negative effects on investment, innovation and growth. Second, an

optimal tax system should be fair, as it aims at being accepted by citizens and moving the economy towards a desired distribution of income or other equity goals. Third, an optimal tax system should be simple and transparent. Fourth, it should minimise incentives and opportunities for tax avoidance, evasion and fraud. Finally, it should have low administrative demands and low compliance costs.

Theoretical and empirical evidence suggests that the distortionary effects introduced by taxation can act as a constraint to growth. As argued in more detail in Chapter 5, personal and in particular corporate income taxes, through their negative allocation effects, are the most detrimental in this respect. On the other hand, there is wide consensus that property and consumption taxes (including environmentally related taxes) are the least detrimental to growth. Against this background, there has been a general tendency over the last few years to shift taxation from labour and capital towards the taxation of consumption.

3.2. SELECTED TAX REFORMS

Table 3.1 provides a breakdown of recent tax measures by type of measure. It distinguishes between reforms changing the tax rate and those

acting on the tax base (incl. special regimes), in one dimension, and the type of tax, i.e. corporate income taxes, personal income taxes, social security contributions, value added taxes and excise duties, in the other. Altogether, amendments to direct taxation schemes have been broadly in line with the recent trends observed in the European Union in attempting to reduce the tax burden on labour and capital. Overall, this is indicative of a continued common strategy of Member States towards reducing the fiscal burden in order to foster labour supply and labour demand incentives, and increase participation and employment. Such policies have become particularly important in the course of the recession in order to counteract the negative repercussions of product market developments on labour market conditions. Section 3.3 below provides a more detailed analysis of the impact of recent tax and benefit reforms on labour supply and demand.

Similar to developments in personal income taxation, several Member States also reduced corporate income tax rates to some extent, thereby continuing the process of steady downward convergence in tax rates on corporations over past years in the European Union. This possibly reflects increasing pressures from fiscal competition, particularly from the recently acceded Member

Table 3.1: Recent tax measures by type.

	Statutory rate	Base or special regimes
Corporate Income Taxation		
Increase	LT, HU, PT	BE, BG, IE, EL (2009-13), IT, LT (2009-11), HU
Decrease	CZ, EL (2010-2014), HU, LU, SI, SE, LT	AT, BE (2010-11), DE, ES (2009-11), IT, CY, LT, NL, PT, PL, RO, SE, SK, UK (2009-11)
Personal Income Taxation		
Increase	EL, IE, FR, LV, PT, SI, UK	DK, EE, EL, ES, IE, HU, LV, LT, PT
Decrease	AT, DE, DK, FR, FI, HU, LV, LT, RO	AT, BE, BG, DE, DK, ES (2008), FI, HU, MT, IE, IT, LV, LU, NL, PL, PT, RO, SK, SI, SE
Social Security Contributions		
Increase	CY, EE, HU, PT, RO, SK, FI	BG, CZ, EE, LV, LT
Decrease	BG, CZ, HU, RO, SE	FI
Value Added Tax		
Increase	CZ, EL, ES, EE, HU, LV, LT, FI	EE, LV, LT
Decrease	IE, FI, UK (12.2008-09)	BE, DE, CY, FR, LT, MT, HU, NL, RO, SI, FI
Excise Duties		
Increase	BG, DK, EE, EL, ES, IE, HU, LV, LT, PT, PL, RO, SI, FI	DK, FI, EL, LV
Decrease	IT, LT (2009-11), PL, SK	BG

Source: Based on European Commission (2010a).

States. Given the sensitivity of capital flows to tax rates, the fiscal burden on mobile tax bases might have been constantly reduced in order to prevent relocation of physical capital and book profits.

Against this background, the quest for higher revenues in order to curb budget deficits has typically resulted in increases in indirect taxation. The fiscal burden on consumption has been increased through hikes in VAT and excise rates as well as the introduction of base broadening measures. In addition, Member States' governments have increasingly tried to resort to alternative sources of financing, such as environmental taxation. This policy stance has often been part of more comprehensive strategies, endorsed also by actions taken at the EU level, aimed at promoting economic and environmental objectives in order to put national economies on a sustainable long run growth path. As developed in chapter 2, this strategy has not always been successful when it comes to additional revenue collection.

Among the measures introduced to boost aggregate demand, there has been a widespread use of provisions to directly support disposable income. Reductions in the rates applicable to the lower personal income brackets and increases in allowances have both been used as instruments to protect the purchasing power of low-income households. In some cases, in accordance with the redistributive goals of taxation and the need for an equitable distribution of the fiscal burden, these measures have been accompanied by the introduction of higher rates on high-income earners (for instance, in Greece and Ireland), with the combined effect of increasing progressivity. Special levies have also been imposed on certain income sources, such as bonuses granted by banks and financial institutions (in France, Greece, the UK and – at the corporate level – in Portugal), which would serve the additional purpose of reducing rewards for short term risk-taking behaviour in the financial sector (see Chapter 4 for a wider discussion of these issues). A few countries characterised by a high tax burden on physical persons (Finland, Denmark, and Austria) have implemented generalised reductions in rates. In a few cases where governments were left with extremely limited room for fiscal manoeuvre, rates on personal income were instead increased, reversing previous reductions (Latvia).

Direct support to low-income earners and other social strata that have been hit harder by the economic crisis appears particularly important – both for equity considerations and for the economic effect on private consumption – in the light of the shift towards indirect taxation put in place in several Member States. Generalised increases in VAT rates have been introduced in Greece, Hungary, Latvia, Lithuania, Portugal and Spain, often together with base broadening measures such as narrowing the scope for application of the reduced rates. Reductions in rates to boost consumption have been extremely rare – typically only temporary (in the UK) or targeted at specific sectors (in Belgium and France). Amendments in the area of excise duties have in general mirrored the changes in VAT. Thus, rates have been commonly increased and, in some cases, previously exempted products have been included in the excisable base.

A number of measures have been taken also in the area of environmental taxation, ranging from the introduction of carbon taxes (in Ireland) to levies on motor vehicles determined on the basis of their environmental impact (for instance in Greece, the Netherlands, Latvia). Higher revenues have also been sought from property taxation in some Member States, for instance reducing exemption thresholds for the real estate tax (in Bulgaria) or introducing progressive taxation schemes to replace flat rate systems (Greece and Latvia).

The interventions to reduce the corporate income tax rate (for instance in the Czech Republic, Greece, Luxembourg and Sweden) are presumably to be ascribed to the already long-standing policy towards taxation of mobile bases in Europe, particularly as in some cases they were not linked to the cyclical development but had been introduced in the context of previous reforms. In fact, these measures would have no significant effect on the corporate sector in the presence of losses during the downturn. Measures to directly support the supply side focused on the reduction of the corporate tax base, by introducing new deductions.⁽²⁸⁾ Similar measures were aimed at fostering investment capacity in the short run

⁽²⁸⁾ For instance, in Italy part of the IRAP (a regional tax on productive activities) payments became deductible from the base.

Box 3.1: Recent tax reforms in Member States

Number and scope of measures ⁽¹⁾

Member States differed in the degree of reliance on automatic stabilisers and on the number and scope of discretionary tax measures. Generally, however, governments have followed an activist stance: The detailed list of measures by Member State in European Commission (2010a) shows that an average of ten important tax policy measures has been taken per Member State since the end of 2008, with those Member States that have been strongest affected by the crisis tending to approve a higher number of measures;

Size of the budgetary impact

The majority of the measures adopted has had an estimated budgetary impact of well below a half point of GDP.⁽²⁾ However, several measures, typically those involving adjustments in the tax rate, amount to nearly one percent point of GDP or, in a few cases, even more. Reforms of the VAT, the PIT or the reforms of social security, as well as some excise rate increases, have often involved large amounts.

Tax increases vs. tax cuts

Within all main tax categories, both tax increases and tax cuts have been introduced over the past two years, often in the same country and sometimes even within the same tax. As already mentioned, this partly reflects the fact that in the initial phases of the crisis, a greater emphasis was put on supporting economic activity, while in a later phase the emphasis moved towards consolidation.

Choice between general rate cuts and specific tax breaks

Changes in the statutory tax rate, given their high visibility and the fact that they affect a greater number of taxpayers, should normally have a stronger impact on agents' expectations, but typically cost more (in budgetary terms, in the case of a rate cut, and in political terms, in the case of a rate increase) than measures aiming at the tax base such as the introduction of exemptions or allowances. In addition, focusing on the tax base usually allows targeting the impact to a specific group of taxpayers. Hence, it is not surprising that measures affecting the tax base have been adopted more frequently than changes in the tax rate. Furthermore, base-narrowing measures have been most common for PIT and CIT, because the structure of these taxes lends itself to this and also because Member States have more latitude in direct taxes than in partly harmonised EU taxes such as VAT or excise duties. Finally, many EU governments have introduced preferential tax regimes, including the introduction of special low rates on certain activities.⁽³⁾

Qualitative composition of measures

Cuts dominate in corporate and personal income taxation, while increases were clearly prevalent in excise duties and VAT. In particular, several countries chose to cut the corporate income tax rate. While during a deep recession, this will not give an immediate benefit for the many loss-making companies, the choice seems primarily linked with the wish to give a political signal on the long-term attractiveness of the country to investors. There was also considerable activity on the corporate income tax base and on special tax regimes: many Member States attempted to support business investment through measures such as more generous depreciation allowances or investment tax credits; in a few cases, the cuts were targeted towards SMEs. Several Member States have opted for granting these incentives for a limited period of time only, in order to give an immediate boost to capital spending.

⁽¹⁾ The box is based on European Commission (2010a).

⁽²⁾ The more detailed listing by country in European Commission (2010a) provides an approximate quantification of the budgetary impact of the measures, where available.

⁽³⁾ This is classified as measures narrowing the tax base in Table 3.1.

(Continued on the next page)

Box (continued)

As for the personal income tax, one of the most common types of measure was the direct support of household spending power by reductions in the PIT. This happened more often through increases in allowances than cuts in rates, presumably also because an increase in allowances can be expected to more directly boost private consumption given its proportionally higher impact on lower-income households. In a few cases, PIT rates were increased, but this was typically limited to higher incomes. Some countries suffering from particularly pronounced drops in GDP decided to defer previously decided PIT rate cuts.

Despite the general strive to maintain or increase the employability of workers, relatively few measures were adopted in the field of social security contributions. Furthermore, a majority of them involves hike. However, the net effect of this on the cost of labour appears unclear, as several countries have raised basic allowances or taken other measures reducing the tax burden on the low paid.

In the case of VAT, the situation is not clear-cut showing a predominance of rate increases but also a high number of measures narrowing the base. Base narrowing was in many cases linked to equity considerations, as some countries reduced the tax burden on food or necessities. Generally, however, the measures increasing the standard VAT rates have had a much larger (positive) budgetary impact than the base narrowing measures. Overall, given also the widespread increases in excise duties, one of the effects of the crisis on tax systems seems to be a reinforcement of the trend of the last few years towards higher consumption taxes.

Tax fairness

Several countries have introduced measures to safeguard lower incomes, usually by raising allowances or, in a few cases, by raising the top PIT rate. This seems to point towards some increase in progressivity in the coming years. Furthermore, as mentioned above, several countries have striven to shield expenditure on food or other essentials from tax increases.

Temporary vs. permanent measures

The depth and severity of the crisis has induced several governments to introduce measures with an explicit end date, in order to encourage spending by consumers and businesses in the short term. A prominent example is the temporary VAT reduction to boost consumer spending in the UK, but several other countries utilised temporary measures, typically to encourage investment in the construction sector or to strengthen the structural competitiveness of firms.

Sectoral schemes

A wide variety of measures targeting individual sectors has been introduced. In particular, several Member States tried to dampen the slump in the housing sector by granting tax reductions of various kinds; several countries took measures to support the labour-intensive restaurant or tourism sector, notably by VAT rate cuts; others adopted measures aimed at supporting stock prices or reducing inheritance taxes.

through the introduction of accelerated depreciation rules and investment tax credits. In a few cases, special provisions were targeted towards SMEs and towards R&D outlays.

On the other hand, several Member States introduced measures to improve tax collection, stepped up efforts to fight tax evasion and implemented other revenue-raising measures, partly to mitigate the impact of narrowed corporate

tax bases. Box 3.1 provides a synoptic overview of recent reforms in Member States along several dimensions.

Although a shift towards consumption taxation appears more desirable than the use of income taxes (see Section 5.3) from a point of view of the potential effects on growth, the widespread increase in VAT rates might potentially lead to distortions of trade flows and the allocation of

capital. In particular, an increase in VAT rates combined with a parallel reduction of the burden on corporations (for instance through lower labour costs following decreases in social security contributions) could affect relative prices on international markets because of the zero VAT rate applicable to exports. Hence, in theory, even countries adopting the single currency could modify unilaterally their real exchange rate vis-à-vis other euro area members by properly adjusting different tax rates. These considerations suggest that there might be substantial benefits from coordinated action in designing and implementing tax reforms in the European Union. In an integrated area characterised by free mobility of factors, virtually any policies affecting the relative costs of factors of production might substantially alter the competitiveness of national jurisdictions. In the current juncture, this could entail serious risks to the effectiveness of the policies designed by the Member States to exit from the crisis and restore sound fiscal positions. Moreover, coordination might usefully contribute to and reinforce the process of convergence in national revenue systems which is already observed, leading for instance to exchange of best practices or the elimination of mismatches between national systems. This will reduce administrative and compliance costs, and will in turn improve the functioning of the internal market (see Chapter 5).

Table 3.2 at the end of this chapter provides an overview of tax reforms enacted in selected Member States. It does not provide a comprehensive summary of all policy changes that affect national revenue systems, also because of the substantial number of one-off and temporary measures implemented by Member States to address the financial and economic crisis, in addition to the minor changes usually introduced to update existing tax legislation and administrative procedures. It focuses on the developments in selected Member States where substantial tax reforms have been enacted, either in the form of non-temporary tax reductions to boost domestic demand, or in the form of revenue increasing measures, owing to the lack of budgetary room for manoeuvre when the crisis hit. ⁽²⁹⁾ In order to limit the room for discretionary

⁽²⁹⁾ The current report uses information on tax reforms mainly from the Commission Services' Taxation Trends Report and from official external sources. Cut-off date is 30 June

judgement in selecting the reforms, the choice has been mainly informed by two criteria: the non-temporary nature of the reform and its impact in terms of GDP. ⁽³⁰⁾

3.3. IMPACT OF RECENT TAX AND BENEFIT REFORMS ON LABOUR SUPPLY AND DEMAND

Supporting labour demand and monitoring incentives to work calls for the assessment of both tax and benefits systems. Their design (individually or through their interaction) almost inevitably creates a potential distortion in some segments of the labour market in the form of reduced labour demand and disincentives to work. Sustained reform efforts have been undertaken over recent years, on the tax and benefits side, largely aimed at improving labour utilisation.

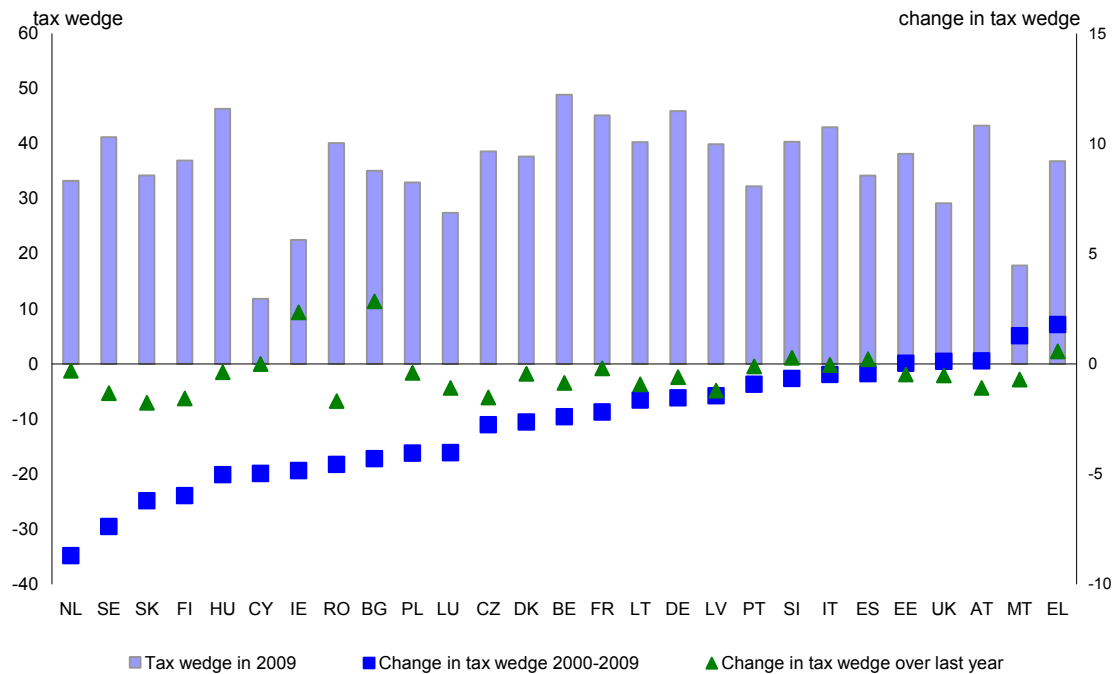
The tax burden on labour as measured by the tax wedge is on average very high in Europe, although substantial differences exist across Member States (see Box 3.2 for the explanation of the tax wedge indicator and its potential impact on labour supply and labour demand). This heavy tax burden has been considered by some analysts as one of the main factors behind the unsatisfactory European employment performance in recent years.

Since 2000, many Member States have attempted to support employment by reducing the tax wedge, especially on low income earners (see Graph 3.1 which displays the tax wedge and its evolution for low income workers earning 67% of the average wage (AW) across EU Member States). In the period since 2000 a rather small increase in the tax wedge for low income workers can be observed in only two Member States, Greece and Malta. Over the recent period 2008-2009, the tax wedge for the

2010. Future issues will additionally draw on the forthcoming TAXREF database, managed by the European Commission (DG TAXUD) in cooperation with Member States (the Working Group "Structures of the Taxation Systems"), when available.

⁽³⁰⁾ A detailed list of recent tax reforms in all EU Member States can be found on the homepage of DG TAXUD via the following url: <http://ec.europa.eu/taxtrends>.

Graph 3.1: Tax wedge and its evolution since 2000, low income worker (67% AW)



Note: Data for non-OECD-EU countries (SI, LT, LV, EE and MT, BG and RO) are only available for 2008 (CY only for 2007). For these countries, changes in tax wedge refer to a period 2000-2008 and 2007-2008 (for CY to a period 2000-2007 and 2006-2007). Countries are ranked by the change in the tax wedge since 2000.

Source: Commission services.

low income worker declined or remained stable in all countries but Greece and Ireland⁽³¹⁾. By reducing the tax burden on labour, Member States aimed at supporting employment.

The breakdown of the tax wedge into its components in Graph 1 in Box 3.2⁽³²⁾ demonstrates that in the EU, employers' SSC constitute the largest part of the tax wedge for the single average income worker in about two thirds of the EU countries (17.6% of labour costs for the un-weighted EU average in 2009). The second largest component of the tax wedge is income tax (12.4%), followed by employees' SSC (9.6%). The breakdown of the tax wedge is very much in line with the decomposition of the ITR on labour as discussed in Chapter 2.3.

