

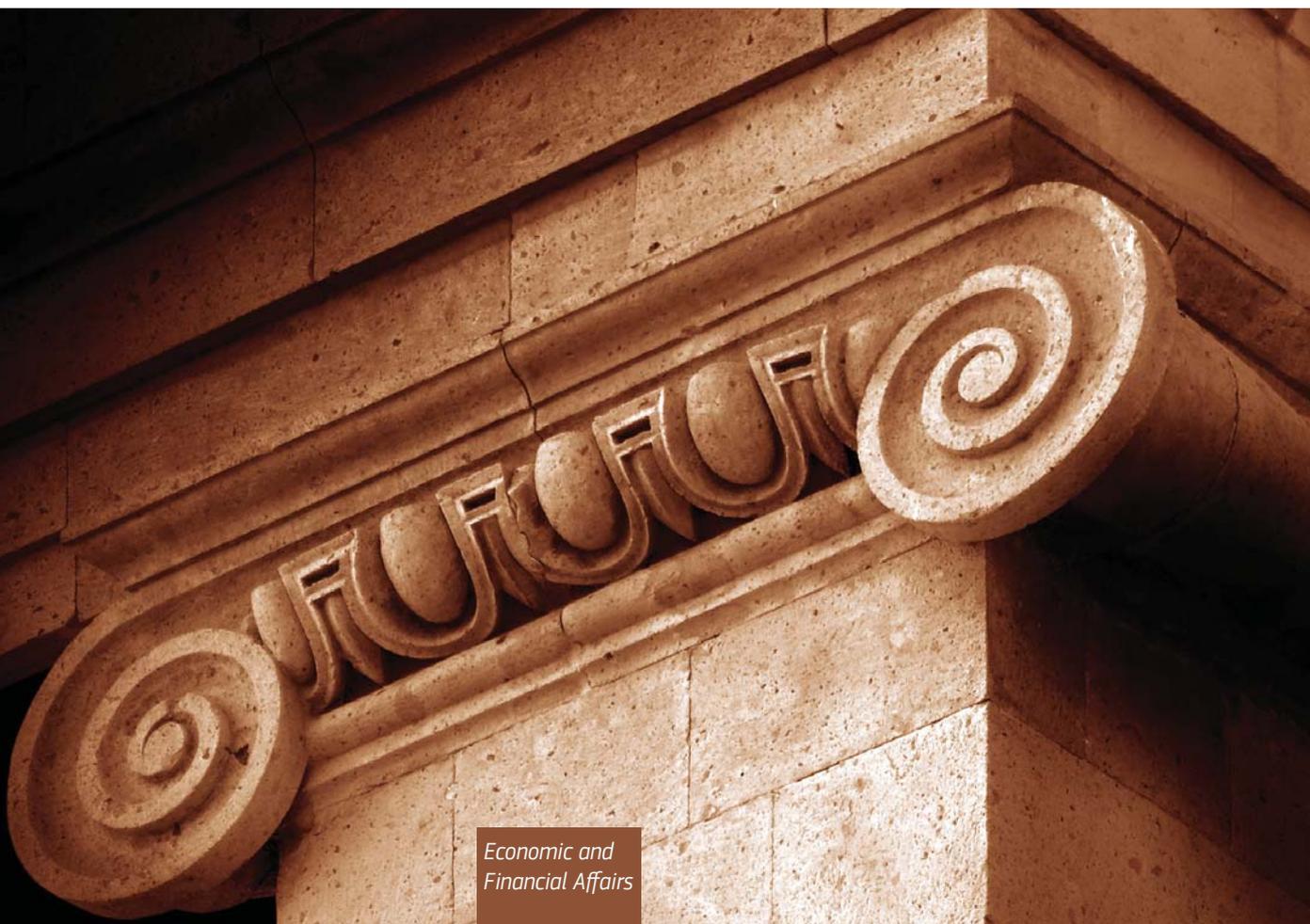


European
Commission

Tax reforms in EU Member States 2012

Tax policy challenges for economic
growth and fiscal sustainability

EUROPEAN ECONOMY 6|2012



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European Commission

Directorate-General for Economic and Financial Affairs
Directorate General for Taxation and Customs Union

Tax reforms in EU Member States

**Tax policy challenges for economic growth and
fiscal sustainability**

2012 Report

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ABBREVIATIONS

AETR	Average effective tax rate
AEFC	Alternates of the Economic and Financial Committee
AGS	Annual Growth Survey
AW	Average wage
CGE	Computable General Equilibrium
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
EA	Euro area
EC	European Commission
ECB	European Central Bank
ECOFIN	Economic and Financial Affairs (Council)
EPC	Economic Policy Committee
EPP	Euro Plus Pact
ESA79	European System of Accounts 1979
ESA95	European System of Accounts 1995
EU	European Union
EMU	European Monetary Union
FAT	Financial activity tax
FTT	Financial transaction tax
GDP	Gross domestic product
GHG	Greenhouse gas
GNI	Gross national income
ITR	Implicit tax rate
JRC-IPTS	Institute for Prospective Technological Studies of the European Commission's Joint Research Centre
METR	Marginal effective tax rate
MCPF	Marginal cost of public funds
MTO	Medium-term budgetary objective
NMS	New Member States
NRP	National Reform Programme
OECD	Organisation for Economic Cooperation and Development
PIT	Personal income tax
pp	percentage points
SCP	Stability and Convergence Programme
SSC	Social security contributions
TFP	Total factor productivity
VAT	Value added tax

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EDITORIAL

Reforming the European economy to ensure that it generates sustainable growth and creates jobs remains a key challenge. At present, many Member States face substantial consolidation needs while at the same time have to support ailing economic activity and employment. Tax policies contribute to the consolidation of public finances. They also have an important influence on the growth and job potential of the EU economy, while promoting social inclusiveness. Given their dual functions, tax policy issues have been comprehensively covered in the 2012 cycle of economic policy coordination, commonly referred to as the 'European Semester'.

The 2012 edition of the report 'Tax reforms in EU Member States' intends to contribute to the tax policy debate in the EU. Following the successful 2011 edition, the report consists of two parts: i) a short analysis of tax revenue data and an overview of recent tax reforms in Member States, and ii) a discussion of selected up-to-date tax policy topics in the form of two analytical chapters.

The first analytical chapter focuses on the economic implications and policy challenges of the EU VAT system, of which it provides an overview of the history and possible future. It analyses welfare gains and economic benefits from simplifying VAT procedures and reviews options to reduce VAT fraud and evasion. This chapter is particularly topical in light of two recent Commission Communications on 'the future of VAT' and on 'concrete ways to reinforce the fight against tax fraud and tax evasion including in relation to third countries'.

The second analytical chapter deals with economic challenges that EU Member States are facing in the field of taxation and tax policy in times of slow growth and high fiscal consolidation needs. Applying an indicator-based approach, the report identifies horizontal challenges related to (i) fiscal consolidation on the revenue side and growth-friendly tax structures, (ii) broadness of tax bases in both direct and indirect taxation, with a particular focus on corporate tax expenditure, (iii) the need to improve tax governance and (iv) specific tax issues, namely housing taxation, environmental taxation and some redistributive aspects of taxation.

We trust that the analysis in this year's report will again contribute to the tax policy debate in the European Union. In particular, the cross-country consistent identification of tax challenges for all EU Member States, based on indicators, may serve as technical background for the analysis of necessary tax policy measures. In line with last years' practice, the tax challenges identified in this report require further scrutiny in the framework of the 'European Semester'.

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SUMMARY AND CONCLUSIONS

The first effects of the global financial and economic crisis on revenue were felt in 2008. Due to the strong contraction of GDP and expansionary cuts in labour taxes and capital taxation, the overall tax-to-GDP ratio reached its lowest value since the beginning of the decade in 2009. Consolidation-oriented tax increases and a modest recovery of the economy stabilised tax revenue in 2010. Given the deterioration of public finances and strong turbulence in sovereign debt markets, fiscal policies in 2011 and 2012 were generally driven by the need to restore the sustainability of public finances. As far as tax policy is concerned, for most Member States the need for more revenue to support the overall consolidation effort was compounded by other difficulties stemming from the need to support recovery and restore sustained growth over the medium and long term. Tax revenue in the EU increased in 2011 and this upward trend is expected to continue until 2013 at least.

In the period 2011–12, many Member States increased personal income tax, mainly by increasing statutory rates. This was often done on a temporary basis in the form of general surcharges or solidarity contributions for high-income earners. Measures to reduce tax on labour aimed mainly to increase work incentives for specific groups. Social security contributions were also increased in many countries, by increasing the standard rate and the rates applicable to specific groups. Several Member States reduced their headline tax rate on corporate income, while in a few others marginal tax rates were increased by means of surcharges or levies applicable only to the largest companies. Changes in corporate tax bases were slightly more common. They consisted mostly of generous tax relief on investment in physical capital or R&D, whilst restricting the deductibility of other items (e.g. operating losses). In about half of the Member States standard and reduced VAT rates were increased. Targeted increases in the VAT rates applicable to specific categories of goods and/or services were quite common. Excise duties were increased in most Member States, mostly by changing the statutory rates for environment and energy products and for alcohol and tobacco. These reforms resulted in a slight change in the composition of total tax revenues for 2011 and 2012 compared to 2010, with the share of indirect taxes forecast to rise by almost one percentage point of GDP.

Despite these reforms, structural features of European tax systems remain entrenched. For example, differences in the tax-to-GDP ratio across the EU are still quite pronounced, with the cross-country range standing at twenty points and a higher overall tax-to-GDP ratio in the euro area than in the EU. Following a period of cross-country convergence, marked by tax reductions in countries with high taxes, tax-to-GDP ratios diverged again between 2008 and 2010. This was due to the different degree to which the recession affected Member States and the difference in policy reactions to the crisis. There are differences between EU Member States both in terms of the overall tax burden and in terms of its composition. While most 'old' Member States raise roughly equal amounts of revenue from direct taxes, indirect taxes and social security contributions, the share of direct taxes in total revenue is lower for Member States that joined the EU in or after 2004. This is mostly because they have adopted flat-rate systems.

Some key economic issues related to the legal and institutional features of VAT in the EU, as well as new analytical evidence, are presented, broadly based on a recent study by the Institute for Fiscal Studies. This study served as input into the Commission's Communication on the future of VAT issued in December 2011. The first important policy conclusion is that the long-standing plan of moving to VAT taxation at origin, where the goods are produced instead of consumed, is no longer feasible. It may not even be economically desirable, on account of the loss of flexibility it entails, the risk of trade diversion and distortion in the single market and its incompatibility with heterogeneous VAT systems. This disparity is seen in terms not only of standard rates but also of reduced rates and exemptions (on different goods and with very different rates). The confirmation of the destination principle reinforces the need to tackle VAT fraud, in particular VAT carousels fraud. This requires better coordination between Member States and reflects the general objective of combating tax fraud in the Annual Growth Survey 2012. Simplifying VAT procedures would also bring economic benefits. Recent research shows that trade and GDP would increase in the EU if the number and complexity of VAT procedures were reduced. The second important policy conclusion concerns the use of reduced VAT rates and exemptions. These largely account for why different VAT regimes may have an impact on trade, despite the use of the less distortionary destination

system. The use of reduced VAT rates and exemptions mostly reflects policy choices made in the past. These were often linked to distributional objectives. They are, however, debatable from an economic viewpoint, because consumption taxes are poor instruments for redistribution. While the part reduced VAT rates play in boosting employment or the consumption of merit goods is not supported by empirical evidence, reduced rates and exemptions generally have a significant budgetary cost and increase the complexity of the system. The latter increases administrative and compliance costs. The third important conclusion is that new evidence suggests that the differences in VAT regimes, exemptions and reduced rates generate high costs in terms of the distortion and fragmentation of the internal market. These costs are probably higher than previously believed. This confirms the potential welfare gains from increasing the efficiency of VAT systems by limiting exemptions and phasing out most reduced rates, subject to a careful cost-benefit analysis, and making use of alternative policy instruments, as recommended in the Annual Growth Survey 2012.