The analysis of the breakdown in Table A1.5. in Annex 1 shows that the recent reduction in the tax burden on labour on the EU average mainly focused on the personal income tax and employers' SSC. When looking at the reforms in individual Member States, however, the picture is more heterogeneous. The biggest reductions in the tax wedge (at the average wage level) in 2009 can be found in the Czech Republic, Finland and Denmark, and the only substantial increase in Ireland. The tax wedge in Ireland, however, remains the third lowest in the EU (for a review of tax reforms in these countries see the appendix to this chapter). Substantial reductions can also be found for Bulgaria and Romania, which however refer to the year 2008. Bulgaria has substantially reduced SSC in several steps over the recent years and introduced a flat PIT. Romania reduced SSC in several steps over the 2006-2008 period as well. In 2009, however, Romania increased SSC substantially, which is not reflected in the data yet.

EU countries tend to place quite different tax burdens at different income levels which results in

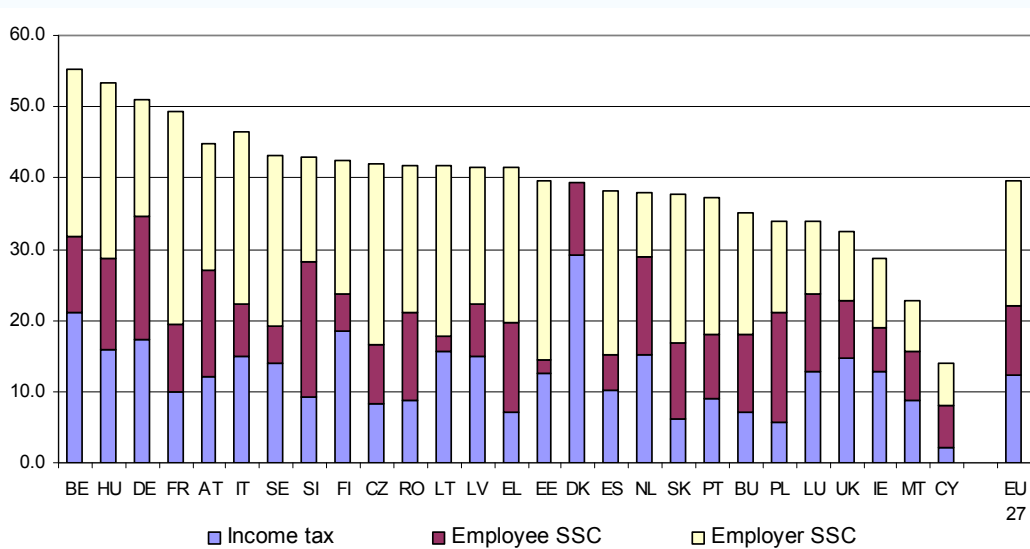
⁽³¹⁾ This statement refers to 19 OECD-EU countries only, since 2009 data for non-OECD countries is currently not available. Over 2007-2008, the tax wedge declined also in Bulgaria. Table A1.5 in Annex 1 shows that developments are broadly similar for the average income worker.

⁽³²⁾ See also Table A1.5 in Annex 1.

Box 3.2: Measuring the impact of tax and benefits on labour supply and demand

The tax barrier to employment is usually measured by the tax wedge, the proportional difference between the costs of workers to their employer and the amount of net earnings that the worker receives (take-home pay). The tax wedge is composed of several elements. First, employers have to pay payroll taxes and/or employers' social security contributions (SSC). Second, employees have to pay SSC on their wage income. Finally, the labour income is subject to the personal income tax. ⁽¹⁾ These different taxes and SSC constitute the different components of labour taxation, and they can be summed up to give the aggregate tax wedge due to labour taxes. The tax wedge is calculated for different household types and different income levels relative to the gross wage earnings of an average worker (see OECD (2010a) for a detailed discussion). Graph 1 displays the tax wedge and its composition for a single average income worker in 2009.

Graph 1: **Composition of tax wedge in 2009, single average income worker**



Note: Data for non-OECD-EU countries (SI, LT, LV, EE and MT, BG and RO) are only available for 2008 (CY only for 2007).
Source: Commission services.

The effect of the tax wedge on labour demand and labour supply (and eventually on employment) depends on whether and to what extent the tax burden increases the total labour cost for the employer or is transferred on to the worker, translating into a lower net wage. When increasing the total labour cost, taxes on labour (notably in the form of employer's SSC) tend to reduce labour demand. On the labour supply side, taxes levied on wages (both direct taxation on labour income and employee's SSC) reduce the net income and drive a wedge between the marginal product of labour and the marginal value of leisure. They thus tend to discourage the availability to work, especially at the lower end of the wage scale due to higher labour supply elasticity of low income workers.

In particular for low-income workers it is important to include the impact of the benefit system into the analysis of the work incentives. This can be done by the concept of the so-called METR (marginal effective

⁽¹⁾ Contrary to taxes, SSC (whether paid by the employer or employee) give a right to individual benefits. Therefore, only to the extent to which the link between contributions and benefits in such social insurance schemes is not actuarially fair, i.e. the extent to which the contributions are disproportionately high, the contributions actually constitute a tax. As it is very difficult to isolate the tax component in the various SSC paid in the different Member States, the standard approach is to include the full amount in the measure of the tax burden.

(Continued on the next page)

Box (continued)

tax rate) and AETR (average effective tax rate).⁽¹⁾ Both indicators are calculated in order to show what part of a change in earnings is “taxed away” by the combined operation of taxes, social security contributions (SSCs), and any withdrawal of earnings related social transfers (e.g. unemployment benefits, social assistance, housing benefits and family benefits). In case of METR, the change in earnings is marginal while in case of AETR the change in earnings stem from transitions between non-employment and employment. Therefore, METR is used for studying labour supply decisions on the intensive margin while AETR is used for studying labour supply decisions on the extensive margin. AETR is the main concept behind so-called unemployment and inactivity traps, which are used to monitor labour supply distortions, in particular financial disincentives to take up work either from unemployment or inactivity. The unemployment trap is driven in particular by a withdrawal of unemployment benefits and the inactivity trap by a withdrawal of social assistance and housing benefits. The “trap” indicates that the change in disposable income by taking up work is small and, conversely, the work-disincentive effect of the tax and benefit system large. Monitoring these traps is relevant in particular for low wage workers with poor income prospects and certain family types (e.g. single parent with children, one-earner couple and two-earner couple). It is important to bear in mind that the trap indicators have to be interpreted with regard to the conditionality of benefits and work-availability criteria which - if consistently enforced - increase job search and can counterbalance the negative effects of high out-of-work benefits on job search behaviour.

⁽¹⁾ The details of the methodology used to calculate the METRs are described in Carone et al. (2004).

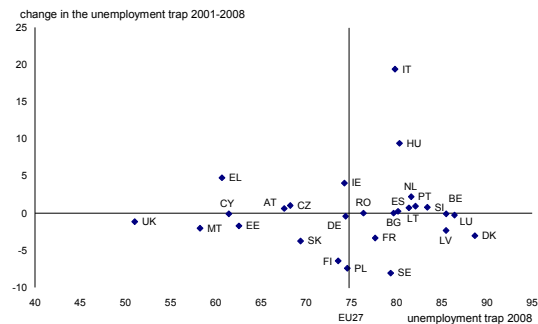
different scales of tax progressivity. Following OECD (2010a), the degree of progressivity of the tax burden on labour (incl. SSC) can be assessed by comparing the burden faced by single persons earning 167% of the average wage with the burden faced by their counterparts earning two-thirds of the average wage (Graph 3.2).⁽³³⁾

In several countries, the progressivity of the personal income tax is partly offset by the regressive structure of SSC.⁽³⁴⁾ This raises the question of the optimal tax design across workers to achieve better aggregate employment outcomes. Over the period 2000-2009, most of the EU countries reduced tax wedges for low wage and high wage workers (see Graph A1.1 in Annex 2). The reduction was generally larger for low wage workers, which resulted in an increase of the progressivity of the tax burden on labour in most Member States analysed (see Graph A.2.2 in Annex 2).

⁽³³⁾ See OECD (2010a) for a discussion of this progressivity measure. The topic of tax progressivity is also discussed in chapter 4.2 of this report. For a discussion of different measures of progressivity see also Jakobsson (1976).

⁽³⁴⁾ The regressivity of the SSC is mainly due to the contributions ceilings in place in many Member States. These ceilings can in several cases already be reached at 167% of the average income.

Graph 3.2: Unemployment trap for a single person without children (67% of AW)



Note: Data for LT, LV, EE, SI, MT and CY show the change in the indicator from 2005 to 2008. For BG and RO data are available only for 2008, thus having a zero change over time.

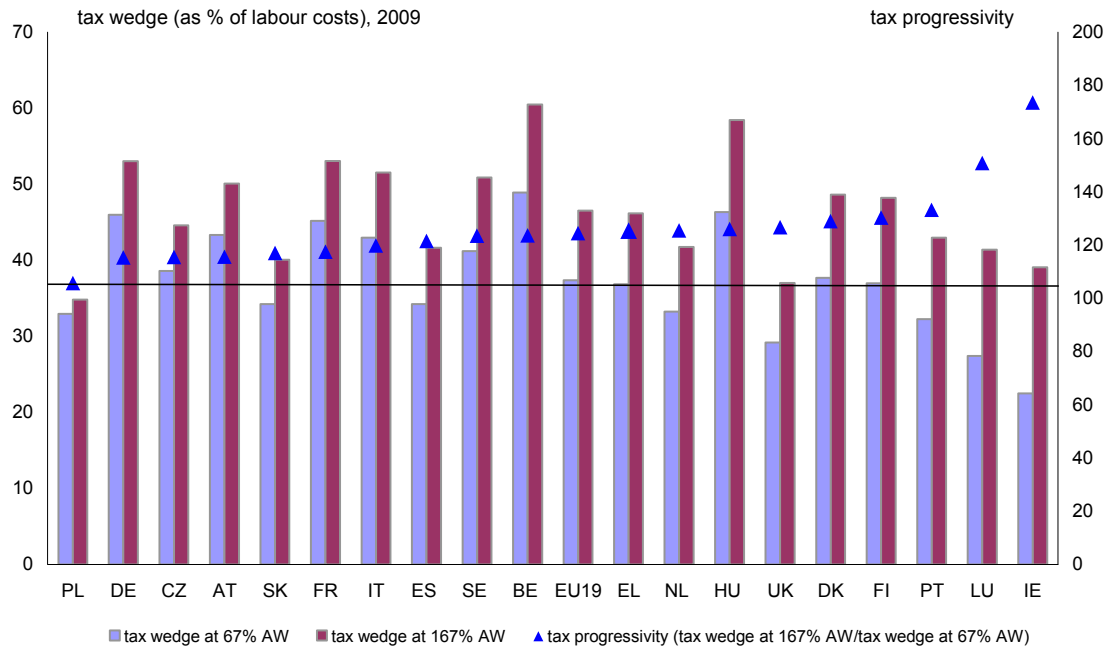
Two-earner couple refers to a family type in which one spouse is employed at low-wage work and another spouse is moving from inactivity to low-wage work.

Source: Commission services.

Differences in tax wedges between the Member States also contribute to a large dispersion of unemployment traps across the EU (see Box 3.2 for the explanation of the unemployment trap indicator), thus indicating large differences in financial disincentives for the unemployed to take up work.⁽³⁵⁾ Despite adjustments in tax and

⁽³⁵⁾ Unemployment and inactivity traps take into account the initial level of unemployment benefits. As unemployment

Graph 3.3: Tax wedge and tax progressivity, single workers, 2009



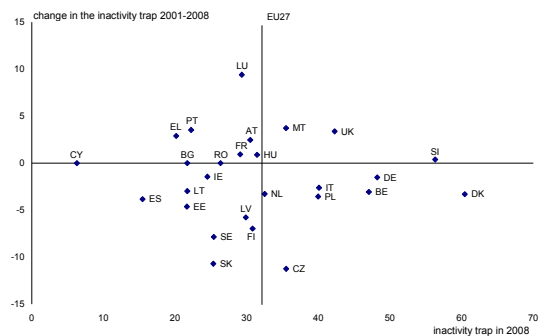
Countries are ranked by the size of progressivity of the tax burden on labour in 2009. A value for the tax progressivity above 100 signals a progressive tax burden as measured by this indicator.
Source: Commission services.

benefit systems since 2001, the unemployment trap for a single low income worker remains at over 80% in 12 EU countries and close to 90% in four countries (Graph 3.3).

This means that the net financial reward for taking up a job is only about 10% of the earnings in the latter group of countries suggesting a large benefit dependency. The main contribution to the unemployment trap comes from a withdrawal of unemployment benefits, followed by income taxes, SSC and the withdrawal of housing benefits, where available. On the other hand, relatively low unemployment traps in some countries are generally due to relatively low out-of-work benefits. This in turn suggests relatively low consumption smoothing of unemployed benefits and points to the trade-off between providing work incentives and the generosity of the unemployment insurance system.

benefits may decline over the unemployment spell, financial incentives to search and take up work may correspondingly increase.

Graph 3.4: Inactivity trap for a two-earner couple with 2 children (67% AW)



Note: Data for LT, LV, EE, SI, MT and CY show the change in the indicator from 2005 to 2008. For BG and RO data are available only for 2008, thus having a zero change over time.

Two-earner couple refers to a family type in which one spouse is employed at low-wage work and another spouse is moving from inactivity to low-wage work.

Source: Commission services.

To assess the participation rate of females in the labour market, it is essential to monitor hypothetical households with two earners, in particular financial incentives to move from inactivity to low-wage work for the second spouse, generally women. Normally, a household where

one spouse is earning a (low) wage does not benefit from the means-tested out-of-work benefits as they are already withdrawn below this income level (67% of average wage).

Therefore, financial incentives to take up work for the inactive second spouse are mainly (or only) shaped by taxes (and SSC) rather than a withdrawal of out-of work benefits. Graph 3.4 shows a large dispersion in the inactivity trap and in its change over the period 2001-2008 for a second earner across the EU countries. The

contribution of taxes to the trap is larger the more taxes paid by the working spouse are affected by the inactive spouse taking up work. In particular, the countries operating joint income tax systems are likely to face above-average income tax burdens for second earners. Therefore, to improve female labour market participation and to overcome the disincentive effects for second-earners in a couple embedded in joint-income tax systems, Member States are increasingly introducing the possibility to either splitting family taxation or for individual taxation on incomes. ⁽³⁶⁾

⁽³⁶⁾ See Bettio and Verashchagina (2009) for a discussion of the impact of fiscal systems on female employment.

Table 3.2: Overview of tax reforms in selected Member States

AT	<p>In 2009 the government adopted a tax reform targeting an annual tax relief of about € 3 billion (1.1 % of GDP). The main elements of the reform are changes in the income tax system (for € 2.3 billion) and the tax relief for families (€ 0.5 billion). Among the first set of measures, the marginal rates of the second and third brackets were lowered. The width of the zero rate bracket was increased by € 1 000, while the lower limit of the tax bracket for the top rate of 50 % was increased by € 9 000. The family tax relief package provides for increases in child allowances and child related tax credits, tax allowances for childcare costs, as well as wage tax exemptions for childcare subsidies paid by employers.</p> <p>The 2009 tax reform increased the tax allowances for profits of unincorporated businesses to 13 % (from 10 %) from 2010 onwards. However, this measure was partly offset by the cancellation of the favourable tax treatment for retained earnings. The preferential treatment for stock options was abolished as of 1 April 2009.</p>
CZ	<p>After the comprehensive reform of the tax system enacted in 2008, several measures have been approved in 2009, mainly affecting tax regulations for 2010, with the aim of curbing the budget deficit. While the flat PIT rate of 15% in place since 2008 is unchanged, rules for computing the taxable base in case of business income were amended. In particular, the lump-sum deductions that can be claimed by entrepreneurs instead of actual expenses were reduced for certain categories of tax-payers from 60 % to 40 %.</p> <p>After the reduction in rates that took place in 2009(-1,5 pp in employee' SSC, -1pp in employers' SSC), changes to the bases for the calculation of social security contributions were introduced. The maximum basis of assessment for social and health insurance payments was raised from 48 to 72 multiples of the average salary.</p> <p>The value added tax rate was increased by 1 %. Thus, the basic VAT rate is set at 20 %, and the reduced at 10 %. Excise duties on alcohol, tobacco products, mineral oils and fuels were increased. The property tax rate, including the one applicable to land and buildings, was doubled, whereas taxes on buildings and non-residential spaces used for other business activity are left unchanged.</p> <p>As stipulated in the enacted legislation, in 2010 the tax rate on corporate income is further reduced by one percentage point to 19 %.</p>
DK	<p>A major tax reform is being phased in from 2010 to 2019 with the aim of reducing the fiscal burden on personal income in order to stimulate labour supply in the long term. The reform is designed so as to guarantee overall revenue-neutrality, while the timing for introducing the different measures takes into account cyclical conditions. Hence, the main changes to the state PIT system are effective as of 2010. They include: the reduction of the bottom tax bracket rate from 5.26% to 3.76%; the abolition of the medium bracket taxed at the 6 % rate; the increase in the top tax bracket threshold by overall DKK 47 900 (approximately € 6 500) between 2009 and 2010. While the overall PIT system remains highly progressive, as a consequence of these changes the lowest marginal tax rate will be reduced from 42.1 % to 40.9 %, and the highest from 62.8 % to 56.1 %.</p> <p>Some base broadening measures have been introduced altogether. Those measures include limitations to the tax deductibility of net interest payments and payments to individual pension insurance schemes without life-long coverage above defined thresholds, as well as less favourable tax treatment of company cars and other fringe benefits.</p>

(Continued on the next page)

Table (continued)

	<p>In line with the other energy and climate policy objectives of the government, financing of the reform is partly provided by higher energy, transport and environmental taxes, and also by increases of excise rates on health-related goods, such as tobacco and candy. In particular, energy taxes on business and households – except for petrol and diesel - are increased by 15%. To minimize the negative effect on household disposable income, a lump-sum transfer ('green check') will be granted to adults and children as well (up to two per household). The 'green check' is nominally fixed (DKK 1 300 for adults and DKK 300 for children) and is rapidly phased out for income above DKK 360 000 (€ 48 300).</p>
DE	<p>After the substantial reform of the corporate income tax system enacted in 2008, amendments to the taxation of personal income have been introduced with the aim of supporting aggregate demand during the crisis. The bottom PIT rate has been reduced from 15 % to 14 %, while the basic allowance has been increased. The PIT thresholds have also been raised by € 400 retroactively as from 1 January 2009 and again by € 330 as from 1 January 2010. In addition, more generous child allowance and benefits have been granted. On 1 January 2010, the Bill for improved deductibility of payments for health and nursing care insurance, approved by the previous government, came into force. According to this law, payments for health and nursing care insurance are fully deductible, with an impact on the budget estimated around € 9.5 billion per annum. Environmental incentives promoting biofuels were introduced as well as an inheritance tax relief.</p>
IE	<p>The greatest impact on the revenue side of the budget stems from the personal income levy applicable from 1 January 2009. Following later amendments, the rates were doubled to 2 %, 4 % (applicable to income above € 75 036) and 6 % (applicable above € 174 980). The exemption threshold is € 15 028. In 2008 and 2009, the rates of taxation of deposit interest, gift and inheritance tax (Capital Acquisitions Tax or CAT) and capital gains tax were increased in two stages from 20% to 25%. The tax free thresholds for CAT were reduced by 20% in April 2009 and have fallen a further 4% in January 2010 in line with the fall in the Consumer Price Index.</p> <p>In the domain of indirect taxation, the standard VAT rate has been brought back to 21 %, the same level in place before December 2008, when an increase by half a percentage point was decided. Other tax decreases concern excise duties on alcohol. Increases in excise duties on petrol, auto-diesel and cigarettes are estimated to yield about € 400 million. In 2009, a carbon tax on fossils fuels was introduced at a rate of € 15 per ton, as well as an air travel tax (March 2009, € 110 million). As of 1 May 2010 the carbon tax applies also to kerosene, marked gas oil, liquid petroleum gas, fuel oil and natural gas, in addition to petrol and auto-diesel. The estimated revenue effect of all these measured is € 750 million (including VAT) per year.</p>
EE	<p>Although the economy was severely hit by the recession, the Estonian government adopted a prudent fiscal policy stance, also reflected in tax policy. Amendments to the tax code have been broadly consistent with the long-term plan to shift the tax burden from income and employment towards consumption and the environment. The foreseen reduction of the income tax rate by one percentage point annually was temporarily frozen and the personal and corporate tax rates will be kept at 21 %, the level reached in 2008. Also the basic allowance (the amount of tax-free income) will remain unchanged.</p> <p>The tax burden on consumption has been affected by the rise of the standard VAT rate by two percentage points to 20 % in July 2009 and the removal of reduced rates on certain products (medical equipment, distant heating), as well as the rise of the reduced VAT rate from 5 % to 9 % in 2009. This reduced rate is applied on a narrow range of goods, which essentially includes books, periodicals, accommodation services, medicines and medical equipment for the personal use of the disabled. Excise duties on transport fuels were increased substantially, and those on coal, coke, natural gas and electricity were introduced. Most of these excise duties currently clearly exceed the level of the EU minimum rates.</p>