This report also analyses economic challenges that EU Member States are facing in terms of taxation and tax policy in these times of slow growth and great fiscal consolidation needs. This analysis may be relevant for the 2013 European Semester, underpinning sound national tax policies to support growth and fiscal sustainability and avoid macroeconomic imbalances. This analysis is consistent across Member States and based on indicator-based evidence. It should be completed with country-specific evidence before drawing firm policy conclusions.

The analysis found that several EU Member States could, albeit to a different extent, consider using revenue measures in addition to expenditure measures to consolidate their public finances and make them more sustainable. Around a third of Member States appear to have both need and room for a tax shift. They could benefit from shifting labour taxes to taxes considered less detrimental to growth (consumption taxes, recurrent property taxes, environmental taxes). With a view to broadening tax bases, many Member States need to review and possibly reduce tax expenditure in direct taxation, especially in corporate income tax. The debt bias in corporate tax is an issue for almost a third of Member States. Despite recent measures to improve VAT efficiency, there is still a compliance gap in this area in many Member States, often combined with the large use of exemptions and reduced rates (i.e. VAT ‘policy’ gap).

A number of Member States face the challenge of improving tax governance. This relates to a large shadow economy and/or high levels of potential VAT fraud and evasion in some countries, or the efficiency of tax administration in others. Better tax administration is a challenge in a third of Member States due to various factors. They are high administrative costs per net revenue collected, not using third-party information to prefill tax returns, the little use made of e-filing and the heavy administrative burden of tax systems for medium-sized companies.

Housing taxation in EU Member States is often based too much on transaction taxes relative to recurrent taxes on immovable property. Due to such a situation, in particular a third of Member States should consider a shift within property taxes. Moreover, several Member States face the challenges to reduce the debt bias in housing taxation.

Finally, there are several tax-related challenges related to environmental policy. Firstly, it is important to ensure that the policy instruments in place, including taxes, are sufficient to achieve the agreed environmental objectives. If more policy measures are needed, environmental taxes should play a role. Secondly, energy taxes and other environmental taxes should be designed so that they provide appropriate incentives to reduce emissions over time. Various measures could be implemented at national level to improve the tax system, in particular by i) adjusting tax rates on fossil fuels according to their carbon and energy content, ii) indexing environmental taxes, iii) reconsidering reduced VAT rates on energy, iv) reducing tax subsidies for company cars and v) introducing CO₂-related vehicle taxation. Overall, there appears to be scope for improving the design of their environmental taxes in a third of Member States.

While this report mainly focuses on the potential to improve the efficiency of national tax systems, the redistributive effects of the tax system can be equally important. Redistribution can occur in several ways, including through taxation, notably the progressive taxation of labour income. It can also take the form of income-replacing transfers, targeted benefits, public consumption spending and the provision of public goods. Redistribution through the tax-benefit system is the prerogative of Member States, which have different perceptions of social equity and different collective preferences for balancing efficiency and equality. However, a Member State that has substantial challenges with efficiency in the tax-benefit system (e.g. a large amount of tax expenditure) and does not do well in terms of mitigating income inequalities, may be able to improve efficiency without compromising redistribution policies or increase redistribution without hampering efficiency. Member States also need to take the sustainability of public finances into account when deciding on their redistributive policy.

1. INTRODUCTION

Initial mandate and overall purpose

In 2009, the first edition of the report entitled 'Monitoring revenue trends and tax reforms in EU Member States' was published. In the 2011 edition, the title was shortened to 'Tax reforms in EU Member States' for ease of communication and to better reflect the content of the report.

The report is prepared jointly by DG ECFIN and DG TAXUD of the European Commission under its own initiative. It includes comments provided by Member States in the context of the Economic Policy Committee attached to the ECOFIN Council and DG TAXUD's working group 'Structures of Taxation Systems'. It builds on a substantial body of work done by the Commission services, including numerous assessments of the budgetary implications of tax reforms, analyses of their effects on employment, growth and equity and of their contribution to meeting environmental policy objectives. ⁽¹⁾ Given its focus on policy-relevant aspects of taxation and on recent tax reforms having direct bearing on fiscal sustainability, growth and jobs, this report complements the annual report entitled 'Taxation Trends in the European Union' prepared by DG TAXUD and Eurostat. That report is more descriptive and statistical and gives a comprehensive overview of the level and structure of revenue systems in the EU. ⁽²⁾

This report has several purposes. First, it identifies how tax revenues in EU Member States have been evolving, as a result of past reforms and other factors, such as the business cycle or the slowdown in potential growth. Second, it takes stock of tax reforms that have been implemented in the Member States. Third, it reviews various policy issues relevant for future reforms, which are presently considered in the policy debate, such as broadening the tax base of certain taxes and thus increasing revenue or reducing harmful high tax rates. Other topical issues are shifting taxation away from labour towards revenue sources both more innovative and less detrimental to growth and improving the efficiency of tax collection and tackling tax evasion.

As a first attempt to identify relevant tax policy challenges, e.g. by using indicator-based screenings, the report also represents an analytical input to the economic integrated surveillance carried out in the context of the European Semester, which is presented in the next section and in Box 1.1. This report may in particular feed into or analytically underpin the 2013 European Semester, starting with the formulation of the cross-cutting issues reported in the 2013 Annual Growth Survey. Member States should take these issues into account when designing future reforms of their national tax systems.

The report is also intended to stimulate a structured, multi-faceted tax dialogue between the Commission and Member States. This has been stressed as particularly important in Annex IV of the 2012 Annual Growth Survey on 'Growth-friendly tax policies in Member States and better tax coordination in the EU'. This will stimulate the exchange of best practice on tax reforms among Member States and foster debates on the role of efficient tax policies for growth, employment and social equity. Lastly, the report aims to contribute to more effective communication with the civil society on this topic.

Greater relevance of tax policies under the European Semester

Taxation is particularly important in the current economic context in which Member States need to speed up consolidation. Many Member States have to consider revenue-raising measures, while at the same time trying to maintain still fragile European economic growth.

To tackle these glaring challenges, a new framework of integrated economic policy coordination, the European Semester, was set up in the EU. This process looks at economic policies, including tax reforms, at Member State level with a view to supporting economic growth and fiscal sustainability (see Box 1.1 for a more detailed description of the European Semester and related processes). It also enables the exchange of best practices and the definition of some common challenges, e.g. in the area of tax policies, which may benefit all Member States. It provides helpful guidance on how to take common steps towards

⁽¹⁾ See, e.g. European Commission (2008a, 2010a, 2010b).

⁽²⁾ European Commission (2012a).

more sustainable, growth-and job-friendly tax systems, while meeting the need for substantial fiscal consolidation, removing distortions that contribute to macroeconomic imbalances and keeping their (re)distributional abilities.

At country level, the European Semester agenda is distinct but complementary to the need for strengthened tax coordination, especially when cross-border issues are involved. On the one hand, well-coordinated taxation will help to improve the efficiency of the Internal Market, given that some remaining obstacles stem from the uncoordinated tax policies of Member States. On the other hand, tax coordination can also support the implementation of national growth-friendly tax policy strategies, for example when it leads to the elimination of harmful tax practices and strengthens national tax governance.

Main trends in tax revenue and tax policy that emerge from the European Semester

The Country Specific Recommendations endorsed by the European Council on 28/29 June 2012, adopted by the ECOFIN Council on 10 July and closing the second European Semester highlight the importance of further tax reforms that give priority to growth-friendly sources of taxation while maintaining or raising total tax revenues to help the consolidation process.

A review of the Stability and Convergence Programmes shows that the revenue-to-GDP ratio is expected to increase in nearly all Member States of the euro area in 2012. It is expected to remain stable in the rest of the euro area. The picture is more mixed for the non-euro area, where higher and lower revenue ratios are expected in 2012. All tax categories, indirect taxation, direct taxation, and social security contributions are expected to increase as a percentage of GDP in the EU in the coming years.

With regard to tax policy as outlined in the Stability and Convergence Programmes, Member States tend to increase taxes considered less detrimental to growth, i.e. consumption taxes, including environmental taxes, and property taxes. VAT revenue is increased by raising tax rates and broadening the tax base. Increased excise duties and other indirect taxes, including environmental

taxes, are also used frequently to raise additional revenue. If a lot of consolidation is needed, tax increases tend to be applied also on labour and capital incomes, although Member States usually do not increase the corporate income tax in line with a growth-friendly tax policy and possibly to avoid an adverse impact on a mobile tax base. Distributional concerns appear to often play a role in tax measures, as new measures often target high-value properties or high-income earners. Many Member States are trying to improve tax governance, in particular by fighting tax evasion more efficiently and improving tax administration.

Outline of the report

The report is structured as follows.

Chapter 2 summarises the major developments in tax revenues and revenue composition (by type of tax and economic function). It focuses on developments before and since the beginning of the economic and financial crisis.

Chapter 3 gives an overview of recent tax reforms implemented in Member States, driven in many cases by short-term consolidation needs. Whilst relevant for the European Semester, this keeps the promise made in the 2012 Annual Growth Survey to give information 'on the main features of national tax reforms'. On the basis of individual country information, it identifies common trends across countries, identifying the types of reforms implemented since the financial crisis began.

Chapter 4 focuses on how the VAT system works, reviewing reform needs and options. In most Member States, consumption taxes, notably VAT, have greatly contributed to consolidation on the revenue side. At the same time, the importance of a well-designed VAT system, with a view to generating revenues in the most efficient way and minimising compliance costs for businesses, has been recognised in the Communication on the future of VAT. This section recalls the main economic aspects of VAT, and reports on the main results of the evaluation of the VAT system.

Chapter 5 looks at tax policy challenges in EU Member States. To foster a better understanding of Member States' tax systems, it updates last year's analysis of challenges linked to the contribution of

Box 1.1: Importance of taxation in main policy processes

The European Semester (I): horizontal recommendation including Annual Growth Survey

The Annual Growth Survey for 2012 launched the 2012 European Semester of economic governance. It is the basis for a common understanding about the priorities for action at national and EU level for the next twelve months. It should feed into national economic and budgetary decisions putting the EU country-specific recommendations and the commitments made under the Euro Plus Pact (EPP) into practice.

To take better account of the need to integrate tax policy, this year's Annual Growth Survey contains a new annex on growth-friendly tax policies in Member States and better tax coordination in the EU. It is also relevant to the EPP. It underlines that to improve the contribution of revenue to fiscal consolidation, tax systems should be better designed and structured to make them more effective, efficient and fair, taking into account that Member States may need to increase taxes. Tax reforms are already under way in many Member States. They should take account of the following:

- There is scope for broadening the tax base of certain taxes, thus increasing revenue or reducing distortively high tax rates. For example, deductions and exemptions from the standard tax base often create economic distortions and make the tax system less efficient. This is particularly the case with VAT exemptions and reduced rates but it also applies to corporate and personal income tax. Phasing out some hidden tax subsidies could help to widen the tax base. In particular, environmentally harmful subsidies should be eliminated.
- Greater efforts should be made to shift taxation away from labour towards taxation that is less detrimental to growth. For example, increasing consumption, environmental, wealth (including high value property) taxation can help alleviate the tax burden on labour. This makes it more attractive to hire people. Particular attention should be paid to the needs of the most vulnerable groups in any tax shifts.
- In several Member States, making tax collection more efficient and tackling tax evasion can increase government revenue. Applying tax rules in all areas of taxation more effectively will help in this respect. Measures to encourage moves from informal or undeclared work to regular employment should be reinforced.
- New sources of national revenue such as the auctioning of CO₂ emission allowances and spectrum auctioning will start to become available. They could be used to support expenditure in growth-friendly areas, including green growth, given the commitment to devote a substantial share of these new resources to combating climate change.
- To maximise the impact of their tax reforms, Member States should coordinate their efforts through enhanced dialogue at EU level. Progress should be made on the proposals announced by the Commission in its last Annual Growth Survey for a common consolidated corporate tax base, for a financial transaction tax and for energy taxation – which are now on the table of the European legislator.