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Table (continued)

EL	<p>In 2004 the Government approved a comprehensive Tax Reform Law involving significant modifications to the corporate and personal income taxation systems to be introduced in three phases. The aim of the reform was to make the tax system easier, more equitable and more transparent, in order to foster entrepreneurship, investment and innovation. After the reduction in the CIT and PIT rates took place in the first two phases of the reform, further gradual cuts in rates were approved in 2008. The rate on corporate income is due to decrease by 1 percentage point each year from 2010 to 2014, from 25 % to 20 %.</p> <p>In fact, the growing size of public finance imbalances has led the government to introduce, in addition to one-off revenue-raising measures, substantial amendments to the tax system in order to restore a sustainable fiscal position. Further tax measures have been stipulated in the framework of the three-year economic and financial programme that represents the conditionality for the agreement on the financing package released by the EU and the International Monetary Fund (IMF) in May 2010. Overall, the envisaged reforms should increase revenue by an equivalent of around 4 % of GDP through 2013; a contribution of further 7 percentage points of GDP is expected on the expenditure side. As a result, the deficit-to-GDP ratio should decrease below the reference value of 3 % by 2014, from an estimated 13.6 % in 2009.</p> <p>Significant revenues are expected from indirect taxation. After the increase in taxes on mobile phones and petrol enacted in 2009, in the first months of 2010 VAT rates, as well as excise duties on fuel, cigarettes and alcohol were increased in two phases. The standard VAT rate has been raised to 23 % (from 19 %), the reduced rate to 11 % (from 9 %), whereas the super-reduced rate is set at 5.5 % (previously 4.5 %).</p> <p>Taxation of inheritance, gifts and parental provisions was modified to increase its progressivity. The new system in the case of closest relatives foresees 4 tax brackets – instead of the previous 2 – with a top rate of 10 % applicable above € 600 000; transactions up to € 150 000 are exempted. Furthermore, a special levy on luxury goods has been envisaged. The real estate taxation regime was also reformed, and the 1 % flat rate on large properties was substituted with a progressive scale (the 1 % top rate applicable above € 800 000 is increased to 2 % for property values above € 5 million for a period of three years). The road tax on motor vehicles – calculated on the basis of the engine capacity and the environmental impact – was increased. It will be collected together with an extra levy on high-capacity private vehicles and motorcycles.</p> <p>The other provisions planned as from 2011 include: broadening of the base for the real estate tax through the increase of the legal value of property; phasing in of a "green tax" on CO2 emissions; the introduction of a tax of unauthorized establishments; the introduction of special levies on illegal buildings in order to regularise land use violations (to be discontinued in 2014).</p> <p>In the domain of direct taxation, a restructuring of the PIT has been enacted by the Tax Law of April 2010. The new system envisages 9 tax brackets (instead of 4), with a top marginal rate of 45 % applicable above € 100 000 (the previous top rate, applicable above € 75 000, was 40 %). All sources of income are subject to the new unified tax schedule, thus the differential treatment of sources other than employment income and pensions is eliminated. Moreover, tax exemptions are abolished. Bonuses to business executives in banks and financial corporations are made subject to a special taxation regime with progressive rates ranging between 20 % and 90 %; exemption is granted to bonuses not exceeding 10 % of income, for incomes up to € 60 000.</p>
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Table (continued)

FR	<p>Several measures were taken to counter the economic crisis, some of which of a structural nature. A 50% tax is levied on bonuses exceeding € 27 500 paid in 2009 by financial institutions to their traders. The local business tax has been replaced by an "economic territorial contribution" from January 1st 2010. This tax is no longer based on the annual value of commercial and industrial equipment, but consists of the annual rental value of immovable property and a new tax of between 0.4% (from a turnover exceeding € 500 000) and 1.5 % (above € 50 million) on the added value of the business (cotisation sur la valeur ajoutée des entreprises). The overall tax can not exceed 3 % of the added value of the business. Further in the domain of direct taxes, the PIT reduction for low-income households resulted in a cut of 2/3 in the 2009 tax burden for people concerned. Treasury measures for firms concern corporate income tax credit reimbursements (research tax credit and carry-back tax credits) and the anticipation of VAT credit reimbursements. As from 1 July 2009 a reduced VAT rate of 5.5 % applies to restaurant services.</p>
LV	<p>The Latvian economy was among the hardest hit by the global financial crisis. Thus, the tax measures introduced in 2010 were mainly motivated by the need to increase revenues and accelerate the recovery. Substantial changes were introduced in the area of personal income taxation. As of January 2010, the flat PIT rate (which had been cut from 25 % to 23 % in 2009) is increased again, from 23 % to 26 %. This latter rate is applicable also to business income to individuals, previously taxed at 15 %. Capital gains are taxed at a 15% rate, whereas investment income is subject to a 10% or a 26% rate depending on the type of income.</p> <p>In the area of indirect taxation, excise duties on cigarettes, wine and fermented beverages were increased in February 2010, while guest accomodation services are subject to the reduced VAT of 10% from May 2010 onwards. Moreover, natural gas (used for transport and heating purposes) has been included among the products subject to excise taxes as of 1 May 2010. Also, fuel containing at least 5 % of bio-fuels will be taxed at a lower rate than fossil fuels.</p> <p>Other measures were taken to encourage the use environment-friendly motor vehicles. The tax on cars and motorcycles will be calculated taking into account the emission of greenhouse gases (carbon dioxide) as well as engine volume. The annual vehicle duty is doubled altogether. As of January 2010, a system of progressive taxation of residential property is introduced.</p> <p>The government also envisaged a property tax on four different types of high value assets (housing property, water vehicles, airborne vehicles and high performance cars), although the application of this measure depends upon ruling by the Constitutional Court. A company car tax was introduced in 2009 with effect from 1 January 2010.</p>
LT	<p>After the significant reforms enacted in 2006 and 2008, several amendments to the CIT and VAT systems have been introduced in 2010 to stimulate the recovery and correct public finance imbalances also with a view to adoption of the euro. The tax rate on corporate income was cut back from 20 % to 15 %, thus reversing the increase stipulated for 2009. A reduced rate of 5%, instead of 13%, was granted to small companies. New provisions were introduced for extending the scope of deductions and for transferring tax losses within the same group.</p> <p>Cut of the PIT rate to a flat 15 % and introduction of separate compulsory health insurance contribution of 6 % (instead of allocating 30 % share of PIT to compulsory health insurance fund), bringing the combined rate on employment income to 21 %. Adjustements to personal allowances were made.</p> <p>After a hike from 18 to 19 % in 2009, the standard VAT rate was increased again by two percentage points as of September 2009. In addition, almost all reduced VAT rates were abolished. Excise duties on energetic products, alcoholic beverages and cigarettes were significantly increased in 2009.</p>

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Table (continued)

HU	<p>Besides having to respond to the challenges of the financial and economic crisis, recent reforms have been driven by the need to reduce the tax on labour as well as to simplify and rationalise the tax system. As of 2010 the taxation of personal income has been significantly restructured with the introduction of lower rates (17 % and 32 % instead of the 18% and 36%) and base-broadening measures, such as the increase in the tax bracket thresholds, the abolition of allowances and the inclusion of social contributions paid by employers in the base. Employers' social contributions were also reduced by 5 percentage points, and the system of health contribution reformed. In addition, the 4% surtax on high-income individuals was abolished.</p> <p>In the area of corporate taxation, the broadening of the tax base was accompanied by an increase in the rate from 16% to 19 %. At the same time, paralleling the abolition in the area of personal taxation, the special levy (so-called 'solidarity tax') introduced in 2006 at a rate of 4% on the adjusted pre-tax profits was cancelled. As a result, the overall tax rate on corporations will decrease by one percentage point.</p> <p>Several measures have been enacted in the area of indirect taxation. In 2009 the standard VAT rate was increased from 20 % to 25 %. In addition, a new reduced rate of 18% was introduced on dairy and bakery products, later extended to public accommodation services and district heating, the latter falling under a rate of 5% as of 15 January 2010. In 2009 excise duties on some energy products, tobacco and alcoholic beverages were raised by rates ranging between 5% and 7%. A further generalized increase by rates ranging between 7.5% and 10% has taken place as of 1 January 2010.</p> <p>A property tax was introduced, which following the decision of the Constitutional Court applies to three different types of high value assets (housing property, water vehicles and airborne vehicles and not to high performance cars as previously envisaged). A company car tax was introduced in 2009 with effect from 1 February 2009.</p>
PT	<p>The budget for 2010 contains a number of fiscal provisions in response to the crisis, subsequently complemented with an additional set of tax measures adopted in May 2010 in order to accelerate fiscal consolidation along the lines envisaged in the Stability and Growth Programme. The overall impact of the austerity package is expected at 1.2 % of GDP in 2010 (2.2 % in 2011), which is consistent with the new targets for the deficit set by the Government, i.e. 7.3 % (previously 8.3 %) of GDP in 2010 and 4.6 % (instead of 6.6 %) for 2011.</p> <p>In the area of direct taxation, additional revenue for 0.2 % of GDP is expected from the increase by 1 percentage point (up to the third income bracket) and by 1.5 percentage points (from the fourth bracket on) of the individual income tax (IRS). Furthermore, a new special rate of 45 % (the current top rate is 42 %) will be applicable on incomes above € 150 000. PIT withholding rates are also increased by 1.5 percentage points already in 2010. Capital gains on securities will be taxed at a 20 % rate.</p> <p>An increase by 2.5 percentage points is foreseen for the corporate income tax applicable to profits exceeding € 2 million. Payments of remuneration and bonuses to managers and administrators are made subject to an autonomous penalty tax of 35 % (50 % in case of payments made by financial institutions), provided that such payments exceed 25 % of the annual remuneration, and are above € 27 500. Those limits do not apply if at least 50 % of the payment is deferred for a period of 3 years and is conditional upon the employer's financial performance during that period.</p> <p>In the area of indirect taxation, a generalized increase in VAT rates by 1 percentage point has been introduced, with an estimated yield of 1 % of GDP for 2010-2011 (0.3% in the period July-December 2010 and 0.7% in 2011).</p>

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Table (continued)

FI	<p>A number of measures were taken to alleviate the effects of the crisis on disposable income. In 2010 the rates for all four state income tax brackets have been reduced by half a percentage point, while the employment income deduction and the basic allowance on municipal taxation have been increased. The latter two measures are targeted to low-income earners. Further provisions aim at ensuring that the tax burden of pensioners does not exceed that of wage-earners. These measures are intended to compensate partly the increases of social security contributions for employees (including pension, health and unemployment insurance contributions) in 2010. In order to stimulate employment by reducing indirect labour costs, the national health insurance contribution of employers, temporarily abolished in 2009, has been removed definitely in 2010.</p> <p>In the field of indirect taxation, a major restructuring of VAT rates has been undertaken. In accordance with the government programme, in 2009 the VAT rate on food was reduced from 17 % to 13 %. To compensate for the revenues losses, a generalized increase in all (standard and reduced) rates by one percentage point is to take effect from 1 July 2010. Other changes in indirect taxation include the increase of excises on tobacco and alcohol, as well as the introduction of a tax on sugar and soft drinks.</p>
SE	<p>Recent tax policy measures have focused on mitigating the effects of the crisis on employment and on promoting economic, social and environmental objectives. The 2010 budget contains a further expansion of the in-work tax credit – the fourth since 2007. The overall effect of those measures has been a reduction of the tax on earned income by a total of about SEK 71 billion (€ 7 billion). In addition, the levy of social security contributions for employees and self-employed has been decreased by 1 percentage point; a further 5% reduction of the total of SSC (maximum of SEK 10. 000 SEK/ year) for self-employed was introduced. Moreover, targeted reductions have been introduced for persons aged under 26, and people who are at least 65 years old through a reduction in the income tax. In the domain of corporate taxation, as of January 2009 the tax rate was reduced from 28 % to 26.3 %.</p>
UK	<p>In the domain of PIT, a new higher tax rate (50 %) applies for annual incomes above GBP 150 000 and the personal allowance is restricted for annual incomes over GBP 100 000. Moreover, the first budget for 2010-11 foresees the capital gains tax going up from 18 % to 28 % for individuals liable to tax at 40 % or 50 % on their income. The lifetime limit on qualifying gains for entrepreneurs' relief is increased from GBP 2 million to GBP 5 million, and provides a 10 % rate for assets within it. The first budget for 2010-11 also foresees the introduction of a bank levy, which will apply to the balance sheets of UK banks and banking subsidiaries of other UK groups and the UK operations (subsidiaries and branches) of non-UK banks. For corporations, the main tax rate shall be reduced to 27 % in April 2011, then in further 1 percentage point steps annually to 24 % in April 2014, and the main rate of investment depreciation allowance reduced from 20 % to 18 % from April 2012. The planned increase in the small companies' rate of corporation tax has been deferred to April 2011.</p> <p>The standard VAT rate shall increase from 17.5% to 20% in January 2011.</p>

Source: Commission services. Cut-off date is 30 June 2010.

4. TAX POLICY ISSUES RELATED TO THE CRISIS

One pressing issue is what lessons tax policy could learn from the global financial crisis. In theory, the well-developed welfare systems in place in the EU, funded by taxation levels that are high on average, should have made it more resilient compared to other regions. However, the crisis spread quickly from the US to the EU and resulted in a slump of comparable magnitude. Although there is wide consensus that the crisis did not originate from taxation, the question remains as to whether tax systems could be reformed in order to make the economy more resilient in the future and to boost GDP growth - in particular with a view to the twin challenge of financing significantly increased debt levels and the mounting costs of ageing societies. Having looked at the tax policy response of governments to the crisis in Chapter 3, this chapter investigates the taxation-crisis nexus from a more structural and longer-term perspective by focusing on tax policy issues directly related to the crisis. These topics include the potential contribution of certain elements of the tax system to the crisis, the role of the tax system as an automatic stabiliser and specific proposals on the taxation of the financial sector following the crisis. The topic of taxation and growth will be addressed in Chapter 5.

4.1. POTENTIAL CONTRIBUTION OF TAXATION TO THE CRISIS

This section⁽³⁷⁾ analyses how far specific aspects of the tax systems, such as the favourable treatment of debt compared to equity in most corporate tax systems, the taxation of housing markets or the favourable tax treatment for executive compensation schemes such as stock options, could have contributed to the financial and economic crisis. It also examines how tax policy should be adjusted in order to address these possible deficiencies and distortions.

4.1.1. Corporate taxation and financing neutrality

Current corporate tax systems in Europe favour debt financing over equity financing. While, in general, interest payments on corporate debt are

deductible from the corporate tax base, return on equity is not. This leads to a higher leverage for firms since financing investments through debt is tax-favoured. Although the tax preference for debt has not changed in recent years, this tax distortion has gained more attention recently, as the crisis has highlighted the fact that the leverage ratios of many companies are too high. This could lead to liquidity constraints, especially in times when banks tend to restrict their credit supply.⁽³⁸⁾ A well-designed tax base that reduces the leverage distortion could make companies less vulnerable to a short-term reduction in credit available on the capital market. There is empirical evidence that the leverage of companies is indeed influenced by taxes.

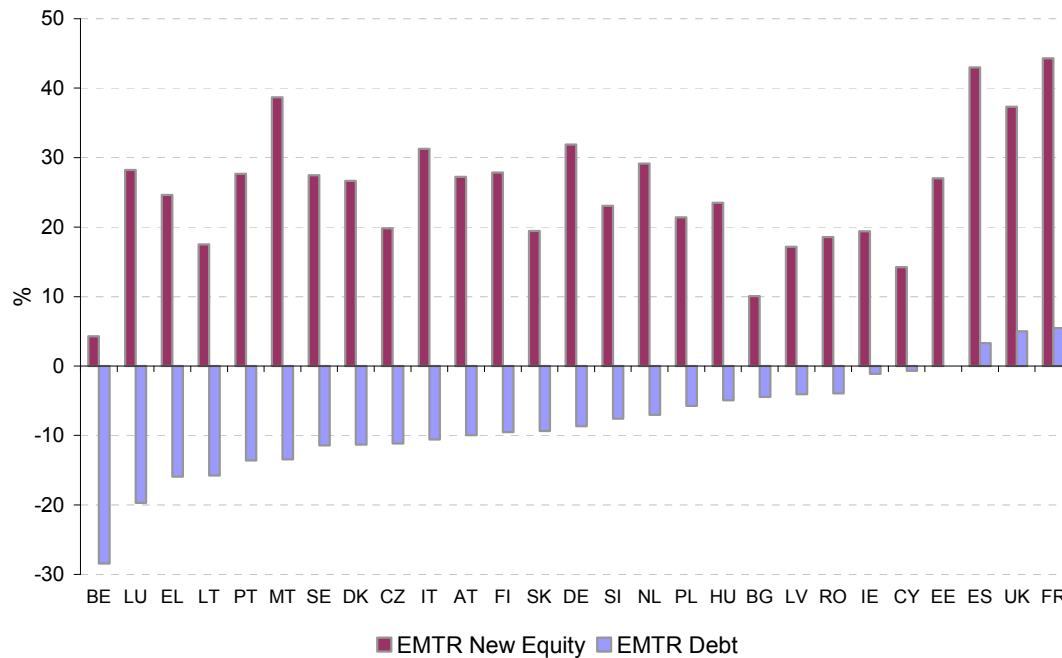
Several studies analyse this issue and find that taxes have a measurable effect on debt policy (e.g. Desai, Foley and Hines, 2004, Huizinga, Laeven and Nicodème, 2008). Huizinga et al. (2008) find for instance that for stand-alone companies, increasing the effective tax rate by one percentage-point increases the ratio of debt to assets by 0.18%. The impact is larger for multinationals, reaching 0.24% for two equally-sized companies (with one of them a foreign subsidiary) within the same group. In addition, aggregate figures for the euro area highlight the role of debt financing. The total debt of non-financial corporations in the euro area in relation to GDP increased from close to 70% in 2002 to more than 80% in the second quarter of 2009 according to the Financial Stability Review of the European Central Bank (ECB, 2009). The debt to equity ratio increased from 160% to 320% over the same period. While the recent increase can be partly interpreted as a result of the crisis, the figures stress the generally high reliance of companies on debt as a source of finance.