The macro-annex of the Annual Growth Survey also said that while expenditure-based consolidation is more likely to succeed, the structure and design of taxation should be developed to better spur growth. In this respect, tax reforms can serve two purposes. Firstly, they can support the consolidation of public finances in those Member States where there is room for tax revenue increases and they can be used as a complement to expenditure control. Secondly, they can support growth by changing the structure of taxation or better designing individual types of tax, such as taxes designed to improve the incentives to work, produce or invest or to improve resource efficiency.

The European Semester (II): assessment of national reform strategies by the Commission and the Council

The European Semester is closed in June each year with the endorsement of the Country Specific Recommendations (CSRs) by the Council. The national policy strategy of each Member State is set out in its Stability and Convergence Programme (SCP) and in its National Reform Programme (NRP). The SCP sets

(Continued on the next page)

Box (continued)

out measures to ensure sound public finances, while the NRP sets out the measures planned to boost growth and jobs and address potential macroeconomic imbalances. The Commission assesses the EPP commitments of the participating Member States to the extent that they are included in the NRPs. It provides a detailed assessment of the implementation by Member States of the CSRs and the EPP commitments in the country-by-country analysis it presents to the June European Council each year and proposes changes or amendments to CSRs based on that analysis.

The Commission's assessment of EU Member States' SCPs and NRPs suggests that tax structures should be adapted to support growth, while tax increases may complement the control of government expenditure to help meet the sizeable consolidation challenges in some Member States. Growth-friendly tax policies should aim to broaden tax bases and raise indirect taxation if necessary, while not increasing direct taxation. The SCPs and NRPs show that Member States who have problems with debt sustainability intend to increase taxes in addition to curbing public spending. Although in general all taxes were increased, including SSC and personal income tax, the emphasis was on indirect taxes, resulting in a relative shift towards indirect taxation. This often takes the form of narrowing the scope of reduced VAT rates and increasing excise duties, including energy taxes. New special provisions have been introduced generally to support R&D, green innovation or SMEs. Reducing tax loopholes also seems to be a priority in order to broaden tax bases and lower tax rates, thus supporting growth and fiscal sustainability. New tax expenditure should be rigorously reviewed and assessed ex ante and ex post.

Euro Plus Pact

The Euro Plus Pact has been agreed by the Heads of State and Government of the euro area countries and of Bulgaria, Denmark, Latvia, Lithuania, Poland and Romania. Hungary, the Czech Republic, Sweden and the United Kingdom decided not to take part, partly to retain their tax independence. The EPP is embedded in the institutional set-up of the EU and consistent with the European Semester. It adds a political impetus to the Europe 2020 growth strategy and steps taken to reinforce economic governance in EMU.

It stipulates that labour tax reforms will be instrumental in increasing employment and highlights the importance of pragmatic tax coordination in the form of structured discussions on tax issues, the exchange of good practice and the adoption of the Commission's proposal for a common consolidated corporate tax base. In this context, Member States undertake 'to engage in structured discussions on tax policy issues, notably to ensure the exchange of best practices, avoidance of harmful practices and proposals to fight against fraud and tax evasion'.

taxation to fiscal consolidation and more growth-friendly tax structures as well as the design of individual taxes and tax administration. All Member States are covered, unlike last year, when only Member States in the euro area were covered.

Moreover, the chapter deepens the analysis on housing taxation and tax governance further. It

also provides a first analysis of challenges related to additional areas of taxation, including tax expenditure in corporate taxation, environmental taxation and the redistributive effects of taxation. The chapter concludes with a synoptic overview of EU Member States that may need to consider tax policy measures in the different areas analysed.

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

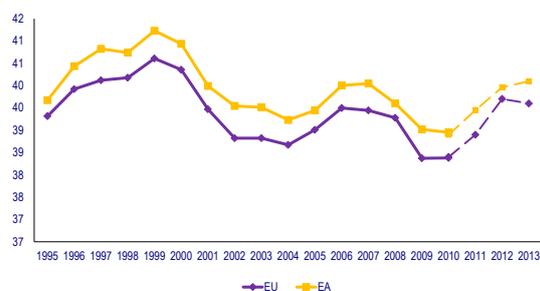
This chapter presents the trends in tax revenue and the latest available detailed data for the 27 EU Member States. It provides an overview of tax revenue levels across the EU (Section 2.1) and information about their composition (Section 2.2).⁽³⁾

2.1. LEVEL AND DEVELOPMENT OF THE OVERALL TAX BURDEN

Revenue stabilised in 2010 but picked up in 2011

For the first time after several years of declining tax revenue and after it reached the lowest value since the beginning of the decade in 2009, the overall tax-to-GDP⁽⁴⁾ ratio stabilised in 2010. Compared to 2009 it remained unchanged in the EU-27 at 38.4%, decreasing only marginally in the EA-17 (see Graph 2.1). Despite the significant drop in revenue since the global economic and financial crisis began, in international terms the European Union as a whole is still regarded as an area with high taxes.⁽⁵⁾ As for trends after 2010, the Commission's spring 2012 forecast reports that general government tax revenue in the EU-27 increased in 2011 and projects that it will continue to do so until 2013, when it is forecast to reach almost 40% of GDP.⁽⁶⁾ This is because tax policy in 2010–12 was strongly affected by the response to the crisis and weakened public finances across most EU Member States. While 2010 was a transitional year with no clear trend for raising or lowering taxes⁽⁷⁾, tax policy measures in 2011 and 2012 were predominantly focused on increasing revenue, as detailed in Chapter 3 of this report.

Graph 2.1: Development of overall tax ratio, % of GDP, 1995-2013

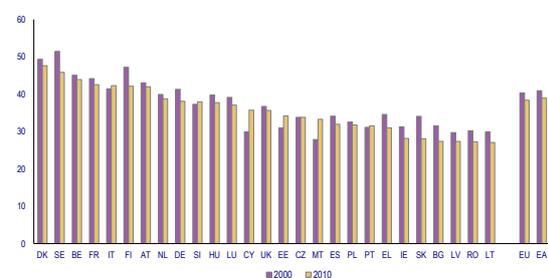


Source: Commission services.

Big differences in tax levels across the EU

Despite the high average level of taxation in the EU, tax levels across the Member States vary a lot. In 2010, the overall tax-to-GDP ratio ranged from 27.1% in Lithuania to 47.6% in Denmark (see Graph 2.2).

Graph 2.2: Overall tax-to-GDP ratio (incl. SSC) in the EU, 2000/2010, in %



Source: Commission services.

Tax levels are in general higher in the EU-15 than in the NMS-12; the first nine positions in terms of overall tax ratio are indeed occupied by EU-15 countries. The exceptions are Ireland⁽⁸⁾, Greece, Portugal and Spain whose tax-to-GDP ratios are amongst the lowest in the EU. Consequently, since most countries in the euro area are EU-15 countries, its overall tax-to-GDP ratio is slightly higher than that of the EU-27.

⁽³⁾ Unless otherwise stated the source for the data up to 2010 in this chapter is European Commission (2012a). Information from DG ECFIN's annual macro-economic database and the Commission's spring 2012 forecast were used to extrapolate some of the time series for the years 2011-2013.

⁽⁴⁾ Unless otherwise stated, averages quoted in the report are GDP-weighted.

⁽⁵⁾ See OECD.Stat.

⁽⁶⁾ See European Commission (2012b). General government tax revenue for 2011-2013 includes voluntary social security contributions. It does not include indirect taxes levied by national governments on behalf of the EU institutions.

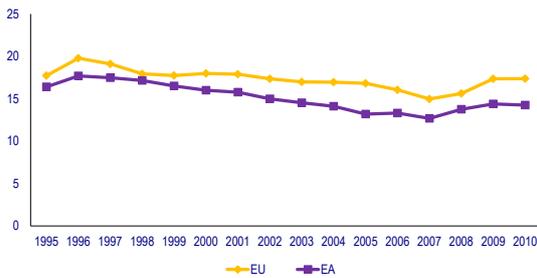
⁽⁷⁾ See European Commission (2011b).

⁽⁸⁾ Tax ratios are usually calculated using GDP as a base. Using GNP as a base would lead to Ireland being much closer to the average.

Convergence of tax-to-GDP ratios since 2000 interrupted during the crisis

Big differences between national tax levels are not new. In 2000, the gap between the tax-to-GDP ratio in the Member State with the highest tax and the Member State with the lowest tax was almost 24 points. However, there were signs of convergence from 2000 until 2007, as shown by the falling ratio of the standard deviation and the mean (see Graph 2.3). The trend came to a halt in 2007/2008 when tax-to-GDP ratios diverged. This could be due to the difference in the depth of the recession across the EU and to the various policy reactions to the crisis.

Graph 2.3: Dispersion (coefficient of variation) of total taxes, 1995-2010



Source: Commission services.
 Note: The coefficient of variation is a normalised dispersion measure. It is calculated as the standard deviation divided by the mean (both un-weighted).

All countries, except Italy, whose tax-to-GDP ratio was above average in 2000, reduced it between 2000 and 2010. Sweden and Finland, two of the countries with the highest tax-to-GDP ratio in 2000 have cut the tax burden since then by more than 5 points (see Graph 2.3). The trend is less uniform for the group of countries whose tax-to-GDP ratios were below average tax ratios in 2000. Only four of them had higher revenues in 2010 than in 2000.

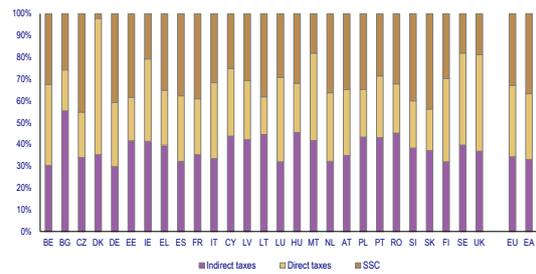
2.2. TAX COMPOSITION

Diverging tax composition in the EU

There are differences across the EU not only in the overall tax level, but also in its composition. While most EU-15 Member States raise roughly the same amount of revenue from direct taxes, indirect taxes, and social security contributions, NMS-12 countries, except Malta, usually have fewer direct taxes in the total (see Graph 2.4). The lowest

shares of direct taxes are recorded in Lithuania (only 17.4%), Bulgaria (18.8%), Slovakia (19.1%) and Estonia (19.9%). All of these countries have adopted flat rate systems, which usually greatly reduce direct tax rates.

Graph 2.4: Tax composition, 2010



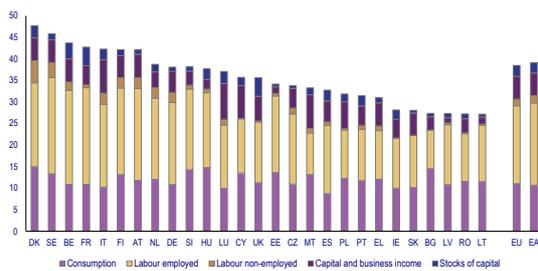
Source: Commission services.

At the other extreme, the Nordic countries and the United Kingdom have relatively high shares of direct taxes in total tax revenues. In Denmark and, to a lesser extent in Sweden and the United Kingdom the share of social security contributions (SSCs) is low. The extremely low share in Denmark is due to the fact that most welfare spending is financed out of general taxation. This requires high direct tax levels. Indeed the share of direct taxation in total tax revenues in Denmark is by far the highest in the EU. With a high share of SSCs and a relatively low share of direct taxes, the German and French tax systems are the opposite of Denmark's.

Revenue raised from the three major tax bases - consumption, labour and capital- also varies greatly (see Graph 2.5). On average, taxes on labour income amount to almost 50% of overall revenue, followed by consumption at roughly one third and capital at around one fifth. However, NMS-12 countries tend to have a high share of consumption taxes. Apart from the fact that in general a large share of GDP in the NMS-12 is final domestic consumption, the lower taxation of labour in these countries tends to increase the share of consumption taxation. Also, the economy of these countries is generally more energy-intensive and mineral oil taxes are an important part of consumption taxes. Revenue from taxation of capital and business income varies even more. Some smaller revenue sources, such as the taxation of stocks of capital/wealth and the taxation of non-employed labour (essentially pensions and social

security benefits) range from significant to negligible. The latter primarily reflects the choice made in the different Member States to provide social benefits and pensions on a gross or a net basis.

Graph 2.5: Tax revenue by type of tax, 2010, % of GDP

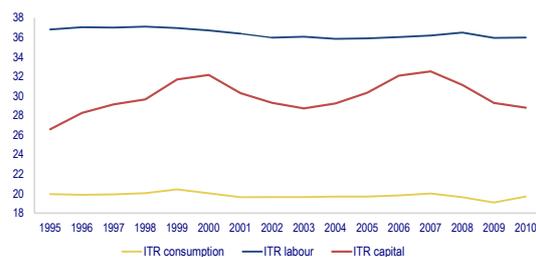


Source: Commission services.

Consumption taxation

One area strongly affected by the response to the economic and financial crisis has been consumption taxation. The implicit tax rate (ITR) on consumption increased sharply in 2010 (19.7% in the EU-27) interrupting the downward trend since 2007 and almost reaching pre-crisis level (see Graph 2.6).

Graph 2.6: Implicit tax rates, EU-27, 1995-2010



Note: ITR on capital: due to data availability the EU average does not include BG, LU, MT and RO.

Source: Commission services.

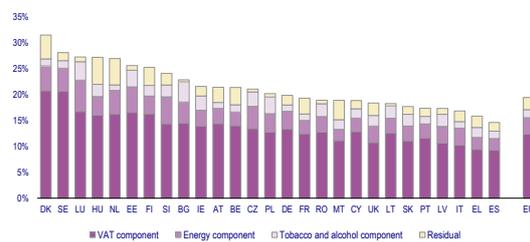
The increase was quite broad across the EU. It can be largely attributed to an increase in VAT rates. Stagnant since 2002, standard VAT rates have often increased since 2009. ⁽⁹⁾ The arithmetic EU-

⁽⁹⁾ Only in two cases did the VAT rate decrease. In the United Kingdom the rate was temporarily cut by two points in 2009 to support consumption. In Ireland the rate was decreased by half a point in 2010 after a temporary increase in 2009. Both countries are currently applying higher rates.

27 average having risen strongly by 1.5 points in only four years, stands at around 21% in 2012 (see Table A.7 in Annex 1).

The decomposition of the ITR shows that the VAT component is the largest, accounting for more than half of the overall indicator's value (see Graph 2.7).

Graph 2.7: Decomposition of the implicit tax rate consumption, 2010, in %



Source: Commission services.

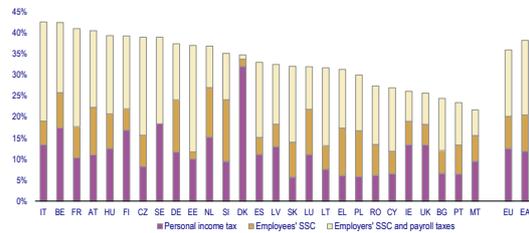
However, non-VAT consumption taxes are not negligible; their share in the ITR ranges from 26.6% in Sweden to 41.4% in the United Kingdom. On average, taxes on energy (typically excise duties on mineral oils), tobacco and alcohol make up around one quarter of the revenue from consumption taxes. Differences in the consumption of excisable goods are such that their revenue effects go well beyond the spread in tax rates: For example in percent of GDP Bulgaria raises about five times as much revenue as the Netherlands from excise duties on alcohol and tobacco.

Labour taxation

Despite a wide consensus on the desirability of lower taxes on labour, the high ITR on labour ⁽¹⁰⁾ confirms the widespread difficulty of achieving this aim. Although the ratio decreased by half a percentage point in 2009 and is below the peaks reached in the late 1990s, it remained stable in 2010 at 36% (see Graph 2.6). More than half of the Member States' ratio increased, but the increase was higher than one point in only six of them (see Table A.3 in Annex 1).

⁽¹⁰⁾ The ITR on labour (employed) is calculated as the ratio of taxes and social contributions on employed labour income to the total compensation of employees and payroll taxes.

Graph 2.8: **Decomposition of the implicit tax rate on labour, 2010, in %**



Source: Commission services.

The tax burden on labour is essentially consists of personal income taxes and social security contributions. In most Member States, SSC account for a much greater share of labour taxes than personal income tax. On average, about two thirds of the overall ITR on labour consists of non-wage labour costs paid by employees and employers (see Graph 2.8). Only in Denmark, Ireland and the United Kingdom is personal income tax a relatively large part of the total charges paid on labour income. In countries such as Poland, Greece and Slovakia less than 20% of the ITR on labour consists of personal income tax.

Capital taxation

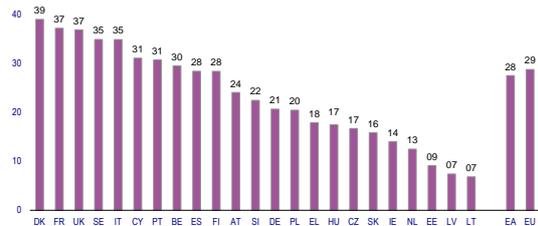
The ITR on capital ⁽¹⁾ has decreased considerably since 2007. However it stabilised in 2010 when it reached 28.8%, only half a percentage point less than what it was in 2009 (see Graph 2.9). Cyclical effects and big cuts in corporate income tax (CIT) rates affected the ITR. However, it seems likely that tax-base broadening measures which frequently accompanied the rate cuts sustained the ITR.

The indicator's levels differ widely in the EU, ranging from 39% in Denmark (based on 2009 data) to a mere 9.1% in Estonia (see Graph 2.9). A breakdown of the ITR shows that in most cases, the difference in the tax burden on capital is due to wide differences in the taxation of capital stocks/wealth, while the ITRs on capital and business income cluster around 20% (see Graph

⁽¹⁾ The ITR on capital is the ratio between taxes on capital and aggregate capital and savings income. It includes taxes on the income earned from savings and investments by households and corporations and taxes on stocks of capital from savings and investment in previous periods. The denominator of the ITR is an approximation of the worldwide capital and business income of residents for domestic tax purposes.

2.5. For a more detailed discussion see European Commission (2012a)).

Graph 2.9: **Implicit tax rate on capital, 2010, in %**



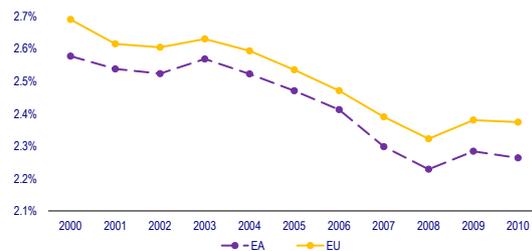
Note: No data for BG, LU, MT, RO and IS; data for DK, ES and UK refer to 2009.

Source: Commission services.

Environmental taxation

Roughly one euro out of every 16 in revenue is raised from environmental taxes. After declining between 2003 and 2008, the EU-27 average picked up in 2009 and remained stable in 2010 at 2.4% of GDP (see Graph 2.10). At 4.0% of GDP in 2010, Denmark and the Netherlands had the highest level of 'green' taxes followed by Slovenia at 3.6%.

Graph 2.10: **Environmental tax revenue, 2000-2010, % of GDP**

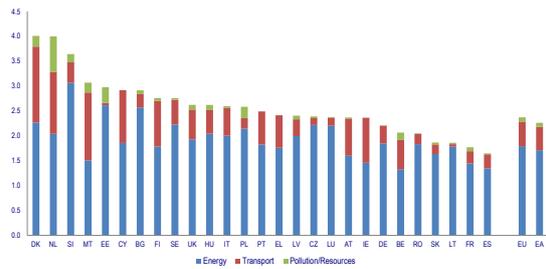


Source: Commission services.

Environmental taxes are a sub-category of indirect taxes, in general consumption taxes. They also sometimes include taxes on capital stock. Energy taxes, mainly levied on transport fuels, predominate in most Member States. In some, however, the contribution of taxes on transport, other than on fuels, is also significant. For example, in Denmark, Ireland, Cyprus and Malta they account for between 36% and 44% of environmental taxes. In 2010, revenue from these

taxes amounted to 0.5% of GDP in the EU-27, while taxes on pollution/resources raised only 0.1% of GDP (see Graph 2.11).

Graph 2.11: Breakdown of environmental tax revenue, 2010, in % of GDP



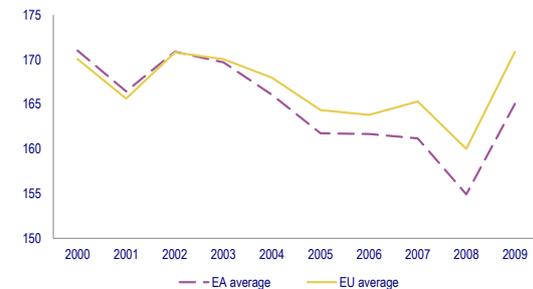
Source: Commission services.

A high ratio of environmental tax revenue to total taxation or a high level in % of GDP do not necessarily mean that environmental protection is a high priority. Originally, taxes on energy (incl. fuel) and transport were often used to raise revenue, without environmental purposes. Tax revenues are a product of tax rates and the tax base. Hence the high level of the indicator can be the result not only of high level of tax rates, but also of a high tax base in relation to GDP. This is an indication of the inefficient use of resources in a country or of a very energy-intensive economy. The indicator can therefore give a misleading view of a country's environmental policy goals if the tax base is not thoroughly assessed.

In contrast, the indicator 'ITR on energy' is not affected by the size of the tax base. It therefore provides a more reliable measure of the effective level of environmental (or energy) taxation. However, this indicator also has some peculiarities. The ITR treats all kinds of energy consumption in the same way, regardless of their

environmental impact. An energy unit produced from hydroelectric power has the same weight as one produced from coal. In many countries, however, renewable energy sources are taxed at a lower tax rate than exhaustible ones, or they are exempted to provide incentives to switch from fossil fuels to more environmentally-friendly sources of energy. Thus, paradoxically, a country with a large share of renewable energy may have a lower ITR on energy than a country that relies heavily on carbon-based energy sources.

Graph 2.12: Energy tax revenue in relation to final energy consumption (real ITR on energy), Euro per tonne of oil equivalent, deflated with cumulative % change in final demand deflator, 2000-2009



Source: Commission services.