Graph 4.1 illustrates the favourable treatment of debt over equity. In fact, fully debt-financed investment is subsidised in most EU Member States - the only exceptions being Spain, the UK and France. For new equity financed investment, the effective marginal tax rate (EMTR) is positive in all EU Member States. Table 4.1 shows that debt is also favoured in many economies outside the EU like the USA, Switzerland, and Norway.

⁽³⁷⁾ The section draws on Hemmelgarn and Nicodeme (2009).

⁽³⁸⁾ The IMF (2009) draws similar conclusions in a recent document on tax policy and the crisis.

Graph 4.1: Effective Marginal Tax Rate (EMTR) of debt vs. new equity financed investment in EU27 countries



Source: Source: European Commission (2010e).

Table 4.1: EMTR on debt and new equity financed investments in selected countries

	EMTR debt	EMTR new equity
Croatia	-18.0	16.3
Switzerland	-14.3	22.2
Turkey	-9.0	20.3
Norway	-5.1	33.0
USA	-3.6	46.0
FYROM	0.4	13.7
Canada	3.8	42.2
Japan	8.9	51.4

Source: European Commission (2010e).

The debt-bias may also have lead to the issuing of hybrid instruments that blend characteristics of debt and equity, such as convertible debt obligations or asset-backed securities. These instruments qualify as debt and therefore allow for the deduction of interest paid but have equity-like characteristics. The instruments also tend to reduce the transparency and accountability of corporate financing policies. However, there are so far no empirical studies on the magnitude of these effects.

In principle, two opposing measures exist that might eliminate this distortion between debt and

equity by treating both sources of finance in the same way: an Allowance for Corporate Equity (ACE) or a Comprehensive Business Income Tax (CBIT). The ACE would grant a deduction for return on equity⁽³⁹⁾ as it is the case for interest paid and would hence reduce or abolish the tax advantage of debt.

ACE and CBIT have been discussed extensively in the economic literature.⁽⁴⁰⁾ Both systems are appealing due to their efficiency properties with regard to the financing decisions of companies; however, there is no clear recommendation on which system is most favourable and there are key trade-offs when designing a reform towards any of these pure systems.⁽⁴¹⁾ While in the context of open economies, ACE is more prone to profit-

⁽³⁹⁾ Either new equity only or all equity.

⁽⁴⁰⁾ See Devereux and de Mooij (2009, 2010) for a detailed overview of this literature.

⁽⁴¹⁾ One should note that the treatment of interest and dividend income on the personal and corporate level has also to be considered in order to render the corporate tax system indeed financing neutral. The introduction of CBIT would also have cross-border implications that need to be further assessed.

shifting (in particular when its narrow tax base is accompanied by higher corporate tax rates), CBIT might lead to increased distortions in marginal investment. In order to mitigate these effects, one might also consider a combination of the two systems, i.e. a system that imposes limitations in the deductibility of interest but allows for a partial deduction in the return on equity. A combined reform of a partial ACE and a partial CBIT mitigates the discrimination between debt and equity in both directions. At the same time, the implications for corporate tax revenue are offsetting. Therefore, one can design a reform package of a partial ACE and partial CBIT that is revenue-neutral for the government and which is still neutral with respect to the financial structures of companies. First, this would preserve financing neutrality. Secondly, it would reduce possible negative effects of each of the pure ACE or CBIT systems. Devereux and de Mooij (2009, 2010) look at the design of corporate tax bases with respect to financing neutrality using ACE and CBIT systems as well as a combination of the two. The investigation of the tax distortions of investment financing and the possible measures against these distortions have been analysed in a simulation model. The authors present simulations of different reform options, as well as comparing the implementation of ACE and CBIT as pure systems with a combination of both. These different types of reforms are investigated both for the case of individual implementation by each EU country - with the others sticking to their current tax systems - and for the case of a simultaneous implementation by all Member States. Under the assumptions of the model, it is shown that combining the two ACE/CBIT systems leads to the same neutrality in investment financing as each single reform but also improves welfare, both in the case of unilateral reforms and of EU-wide reforms. Despite the advantages of financing neutrality, ACE or CBIT reforms can be found only in very few Member States. ⁽⁴²⁾ Discussions

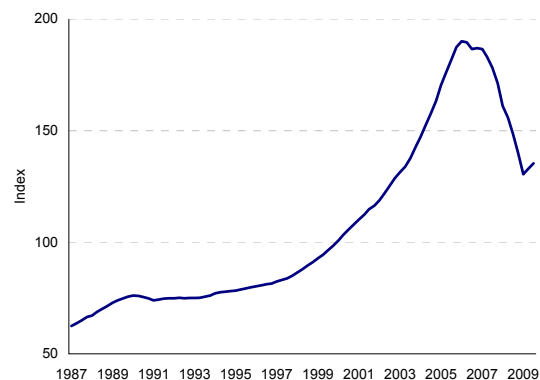
⁽⁴²⁾ Belgium implemented an ACE system; Italy had ACE elements in its tax system but removed them after a short period. Germany limited interest deductibility which is a move towards CBIT. Italy has also limited the deductibility of interests thus moving towards a CBIT. Estonia has a CBIT system which does not allow interest deduction. Austria had implemented an ACE system from 2000 until 2003. It was replaced by a favourable tax treatment for retained earnings from 2004 until 2009 for individuals. As from 2010, an indirect instrument for encouraging the accumulation of equity of businesses of individuals (a tax

on the design of corporate tax bases with respect to their financing neutrality should therefore be a topic for discussion for policy-makers in the European Union in the aftermath of the crisis.

4.1.2. The housing market

The end of the speculative price bubble in the U.S. housing market has been identified as an important trigger for the financial crisis. In a nutshell, U.S. households received credits for consumption purposes on the assumption that the increase in house prices would be large enough to cover these outstanding credits. Graph 4.2 shows the Case-Shiller House Price Index for the U.S. and illustrates the strong increase in house prices since the end of the last century and the dramatic decrease in house prices since 2006. ⁽⁴³⁾ Home prices started to improve in 2009 but at a moderate pace. With house prices decreasing since 2006, these mortgages - and especially the securitised products made out of them - became toxic assets, leaving the financial sector with unknown risks in its balance sheets.

Graph 4.2: Case-Shiller House Price Index



Source: S&P/Case-Shiller Home Price Indices, U.S. National Values.

In Europe, Ireland and Spain faced price bubbles in the housing market that were similar to the one

free profit amount) was introduced. Finally, Latvia introduced an ACE as from 1 January 2009, in the case where a company is not distributing dividends partially or fully, taxable income is reduced by the amount of interest, which the company would have to pay for an equal loan.

⁽⁴³⁾ A description of the index can be found here: <http://www.standardandpoors.com/indices/sp-case-shiller-home-price-indices/en/us/?indexId=spusa-cashpidff--p-us-->

experienced in the U.S. When the international crisis hit, this led to a severe downturn in these two countries, which had experienced high growth rates before the crisis. Other European countries like the UK, France, Sweden and the Netherlands experienced similar increases in house prices over the last decades, albeit to a lower degree. ⁽⁴⁴⁾

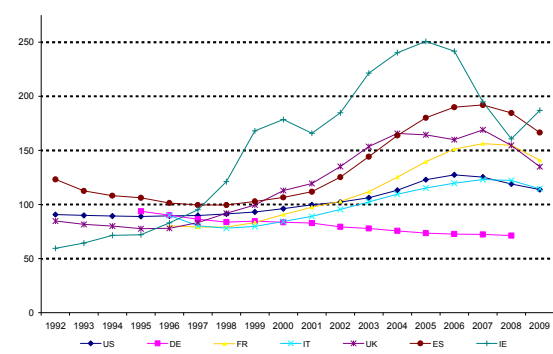
While real house prices rose in many countries, the same was true for another important indicator of the attractiveness of owning a house: the price-to-rent ratio. The ratio compares the discounted rents for a house with its current price. If the ratio is larger than 100, it is less attractive to own a house, as renting is less expensive than buying a house. Comparing this ratio across countries allows comparing the incentives to own a house. As seen in Graph 4.3, the price-to-rent ratio significantly increased in many countries over the last decade, especially in Ireland and Spain. Ireland also faced the most dramatic decrease after the peak was reached in 2005.

The house price bubble is also confirmed by the estimations of the Commission Services for a sample of EU Member States (Germany, France, Ireland, Spain and the United Kingdom). These show that house prices were overvalued from the middle of the last decade – in some cases to a significant extent - in all countries but Germany. ⁽⁴⁵⁾ The analysis also suggests that while house prices experienced pronounced corrections between the second half of 2007 and the first half of 2009, further corrections seem justified in some cases.

The strong increase in house prices in many Member States and the diverging development in the different countries, in particular within the euro area, impact on several macroeconomic variables other than the above-mentioned consumer demand. Estimates published in European Commission (2009b) suggest that house prices also have an effect on the trade balance. Higher house prices are associated with higher current account deficits in OECD countries, with the effect being much stronger in the euro area. ⁽⁴⁶⁾ This may be

explained by the wealth effect of higher house prices on consumption. The effect on the trade balance is, however, probably also related to supply factors and the shift of productive resources from tradable sectors to the less productive housing sector. ⁽⁴⁷⁾ Moreover, as shown by Setzer, van den Noord and Wolff (2010a), house price developments also impact on the different monetary dynamics of euro area Member States. Setzer, van den Noord and Wolff (2010b) therefore suggest that the generally strong increase combined with divergent developments in house prices in the euro area could have contributed to the euro area's vulnerability to the crisis.

Graph 4.3: Price to rent ratio



Source: OECD (2010b).

Given the observations on the development of house prices, the question arises how taxes might influence house prices. To answer this question, it is helpful to break down the decision of buying a house into its two economic dimensions ⁽⁴⁸⁾: a consumption decision and an investment-production decision. The first facet is related to the decision of households to 'consume' housing services, which is mainly related to the quality of the house. The household decides what type of house and in which location they would like to 'consume'. The investment-production decision is related to the potential value increase of the property, as households also take into account that owning a house is an investment. Housing is a durable good which can potentially be sold at a higher price, even after years of use. This makes

⁽⁴⁴⁾ See Graph 4.4 below.

⁽⁴⁵⁾ See European Commission (2010c).

⁽⁴⁶⁾ Panel estimates of the determinants of the trade balance suggest that a doubling of house prices would lead to a deterioration of the trade balance by more than 7% of GDP in the euro area.

⁽⁴⁷⁾ See European Commission (2009b) for a more detailed discussion of the role of housing markets in the divergence of current accounts within the euro area.

⁽⁴⁸⁾ A detailed analysis of the functioning of the housing market can be found in Pozdena (1988).

the decision of buying a house more complex than consumption decisions for other goods which are mainly based on price and the consumer's budget constraint. In the following, the focus is on the role of taxation for the investment decision. The reason is that the consumption decision is less relevant for the creation of bubbles in the housing market.

Taxes can influence the investment decision via the real user cost of housing capital, defined as the costs of owning and operating the property. Among those costs, one can identify the foregone interest earnings on the equity in the house, the interest cost of funds borrowed to purchase the house, the depreciation of the structure, maintenance, insurances, property taxes and real estate transaction costs. Since housing is a durable good that can be resold, one has to also account for capital gains or losses that may reduce or increase the final user cost. Taxation affects several of these items and therefore influences the demand for housing. For example, the deductibility of mortgage interest payments, the taxation of capital gains or the treatment of imputed rents from owner occupied-housing may all influence the demand for housing.⁽⁴⁹⁾

Even though taxes influence house prices, taxation was probably not the key factor for the recent speculative bubbles in Spain, Ireland or the United States. The driving forces behind the boom in the construction sector were rather low real interest rates and the rapid expansion of credit. For instance, low interest rates together with relatively liberal mortgage markets and low transaction costs in housing markets have been cited as important reasons for the housing price bubble in Spain and Ireland.⁽⁵⁰⁾ Furthermore, because of increasing house prices, banks also tended to provide consumption credits to already indebted households. The basic (and wrong) idea was that these credits would be secured by future house price increases.

Taxes may also play a role because the tax regime in many countries provides incentives for

households to take on large amounts of debt, as interest payments are often tax-deductible. The interest deductibility for owner-occupied housing can sometimes also include home equity loans. Consequently, taxes can influence the volatility of the housing market. Many countries subsidise mortgage debt in order to stimulate house ownership, while levying relatively low property taxes. This favourable tax treatment not only results in a higher steady-state level of house prices but may also interact and magnify shocks that may hit the supply or the demand side of the housing market, since taxes affect the real user cost of housing (Poterba, 1984). The real user cost of housing model takes the view that changes in the after-tax user cost are responsible for shifts in housing demand, which in turn influence housing price movements.

Van den Noord (2005) applies Poterba's model to analyse the effect of tax policy on house prices in Europe. In his study on eight European countries⁽⁵¹⁾ over the period 1970- 2001, he finds evidence that price volatility is higher in low-housing-tax countries while volatility is lower in countries where owner-occupied housing is taxed.

While higher volatility might occur due to differences in tax systems, the overall trend in Europe for the last decade shows a constant upward trend in house prices in most countries. Until the 2008 crisis, house prices rose significantly in most European countries. Data from the European Central Bank on the Residential Property Price Index Statistics in 17 EU countries show that real prices of residential property increased significantly in all countries since 2001 (Graph 4.4), bar Austria and Germany, where prices decreased.⁽⁵²⁾ Given this increase in prices in many countries with very different tax systems it is difficult to clearly evaluate the role played by taxes in these increases.

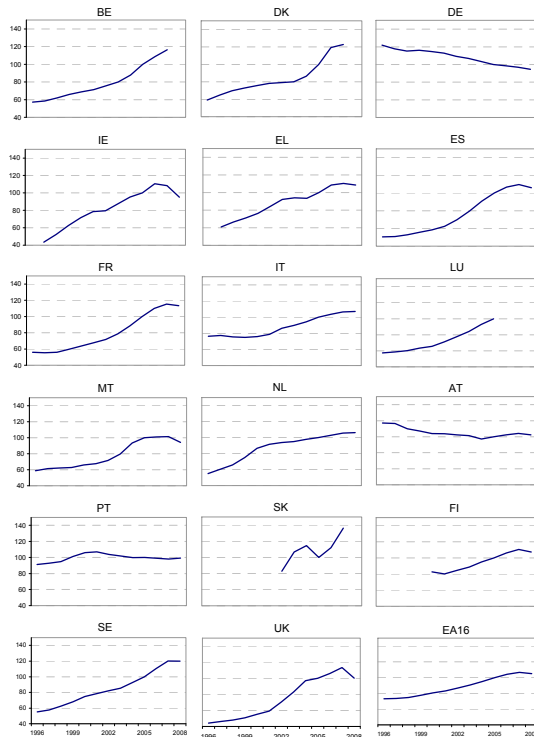
⁽⁴⁹⁾ For a theoretical analysis of capital gains taxes on housing see Fuest, Huber and Nielsen (2008). While it is often argued that capital gains taxes could reduce price volatility, the authors show that the taxation of capital gains might lead to even bigger price swings.

⁽⁵⁰⁾ See Ahearne, Delgado and von Weizsäcker (2008).

⁽⁵¹⁾ Germany, France, Italy Spain, the Netherlands, Belgium, Finland, and Ireland.

⁽⁵²⁾ Germany had experienced a housing boom in the early 90s in the "new Länder". This boom had been caused by strong fiscal incentives to invest into the housing stock, such as a special depreciation of 50% of the acquisition cost for privately-owned newly constructed buildings (see, e.g. Bensemann and Kiesewetter (2008)). Although the German experience goes beyond the issue of owner-occupied housing, it may serve as an example for a tax induced housing boom.

Graph 4.4: Development of real house prices between 1996 and 2008



Note: Type of residential property: Residential property prices, new and existing dwellings, geographical coverage: whole country.
Source: ECB, Eurostat, own calculations.

There may be a tendency in many countries to create tax incentives that lead to over-investment in housing, which in turn leads to lower diversification of households' investments, excessive home ownership and excessive leverage by home-owners. A reduction in mortgage deductions and/or the taxation of imputed rents from owner-occupied housing might lead to more stable housing markets, since gains and costs from housing would be treated more similarly. Taxes on immovable property mainly consist of regular annual levies on land or buildings (residential or commercial) and taxes on property transactions; they can therefore be subject to considerable cyclical fluctuation. In 2007, their revenue represented less than three percent of total revenues from taxation in 19 Member States out of 25.⁽⁵³⁾ In the UK, however, taxes on real estate

levied on both residential and commercial property made up nearly one tenth of total tax revenues in 2008. As a share of GDP, revenue varied from a low of ¼% in Hungary to 3 ½% of GDP in the UK (see Table 4.2).

Tax revenues can however also be raised on property in additional indirect ways (for which reliable data is typically missing). For instance, property ownership may be taxed under the personal income tax. This is quite straightforward in the case of leased property, as the tax will be calculated on the rent collected. In the case of owner-occupied housing, the assessment of the 'proper' taxable base is more difficult, as it theoretically reflects the rental value that could be collected if the property were put on the market. Many countries have more or less given up on attempting to determine the exact current value of property and use revaluated historical values instead, often yielding much lower tax bases. It is hard to assess the order of magnitude of this source of taxation, but it is unlikely to be very large both because data show the share of PIT revenue from capital income to be low in almost all Member States (European Commission, 2010a) and governments often grant tax relief on mortgage payments, which then offsets the PIT revenue to a significant extent. Another example of indirect ways of taxing property is to raise taxes on goods and services that are complementary to housing, such as mortgages or house insurance contracts. In addition, immovable property is typically subject to non-negligible one-off taxation upon inheritance. The levels of revenue raised in this way vary again considerably among Member States. By and large, typical revenue levels vary between a negligible amount and ½% of GDP, only part of which is realised on immovable property (European Commission, 2010a).

In conclusion, tax incentives may have played a role in the development of the housing bubble. However, the size of this role is – at least so far – difficult to assess and the odds are that this role has been secondary to monetary policy and credit market developments.

⁽⁵³⁾ There is no information for Luxembourg and the Netherlands.

Table 4.2: Revenue from real estate taxes in the EU Member States, 2008

Member state	% of GDP	% of Total Tax Revenue
Austria	0.43	1.01
Belgium	1.16	2.63
Bulgaria	0.2	0.61
Cyprus	0.48	1.22
Czech Republic	0.4	1.11
Germany	0.65	1.68
Denmark	0.97	2.03
Estonia	0.3	0.93
Greece	0.84	2.58
Spain	0.79	2.41
Finland	0.49	1.14
France	1.86	4.34
Hungary	0.23	0.57
Ireland	1.32	4.54
Italy	0.84	1.97
Lithuania	0.26	0.89
Latvia	0.63	2.19
Malta	1.16	3.39
Poland	1.09	3.17
Portugal	1.13	3.09
Romania	0.76	2.76
Sweden	0.75	1.61
Slovenia	0.53	1.43
Slovak Republic	0.36	1.27
United Kingdom	3.53	9.48

Note: For some countries the amount is underestimated due to omission of transaction taxes not exclusively levied on real estate or of minor levies. In other cases the amount could be overestimated by including property taxes or stamp duties that fall largely but not exclusively on real estate. In countries where real estate is largely taxed via transaction taxes, revenues can be subject to considerable cyclicalities.

Source: 'Taxes in Europe' Database'.

The main options for reform are the taxation of imputed rents, together with mortgage interest relief, which would be the theoretically best way to tax all capital income while at the same time avoiding a subsidy to housing, or the reduction or abolition of mortgage interest relief (together with a non taxation of imputed rents).⁽⁵⁴⁾ Raising annual property taxes would be partly equivalent to increasing the taxation of imputed rents and could create a stable source of income. The latter, as pointed out by Keen et al. (2010), would however also mean the introduction of better valuation systems in order to create the necessary tax base.