Data show that in real terms taxation on energy increased sharply in 2009, breaking the downward trend from 2002 to 2008 (see Graph 2.12). Moreover, the EU-27 base-weighted average in 2009 was just above its highest level in 2002. The real ITR on energy increased in nearly all EU Member States, except in Luxemburg, Hungary, Bulgaria and Slovakia where it remained almost unchanged (see Table A.5 in Annex 1). The rise is probably due to the discretionary increase in the rates of excise duties on energy products and other environmental taxes across the EU over the last few years.

3. RECENT REFORMS OF TAX SYSTEMS IN THE EU

This chapter reviews tax reforms implemented in the 27 EU Member States in 2011 and in the first half of 2012. Section 3.1 reviews the general developments across the EU. Section 3.2 describes tax reforms in Member States in more detail, looking at each type of tax systematically. Section 3.3 presents the conclusions and an assessment of the overall trends.

Reforms are sometimes difficult to achieve because they create winners but also losers and have to overcome the bias to maintain the status quo. Political economy theories can help understand these stumbling blocks. For this reason, Box 3.1 at the end of the chapter provides a short analysis of political economy considerations and determinants of tax reforms.

3.1. GENERAL TRENDS IN TAX REFORMS

The financial and economic crisis that started in 2008 has resulted in a significant deterioration of public finances across most EU Member States. Consequently, fiscal policies in 2011 and 2012 have typically been driven by the need to bring public finances back on a sustainable path. As far as tax policy is concerned, in most Member States the need for tax revenue to make a larger contribution to the overall consolidation effort has been coupled with additional challenges stemming from the need to support the recovery and restore sustained growth over the medium and longer term.

In July 2012, all but six Member States were subject to the excessive deficit procedure (EDP).⁽¹²⁾ Most have to correct their excessive deficits in 2012 or 2013. Against this background, according to the Stability and Convergence Programmes and the National Reforms Programmes, most Member States expect to make a positive and significant contribution to fiscal consolidation by taking discretionary tax measures in 2012, in addition to cutting public spending.

⁽¹²⁾ In June 2012, the Council adopted the Commission recommendations to abrogate the decision on the existence of an excessive deficit in Germany and Bulgaria (see http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ecofin/131128.pdf).

3.1.1. Overall tax policy direction

In 2011 and 2012 tax policy has continued to be strongly influenced by the consequences of the financial and economic crisis broken out at the end of 2008 and the subsequent debt crisis. 2010 saw no clear overall trend to increase or cut taxes, as some countries put in place expansionary measures and others focused already on public finance consolidation. Nonetheless, tax reforms in most EU Member States in 2011 and 2012 have more clearly responded to the need to consolidate public finances, including on the revenue side.

This is reflected in the trend in the overall tax burden (incl. SSC). The EU-27 average remained stable in 2009 and 2010, as discussed in Chapter 2, and is estimated to have increased by around ½ percentage point in 2011. According to the Commission spring forecast, it is foreseen to increase by around ¾ percentage points in 2012. These developments mirror the increased contribution of tax policy changes in the yield from discretionary fiscal measures. In 2011, measures on the revenue side accounted for roughly one third of the total balance correction in the 27 Member States (2.2% of GDP).⁽¹³⁾ In 2012, the impact of discretionary tax measures is forecast to amount to 0.9% of GDP, against 0.5% on the expenditure side.

3.1.2. The overall structure of taxation

Table 3.1 gives an overview of the general direction of tax changes implemented in the EU Member States in 2011 and the first half of 2012.

Over that period, many Member States have increased taxes in order to speed up fiscal consolidation. Most Member States have increased personal income tax, mainly through hikes in statutory rates. These have often been implemented on a temporary basis, and have taken the form of general surcharges or solidarity contributions for high-income earners (Belgium, Greece, Italy, Cyprus, Luxembourg, Portugal and Spain). At the same time, measures reducing the tax burden have been mainly targeted at increasing work incentives for specific groups. Overall, the net effect is a more progressivity of the personal income tax schedule.

⁽¹³⁾ See European Commission (2012b).

Social security contributions have also been increased in many countries, through hikes both in the standard rates (Greece, Latvia, Poland and the United Kingdom) and in the rates applicable to specific groups (Bulgaria, France, Hungary, Austria and Portugal). Only Germany has cut the general contribution rate to the pension insurance, albeit modestly.

Roughly half of the Member States have raised VAT rates, both the standard rate (Portugal, the United Kingdom, Cyprus, Ireland, Hungary, Poland, Slovakia and Italy) and the reduced rate (Latvia, Poland, France, Bulgaria, Greece and the Czech Republic).⁽¹⁴⁾ Targeted increases in the VAT rate for specific categories of goods and/or services have also been relatively frequent. These have been achieved by repealing exemptions (e.g., in Cyprus, Belgium, Denmark, Finland) and by narrowing the application of the reduced rates (e.g., in Greece, Latvia, Portugal and Finland).

Excises duties have been increased in most Member States, mostly through changes in the statutory rates, both for environment and energy products and for alcohol and tobacco.

Several Member States have reduced their headline tax rates on corporate income (United Kingdom, Finland, Slovenia, Greece and the Netherlands). At the same time, however, marginal tax rates have increased in France, Greece and Portugal by means of surcharges or levies applicable only to the largest companies. Changes in the bases have been slightly more frequent, mostly focused on more generous treatment of investment expenditure on physical capital or R&D, and on restrictions to the deductibility of other items, such as losses.

All in all, 2011 and 2012 have seen a slight change in the composition of total revenue compared to 2010. While 2009 saw a marked drop in the yield from direct taxes (from 33.3% to 31.4%) and only a small increase in that from indirect taxation (from 31.8% to 32.1%), more recently, increases in the indirect tax burden have been coupled with increased revenue from direct taxation in the EU as

a whole, although of moderate magnitude. In particular, in 2012, the share of indirect taxes over the total tax burden is forecast to rise by 1 percentage point from 32.1% in 2009. At the same time, the share of direct taxes in the total tax revenue is set to increase from 31.5% in 2009 to 32.1% in 2012.⁽¹⁵⁾

The change in the structure of taxation is generally associated with strong economic effects, notably, in terms of the reduction of economic distortions. As an analytical illustration, Box 3.2 at the end of the chapter provides results of recent simulations for the efficiency loss of tax increases in the EU in the area of labour and energy taxation. This analysis uses the concept of 'marginal costs of public funds' (MCPF) and is conducted by the European Commission's Joint Research Centre (JRC-ITPS) using a CGE model. Generally the cost is found to be higher for labour tax increases than for energy tax increases.

Table 3.1: Tax changes in 2011 and 2012

		Statutory rates	Base or special regimes
Personal Income Tax	Increase	BE, DK, CY, FI, EL, ES, IE, IT, LU*, NL, PT	AT, BE, CZ*, DK, ES**, FI, FR, EL, HU, IE, PL, PT, SK, UK
	Decrease	FI, HU, LV, NL	CZ, DK, EE, FI, DE, ES, HU, IE, LV, MT, NL, SE, UK
Corporate Income Tax	Increase	FR, PT	CZ, AT, BE, DK, ES**, HU
	Decrease	UK, FI, EL, SI, NL	ES, HU, IT, LT, LU, UK
Social Security Contributions	Increase	AT, BG, CY, FR, EL, HU, LV, PL, PT, UK	IE, SK
	Decrease		CZ
Value Added Tax	Increase	PT, UK, CY, ES**, IE, HU, LV, PL, SK, IT, FR, BG, EL, CZ	AT, BE, BG, CY, DK, EL, ES**, FI, LV, NL, PL, PT
	Decrease		CY, EL, ES, IE, LT, PL
Excise Duties	Increase	AT, BE, BG, CY, CZ, DE, EL, ES, FI, FR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SK, SI, UK	DK, EE, LV, PL
	Decrease	SI	
Taxation of Property	Increase	CY, EL, ES, IE, PT, UK	CY, IT, LT, LV
	Decrease	NL	

Note: The table encompasses tax changes implemented in 2011 and the first half of 2012 including temporary but significant changes. Minor changes are not included. Tax measures are reported individually, and not consolidated on the basis of their budgetary impacts. Introduction of new taxes is listed as an increase in statutory rate. Changes in tax brackets (thresholds) are considered as base changes.

Solidarity charges levied in: BE on financial income, CY on SSC, EL on high income, IT on high income, LU temporary, PT and ES all of which are classified as increases in statutory rate. PIT: In FI and NL labour income taxation has been decreased while capital income taxation has been increased.

* temporary increase in 2011. ** measure introduced after the cut-off date.

Source: Commission services.

⁽¹⁴⁾ Spain raised its reduced and standard VAT rates, broadening at the same time the scope of application of the latter, in the context of the tax reform approved in July 2012, i.e. after the cut-off date.

⁽¹⁵⁾ The composition of tax revenue can change not only because of exogenous tax reforms but also for endogenous factors, e.g. business cycle developments.

3.2. MAIN TAX REFORMS IN MEMBER STATES

This section presents the main measures taken on direct taxation (personal income tax and corporate income tax), and social security contributions. It then details the reforms in indirect tax (VAT and excise duties). Measures on housing taxation and to combat tax evasion are reviewed in turn. Further details on tax reforms in each of the 27 Member States are outlined in Table 3.3 at the end of this chapter.

3.2.1. Direct taxation

Personal Income Tax

Around half of the Member States have implemented substantial, albeit in many cases temporary, changes to personal income tax in 2011 and 2012. The need for budget consolidation has resulted in marked increases in personal income tax in many Member States, with tax cuts mainly targeting special groups.

Most Member States have increased personal income tax (Belgium, Denmark, Cyprus, Finland, Greece, Ireland, France, Italy, Luxembourg, Netherlands, Portugal, Spain, Slovakia, and the United Kingdom), often by increasing statutory tax rates. In contrast to 2010, many tax rate increases are temporary and often represent surcharges on high income, both from capital and labour. Belgium, Greece, Italy, Cyprus, Luxembourg, Portugal and Spain introduced solidarity levies, all temporary measures, except in Belgium. Austria announced that it will bring in a temporary progressive solidarity contribution on high incomes in 2013 (and lower tax allowances for the self-employed). Similar measures are planned in the Czech Republic.

As solidarity contributions are levied on high incomes or increase with the level of income, these countries' personal income tax systems have become more progressive. While Italy and Portugal levy surcharges on high incomes, at rates of 3% and 2.5% respectively⁽¹⁶⁾, Greece, Cyprus and Spain have increased taxes for all income brackets, but progressively. For 2011 only, Portugal applied a surcharge of 3.5% to the income above the minimum wage. Luxembourg levied a 0.8% crisis tax on all income except minimum

wage salary in 2011, and Belgium brought in a 4% solidarity charge on financial income above a threshold. The Spanish progressive tax schedule on savings and capital gains in three brackets is a temporary measure for two years.

For Member States that have shifted the tax burden away from personal income tax, most tax reforms have aimed to increase work incentives. The focus has been mostly on participation incentives for vulnerable groups and generally involved changes in the tax base. Austria and the Netherlands, however, have cut the tax/social security advantages for older workers. Only Finland and Germany's tax base measures lowered the tax burden for the entire working population.

Germany, the Czech Republic, Hungary and Malta have introduced tax measures supporting parents. Germany facilitated tax deductibility for childcare costs, the Czech Republic and Hungary increased tax allowances for families with children and tax credits for families with three or more children, respectively, and Malta increased the tax brackets for parents with children under 18.

Tax reliefs were also granted to low and medium income earners by increasing tax credits and basic allowances in Belgium, Finland and Hungary. The Netherlands decreased the tax rate in the lowest tax bracket in 2011. Other targeted tax base reliefs were given in Denmark, Sweden and Spain. Denmark introduced a temporary deduction for wage expenses for household services and refurbishment expiring at the end of 2012. Sweden raised basic income tax allowances for labour income of people older than 65 and Spain reintroduced the general 15% tax credit for buying or restoring a taxpayer's primary residence. Clearly, the Spanish tax measures are intended to increase consumption and investment, and the Swedish initiative aims to increase life spent in work (since retirement age can be voluntarily postponed from 65 to the age of 67).

Some measures in Italy and Ireland aim to improve tax compliance and enhance human capital, respectively. In Italy, a lower proportional tax rate of between 19-21% was introduced on rental income from buildings for residential purposes, replacing the inclusion of 85% of rental income in the personal income tax base (with a marginal tax rate of around 30% on average). To attract key

⁽¹⁶⁾ The 3% levy in Italy is deductible from PIT base.

individuals, Ireland grants qualifying individuals from abroad an exemption from income tax on 30% of their annual salary between €75000 and €500000 if they are employed for a minimum of one year to a maximum of five years.

The 2011 Hungarian tax reform brought the highest marginal tax rate down from 32% to a 16% flat rate. However, as the tax base rose to 127% of gross earnings (in 2010), the tax rate actually corresponds to 20.3%. In 2012, the 27% base-increasing component was phased out for low to medium earnings below HUF 202000 (€653), roughly the average wage, leading to a system with two rates, 16% and 20.3%. Latvia lowered the general PIT rate from 26 to 25%, partly compensating for the increase in social security contributions. In Finland there has been a slight reduction in progressivity: the top marginal tax rate was cut by 0.25 pp in 2012. The United Kingdom announced that it would cut its highest PIT rate from 50% to 45% in 2013.

The overall trend towards steeper progression in personal income tax could reflect the fact that personal income tax is the only tax that is well suited to redistribute consumption power among different income groups. The increase in other taxes in response to the need for consolidation tends to be flat or even regressive.

The EU-27 (arithmetic) average top personal income tax rate increased slightly, by 0.2 pp, in the period 2010-2012 from 37.9% to 38.1% (see Table A.4 in Annex 1). This development has not been steady as the PIT top rate fell in 2011 by 0.3 pp to 37.6%, and then returned to 38.1%, the highest level since the crisis began in 2008. While the decrease in 2011 was mainly the result of the reform in Hungary, where the rate was halved to 20.3% in 2011, the 2012 increase is driven by the (temporary) tax increases in Cyprus and Spain. In comparison to 2010, six Member States – France, Spain, Italy, Cyprus, Luxembourg and Portugal – increased top rates levied on personal income. The largest increase, by more than 28%, from 30 in 2011 to 38.5 in 2012 was in Cyprus, due to the introduction of an additional tax bracket with a tax rate of 35% and a temporary surcharge. The top rate on personal income increased significantly in Spain from 43% in 2010 to 52% in 2012. In 2011

the Spanish government introduced two additional tax rates on income above €120000 and €175000 of 44% and 45% respectively. In 2012, a temporary supplementary progressive levy was brought in, raising the top personal income tax to 52%.

Concerning the taxation of capital income, recent measures have typically increased the tax burden on capital. In Austria, as from 1 April 2012 a withholding tax of 25%, independent of the holding period, applies to capital gains from financial assets. Measures taken in other countries mostly comprise increases in tax rates, namely in Belgium, Cyprus, Finland, France, Ireland, Portugal and Spain. In Belgium, the withholding tax rate on interest and dividends increased from 15% to 21%, and in Cyprus the rate increased permanently from 10% to 15% for interest and temporarily for 2 years from 17% to 20% for dividends. In France, the optional final levy on dividends and interest was increased from 18% to 19% in 2011, and 21% and 24% respectively in 2012, whereas the mandatory final levy was increased from 18% to 19% on capital gains. In Ireland taxes on capital and interest were aligned at 30% in 2012. In Portugal, the tax rate applicable to capital gains on the sale of shares and other securities was increased from 21.5% in 2011 to 25% in 2012. Portugal also adopted an increase in withholding tax from 21.5% to 25% on income from dividends, interest and other forms of remuneration on shareholders' loans and share capital.

Two countries, Finland and Spain rendered their capital taxation more progressive. In Finland, the tax rate on capital income increased from 28% to 30% and for income exceeding €50000 to 32% from 2012. As of 2012, Spain taxes savings and capital gains separately under a progressive tax schedule with three brackets of 21% on the first €6000, 25% up to €24000, and 27% on income above that (in 2011, they were taxed at 19% on the first €6000, and 21% on income above) from 2012-2013.

Several countries introduced measures to broaden the tax base, often by reducing tax expenditures. In particular, this was done through measures related to housing taxation (although on personal capital

income). In the Netherlands, a new top bracket was introduced in the imputed income for owner-occupied housing, increasing the imputed income for the share of the value in excess of €1 million from 0.55% in 2009 to 1.05% in 2011. As a result, it is slightly closer to the 4% imputed income that applies to other assets. In Finland, the tax deductibility of mortgage interest rate payments will be gradually cut to 85% in 2012, 80% in 2013 and 75% in 2014. In Spain, the housing investment deduction in personal income tax, which was removed for incomes above €24 170, was reintroduced for all primary residences in 2012.

Corporate Income Tax

The long-term trend to cut the statutory rates across the EU has continued, albeit at a slower pace, as most Member States have left the headline rates unchanged in 2011-2012, with some exceptions.

The United Kingdom cut the small profits corporate tax rate by 1 point to 20%, and the headline rate in two steps to 24%, 4 points below the 2010 level. Further reductions in the rate are planned to bring it to 23% in 2013 and 22% in 2014. Finland also cut its corporate income tax rate from 26 to 24.5%. In Greece, the statutory rate was cut from 25% in 2009 to 24% in 2010 and 20% for income earned as of 2011. At the same time, as from 2009 and until 2014, Greece applies a temporary special contribution at progressive rates for enterprises with a net income above €100 000. Slovenia cut the statutory rate from 20% to 18%, and plans to cut it further progressively to 15% in 2015. In the Netherlands, the rate applicable to profit in excess of €200 000 was cut by half a percentage point to 25%.

France and Portugal introduced surcharges to the corporate income tax rate in 2012. France introduced a temporary 5% surcharge on companies with (group) gross income exceeding €250 million, while in Portugal the surcharge on the state corporate income tax (IRC) is levied at 3% on income between €1.5 and 10 million and at 5% above that. At the same time, the reduced CIT rate of 12.5% was abolished.

Overall, the average top corporate income tax fell in the EU-27 in the period 2010-2012 by 0.2 pp from 23.7% in 2010 to 23.5% in 2012. In this

period only two Member States – France and Portugal – increased the top CIT through surcharges while four countries – Greece, Finland, Netherlands and the United Kingdom cut the top rate (Table A.4 in Annex 1 provides an overview of the statutory top corporate income tax rates in 2012 compared to previous years).

Several Member States have made changes to their tax base. The United Kingdom and Slovenia introduced measures to incentivise corporate investment. Slovenia increased the allowance for investment in equipment and intangible assets to 40% (previously 30%) and raised the relief for investment in research and development from 40 to 100%. Similarly, in the United Kingdom the SME tax relief rate for investment was increased in stages to 225% as of April 2012. In addition, a special regime introducing a reduced 10% rate on corporate profits attributed to patents and other types of intellectual property (Patent Box) will be phased in over five years as from April 2013. At the same time, an 'Above the Line' (ATL) credit for R&D with a minimum rate of 9.1% before tax will be introduced. In March 2012, Spain introduced several base-broadening measures such as the deferral of tax benefits for goodwill arising from acquisitions and business restructuring operations, a permanent limit to the deductibility of interest expenses, lower limits to the deductions aimed at promoting certain activities (e.g. R&D), limits to the 'free depreciation' regime (introduced in 2010).

Restrictions to the favourable tax treatment of losses have been introduced in Austria (limited to cross-border losses), Denmark and France, where upper limits were set to the amount that can be overall carried forward, or utilised annually, respectively. Similar limitations were introduced in Spain for larger companies in 2012, while in the previous year the carry-forward period had been extended from 15 to 18 years.

Some countries have reduced the tax burden on corporate profits by enlarging the scope of special regimes. In Hungary, the threshold for the reduced 10% rate was increased tenfold to HUF 500 million (€1.8 million). Lithuania and Spain also increased the maximum annual threshold to qualify for the simplified taxation regime for small companies.

3.2.2. Social security contributions

In contrast with 2010, when social security contributions remained virtually unchanged in most Member States - only Bulgaria and Hungary implemented cuts – significant changes were made in 2011 and even more in 2012. The changes mainly take the form of increases. Almost always, the increase was achieved by rate hikes, both for general and for targeted groups. The standard rate increased in Greece, Latvia, and the United Kingdom. Special items of the social security contributions, which effectively also increase the overall social security contribution rate, were raised in Bulgaria for pension contributions, in France for passive (investment) income, in Hungary for health insurance, and in Poland for disability contributions. Increases for special types of employees were brought in in Austria for farmers, the self-employed and old-age unemployed and in Portugal for civil servants.

Cyprus and Slovakia brought in increases via amendments to the tax base. In Cyprus a contribution of 3% on gross earnings of current government employees to the government pension schemes was introduced, and in Slovakia, taxable non-monetary benefits provided to employees were also made subject to social security and health insurance contributions. In most of the Member States where social security contributions were increased, this increased the tax burden on labour as they were not compensated by decreases in the PIT, except in Latvia.

The only exception was Germany, which reduced the contribution to pension insurance from 19.9% to 19.6% from 1 January 2012. France plans to increase SSC on passive income. Belgium brought in tax relief in the employer social security contribution for the first three employees hired by medium-sized enterprises in order to address the rigid labour market.

3.2.3. Indirect taxation

VAT

In line with the trends over the previous biennium, between 2011 and 2012, many Member States increased the standard VAT rate. In Portugal, as of January 2011 the standard rate was increased by a

two-step hike to 23%, 3 points above its level in June 2010. Following the temporary reduction to 15% in 2009, the United Kingdom raised the standard rate from 17.5% to 20% in January 2011. In 2012 Cyprus and Ireland increased their standard rates by 2 percentage points to 17% and 23%, respectively. The two-point hike in January 2012 brought the standard rate to 27% in Hungary, the highest level in the EU, and 7 points above the level before the July 2009 increase. Increases by 1 point were also made in Latvia, Poland, Slovakia and Italy in 2011. ⁽¹⁷⁾ In Italy an additional two-point hike to 23% will take effect in October 2012. ⁽¹⁸⁾ ⁽¹⁹⁾

This implies a progressive increase in the average standard VAT in EU-27 from 19.8% in 2009 to 21% in 2012 (See Table A.7 in Annex 1). Over 2010-2012, almost half the Member States raised the standard and/or reduced rate to raise revenue.

Reduced rates were increased in several countries, such as Latvia, Poland, France (excluding some goods and services still taxed at the previous level), Bulgaria (where reduced rates apply only to tourist services) and Greece, with a parallel sizable increase in the standard rate made in 2010. In 2012, the reduced rate in the Czech Republic was raised from 10 to 14%.

Increases in the VAT base were achieved by repealing exemptions (for instance, in Cyprus, Belgium, Denmark, Finland) and by reducing the scope of application of existing reduced rates (notably, in Greece Latvia and Portugal). Interestingly, in Finland, the application of the reduced rate to labour-intensive services was abolished.

In Hungary and Denmark, the increase in the statutory VAT rate and base broadening measures were adopted in the context of broader reforms that aim to shift the fiscal burden away from labour and capital towards consumption. In the other Member States, the increases were brought in to increase overall tax revenue.