4.1.3. Executive compensation

The public debate of systems and the overall level of executive remuneration in the financial sector

⁽⁵⁴⁾ Discussion on these reform options is ongoing in several Member States. For example, the Irish Ministry of Finance has announced that mortgage interest relief will be phased out.

have received large public attention during the crisis. While these systems create efficiency gains from the perspective of principal-agents problems in the relation between shareholders and executives, they also can create undesirable side effects. It is now widely acknowledged that pay packages of banks' executives contributed to an excessive focus on short-term performance.⁽⁵⁵⁾ Executives are indeed able to realise large payments from bonus and equity-based payments (i.e. stock options) before the long-term effects of business decisions are clear.⁽⁵⁶⁾

The basic difference between performance-related pay and fixed salaries is that some performance-related payments, like stock options, might create incentives for taking risky behaviour. The question here is whether taxes had a significant influence on the spread of these schemes by offering a favourable tax treatment, i.e. whether payments in the form of bonuses, stock options and similar instruments have been treated more favourably than traditional wage payments.

Since the 1990's, there has been a tendency for companies to develop specific executive compensation schemes, such as stock option plans. Tax rules for these payment schemes are complex and vary substantially across countries. There are examples in some countries of such schemes benefiting from favourable tax treatment, such as deductibility from corporate income tax, exemption from personal income tax or social security contributions.⁽⁵⁷⁾ While there may be certain tax or social security contribution aspects which favour these payment packages, there is evidence that, compared to salary payments, only some countries offer tax advantages that could act

⁽⁵⁵⁾ A comprehensive overview of this literature can be found in Bebchuk and Spamann (2009). Bebchuk et al. (2010) describe the executive compensation at Bear Stearns and Lehman from 2000 to 2008 and come to the conclusion that pay packages provided incentives for excessive risk taking.

⁽⁵⁶⁾ The fact that these incentives exist does however not mean that bank executives always profit from these arrangements. As Fahlenbach and Stulz (2009) show many bank CEO did not reduce their equity exposure from pay packages in the crisis and suffered large wealth losses as a consequence.

⁽⁵⁷⁾ See Ceriani (2009) for a discussion. Austria abolished its beneficial taxation of stock options completely as of 1 April 2009.

to amplify the problems linked to the contracts outlined above⁽⁵⁸⁾. The main tax advantage of stock options is the deferral of tax obligations which seem to be rather limited in size. ⁽⁵⁹⁾

In conclusion, there is evidence that pay packages based on equity-based components can create incentives for executives to realise short-term cash payments. If the business strategy proves to fail in the long-term because of high risks taken in the short-run, these payments can usually not be retrieved. In this sense there is foremost a need for regulatory reform⁽⁶⁰⁾ to improve the incentives created by pay packages. Taxes could play an additional role in the sense that a higher taxation of equity-based pay-outs might reduce the incentives for excessive short-term strategies.

⁽⁵⁸⁾ See OECD (2005)

⁽⁵⁹⁾ See e.g. Keen et al. (2010).

⁽⁶⁰⁾ In its Communication dated March 4th 2009, "driving the European recovery", the Commission indicated that it would strengthen its 2004 Recommendation on remuneration of directors of listed companies and table a new Recommendation on remuneration in financial services to address perverse incentives throughout firms. The Commission emphasised that the Recommendation should apply across the financial services industry, regardless of their legal status, in order not to leave aside financial institutions which may also be of importance to maintain financial stability and also to avoid any distortions of competition between different sectors covering the same labour market. These remuneration policy problems in the financial services sector are not limited to directors' and managers' pay, but also extend to remuneration schemes at other levels, notably to those persons whose work involves risk-taking (e.g. traders) and whose remuneration for a variable part is a function of performance. In line with the G20 London Summit conclusions, the Commission adopted on 30 April 2009 the Recommendation (2009/384/EC) on remuneration policy in the financial services sector. Its principles were also confirmed by a general agreement adopted in the ECOFIN Council meeting of November 10, 2009 proving the EU determination to act on this issue. The main objective of this Recommendation was to ensure that remuneration policies of financial institutions do not encourage excessive risk taking and are in line with the long-term interests of financial institutions. The Recommendation invited Member States to adopt measures in four main areas: (i) structure of remuneration policy, (ii) governance, (iii) disclosure of remuneration policy, (iv) supervision. Currently, the Commission evaluates the extent to which Member States have put in place the necessary framework in order to give effect to the main principles of the 2009 Recommendation on remuneration policy in the financial services sector.

4.2. TAXATION AS AN AUTOMATIC STABILISER

4.2.1. Introduction

The previous section analysed how different elements of the design of the tax system could have contributed to the economic and financial crisis. Taxation may, however, also have played a stabilising role in the current economic crisis. This can take place via discretionary measures implemented as active counter-cyclical fiscal policy or via the automatic stabilisers inherent in the tax system, which will be analysed in this section.⁽⁶¹⁾ Stabilisers in the tax system complement other stabilisation policies such as automatic stabilisers on the expenditure side, discretionary fiscal policy and monetary policy. Following Auerbach and Feenberg (2000) automatic stabilisers can be defined as "*...those elements of fiscal policy that tend to mitigate output fluctuations without any explicit government action.*"

Automatic stabilisers have a number of advantages over discretionary policy measures in terms of the support they provide. Through their very nature they provide timely support, as tax receipts are directly linked to the performance of the economy. Furthermore, they do not require the identification of underlying trends before any action is taken by policy makers. Lastly, the size of the stabilisation provided is linked to the magnitude of the slowdown or overheating of the economy and there is no need to actively reverse the stabilisation provided once the economy returns to a sustainable growth path.

The effectiveness of the automatic stabilisers depends on various factors, such as the openness of the economy, labour and product market flexibility and the type of shock hitting the economy.⁽⁶²⁾ There are different ways of looking at and measuring the automatic stabilising effect of the tax and expenditure systems. This section will in general focus on the proportion of

⁽⁶¹⁾ Discretionary measures taken by the EU Member States in response to the financial and economic crisis are addressed in chapter 3 of this report and presented in more detail in European Commission (2010a).

⁽⁶²⁾ See, e.g. Buti et al. (2003) and Buti and Van den Noord (2003) for an analysis of the stabilisation effects for different shocks from the demand and supply side and European Commission (2010b) for a general discussion of the pros and cons of automatic stabilisers.

output/income shocks as measured in levels absorbed by the government. ⁽⁶³⁾

4.2.2. Strength of automatic stabilisers in the overall tax system depends on various factors

As regards the strength of automatic stabilisers, Darby and Mélitz (2007) refer to estimates for aggregate automatic stabilisation in OECD countries of around 0.5 as measured by the sensitivity of the budget to the cycle. Table 4.3 presents estimations for automatic stabilisers in EU Member States. Looking at the reaction of levels of revenues and expenditure to changes in output/income, the revenue side turns out to be quantitatively more important for stabilisation than the expenditure side. This reflects the close-to-unity elasticity of revenues with respect to GDP in most countries, describing an overall more or less proportional tax system. ⁽⁶⁴⁾

The output smoothing capacity of a country's overall tax system depends on various factors. The aspect that has probably been analysed most in the macroeconomic literature is the link between the overall tax-to-GDP ratio and the strength of automatic stabilisers. ⁽⁶⁵⁾ The relationship between the tax-to-GDP ratio and output volatility is certainly complex. There is, however, evidence that automatic stabilisers in general increase with higher tax-to-GDP ratios or bigger governments. ⁽⁶⁶⁾ The relation, however, appears non-linear as several empirical studies find decreasing returns as regards output stabilisation of an increasing tax-to-GDP ratio above a certain value. Debrun et al. (2008) refer to a threshold in

the area of around 40% above which a further increase in the government size would not increase output stabilisation in a relevant way. ⁽⁶⁷⁾ The relationship appears to be non-stable over time, in particular due to structural changes, and depends on the characteristics of the individual country. Given the already high average tax-to-GDP ratio in the EU (see chapter 2), the likely increase in tax revenues in many Member States as a contribution to fiscal consolidation is unlikely to lead to a substantial increase in automatic stabilisation. Moreover, several empirical studies indicate that a higher tax-to-GDP ratio could negatively impact on growth, particularly in the case of corporate and personal income taxation in view of its effects on investment and labour supply (see chapter 5 for an analysis).

A second factor that is critical for the automatic stabilisers is the progressivity of the overall tax system. A higher tax progressivity is in general seen as a way to enhance automatic stabilisers. Progressive taxation makes disposable income less volatile than income and tends to reduce fluctuations in GDP. ⁽⁶⁸⁾ The benefits in terms of stabilisation must, however, be weighed against the potentially distortive effects as discussed in chapter 5 of this report. The increase in stabilisation due to higher progressivity might be limited when compared to the associated loss in efficiency. Simulations by Baunsgaard and Symansky (2009) suggest that increasing the elasticity of PIT with respect to GDP by 10 percent would lead to an increase of the automatic stabilisers by only 0.01% of GDP. The question of the stabilising role of tax progression will be looked at in more detail in the section on the personal income tax (PIT), which is the main

⁽⁶³⁾ Another approach used in the literature is to look at budgetary items in ratios to GDP (and not levels), see, e.g. Darby and Mélitz (2007). Debrun et al. (2008), however, consider the analysis based on ratios to be flawed. The share of government spending in GDP would rise mechanically in bad times even at unchanged government spending levels (in \$ or €).

⁽⁶⁴⁾ In terms of ratios of revenues and expenditures to GDP, this implies that revenue ratios are more or less constant over the cycle, while expenditure ratios vary considerably.

⁽⁶⁵⁾ See, e.g. Debrun et al. (2008) and Martínez-Mongay and Sekkat (2005) for an overview of the literature. For the assessment also measures of the government size other than the tax-to-GDP ratio are used, such as total revenues or government expenditure in percent of GDP.

⁽⁶⁶⁾ See, e.g., Girouard and André (2005), which find that a larger government leads to a greater sensitivity of the fiscal position to fluctuations in economic activity.

⁽⁶⁷⁾ According to estimations by Debrun et al. (2008) an increase in government size by one percent of GDP in the area of government expenditure of around 40% of GDP is unlikely to yield a reduction in output growth volatility in excess of 0.1 percentage points. Buti et al. (2003) and Buti and Van den Noord (2003) even find that at high tax-to-GDP ratios under specific circumstances a further increase in the tax-to-GDP ratio leads to a decrease in the automatic output stabilizers in the case of a supply shock. Whether and at which tax-to-GDP ratio this phenomenon is possible depends, e.g., on the country size and the openness of the economy. In such an area a reduction in the tax burden could lead to a double dividend of higher economic efficiency and more effective output stabilisation. See also Martínez-Mongay and Sekkat (2005).

⁽⁶⁸⁾ See, e.g., Martínez-Mongay and Sekkat (2005) and Buti et al. (2003).

driver of the progressivity of the overall tax system.

Table 4.3: Sensitivity of the budget to the cycle

	Sensitivity of revenues	Sensitivity of expenditure	Sensitivity of budget balance
BE	0.47	-0.07	0.54
BG	0.35	-0.01	0.36
CZ	0.36	-0.01	0.37
DK	0.50	-0.15	0.65
DE	0.40	-0.11	0.51
EE	0.29	-0.01	0.30
EL	0.42	-0.01	0.43
ES	0.38	-0.05	0.43
FR	0.44	-0.06	0.49
IE	0.36	-0.05	0.40
IT	0.49	-0.02	0.50
CY	0.39	-0.01	0.39
LV	0.26	-0.02	0.28
LT	0.26	-0.01	0.27
LU	0.48	-0.01	0.49
HU	0.45	-0.01	0.46
MT	0.35	-0.01	0.36
NL	0.39	-0.17	0.55
AT	0.43	-0.04	0.47
PL	0.33	-0.06	0.40
PT	0.41	-0.04	0.45
RO	0.28	-0.02	0.30
SI	0.41	-0.05	0.47
SK	0.27	-0.02	0.29
FI	0.41	-0.09	0.50
SE	0.48	-0.10	0.58
UK	0.40	-0.02	0.42
EU27	0.39	-0.05	0.43

Note: The sensitivity of the budget to the cycle measures the reaction of the level of the budget balance, in percent of GDP, to a one percent change in GDP. It is defined as the difference between the cyclical sensitivity of four tax categories (Personal tax, corporate tax, indirect tax and SSC) and current expenditure, weighted by their respective GDP shares.

Source: Ameco database based on Girouard and André (2005).

Thirdly, not only the level, but also the structure of the tax system (the tax mix) impacts on the strength of the automatic stabilisers. A higher reliance on cyclically sensitive taxes in overall tax revenues leads to higher automatic stabilisers.⁽⁶⁹⁾ Taxes as a function of income stabilise disposable income more than taxes that are fixed. Empirical studies confirm that direct taxes contribute more than social security contributions and again more than indirect taxes to automatic stabilisation, reflecting the higher elasticity of income taxes to the business cycle. Darby and Mélitz (2007) estimate for a set of OECD countries that around

⁽⁶⁹⁾ See section 2.2 for an analysis of the developments of the main tax categories over the cycle.

60% of the stabilisation via the tax system stems from direct taxes on households, around 30% from other direct taxes and around ten percent from SSC, with a statistically insignificant contribution from indirect taxes.⁽⁷⁰⁾ Baunsgaard and Symansky (2009), however, refer to simulations that show that the increase in the automatic stabilisers that can be achieved by a shift in the tax structure is rather small.⁽⁷¹⁾ As in the case of tax progressivity, a change in the tax structure might negatively affect growth, thereby outweighing the (potentially small) increase in automatic stabilisation.⁽⁷²⁾

4.2.3. Design of individual taxes important for stabilisation

In addition to the importance of characteristics of the overall tax system for the strength of the automatic stabilisers, it is important to analyse the extent to which individual taxes and their design matter. Given the above-mentioned importance of income taxes (and social security contributions) for automatic stabilisation, the following discussion will focus on personal and corporate income taxes.

Personal income taxation and social security contributions

Personal income taxes, as well as social security contributions (SSC), mitigate economic fluctuations by reducing the volatility of disposable income, i.e. a change in gross income leads to a smaller change in net income due to the levying of an income tax and the SSC, respectively. The strength of personal income tax (as well as SSC) as an automatic stabiliser depends on two aspects: (i) how does a change in gross income translate into a change in net income or disposable income⁽⁷³⁾ and (ii) how strong is the link between current disposable income and the demand for goods and services.

⁽⁷⁰⁾ In their paper, Darby and Mélitz estimate the additional tax collection in levels that is produced by a positive output gap.

⁽⁷¹⁾ According to the authors, a shift in the composition of tax revenue by 5 percentage points from indirect taxes to PIT would increase automatic stabilisers on the G-20 average by only around 0.05 % of GDP.

⁽⁷²⁾ See chapter 5.3 for a discussion of growth-friendly tax structures.

⁽⁷³⁾ A change in gross-income can, of course, not only lead to a change in taxes and SSC but also to a change in benefit payments which also impact on disposable income.

The degree to which disposable income is smoothed through the tax system depends first of all on tax rates and the tax structure. A more progressive tax structure has a stronger stabilising effect, as a decrease (increase) in income will entail a lower (higher) average tax rate, but fully proportional or even regressive taxes can also have a stabilising effect. Disposable income will decline less than the pre-tax income as part of the decline in pre-tax income will automatically lead to a reduction in government revenue.

Most EU Member States have progressive PIT. Seven EU Member States, however, currently apply so-called flat rate personal income taxes.⁽⁷⁴⁾ It is therefore worthwhile to analyse the strength of flat tax systems – as compared to standard progressive rate systems – as an automatic stabiliser.⁽⁷⁵⁾ The introduction of a flat tax combined with a tax-exempt threshold does not necessarily decrease tax progression⁽⁷⁶⁾ and the role of the tax system as an automatic stabiliser. The overall effect of the introduction of a flat tax on tax progression depends on the progressivity of the pre-reform tax rate schedule, the level of the new threshold, potential changes in the tax base, the impact on tax compliance and taxpayers' distribution.⁽⁷⁷⁾ Keen et al. (2008) point out that income shocks tend to be concentrated at lower levels of income. If this is the income region somewhat above the threshold of the flat tax, automatic stabilisation could actually be greater under the flat tax. This is due to the fact that in this income region, the introduction of a flat tax is typically associated with an increase in the marginal tax rate, whereas it leads to a reduction in the marginal tax rate for very low incomes below the tax allowance (to zero) and for high income levels.

However, it is not only the rate structure of the PIT that matters, but also the tax base. Tax deductions

⁽⁷⁴⁾ These Member States are Bulgaria, Czech Republic, Estonia, Latvia, Lithuania, Romania, Slovakia.

⁽⁷⁵⁾ See European Commission (2009a) and Keen et al. (2008) for a detailed discussion of so-called flat tax schemes.

⁽⁷⁶⁾ See, e.g. Jakobsson (1976) for a discussion of different measures of tax progression.

⁽⁷⁷⁾ As also pointed out in European Commission (2009a), global measures of tax progression need to consider how the entire distribution of income is changed through the tax system. To calculate such global measures, the tax (and benefit) schedule needs to be complemented with data on the distribution of income, which raises conceptual and data availability issues.

in place in many tax systems can function in a pro-cyclical way. To the extent that taxpayers move into lower tax brackets or even have no taxable income in economic downturns, the money value of tax deductions is reduced in times of downturns. From this perspective, tax credits are preferable to deductions or allowances, because the value of the tax credits is independent of the marginal tax rate as long as the tax due is positive. If the introduction of the tax credit in addition increases the progressivity of the marginal tax structure, it could further smooth macroeconomic demand fluctuations. Refundable tax credits even act as transfer payments in downturns and can smooth disposable income and stabilise the economy further.⁽⁷⁸⁾

In contrast to PIT, which in all but one EU country⁽⁷⁹⁾ has at least a progressive element, SSC overall tend to be linear or regressive. This is due to the fact that contribution ceilings are in place in many Member States.⁽⁸⁰⁾ However, as pointed out above, regressive contributions have a stabilising effect, too. In the case of SSC, the tax incidence is of importance for their potential to have an income stabilising effect. This applies in particular to employers' SSC, which can only have an income stabilising effect if they are borne by the employees.⁽⁸¹⁾

A rather simple measure for the progressivity of the tax system including PIT and SSC can be calculated based on the tax wedge concept presented in Chapter 3.3. This can be done by comparing, e.g., the tax burden (incl. SSC) of a single person earning five thirds and two thirds of the average wage (see also OECD (2010)). This measure shows that the progressivity of personal income tax is partly offset by the regressive structure of SSC in many countries. Based on this measure, the progressivity of the tax system (incl. SSC) has increased or remained stable in all but two EU OECD Member States in the 2000 to 2009 period (see discussion in Chapter 3.3).

⁽⁷⁸⁾ For a more detailed discussion of tax credits see Batchelder et al. (2006).

⁽⁷⁹⁾ Bulgaria is the only EU Member State with a flat rate tax that currently has no general tax allowance.

⁽⁸⁰⁾ See 'Taxes in Europe' database for a presentation of the rate structure in the Member States.

⁽⁸¹⁾ In case they are borne by the employers, a reduction in the employers' SSC would have no impact on the disposable income of the employees.

The extent to which the stabilisation of disposable income translates into a lower volatility of household consumption depends on several factors. The demand of households will remain unchanged if the demand depends on permanent income or life-cycle decisions, the households perceive the decline in income as transitory, and if they are not credit constrained. In this case the impact of the automatic stabiliser would be zero. In case of a (normal) cyclical downswing, the extent to which households are liquidity constrained or myopic is important. While the economic and financial crisis has likely impacted trend growth, it is unclear how far this will impact on the expectations of households about their permanent and lifetime income.

In a recent study, Dolls et al. (2010) calculate automatic stabilisers of the tax and benefit system in the crisis. The study is based on micro data for 19 EU Member States and the US and focuses on the effects of PIT, employees' SSC and unemployment benefits.⁽⁸²⁾ With respect to the first two components, it derives estimates of 36% and 28% for the share of the income shock absorbed by automatic stabilisers in EU countries for a proportional income shock and an unemployment shock, respectively⁽⁸³⁾ (see Table 4.4). This implies that around one third of the reduction in gross income directly leads to lower government tax revenues and two thirds to lower disposable income of households.⁽⁸⁴⁾ The study derives an additional income stabilisation effect via higher government spending on unemployment benefits of 1.7% and 18.8% for the two types of shocks. As discussed above, the results for demand stabilisation depend on how the change in disposable income translates into a change in demand. Under the permanent income hypothesis, a change in current disposable income can only lead to a change in demand when parts of the households are credit constrained. Dolls et al.

⁽⁸²⁾ The study also contains extensions to consider the role of employers' SSC and consumption taxes.

⁽⁸³⁾ In the case of an income shock the study assumes a proportional decline in household gross income by 5%, whereas in the case of the unemployment shock it assumes an increase in the unemployment rate that leads to a decrease in total household income by 5%.

⁽⁸⁴⁾ An assessment of flat tax system is not possible based on this dataset as it only includes one flat tax Member State (Estonia). For this country, however, it is interesting to note that the income stabilising effect of the PIT alone is rather close to the EU average (23% for Estonia compared to an average of 26%).

(2010) use four different approaches to identify liquidity constrained households. Taking the tax and benefit system together, the demand stabilising effects range from 4.1% to 31.3% for the two shock scenarios analysed. The results are quite heterogeneous across countries, with Central and Northern European Countries having in general much higher automatic stabilisers than Eastern and Southern European countries. This is, e.g., shown by the demand stabilising effect in the case of a proportional income shock using an upper limit for the share of credit constrained households: the demand stabilising effect of the tax/benefit system ranges from 2.1% (Slovenia) to 44.8% (Denmark).

Table 4.4: Automatic stabilisation of PIT, employee SSC and benefits

	Income scenario			Unemployment scenario		
	Income stabilisation	demand stabilisation lower bound	upper bound	Income stabilisation	demand stabilisation lower bound	upper bound
PIT	0.260			0.156		
SSC	0.100			0.124		
Benefit	0.017			0.188		
SUM	0.377	0.041	0.242	0.468	0.132	0.313

Note: Arithmetic averages of the 19 EU countries analysed.

Source: Dolls et al. (2010).

To conclude, the tax and benefit system tends to stabilise income and demand over the cycle in a static perspective. However, relatively high automatic stabilisers can potentially encourage activity and increase employment in cyclical industries through softening the negative effects of downturns on disposable income. Such behavioural adjustment may offset part of the stabilisation effect of the tax/benefit system.

Corporate income taxes

Due to their cyclical nature, profits are far more volatile than GDP. Despite their generally linear tax rate, corporate income taxes therefore account for a greater share of tax fluctuations than their rather low share in overall tax revenues would suggest (see Chapter 2). This, however, does not necessarily imply that corporate income taxes play an important role as automatic stabilisers. Decisions of firms to invest or purchase input goods do in general not depend on their current cash flow and how it is influenced by taxation, but on capital costs and expectations about the profitability of investment linked to present and expected future demand.

Corporate income taxes only have a stabilising effect if two conditions are fulfilled: ⁽⁸⁵⁾ (i) the tax system must cushion fluctuations in profits, or in other words, a change in taxable profits needs to translate into a change in the tax due. This is the case if a company has a positive current taxable income or if a loss making position has the possibility to carry the loss back. (ii) Companies must at the same time face a lack of financial reserves and be credit constrained. In the case that both conditions are fulfilled, the effect of tax policy on the cash flow becomes important in stabilising demand and CIT plays a countercyclical role in downturns. ⁽⁸⁶⁾ It is important to note that both the share of companies that are credit-constrained and of those that have positive profits are affected by the cycle. While the share of companies making profits increases (decreases) in an upswing (downswing), the share of credit-constrained companies tends to decrease (increase). The size of the automatic stabiliser also depends on the CIT rate itself, with a higher CIT rate implying a stronger stabiliser. ⁽⁸⁷⁾

A loss carry forward is less valuable than a loss carry back. As a loss carry forward does not only have the disadvantage that the real value of the payment is lower because of its postponement to a future period, but also that it does not stabilise the current cash flow. Restricting loss offsets by excluding loss carry back therefore reduces the potential of CIT as an automatic stabiliser. Currently, companies can carry forward losses indefinitely in around half the EU Member States, with the period limited to 5 to 15 years in the other Member States (see Table 4.5). Some Member States have specific conditions for the carry forward or put a limit on the maximum amount used in a given year. Only five Member States allow in general for the carry-back of losses (see Table 4.5)

⁽⁸⁵⁾ See, Buettner and Fuest (2009), Devereux and Fuest (2009) and Auerbach and Feenberg (2000).

⁽⁸⁶⁾ The CIT tax might also have an indirect effect not only via the investment demand of companies but also via enabling companies to maintain dividend payments in recessions which maintains the disposable impact of the shareholders at a relatively stable level.

⁽⁸⁷⁾ See Table A.1.3 in Annex 1 for an overview of the top CIT rates in the EU Member States

Table 4.5: Loss carry-forward and back in the EU, 2009

Loss carry-forward	
5 years	BG, CZ, EL, IT, PL, SK
6 years	PT
7 years	RO
8 years	LV
9 years	NL
10 years	FI
15 years	ES
indefinite	BE, DK, DE, IE, FR, CY, LT, LU, HU, MT, AT, SI, SE, UK
Loss carry-back	
-	BE, BG, CZ, DK, EL, ES, IT, CY, LV, LT, LU, HU, MT, AT, PL, PT, RO, SI, SK, FI, SE
1 year	DE, IE, NL, UK
3 years	FR

Note: The table presents the general situation for the loss carry-forward and back. Some Member States have specific conditions for the carry forward or back or put a limit on the maximum amount used in a specific year. For a detailed description see, e.g., 'Taxes in Europe' database. Losses carry-back and -forward are not applicable in the case of Estonia.

Source: Commission services.

Several countries have (temporarily) introduced more generous rules on carry forwards and carry backs in the course of the current crisis. In the Netherlands, corporate taxpayers may opt, based on a temporary provision, to carry back losses for two years with respect to the fiscal years 2009 and 2010. ⁽⁸⁸⁾ In the Slovak Republic, the loss carry-forward period was increased from five to seven years applicable as of 2010, in Latvia from 5 to 8 years as of 2009 and in Romania from 5 to 7 years also as of 2009. In France, carry back credits were reimbursed immediately in 2009, instead of the usual delay of up to five years, enhancing its role as an automatic stabiliser.

The merits of loss carry-forwards and particular carry-backs are not undisputed. Loss offsets (either longer carry forwards or carry back) have a cost in terms of lower tax revenue and make revenue forecasting more difficult. Moreover, they impose a burden on the tax administration, in particular in the case of carry-back. Finally, loss carry forwards and backs are also associated with fears about abuse, which has made several countries introduce restrictions on the use of losses from other periods in recent years. ⁽⁸⁹⁾ On the other hand, a generous

⁽⁸⁸⁾ For companies using this option, the loss carry forward is restricted to six instead of the usual nine years.

⁽⁸⁹⁾ See, e.g., Dwenger (2008) for a discussion of tax loss offset restrictions that have been introduced in Germany in recent years.

approach with regard to losses in times of recessions can ease restructurings (mergers, acquisitions).⁽⁹⁰⁾ As a general rule, the tax system should neither prevent nor encourage restructurings.

Even if loss carry backs were possible, delays in collection can reduce the potential role of CIT as an automatic stabiliser.⁽⁹¹⁾ The potential stabilising effect also depends on whether the instalments are based on income from previous years or on estimated income for the current year, with the latter treatment being preferable.⁽⁹²⁾ A CIT system that more closely reflects actual profitability is in general preferable from a stabilisation point of view as well.

Whereas they can function in a stabilising way in downturns, it could be asked whether corporate income taxes might turn out to be pro-cyclical in upturns. Many corporations, at least in the first years of an upswing, benefit from past loss carry forwards as an instrument to reduce their tax due, which provides them with extra liquidity.

Few empirical studies exist on the role of the CIT as an automatic stabiliser. Devereux and Fuest (2009) find a very small demand stabilisation effect for the UK of 1 per cent of the initial shock to gross income. In the presence of a full loss offset (carry back), the effect would have amounted to 8.5 per cent. Using a more detailed data set for Germany, Buettner and Fuest (2009) find a higher stabilising effect of CIT in the range of 3-13 percent of the initial shock to gross revenues in a situation with no loss carry back. As discussed above, the result depends on the share of firms that have a positive taxable income and are at the same time credit constraint. Both shares change with the cycle, although in an opposite way. According to Buettner and Fuest (2009) the role of the CIT as an automatic stabiliser is likely to increase with the length of the downturn as the share of credit constraint companies tends to grow. It is also important in how far a demand stabilisation also stabilises domestic output, as part of the demand could leak to other countries.

Overall, the available empirical evidence points to CIT playing only a limited role as an automatic stabiliser.

4.2.4. Automatic discretionary policy

The previous sections showed that, despite the number of advantages they have over discretionary policy measures, the stabilising elements inherent in the tax system suffer from the fact that tax systems must fulfil multiple aims. As such, their ability to respond to the aim of stabilisation is restricted by their other objectives, which are of primary importance. Moreover, the use of extensive discretionary stimulus as the crisis hit indicates that the amount of automatic stabilisation provided was expected to be insufficient. Increasing the size of the automatic stabilisers would therefore have strong advantages for most countries. Against this background, the question emerges: how to enhance stabilisation without compromising growth?⁽⁹³⁾

Recently, the idea of automating discretionary policy has been increasingly discussed as an alternative to increasing the traditional automatic stabilisers in the case of severe recessions.⁽⁹⁴⁾ This idea envisages predefining specific tax changes, like temporary VAT reductions, PIT rebates, investment tax credits, for predefined economic situations, such as a specific projected reduction in GDP. Such policy measures could be targeted at households that would have large multipliers. By using automatic discretionary policy decisions, changes to the tax system could be in place much faster than the normal discretionary changes. They could contribute to lessening interference by politicians and reducing uncertainty. However, in order to be revenue-neutral these measures would need to be counterbalanced, e.g. by automatically higher rates in good times, at the risk of some asymmetry over the cycle.⁽⁹⁵⁾

Another stabilisation device could be the establishment of so-called rainy-day funds. Such instruments could strengthen the commitment of governments to not spend or give away via tax cuts because of better-than-expected budgetary

⁽⁹⁰⁾ See Keen et al. (2010).

⁽⁹¹⁾ See Creel and Saraceno (2008).

⁽⁹²⁾ See, for instance, Baunsgaard and Symansky (2009).

⁽⁹³⁾ For this discussion see also European Commission (2010b).

⁽⁹⁴⁾ See, for instance, Solow (2005).

⁽⁹⁵⁾ For a more detailed discussion of design issues and other questions see Baunsgaard and Symansky (2009).

outcomes in good economic times. Building on a non-ambiguous definition of good and bad economic times, predefined revenue rules could reinforce such commitments by determining ex ante which share of revenue windfalls should be saved.⁽⁹⁶⁾ The potential of such schemes depends largely on country-specific features. For instance, in countries where housing taxes are driven by highly cyclical transaction tax revenues, rainy-day funds could be a way to improve the management of such revenue windfalls.⁽⁹⁷⁾

4.3. FINANCIAL SECTOR TAXATION

The activities and business structure of the financial sector have been intensely scrutinised in the aftermath of the financial crisis.⁽⁹⁸⁾ While there is broad consensus that taxes did not play a central role in the build-up to the crisis, there is an ongoing debate about whether certain activities of the financial sector and the structure of balance sheets of financial institutions have been detrimental to stability.

In recent months, various tax measures have been debated in several international fora, such as the EU and the G20, to possibly remedy this situation. The European Commission has issued a Staff Working Document on innovative financing at global level that dealt with i.a. financial sector taxation.⁽⁹⁹⁾ The IMF presented a report to the G20 ministerial meeting in June 2010 on the possibilities for taxing the financial sector.⁽¹⁰⁰⁾

This section discusses one important aspect of the current debate, namely the question of whether the potential existence of pure economic rents in the financial sector might justify a tax that specifically addresses these rents, e.g. by taxing profit and remuneration like the Financial Activities Tax (FAT) proposed by the IMF. In addition, other instruments can be specifically applied to the

financial sector, e.g. bank levies⁽¹⁰¹⁾. In fact, these instruments have already been discussed in some detail in the above mentioned Commission Staff Working Document (European Commission (2010d)). Before the FAT and a tax on bonuses are discussed in more detail, the proposal for an FTT and a bank levy will be addressed briefly.⁽¹⁰²⁾

The idea of a transaction tax is derived from a 1978 proposal by James Tobin.⁽¹⁰³⁾ He proposed an internationally based tax on all spot conversions from one currency into another. The idea of an FTT has a much broader scope and can also be applied to other financial transactions such as equity, bonds, derivatives etc. In the recent discussions, the proponents of an FTT have made the point that it could stabilise financial markets by reducing speculative and technical trading and raise substantial tax revenue. The effect on price volatility is, however, found to be positive in a number of empirical studies.⁽¹⁰⁴⁾ The possible effects for business and government financing, and on the allocative efficiency of financial markets due to the increase in the price of transactions, would need to be further assessed. In terms of economic incidence, the distributional effects depend on the extent to which financial intermediaries can pass on the costs to their clients. In addition, the relative distribution of financial transactions also needs to be further assessed. An FTT also faces open legal questions, especially with respect to the taxation of currency transactions. The tax would discriminate between all transactions involving countries with different currencies compared to countries with one currency.⁽¹⁰⁵⁾ Estimations highlight significant revenue raising power, with numbers ranging up to EUR 20 billion at EU level and EUR 50 billion worldwide (excluding contributions from derivatives)⁽¹⁰⁶⁾, but these estimates are

⁽⁹⁶⁾ Balassone et al. (2007) provide evidence regarding the US that the effectiveness of rainy-day funds hinges crucially on the existence of strong fiscal rules.

⁽⁹⁷⁾ For a discussion of the size and determinants of revenue windfalls in EU countries, see Barrios and Rizza (2010).

⁽⁹⁸⁾ The financial sector is defined in this section as consisting of banks. This does not mean that the basic issues discussed here do not apply to other financial companies like insurance companies.

⁽⁹⁹⁾ See European Commission (2010d).

⁽¹⁰⁰⁾ See IMF (2010b).

⁽¹⁰¹⁾ These levies could be labelled as taxes in case the revenue was used for the general budget.

⁽¹⁰²⁾ While a tax is usually defined as a payment which is directed to the general budget without any equivalent given, a levy is usually associated with the payment entitling the payer to receive some equivalent for the levy.

⁽¹⁰³⁾ See Tobin (1978).

⁽¹⁰⁴⁾ See for example Baltagi, Li and Li (2006), Hau (2006) as well as Jones and Seguin (1997).

⁽¹⁰⁵⁾ For a more detailed analysis of FTT and its potential merits and weaknesses see also European Commission (2010d) as well as IMF (2010b).

⁽¹⁰⁶⁾ It is not straight forward to determine the transaction value for derivatives.

subject to significant uncertainty. ⁽¹⁰⁷⁾ There is also a risk of circumvention, both from the relocation of transactions to non-taxed jurisdictions and from the shifting of financial intermediation to untaxed products. In conclusion, the FTT could be a revenue raiser, but it should be levied at global level in order to reduce relocation issues given the high mobility of international financial markets.

The Commission Communication on "Bank Resolution Funds" of 26 May 2010 ⁽¹⁰⁸⁾ suggests the setting up of 27 harmonised Member State funds to finance the orderly and financially non-disruptive resolution of EU banks. It suggests that these funds should be pre-funded by financial sector contributions, referring to banks' liabilities as one potential tax base. Balance-sheet related levies are a potentially useful tool in the context of a fair sharing of the burden of past and possible future economic crises. Various proposals are currently being discussed or have already been introduced in various countries. ⁽¹⁰⁹⁾ Bank levies can also contribute to the internalisation of systemic risk, which is in particular created by systemically important large banks. Depending on the design of the levy it might reduce excessive risk taking by financial institutions, and thereby foster financial stability. However, higher costs of capital could also reduce credit demand and supply and thereby, investment and aggregate growth. The size of the effect might, under reasonable assumptions for the base and rate of the levy, be relatively small. If the base was calculated on consolidated (world-wide) balance sheets, international coordination would be necessary in order to avoid a double burden and reduction of financial intermediation.⁽¹¹⁰⁾ On 17 June 2010, the European Council adopted conclusions about bank levies: *"The European Council agrees that Member States should introduce systems of levies and taxes on financial institutions to ensure fair burden-sharing and to set incentives to contain systemic risk. Such levies or taxes should be part of a credible resolution framework."*

⁽¹⁰⁷⁾ See European Commission (2010d) for a presentation and discussion of current revenue estimates.

⁽¹⁰⁸⁾ See COM(2010) 254 final:
http://ec.europa.eu/internal_market/bank/docs/crisis-management/funds/com2010_254_en.pdf

⁽¹⁰⁹⁾ For an overview of current proposals see IMF (2010b).

⁽¹¹⁰⁾ In fact, some member states already expressed their intention to impose additional levy on specific financial market institutions.

The remainder of this section starts with a discussion about whether the financial sector is under-taxed, notably about whether the sector enjoys specific rents which should be taxed. Next, it turns to specific tax and regulatory provisions that may influence taxation.

4.3.1. Sector-specific economic rents?

Competition within the financial sector and the regulation of banks differ significantly from other sectors. ⁽¹¹¹⁾ The reason is that banks fulfil specific roles in the economy, with direct and strong effects on the entire economy. Among other functions, banks provide means of payment. They also act as intermediaries between small amounts of short-term capital supply (i.e. depositors) and demand for large long-term amounts from borrowers. In addition, they screen borrowers, monitor their activity and enforce repayments.

These functions imply high interconnectivity between banks and mean that considerable liquidity and credit risk must be held by banks. As providers of payment systems, banks create interconnected networks. Many clients of banks only make use of these payment systems and do not act as financial investors. These depositors are protected by regulation (e.g. Deposit Guarantee Schemes protect them up to a certain degree against losses). Furthermore, banks transform short-term deposits into long-term credits, which requires them to handle maturity mismatches (i.e. short versus long term interest rates) and to manage liquidity and market risk. Banks trade in interbank markets (either directly among each other or through brokering platforms) to meet their liquidity requirements and to achieve their profitability and risk targets. For these markets, financial stability and trust are essential. If they are distorted, as witnessed in the recent crisis, banks would run in severe liquidity problems. Given these characteristics of the banking sector, some form of safety network for banks is necessary to protect bank clients from the effects of a potential bankruptcy and to preserve the financial stability needed for sufficient liquidity.