⁽¹⁷⁾ Latvia brought the standard rate back to 21% from July 2012.

⁽¹⁸⁾ This measure is approved unless the general Spending Review reform makes it unnecessary by generating expenditures saving.

⁽¹⁹⁾ In July 2012, Spain increased the standard rate by 3 pp to 21% as of September 2012.

Several Member States have implemented targeted – and in some cases temporary – reductions in the tax burden to specific goods and services by moving them to the lowest rates (Belgium, Cyprus, Greece, Spain and Sweden). These changes were, in most of these Member States, justified not only on distributional grounds (reduced rates on necessities such as food or on merit goods thought to be under consumed), but also by concerns on the economic developments in specific sectors (e.g. construction).⁽²⁰⁾

Excise duties

In 2011 and 2012, a number of excise duty rates were significantly increased in most Member States, with the only decrease in fuel excises implemented in Slovenia. In several of the new Member States, excise duties on transport fuels, electricity, tobacco and alcohol have been raised considerably, although in many instances from a low level close to the EU minimum before the hikes implemented in 2010.

Excise duties on energy and other environmental taxes were increased in many Member States. Germany introduced a tax on nuclear fuel. Austria and Germany introduced a duty on airline tickets for planes leaving from domestic airports. Air passenger duty was also increased in the United Kingdom. In Finland, energy taxation has been restructured to take into account the energy content and CO₂-emissions of energy products. Ireland introduced a tax on CO₂-emissions and Slovakia introduced a tax on ETS quotas allocated free of charge. In line with the Energy Directive, Poland abolished the exemption on coal, lignite and coke. Latvia re-introduced excises on natural gas in 2011 and widened the tax base by including certain lubricating oil groups in 2012.

Several countries have implemented changes to the taxation of cars. Austria, Belgium and the Netherlands have increased the CO₂-incentives in car registration tax. In 2011 Latvia changed the structure of the vehicle operation tax, at the same time increasing the tax burden on luxury, environmentally unfriendly and powerful cars. In Romania, a pollution tax was introduced on both

new and second-hand vehicles produced locally or abroad on their first registration.

Excise duties on tobacco and/or alcohol were increased in Belgium, Cyprus, Czech Republic, Estonia, France, Finland, Hungary, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovenia, Spain and the United Kingdom. Concerning other health-related products, Finland introduced an excise duty on sweets and ice cream, while in France a specific contribution was introduced on suppliers of beverages (sodas) with added sugar or sweeteners. Latvia's excise duty rate on sweetened non-alcoholic drinks was increased by 30%.

Table 3.2 summarises the tax changes in excise duties across Member States and breaks down the overview from Table 3.1 into two main excise duty categories.

Table 3.2: Excise duty changes in 2011 and 2012

		Statutory rates	Base or special regimes
Energy & Environment	Increase	AT, BG, FI, DE, EL, ES, HU, IE, IT, LV, LT, MT, NL, PT, RO, SK, UK	DK, EE, LV, PL
	Decrease	SI	
Tobacco, Alcohol and Sugar etc.	Increase	AT, BE, CY, CZ, DE, EE, ES, FI, FR, HU, LV, LT, LU, NL, PL, PT, RO, SE, SK, SI, UK	
	Decrease		

Note: See note to Table 3.1.

Source: Commission services.

3.2.4. Taxation of property

Only a few Member States implemented tax reforms in the domain of property taxation. In particular, increases in recurrent taxes were brought in in Greece, Italy, Latvia, Lithuania, Portugal and Spain. Greece introduced a special real estate duty on residential property, calculated on the surface area of buildings, also taking into account its age and location. The duty is collected through the payment of electricity bills. In addition, the tax-free bracket of the progressive real estate tax introduced in 2010 was halved to €200000. Italy abolished the exemption on main residences granted by the property tax and raised cadastral values by 60%. This is expected to yield 0.7% of GDP in extra revenue. Latvia doubled its progressive rates for residential buildings and

⁽²⁰⁾ Reduced VAT rates are generally not the most efficient way of redistributing income.

Box 3.1: Determinants of tax reforms

Tax systems are amended relatively frequently. While the recent reforms are clearly influenced by the general economic conditions, one interesting question is whether political or social factors also play a role in tax policy.

The political economy of tax policy has investigated why tax systems are as they are and why they are going towards specific structures. For instance, reviewing the UK, Alt et al. (2011) highlight a decline in preferences for redistribution that materialised in cuts in statutory rates. They also identify hysteresis features in terms of favourable tax treatments (e.g. R&D tax credits, mortgage interest tax relief, married couple allowances, etc.), even if these measures do not tend to be lobbied for in the first place. The authors also note a low level of information in the electorate on the effects of tax and interaction between different types of tax. These features are echoed by Castanheira and Valenduc (2006). They find that many features of the Belgian tax system (e.g. reduced corporate tax rates, the favourable taxation of financial instruments or the financial sector, or the tax treatment of couples) benefit from the status quo due to political considerations. A third example is Profeta (2007), who argues that the 2007 reform of bequest taxes in Italy was driven by political considerations.

A second strand of the economic literature focuses on the levels of various taxes, in particular those on corporations. By estimating tax reaction functions, the seminal work of Devereux, Lockwood and Redoano (2008) shows interdependence in the setting of corporate tax rates in Europe. However, the empirical approach does not allow one to distinguish between reasons relating to tax competition (defined as the wish to attract a mobile tax base) or other reasons. In fact, Slemrod (2004) finds that tax systems tend to converge because the features of economies tend to converge. Alternatively, according to the yardstick competition argument (Besley and Case, 1995), countries would actually mimic each other for political reasons. The influence of political and institutional factors seems to be particularly relevant as they appear to be strong determinants of corporate tax rates (Gérard and Ruiz, 2009).

This feature is also strong in a third strand of the literature that tries to identify the determinants of tax reforms. In a recent article, Castanheira et al. (2012) take the political economy arguments to the data. They find that political competition (expressed for example as a large number of parties in the governing coalition) increase the likelihood of tax reforms, that targeted reforms tend to gradually overcome the status quo bias and that reforms may be easier to implement for governments that are perceived less as pro-reform. In their empirical test, economic variables, unlike political ones, have little predictive power — besides the finding that governments tend to reform more in good than in bad times. The time period covered in their study (2000–2007) may however not reflect the current policy stance. It is an open question whether crisis periods produce more, and better, reforms.

broadened the base of the real estate tax by including auxiliary buildings, parking slots and houses and lands owned by religious organisations but not used for a religious purpose. Base-broadening measures were also introduced in Lithuania, where the annual tax now applies to immovable property owned by individuals and not used for commercial purposes (previously exempt) at a 1% rate on values above LTL 1000000 (€290000). Portugal increased the minimum and the maximum rates of the real estate tax on urban property by 0.1 pp. Spain introduced for 2012 and 2013 a temporary surcharge in the Real Estate

Tax (municipal tax) for immovable properties with an updated cadastral value over the average value in each municipality.

The Netherlands and the United Kingdom amended their property transaction taxes. The Dutch cut the property transfer tax for owner-occupied dwellings from 6% to 2%. The United Kingdom introduced a 7% rate of the Stamp Duty Land Tax (increased to 15% if the buyer is a non-natural person) applicable to the purchase of residential property with a value above GBP 2 million (€2.5 million).

3.2.5. Tax administration and tax compliance

Improving the efficiency of tax collection and tackling tax evasion can increase government revenue and ensure that the redistributive properties of the tax system functions. This is particularly relevant in times of fiscal consolidation, also with a view to enhancing the social acceptability of tax hikes by creating a perception of a fairer distribution of the adjustment burden. Measures to combat tax evasion and improve revenue collection were introduced in several Member States.

At the end of 2011, the Czech Republic passed a bill aimed at introducing gradually a one-stop-shop for all taxes, duties, and social security and health insurance contributions (Integrated Revenue Agency). The first stage envisaged the creation of a Financial Office administered by the newly established General Financial Directorate, and action to reduce the layers of the tax administration. Other measures already implemented include the introduction of a stricter penalty system, and measures to combat VAT fraud and evasion.

Between the end of 2011 and 2012, Latvia introduced new measures to fight VAT fraud in the fields of construction and scrap metal, and several legislative measures in 2012 under the Action Plan to Combat the Shadow Economy and Promote Fair Competition. Moreover, the Law on Individual Declaration of Property and Reporting of Undeclared Income, effective from March 2012, makes it possible to legalise previously undeclared taxable income and aims to improve oversight over an individual's financial position, in particular the accuracy of expenses incurred and the payment of taxes and the legality of derived income.

As part of their adjustment programmes, Greece and Portugal have planned a number of initiatives aimed at strengthening revenue administration and fighting tax evasion. Among those already implemented in Greece are: merging of smaller tax offices and consolidation of key functions, introduction of performance-based contracts for auditors, establishment of a large taxpayer unit. Portugal is proceeding with a merge of the Tax and Customs Authority, putting in place a large

taxpayer office, improving the procedure for handling tax appeals in the judicial system and implementing a strategic plan to combat fraud and evasion.

Italy implemented reforms addressing tax evasion, such as lowering of the threshold for electronic payments and the so-called 'income-meter' estimating individuals' income based on the expenses. In January 2012, Slovakia launched the project UNITAS project, which aims to unify revenue collection (taxes and customs) into a single institution, the Financial Administration (FA). The reform ultimately aims to reduce administrative and compliance costs and tackle fraud and tax avoidance. Measures to combat tax evasion have also been implemented in Hungary. These include allowing unannounced audits and increasing penalties.

Denmark has locked further fields on the tax return for editing by the taxpayer where the coverage and quality of third party information is high.

3.3. CONCLUDING REMARKS

Reforms undertaken in 2011 and 2012 have clearly been influenced by the need for fiscal consolidation, more so than in 2010. Overall, this has led to an increase in personal income taxes in many Member States. Social security contributions have also been frequently increased, while reductions typically target specific groups. In the taxation of corporate income, rate changes have not been frequent: while headline rates have been cut in some countries, a few Member States have introduced surcharges on large companies. In the domain of indirect taxation, there has been a clear generalised trend towards increasing the tax burden, in the form both of higher rates (particularly for excise duties) and broader tax bases. Only a minority of countries has increased property tax to secure additional revenue in a growth-friendly manner. Action to combat tax evasion and enhance the functioning of the tax administration is being taken in an increasing number of Member States. Overall, 2011 and 2012 have seen a slight change in the composition of total tax revenue, with an increase of the share of both indirect and direct taxes over total revenue, albeit only slightly for direct taxation.

Box 3.2: Assessing the efficiency losses of tax increase in the EU: the case of labour and energy taxation

Introduction

The appropriateness of a given tax increase must be gauged on the efficiency loss associated with it, i.e. its deadweight loss (Feldstein, 1997). Minimising the economic distortions caused by tax measures, given the extra revenues generated, is particularly important at a time when both fiscal consolidation and long-term growth are pressing policy issues in most EU Member States.

The efficiency loss associated with tax increases depends on the behavioural responses of economic agents which affect the tax bases. An appropriate metric for gauging such loss should compare the economic cost and the extra revenue for a given tax increase. One such metric is the so-called marginal cost of public funds (MCF), which is defined as the ratio between the change in consumer surplus and the extra tax revenue obtained from a given (marginal) tax rate increase. This indicator is widely used in the public economics literature for the evaluation of tax reforms and public spending programmes (Dahlby, 2008). The available evidence based on this measure suggests that the efficiency loss of tax hikes varies widely across tax categories and countries, increasing with the level of the total tax burden in the economy (Devarajan and Robinson, 2002; Dahlby and Ferede, 2011). In addition, structural rigidities in the labour market may magnify the distortionary effect of tax reforms via the behavioural response of economic agents (Nickell, 1997).