Banks are different from other sectors for two main reasons: (a) their bankruptcy carries, depending on the size of the failing institution, a

⁽¹¹¹⁾ The argument draws on Beck et al. (2010).

high social cost and negatively affects competing banks through their interconnectedness in interbank markets; and (b) the existence of an (implicit or explicit) safety net combined with banking regulation may put banks into a situation where they enjoy economic rents. Banks are aware of this special situation and this may create moral hazard for systemic important banks. Those are usually big and highly interconnected banks. In particular, large and strongly interconnected financial institutions that may expect to be bailed out in case of default, have an incentive to take excessive risk.⁽¹¹²⁾

It is often argued that the financial sector might enjoy pure profits (i.e. economic rents) and face moral hazard because of these implicit guarantees, and that they might be oversized because of this special position. In fact, the proposals for bank levies based on (risky) items of their financial statements and related resolution funds try to mitigate the problem of implicit guarantees by providing better incentives to reduce risks exposure, and reducing the rents that accrue to the "too big to fail" institutions.⁽¹¹³⁾ In general, temporary rents for a single company or a sector are not problematic. High profitability in a sector will lead to more investment and entry in that sector.⁽¹¹⁴⁾ The increased competition will drive profits down to 'normal' market returns. If competition works properly, then there is no problem with pure profits from, e.g., product or production innovations. Due to the special structure of the financial sector – high interconnectedness and concentration⁽¹¹⁵⁾,

however, this competitive mechanism might not work properly in the financial sector. As a consequence, there might be persistent economic rents and - if this is the case - it would be reasonable to tax these rents (i.e. tax profits above a 'normal' return to factors of production). Identifying these rents is nevertheless a difficult exercise. Hence, an alternative approach would be to tax some proxy for the risk exposure of the banks: the tax is then designed not only to capture the rents that accrue to the "too big to fail" institutions, but to provide better risk allocation to them, thereby indirectly reducing the extra rents through excessive risk taking.

4.3.2. Corporate Income Taxation

Corporate income tax provisions generally apply in the same way to banks and non-banks. In that sense, taxable profit is subject to the same statutory tax rate. However, this does not necessarily mean that the financial sector faces a tax burden similar to other sectors. Several caveats apply.

First, in many countries, accounting practices and frameworks seem to differ from the ones applied to non-financial companies. This blurs the notion of accounting profit. Huizinga and Laeven (2009) also suggest that the financial sector might enjoy large discretion in the computation of their taxable profit. Although the authors do not discuss the differences with non-financial sectors, it is possible that this creates a bias. This is because the widespread method of fair value accounting⁽¹¹⁶⁾ might be more beneficial in terms of the kinds of assets and liabilities held by financial institutions than those of companies in non-financial sectors.⁽¹¹⁷⁾ Fair value accounting is indeed somewhat more subject to discretion than values based on historical cost.

Second, the structure of income in the banking sector differs strikingly from the one in non-financial sectors. In the latter, profits are derived

⁽¹¹²⁾ The difference to other sectors with respect to moral hazard can be explained by using the pharmaceutical sector as an example. If a company sells a drug which is later proven to be damaging for patients, the company will have to pay for the damages. The government does not bail out the company, in fact, it might even go bankrupt. However, this bankruptcy is not problematic for other pharmaceutical companies since the companies in this sector are not as interconnected as companies in the financial sector. On the contrary, the failure of a competitor usually increases the profit opportunities of other companies.

⁽¹¹³⁾ See also the Communication of the European Commission on Bank Resolution Funds (COM(2010) 254 final).

⁽¹¹⁴⁾ Take again the pharmaceutical sector as an example. Rents in this sector are even legally protected by patents in order to create incentives for research. However, after the patent expires competitors try to create generics. This process drives prices and profits down.

⁽¹¹⁵⁾ The GDP-weighted average EU27 C3 ratio, indicating the cumulative share of the largest three competitors was 70 % in 2008. Note that the figure for the US is 35 % (computations based on Beck and Demirgüç, 2009).

⁽¹¹⁶⁾ In particular, the IAS 39 that applies to financial instruments. Note, however, that in some countries such as Belgium, the taxation statement follows the accounting statements and are widely based on historical costs.

⁽¹¹⁷⁾ Although this argument needs to be balanced by the fact that some sectors may have proportionally more intangibles than the financial sector and that the accounting value of these assets is also subject to some degree of discretion.

from the total amount of sales, from which the cost of materials and the compensation of workers is deducted to provide the gross operating profit. The net operating profit is obtained by deducting depreciation allowances and by correcting for value adjustments and provisions. Then the financial income is added, the interest paid is deducted and value adjustments on financial assets are made (in addition to extraordinary income and charges) to obtain the taxable profit. In the banking sector, the bulk of revenues is made out of net interest income (received minus paid) and of net fees and commissions received. Next, staff and property costs are deducted and all provisions accounted for. This conceptual difference in revenue makes it difficult to compare the tax bases in the absence of a satisfactory comparable measure of profit.

Third, because of their interconnectivities, banks may be more likely to be part of an international group. This, coupled with the specific characteristics of their assets, could enable them to shift profit more easily. Demirgüç-Kunt and Huizinga (2001) indeed find evidence that foreign-owned banks engage in profit-shifting activities. ⁽¹¹⁸⁾ They report that for the years 1988-1995, the average share of foreign bank assets was 27% for a set of 80 OECD and developing countries. Isolating EU Member States only, the average was 21%. This is exactly the value found by Huizinga and Nicodème (2006) for all sectors in Europe over the period 1996-2001. Although the time frames are different, this does not seem to strongly suggest that banks are clearly more multinational than non-financial sectors. The question of whether their assets are more easily shifted abroad remains an empirical question, although the tax elasticity of some financial products is estimated to be high. ⁽¹¹⁹⁾

What does the empirical evidence tell us? In terms of their contribution to tax receipts, the financial sector accounted for a substantial share of corporate tax revenue before the crisis. The EU27 GDP-weighted average share of the contribution by the financial sector to corporate tax collection was around 20% in both 2006 and 2007. It

⁽¹¹⁸⁾ Also, the assignment of banking policy responsibilities varies between host and home countries across policies (see table 7).

⁽¹¹⁹⁾ See Huizinga and Nicodème (2001) for international deposits.

decreased to 17% in 2008 as a result of the crisis. This share will most probably decrease further in the coming years due to the fact that the losses accumulated in the crisis will reduce future tax payments via loss carry forward. These values for the EU27 are similar to those for many non-EU G20 countries, as collected by the IMF for its preliminary report to the G20. For the period between 2006 and 2008, the share of the financial sector in corporate taxation was around 18% for the United States, 23.5% for Canada and around 15% in Brazil and Australia. The financial sector therefore seems to have a share in total CIT that exceeds its share in the value-added or total employment of the business sector, at around 5 and 3% respectively. This is, however, not evidence that the financial sector is over-taxed, as higher profitability – stemming from rents or not – inevitably leads to higher taxes. However, given that implicit state guarantees result at least partly in economic rents there is a theoretical case for above-market profits in the sector. Further research will need to address this empirically.

4.3.3. Exemption from Value-Added Taxation

If statutory provisions of corporate tax systems do not seem to discriminate between the financial sector and the non-financial activities, the same is not true for value-added taxation. Since the adoption of the Sixth VAT Directive in 1977, the EU's common value added tax system has generally exempted mainstream financial services, including insurances and investment funds. Article 135(1) of the VAT Directive provides an exemption from VAT for most financial and insurance services. To some extent the Directive reflects an uncertain approach in that it also allows EU Member States to grant taxable persons the option of taxing financial services – to the extent that this is technically possible. The difficulty is to technically define the price of specific financial operations (e.g. for interest margins).

Applying VAT to financial activities raises difficulties. As Huizinga (2002) points out, a major input (and output) in the financial industry is capital and determining the price on which VAT shall be applied is difficult, for example because interest rates charged or offered also reflect i.a. risk premia or the price of auxiliary services. The situation is even more complicated if either the borrower or the lender is a business. In that case,

one would have to determine the share of interest margin made by the bank that accrues to the VAT-liable operator (De la Feria and Lockwood, 2010).

The question of whether applying VAT to the financial sector would raise additional tax revenues and – consequently – whether the exemption constitutes an under-taxation case for the financial sector is an unsettled empirical question. Whereas the exemption means that the financial sector does not charge VAT on most of its output, it cannot either deduct the VAT charged on its inputs. This is known as the 'irrecoverable VAT problem'. Based on case studies, PricewaterhouseCoopers (2006) found that VAT recovery rates in the financial sector varied from 0% to 74%. The variations in recovery rates could be explained by differences in the way in which the Member States interpret the scope of the exemption and the option to tax. De la Feria and Lockwood (2010) estimate the irrecoverable VAT at 0.39% of total tax revenue for Italy, 0.43% for Spain, 0.64% for France, 0.65% for the Netherlands, 0.74% for Germany and 1.48% for the UK.

To account for this potential under-taxation and to overcome the difficulties in applying VAT, several authors have proposed various versions of cash-flow VAT taxation, which would treat all inflows as taxable and all outflows as creditable inputs (see e.g. Poddar and English (1997))

4.3.4. Quasi-taxation

As stressed by Honohan (2003), the financial sector is also subject to many regulations that act as quasi-taxes. These are reserve requirements at the Central Bank (often unremunerated or with low remuneration), liquidity reserve requirements, as well as in some countries – although not in the EU – explicit interest ceilings. In addition, banks are subject to the payment of contributions to deposit guarantee schemes ⁽¹²⁰⁾ and there are ongoing debates on the bank levy, including its possible use for the financing of resolution fund(s). Furthermore some Member States have already expressed their intention to impose an additional levy on specific financial market institutions.

⁽¹²⁰⁾ See Huizinga and Nicodème (2006b) for a description of these schemes.

4.3.5. Conclusions: which policy to tax economic rents?

The Financial Activities Tax

Economic rents translate into higher before-tax company profits. If the policy goal is to reduce these rents in order to correct for the potentially distorted size and behaviour of the financial sector discussed above, a tax that falls directly on this profit is the first-best solution. Indeed, the European Commission (2010d) has discussed an increase in profits taxation (surcharge) with respect to the taxation of pure profits. The IMF has proposed a broader means, a so-called Financial Activities Tax (FAT). This tax is not only levied on profits but on the sum of profits and remunerations. Depending on the precise design of the FAT (definition of taxable profit, threshold for the taxation of remunerations and profits) it could serve two different goals. ⁽¹²¹⁾

First, its tax base would proxy value-added by taking the sum of cash-flow profit and remuneration for each tax period. It has been used in some countries as a surcharge applied to sectors that are fully or largely exempted from VAT. Several Member States are indeed already applying such schemes. Denmark applies a financial sector-specific tax on labour costs, which was increased in 2010 from 9.13% to 10.5%. France applies a progressive wage tax to companies that are not liable for VAT (or are not liable for VAT for at least 90% of their turnover), levied on the sum of gross wages paid and benefits in kind. ⁽¹²²⁾ Finally, Italy's IRAP is a regional tax that is applied on profit and remunerations of companies.

Second, a FAT would not directly alter market structures where financial institutions are active, since it taxes profits independently of how profits are earned. In this sense, it is targeted as it does not discriminate between different products or depend

⁽¹²¹⁾ Alternative definitions of profit and remuneration could be used as tax base and have been outlined by the IMF (2010b). Depending on the concrete design the FAT could be designed to mimic value-added, to tax on rents, or to tax risk-taking.

⁽¹²²⁾ In 2009, the rates were 4.25% for the portion of annual individual wages not exceeding EUR 7,461; 8.5% for the portion between EUR 7,461 and EUR 14,901; and 13.6% for the portion exceeding EUR 14,901.

on the level of turnover. ⁽¹²³⁾ It would however lead to differences in treatment between financial institutions which would be subject to such a tax and quasi-financial institutions which would be outside the scope of such a measure.

Third, by designing the tax base in order to cover only profits above normal market returns, the FAT would especially fall on excessive profits from high risk activities. In this sense, the tax would reduce incentives to engage in excessive risk taking. While this is theoretically intriguing, it turns out to be very difficult to determine "normal market returns" in reality. ⁽¹²⁴⁾ For capital, the interest rate on risk-free investments is taken and increased by return on risk component. The latter is of course difficult to estimate. For wages, average wages in other sectors could serve as a proxy. This would however not account for structural differences in sectors, which might lead to different wage structures in addition to potentially untaxed rents.

An important question is whether the economic incidence of the tax falls on the financial sector. This depends on the concrete design of the tax. If it is only levied on "above-normal profits" by taxing only profits and remuneration above a certain threshold, that is on economic rents, there is less incentive to shift it to customers since the profit maximisation condition would be unaffected and marginal investments would therefore remain undistorted. The incidence is different when all remuneration is taxed. Since there is no deduction for business consumers, the tax burden will also fall on all users of financial services. The general cost increase would be passed on to consumers.

Finally, a FAT would add to the existing incentives to shift profit via relocating profit or remunerations that derive from differences in current CIT systems. The unilateral introduction of a FAT triggers relocation and competitive disadvantage risks as in the case of the FTT.

⁽¹²³⁾ In fact, a tax on transactions would be similar to a (gross) sales tax and have a cumulative effect which does not depend on the risk characteristics of the product traded but on the number of times the product is traded.

⁽¹²⁴⁾ The problem of defining a notional return to equity also occurs in the case of Allowance for Corporate Equity. See Klemm (2007) for an overview of possible implementations. However, implementation might be more difficult for the financial sector given the higher risks and volatility in the sector.

Nevertheless, given the nature of the base and the need for financial companies to generally operate where their consumers reside for their basic activities, the risk of relocation can be assumed to be lower than in the case of the FTT. However, technical developments may increase the mobility of the financial sector. For example, in the field of retail banking, the development of internet banking may provide opportunities for avoidance.

The Bonus Tax

Another aspect of taxing the financial sector is the recent tax increases on bonus payments in the financial sector. The motivation behind these was not in the first place to reduce risky behaviour due to performance related payments, but rather to tax the windfall gains the financial sector received from public support, especially in cases where a possible rent of the sector was captured by managers.⁽¹²⁵⁾

In the UK, banks paying individual bonuses will have to pay an additional bank payroll tax of 50% on excesses bonus over £25,000 (bankers will continue paying income tax on their bonuses). This is a retrospective one-off tax for the year ending on 1 April 2010. In France, bonuses paid to bank employees in 2010 are also taxed at 50%. ⁽¹²⁶⁾ Once approved by Parliament, the levy will apply to bonuses above EUR 27,500. The levy affects between 2,000 and 3,000 bankers working in France. Greece also introduced an additional bonus tax. Bonuses to business executives in banks and financial corporations are taxed with progressive rates ranging between 20% and 90%. Exemption is granted to bonuses not exceeding 10% of income, for incomes up to EUR 60,000. Portugal introduced a "penalty taxation" of bonuses or any other profit-based payments at the level of the company. If such payments to directors, managers and board directors represent more than 25% of annual salaries and have a value exceeding EUR 27,500 (per director) a 35% penalty tax is applied ⁽¹²⁷⁾; in the case of financial institutions, a higher 50% rate applies in 2010.

⁽¹²⁵⁾ Shackelford et al. (2010) also discuss bonus taxation.

⁽¹²⁶⁾ Included in the text *Collectif Grand emprunt*

⁽¹²⁷⁾ The tax is not applied if the bonus payment is part of a profit-dependent deferred remuneration scheme with a minimum time-span of 3 years covering more than 50% of the amount paid.

A one-off ex-post measure, as introduced by the UK and France, would introduce only very limited aggregate efficiency gains or losses to the financial sector at large. If such a tax was introduced on a more permanent basis, it could have more pronounced effects on the stability and efficiency of the financial sector. It might partly correct for excessively high incentives in the bonus system for bankers to take risk. Incentive structures for bankers have been identified as one of the factors contributing to emergence of the crisis. However, for this purpose any approach by regulators to directly monitor the incentive system for bank managers could be a much more targeted and better-suited instrument. ⁽¹²⁸⁾ For example, it might be the case that such a tax could be passed on to shareholders and would only lead to small changes in the behaviour of managers. The UK

experience seems to indicate that banks are increasing bonuses and swallowing their losses by transferring them to shareholders and possibly also to staff in other countries which do not apply bonus taxes. In general, taxation of bonuses should be in line with overall remuneration policies. Hence, if bonuses are capped at a certain % of income, taxation should not undermine the policy of reducing the attractiveness of bonus payments by taxing them at preferential rates.

Furthermore, a tax on bonuses – similar to the regulation of bonus payments - may encourage banks to shift the structure of pay from bonuses to less performance-related components (i.e. base salary). If the measure is taken on a single-country basis, there is also a risk of relocation.

⁽¹²⁸⁾ The latest proposal by the Commission for the modification of the Capital Requirement Directive (CRD) also tackles perverse pay incentives by requiring banks and investment firms to have sound remuneration policies that do not encourage or reward excessive risk-taking. Banking supervisors will be required to oversee remuneration policies and will be able to sanction banks – by placing higher capital requirements, via Pillar II – with remuneration policies that do not comply with the new regulations. The proposal includes principles on preventing remuneration policy from encouraging excessive risk-taking, promoting long-term value creation, greater management responsibility, an independent internal review of the remuneration policy, an appropriate balance between fixed and variable pay, performance measurement and risk adjustment of performance, deferment of bonuses and severance pay.

5. TAXATION, GROWTH AND THE INTERNAL MARKET

5.1. INTRODUCTION

As discussed in the introduction, public finances have deteriorated substantially during the financial and economic crisis due to massive and unprecedented fiscal interventions and fiscal stimulus packages, aimed at supporting the financial sector and aggregate demand, in conjunction with the operation of the automatic stabilisers (see Section 4.2). In principle, these challenges for public finances can be addressed in a number of ways. Past experience shows that the likelihood of successful fiscal consolidation increases when it is targeted to reducing non-productive expenditures and strengthening incentives for raising investment and productive capacity of the economy, taking account of social policy considerations. ⁽¹²⁹⁾ However, in many countries the sheer size of the consolidation requirements will make it virtually impossible to achieve a sustainable consolidation of public finances only through a reduction in expenditures. Given a need to also improve government balances through increases in revenues, it is important to know which changes in the tax system – not necessarily in the form of tax rate increases – could yield the required additional tax revenues, while bearing in mind that distortionary effects of taxation may impact on growth. A sound long-term consolidation strategy hence calls for changes in the structures of tax systems that take into account incentive effects with a view to producing the least distortionary effects, in particular on growth, investment and jobs, and make them best contribute to other policy goals (e.g. environmental or social policies). It is in this spirit that the Europe 2020 strategy 'A strategy for smart, sustainable and inclusive growth', ⁽¹³⁰⁾ recommends that "...where taxes may have to rise, this should, where possible, be done in conjunction with measures to make the tax systems more employment, environment and growth-friendly".

Current tax systems are in many cases too complex. This is because they tend to develop in a piecemeal fashion, with exceptions and exemptions being added to address specific concerns as they arise, without adequate care being

⁽¹²⁹⁾ See European Commission (2010b) for an overview of the literature on successful fiscal consolidations.

⁽¹³⁰⁾ COM(2010) 2020 final.

taken to ensure that they do not create conflicts with other objectives. Against this background, a strategy aimed at fundamentally reforming tax systems leads as a rule to a better overall economic performance than adjustments at the margins. The current challenges linked to public finances offer an opportunity to rethink tax systems, to restate the objectives of taxation, assess potential conflicts between different objectives, and to identify what makes for good tax systems for the 21st century.

The aim of this chapter is to analyse possible ways of increasing tax revenues while preserving the redistributive and allocative functions of tax systems. In particular, it focuses on how possible tax revenue increases could be designed in a growth-enhancing way and to what extent some of the reforms would entail a need for coordination at the EU level. Coordination might be needed either because domestic strategies cannot be sufficiently achieved by the Member States acting individually or because they directly affect the functioning of the Single Market. The chapter will also address the recommendations on tax policy in the report "Towards an Economic Union: A new strategy for the single Market", which the former Commissioner Prof. Monti presented on 10 May 2010.

5.2. TAX LEVEL AND GROWTH

The link between taxation and growth has been the focus of a large number of studies. So far, these studies provide only partial evidence that the total level of taxation, as measured by the tax-to-GDP ratio, impacts on economic growth. ⁽¹³¹⁾ The analysis is subject to many technical difficulties. In particular, the adverse effects on growth from an increase in taxation are, in general, at least partly offset by the positive growth effects of government spending, which in turn depends on the quality of government expenditure, a variable which not only poses difficult questions of quantification but also

⁽¹³¹⁾ See for a review, European Commission (2008a) and Myles (2009). Several empirical studies do in fact find a negative relationship between the level of taxation (or other measures of the government size) and GDP growth but, as emphasised by Myles (2009), "...none of this analysis escapes the fundamental observation that the lack of structural modelling limits the interpretation of the estimated equations and leaves the causality issue unresolved."

varies considerably across countries. This complicates considerably the task of estimating the pure effect of taxation on growth.⁽¹³²⁾ Moreover, tax levels and growth are both endogenous since tax levels affect growth but growth also affects the level of taxes collected. In addition, analytical approaches very often conclude that the impact of marginal tax rates on economic growth is more important than the average tax burden in the economy as such. This literature also provides empirical evidence that higher effective marginal tax rates and higher tax progressivity for a given share of tax revenues in GDP have a negative effect on growth,⁽¹³³⁾ but these results remain subject to difficulties in defining and calculating the overall effective marginal tax rate.

5.3. TAX STRUCTURE AND GROWTH

While the relationship between the overall tax level and growth remains uncertain, there is generally a better understanding of how individual components of the tax system affect GDP per capita and growth. In the current juncture, where it appears that tax increases are in many cases inevitable as part of the consolidation process, it is therefore important to consider which taxes could be raised. The structure of taxation matters particularly in the case of high tax-to-GDP ratios, which will be more likely in the years to come. Taxes affect economic growth through the various channels of growth: total factor productivity, the growth of the capital stock and the growth of labour supply. Tax policies that improve research and development, entrepreneurship and foreign direct investment enhance productivity growth. Tax policies that make work pay and promote human capital formation boost labour supply in the short and long term. Tax policies that encourage domestic and foreign investment as well as saving increase the capital base of the economy. These outcomes can be achieved in two ways: by either providing the right incentives within the provisions of specific taxes or by shifting the tax structure in a

desirable way. This applies regardless of whether total taxes need to be increased or not.

At a more macroeconomic level, various studies⁽¹³⁴⁾ have shown that taxes on income are usually associated with lower economic growth (and so lower steady-state GDP) and that property and consumption taxes (including environmentally related taxes) are the least detrimental to growth. Personal income taxes⁽¹³⁵⁾ and in particular corporate income taxes appear to be the most detrimental. Corporate income taxes have a negative impact on capital investment and productivity improvements. Personal income taxes can affect labour supply via the reduction in the net wage. They also tend to have a progressive structure which acts to reduce growth. Moreover, they discourage saving by lowering the returns to saving. Although they can also affect labour supply by reducing real purchasing power, consumption taxes are less distortive than personal income taxes as they partly fall on accumulated assets, which are an inelastic tax base. Moreover, consumption taxes do not impact on the returns to saving and, in most cases, do not have a progressive tax structure. In terms of property taxes, an increase in recurrent taxes on immovable property is found to have the smallest effect on GDP per capita, with an increase of those levied on households having the least detrimental effect. This reflects the fact that – as discussed in chapter 4.1.2 – currently many countries provide tax preferences for owner-occupied housing, which tends to distort the allocation of capital in favour of housing. Environmental taxes can help to internalise external effects and at the same time generate badly needed tax revenue. These studies suggest that possible future tax increases should consider adjustments to property taxes, consumption taxes and environmental taxes and be accompanied by measures that encourage labour participation, promote education and training and increase investment. Estimates provided by Heady et al. (2009) suggest that a revenue-neutral shift of taxes from income taxes to consumption and property taxes of 1% of GDP would increase GDP per capita in the range of ¼ to 1 percentage point in the long run. Obviously, the tax policy changes

⁽¹³²⁾ How public expenditure affects growth is looked at in more detail in the Commission report 'Public Finances in EMU 2008'.

⁽¹³³⁾ See, e.g., Padovano and Galli (2001, 2002), Koester and Kormendi (1989) and Mullen and Williams (1994). See also Myles (2009) for a critical review of the literature. Note however that the analysis on progressivity is blurred by the statistical correlation between flat tax systems and low rates.

⁽¹³⁴⁾ See, e.g. Johannson et al. (2008), Arnold (2008) and Myles (2009).

⁽¹³⁵⁾ In the literature, social contributions paid by employees and employers as well as payroll taxes are usually included in this item.

that are most likely to boost GDP in any country will depend on its starting point in terms of its current tax structure and the relative performance of the drivers of economic growth, i.e. labour supply, investment and productivity growth.

The relationship between individual taxes and growth described above are confirmed by calculations using the European Commission's Quest III model. This model distinguishes labour taxes, consumption taxes (VAT and others), corporate profit taxes and property taxes (taxes on housing). The simulation results reported in European Commission (2010b) suggest that a consolidation through an increase in property taxes and VAT is the most favourable of all tax based consolidations as regards long run GDP growth. A 1%-of-GDP consolidation achieved by raising these two types of taxes would lead to a small initial decline in GDP of 0.1-0.2 percent. Due to the fiscal space that becomes available as a result of the reduction in government debt, the effect on GDP would turn positive already after 3-4 years. In the long run, GDP would be higher by 0.4-0.5 percent compared to the baseline scenario of no consolidation. A consolidation through increasing labour taxes would lead to stronger initial GDP losses and the long-run gains would be lower. While an increase in corporate profit taxes would lead to comparable short-term GDP losses, these losses build up over time as investment is depressed and the capital stock declines, leading to a sizeable GDP loss in the long-run. Similar simulations using the Quest III model also indicate that a shift from the most distortionary taxes (on labour and capital) to the least distortionary taxes (consumption, housing) could mitigate the output losses associated with fiscal consolidation in the short run and have a positive impact on GDP in the long run.⁽¹³⁶⁾ According to these simulations, a consolidation package relying heavily on taxing consumption and housing while reducing income taxes would only lead to a minor and short-lived fall in GDP. Given the rise in potential output entailed by such a tax reform, output would be almost 1 percent higher than baseline in the long run.

⁽¹³⁶⁾ See Roeger and in 't Veld (2010) on these simulations combining the effects of a fiscal consolidation with that of shifts in the tax structure.

It is important to have an understanding of the quantitative importance of the different tax categories in overall revenues since this can indicate potential limits to the proposed tax shifts. Whereas real estate taxes⁽¹³⁷⁾ and environmental taxes correspond to a relatively small share of overall tax revenues in the EU on average (making up around 2-3 percent and 6 percent of the total, respectively), the share of VAT and personal income taxes amounts to around one fifth each, with around 30% stemming from social contributions.⁽¹³⁸⁾ Differences in revenue shares are, however, substantial between EU Member States as highlighted by the discussion in chapter 2. This is particularly so for real estate taxes, whose share in overall tax revenues ranges from less than 1 per cent to more than 10 per cent of total tax revenues (see Table 4.1. in Chapter 4).

The existing tax structure and the economic situation in different Member States will therefore determine which changes in the tax structure and tax design can be expected to have the strongest impact on growth.⁽¹³⁹⁾

5.4. DESIGN OF INDIVIDUAL TAXES

The design of individual taxes can be adapted, too, in order to reduce their distortionary effects on growth. For example, Li and Sarte (2004) find that tax progressivity in the PIT has a small but non-negligible negative impact on long-run growth, a result which has been confirmed by later research.⁽¹⁴⁰⁾ Tax progressivity and high top marginal PIT rates reduce productivity growth, especially in industries characterised by high entry rates of new firms. Of course, tax progressivity might be seen as desirable for other reasons, such as for redistribution or stabilisation purposes (see Chapter 4.2). As regards VAT, a single rate VAT with only a few exemptions is considered preferable to a more complex structure, as it

⁽¹³⁷⁾ Taxes on immovable property or real estate mainly consist of regular annual levies on land or buildings (residential or commercial) and taxes on property transactions.

⁽¹³⁸⁾ The main other tax revenue categories are taxes on corporate income and excise duties and consumption taxes (excluding VAT).

⁽¹³⁹⁾ IMF (2010a) presents rough estimations for potential revenue increases of different types of taxes in the G-20 countries.

⁽¹⁴⁰⁾ See, e.g. Johansson et al. (2008) and Heady et al. (2009).

reduces distortions and facilitates compliance and tax administration. While some reduced VAT rates find their rationales in inducing consumption behaviours that promote economic efficiency or income redistribution, other reduced rates fail to find strong arguments in their favour and their abolition could unleash new sources of revenues.⁽¹⁴¹⁾ Moreover, assistance to low-income households, which is one of the key arguments often brought forward in favour of reduced VAT rates, can be provided at lower budgetary costs outside the VAT system.⁽¹⁴²⁾ In general, there is a consensus in the literature in support of broad tax bases and low tax rates. A cut in inefficient reductions, exceptions or exemptions – the so-called tax expenditures – which are either not economically justified or display incentives not in line with their original aims could be beneficial for many countries. Indeed, the revenue effects of properly adjusting tax expenditures might mitigate the size of the tax rate increase needed as part of the consolidation.⁽¹⁴³⁾ However, careful analysis needs to be undertaken to ensure that changes do indeed enhance the efficiency of the tax system.

5.5. POTENTIAL REASONS FOR LACK OF GROWTH FRIENDLY TAX REFORMS

The data presented in chapter 2 and the more detailed analysis in European Commission (2010a) illustrates that there has only been a modest shift in the structure of taxation in the direction of the above discussed growth friendly tax structures in recent years. The share of environmental taxes has even decreased. This development indicates that there exists significant potential for further reforms. But the slow progress could also be a sign that change is difficult to introduce. Possible constraints include conflicting interests such as diverging preferences in terms of redistribution, fairness aspects of the reforms, the desire to promote home-ownership as discussed in Chapter 4.1, or the presence of alternative regulatory measures to achieve similar goals such as in environmental matters.

⁽¹⁴¹⁾ See Copenhagen Economics (2008a and 2008b).

⁽¹⁴²⁾ See Heady et al. (2009) and IMF (2010a).

⁽¹⁴³⁾ See OECD (2010c) for a discussion of tax expenditure practices in a sample of OECD countries.

As regards redistribution it is important to note that presumably in many cases there is a trade-off between growth and equity. A shift in the tax structure from progressive labour taxes towards (potentially regressive) indirect taxes is expected to increase growth but might at the same time reduce the redistributive impact of the tax system⁽¹⁴⁴⁾.

There might also be a trade-off between growth and the stabilisation capacity of automatic stabilisers inherent in the tax system. As discussed in Chapter 4.2, the available empirical evidence indicates that the loss in stabilisation by a move towards more growth-friendly tax structures could be rather limited and that a trade-off between the two objectives of growth and stabilisation might not exist at higher tax-to-GDP ratios.

A further aspect is the impact of tax reforms on the price level. A substantial tax shift towards indirect taxes has short-term inflationary effects which – depending on the environment – could lead to a reaction from central banks with potential negative consequences for economic activity. Another aspect that has to be taken into account is tax evasion.

Finally, the political economy of reforms must not be neglected. There is first the general issue of reforms normally creating winners and losers, with losers often small, well-defined and vocal groups, while potential winners are too numerous and amorphous to organise. The reduction of tax exemptions for specific groups in favour of a generalised reduction of tax rates would be a case in point. More specifically focussing on the political economy of tax reforms, Castanheira, Profeta and Nicodème (2010) show that some reforms that appear efficient from an economic point of view do not represent a political equilibrium. This is because they do not allow policy-makers to attract voters via specific exemptions or regimes.

When looking at the magnitude of changes in recent years, it is also important to bear in mind that tax reforms could affect the revenues of different levels of government and in this case

⁽¹⁴⁴⁾ However, this effect is unclear if one takes the entire life-cycle into account.

could require adjustments in revenue sharing arrangements.⁽¹⁴⁵⁾

Finally, tax competition issues could impose constraints on national tax reforms. For instance, countries may not want to engage in tax reforms that act to improve their competitive position vis-à-vis partner countries if this entails the threat of retaliatory measures by the latter. Such situations point to the potential benefits that could be reaped by tax coordination.

5.6. INTERNAL MARKET AND THE ROLE OF TAXATION – SUGGESTIONS FROM THE MONTI REPORT

Many of the above-mentioned growth-enhancing tax reforms can be implemented individually by Member States as long as they are compatible with the rules of the Internal Market and fulfil the EU legislation in tax matters, the Treaty provisions and jurisprudence of the European Court of Justice (e.g. on non-discrimination) as well as non-legally-binding agreements (e.g. the political agreement not to exceed 25% for the standard VAT rate).

Coordination at the EU level can, however, prove beneficial in the implementation of national tax policy strategies, for instance when it leads to the exchange of best practices or the elimination of mismatches between national systems. In addition, some reforms would benefit from coordination at the EU level since cross-border spill-over effects may constrain the taxing capacity of an individual Member State. This is in fact the basic argument of the tax competition literature. Without coordination, governments apply tax rates on mobile factors that are inefficiently low. The reason is that single governments do not take into account the externality of capital outflows due to a tax increase in every other country.⁽¹⁴⁶⁾ In this sense, governments are in a prisoner's dilemma since the fiscal externality can only be internalised with coordination. Finally, carried out individually, some

tax reforms may entail a risk for the proper functioning of the Single Market and/or the euro.

Copenhagen Economics (2004) looks into the economic effects of tax coordination in the EU. They find that corporate tax cooperation can yield some gains in GDP and welfare. This applies to both cooperation across the whole EU and enhanced cooperation among subsets of Member States. However, the study highlights the fact that the outcomes of tax cooperation are determined by its concrete implementation. Depending on the details of cooperation policies and the set of cooperating countries, gains can be reversed into losses. In particular, aggregate gains from tax cooperation do not automatically mean that all participating Member States will be better off. At the level of individual countries, effects can be large and sometimes negative. Individual countries may experience significant changes in economic activity, tax revenues and government budgets.

While it is imperative to avoid endangering the Single Market with uncoordinated tax reforms, there are several areas in the domain of taxation where significant barriers still prevent citizens and businesses from fully reaping the benefits of an integrated market. The report "A new strategy for the Single Market – At the service of Europe's Economy and Society", which the former Commissioner Prof. Monti presented on 10 May 2010⁽¹⁴⁷⁾ points to these areas and indicates some room for improvement.⁽¹⁴⁸⁾

First of all, the report deems administrative and compliance costs stemming from the highly fragmented tax landscape to weigh disproportionately on citizens and business operating cross-border. Similarly, in many cases where a single EU framework exists, it is considered to lack transparency and to lead to loopholes. Furthermore, it opens the door to uncertainties about the applicable rules or to instances of double taxation or tax discrimination. Hence there is substantial scope for updating rules on cross-border relief and for simplifying the business environment for cross-border transactions

⁽¹⁴⁵⁾ OECD Network on Fiscal Relations across Levels of Government (2010), "Fiscal Policy across levels of government in times of crisis".

⁽¹⁴⁶⁾ The externalities and potential welfare losses from tax competition are described in e.g. Fuest et al. (2005) and Hemmelgarn (2007). They discuss also the counter-argument that tax competition might be beneficial because it limits governments' power to excessive taxation (i.e. the Leviathan argument).

⁽¹⁴⁷⁾ See Monti (2010).

⁽¹⁴⁸⁾ The Commission published the Communication "Single Market Act" presenting initiatives to re-launch the Single Market on October, 7th 2010.

(including VAT rules), as well as for cross-border work by individuals.

A second important issue discussed in the "Monti report" is capital tax competition. While the report acknowledges the potential disciplining effect on national budgets, it stresses that in the presence of progressing market integration companies pursue strategies of tax minimisation by looking for the most convenient taxation area.

There is some evidence that capital movements to and from the EU and the euro area have become more responsive to the levels of corporate taxation. Cuts in corporate taxation can be seen as reductions in production costs which subsequently impact on trade between the Member States.

As stated in the "Monti report", to keep up tax revenues, EU Member States have hence progressively shifted the fiscal burden from more mobile tax bases (capital income and corporate income) towards a more extensive taxation of less mobile tax bases, notably labour. This might not only reduce the fairness and the growth supportiveness of the tax system, but also impact on its long run sustainability, as tax avoidance and elusion lead to gaps in future revenue potential.

While the drawbacks of – in particular capital - tax competition are clearly stated, the report does not consider tax harmonisation to be a realistic objective. This assessment is justified by the idea that tax sovereignty reflects preferences ultimately rooted in the democratic process. However, the report recognises the importance of closer multilateral coordination.

The report identifies areas where tax coordination would prove particularly beneficial.

(i) *Corporate taxation, with a wider examination of the effects of harmful regimes, mismatches and other negative effects of tax competition, and the work towards the definition of a common base.*

There might indeed be a case for implementing rules in computing corporate tax bases that are common for all Member States. Such rules would also be in line with the renewed fight against practices that artificially divert profit from where it is generated to minimise the tax burden. The Common Consolidated Corporate Tax Base

(CCCTB) project could provide a comprehensive solution for removing significant tax obstacles from the Internal Market. It has the potential to allow reductions in the high compliance costs that multinational enterprises face in dealing with different tax administrations and transfer pricing obligations. The European Tax Survey (2004) estimated compliance costs at 2% of taxes paid by large companies. Moreover, the study identified a positive and significant correlation between cross-border activity (in terms of subsidiaries established abroad) and the size of tax-related compliance outlays. Tasks related to transfer pricing obligations seemed to be perceived as particularly onerous by the surveyed multinationals, which is consistent with the findings of the 2001 Company Tax Study. According to available estimates, the costs of transfer pricing requirements for large and medium-sized multinationals would amount to roughly 3% of corporate income tax revenues. For 2007, this amounts to EUR 13 billion for EU27. Furthermore, by introducing cross-border loss relief, the CCCTB could provide a solution to the potential occurrence of double taxation, which is not adequately tackled by the existing tax treaty network. Beyond this objective, there is a need to develop a coherent approach vis-à-vis third countries, as profit shifting does not take place only within the EU. For these reasons, the CCCTB project has gained support from business and the academia as well as certain tax administrations. ⁽¹⁴⁹⁾

Some suggested tax reforms (e.g. CO2 taxation) would require an adoption of common tax bases and at least some agreement on minimum rates or a range of rates at the EU level. Moving together would allow the scale and the effects of the proposed action to be increased and the desired outcome of the reform to be achieved. In particular, recently discussed taxes on the financial sector, be they financial transaction taxes (Tobin style or other), balance sheet levies or financial activity taxes as discussed in Chapter 4.3, fall in this category. ⁽¹⁵⁰⁾

More generally, reforms require coordination when they target mobile tax bases. This does not only

⁽¹⁴⁹⁾ Various documents on the CCCTB project can be found at http://ec.europa.eu/taxation_customs/taxation/company_tax/common_tax_base/index_en.htm

⁽¹⁵⁰⁾ Potential pros and cons are discussed in European Commission (2010d).