The results presented hereinafter are drawn from Saveyn et al. (2012), who measured the marginal cost of tax increases in the EU with the computable general equilibrium model GEM-E3. The model is calibrated using social accounting matrices derived from Eurostat national account data. Thus, the tax rates used in the simulations reflect the actual effective tax rates in each Member State, which could be seen as a good description of national tax systems.⁽¹⁾ The simulations focus on labour and energy taxes. The results support the well-established view that a revenue-neutral shift from labour to environmental taxes would increase consumer welfare (particularly by reducing GHG emissions) and favour job creation. Moreover, the success of such tax shifting policy crucially depends on the starting level of the tax burden, the actual tax structure and rigidities in the labour market, which ultimately affect behavioural responses.⁽²⁾

The efficiency losses of tax increases in the EU: results for energy and labour taxes

Using a CGE model it is possible to capture the overall effects of a given tax increase and interactions between agents and markets in the economy. The MCF can be calculated using the following formula:

$$MCF_{i,k} = \frac{\Delta W_{i,k}}{\Delta TR_i} \quad (1)$$

where $\Delta W_{i,k}$ is the welfare loss due to the increase of tax k in country i and is calculated as the change in consumer utility.⁽³⁾ It could be seen as the reduction in consumption relative to a benchmark of no-policy change, with prices and incomes remaining fixed at their 'no-policy-change' benchmark level after the tax increase under consideration. This technically corresponds to the 'equivalent variation'. The term ΔTR_i in equation (1) represents the corresponding change in tax collection in country i (including all tax revenues). The MCF therefore provides a metric for the loss in welfare (the efficiency loss) per unit of tax revenue gain. If the MCF equals one, then the tax is merely a lump-sum transfer from households to government with no distortion. Typically, however, the MCF is greater than one, so that $MCF = 1 + \alpha$, with $\alpha > 0$ representing the

⁽¹⁾ For more details on the GEM-E3 model see European Commission (2011b) and www.GEM-E3.net.

⁽²⁾ Other conditioning factors discussed in Saveyn et al. (2012) include the degree of substitutability between domestic and foreign goods (i.e. representing the degree of foreign competition) and the potential cross-country spillovers associated with tax increases. These additional results are not discussed here, however.

⁽³⁾ The indirect utility function is used in order to give a monetary value.

(Continued on the next page)

Box (continued)

cost of the distortion. This means that for every euro that goes into the government's purse, the economy pays an efficiency cost of α euros. The higher the MCF, the larger the distortive cost vs the tax revenue gains. The results presented here provide estimations of the MCF for a marginal increase (0.05 pp) of the effective tax rate in 2005. In the case of labour, the tax increase affects total social security contribution. Personal income taxation remains unchanged. The energy tax considered is *energy tax for households per petajoule of energy* (which is the measure commonly used to express energy consumption by large customer groups, such as countries). It is important to note that the environmental benefits of lower CO₂-emissions (which are modelled in GEM-E3) following higher energy taxes are not taken into account in the utility functions, so that the results are driven by the traditional price and income effects for the bundle of goods consumed by the representative consumer. Likewise, it is assumed that the additional tax revenues generated are allocated to the rest of the world (i.e. outside the EU), instead of being used to finance policy objectives such as an increase in public expenditure, a subsidy or repayment of public debt.

Table 1: **The Marginal cost of public funds in the EU: labour and energy taxation**

	<i>Labour tax</i>	<i>Energy tax</i>
EU average	1.9	1.08
Standard deviation / average	17.38%	22.21%

Note: EU averages are calculated using GDP level in 2005 as weight.

Source: Saveyn et al. (2012).

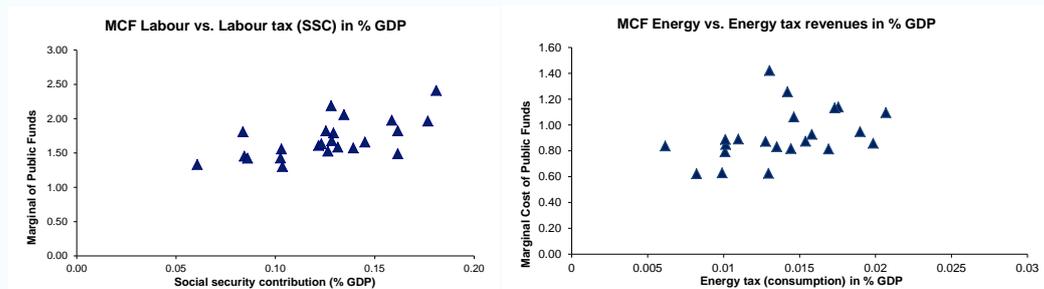
Table 1 provides the results of the value of the MCF for the EU (using the weighted average of individual country figures) for labour and energy taxes respectively. It shows that the efficiency loss related to a labour tax increase is 1.9. This means that for each euro of extra labour tax revenue raised, the efficiency loss for the economy as a whole is 90 cents. In this case the efficiency loss is therefore more or less the same as the extra tax revenue raised. Energy taxation appears to be much less distortionary. The efficiency loss associated with one extra euro of revenues obtained using this tax instrument amounts to 8 cents on average for the EU, i.e. roughly ten times lower than for labour tax. These first results would suggest that for a given target of extra tax revenue, an increase in the tax rate on energy is more desirable than an increase in labour taxation. This implies that, from a revenue neutral perspective, shifting the tax burden from labour to energy would minimise the resulting economic distortions, as already found in the literature (OECD, 2006; Aldy et al., 2008).

Looking more closely at country-specific results, the general message still holds: energy tax hikes potentially have a lower efficiency cost than labour tax increases. Figure 1 shows the cross-country dispersion of results for labour and energy taxes respectively (it should be noted that the two graphs have very different scales, which reflects the systematically higher value of the MCF for labour taxation). Graph 1 also shows that countries where the relevant tax burden is already high tend to have higher MCF, independently of the tax category considered, a result which is also in line with the literature on MCF, see Dahlby (2008).

(Continued on the next page)

Box (continued)

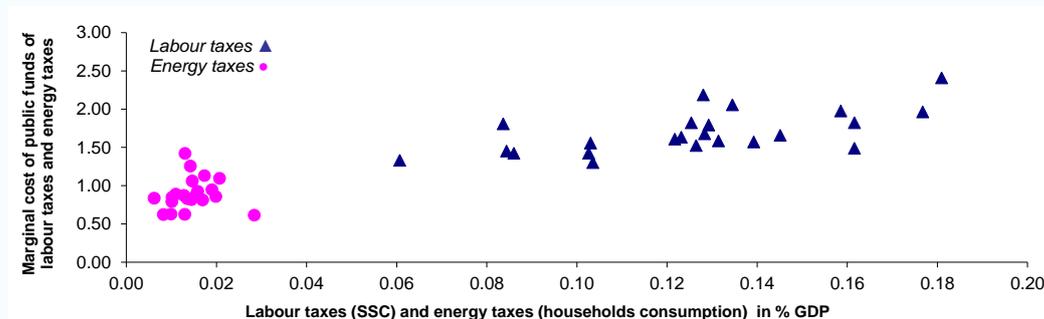
Graph 1: The marginal cost of public funds vs tax burden in the EU: the cross-country dispersion



Source: Saveyn et al. (2012).

A comparison of the level of distortion for energy and labour tax and their weights as a share of GDP shows that, generally speaking, lower MCF for energy taxes combined with a lower tax burden offers greater potential for further tax increases in order to minimise related distortionary effects (see Graph 2). It should also be borne in mind that the extra tax revenue obtained from a given increase might differ, depending on existing levels of taxation according to the traditional Laffer-curve argument.

Graph 2: The marginal cost of public funds vs. tax burden for labour and energy taxes in the EU (% of GDP)



Source: Saveyn et al. (2012).

Structural rigidities tend to magnify the efficiency losses of tax increases

Beyond the existing level of tax burden, the impact of tax increases can also depend on the underlying economic structure, and on market rigidities in particular. The latter are especially relevant when considering labour markets in view of wide-ranging regulation and institutional arrangements (Pissarides, 1998). The degree of labour market flexibility reflects the extent to which a change in prices resulting from a tax increase affects the wage setting. In the model used here, the labour market is modelled as in Shapiro/Stiglitz (1984), where workers benefit from a wage premium which firms are obliged to pay to induce employees not to shirk. As a result, effective labour supply is determined by efficiency wages. The balancing of labour demand with the effective, rather than the potential, labour supply implies that the equilibrium rate of unemployment is determined as the difference between potential and effective labour. These assumptions are validated empirically by the observed negative correlation between wages and unemployment levels, see Blanchflower and Oswald (1994).

(Continued on the next page)

Box (continued)

In principle a high degree of labour market flexibility (i.e. low wage premium) should lead workers to experience a lower level of welfare loss as a result of a change of a specific tax rate. A low degree of flexibility would instead result in higher welfare loss as wages adjust less to the lower labour demand. The results presented are therefore intended more to illustrate the change in the value of the MCF on average across EU countries rather than to show whether the country-specific degrees of ‘flexibility’ are correctly reflected in the model. Table 2 below provides the EU average estimates of the MCF for the two tax categories considered here and for the cases of relatively high and low labour market flexibility (vs. a benchmark case where the degree of flexibility in the labour market lies between these two opposite scenarios).

The results show that the degree of labour market rigidities can have a non-trivial impact on the marginal cost of public funds. The MCF increases by 33.7% (from 1.90 to 2.54) and 4.7% (from 1.08 to 1.13) for labour and energy tax respectively when labour markets are less flexible, and decrease by 13.7% and 3.7% respectively when labour market flexibility is high. Although these results should be interpreted with caution, given the highly stylised assumption regarding the magnitude of the change in the degree of labour market rigidities, they are indicative of the direction of the changes in the efficiency losses related to a given tax increase when labour market rigidities are altered. This result illustrates the potential complementarity between structural reforms aimed at lowering market rigidities and fiscal objectives.

Table 2: **The Marginal cost of public funds and labour market flexibility in the EU**

	<i>Labour tax</i>	<i>Energy tax</i>
Low flexibility of labour market	2.54	1.13
High flexibility of labour market	1.64	1.04
Benchmark case	1.9	1.08

Source: Saveyn et al. (2012).

Table 3.3: Overview of tax reforms in Member States

Austria

Personal income tax increase. From 2011, capital income tax rates and rates for private trusts were harmonised at 25% and the holding period, after which realised speculative capital gains were tax exempt, was abolished. Capital gains on shares, bonds and deposits are now subject to a final 25% withholding tax [0.08% of GDP]. The single earner's allowance is only granted if child support has been received. The stability law from April 2012 contains several revenue-raising measures. They include a temporary progressive solidarity contribution for high income earners (from approximately € 186 000) on their holiday and Christmas pay (in force from 1 January 2013), and reducing the state premium on building saving and (third pillar) pension saving (in force from April 2012). To reflect PIT changes tax free earnings (Gewinnfreibetrag) have also been reduced.

VAT increase. From September 2012, there are restrictions to deductibility and reclaiming of input VAT for premises.

Corporate income tax increase. From 2013 the deductibility for losses made in foreign subsidiaries is restricted in group taxation.

Excise duty increase. In 2011, the excise duty on petrol was increased by € 40 /1000 litres and on diesel by € 50 /1000 litres (€ 20/tonne of CO₂) [0.16% of GDP]. Other environmental tax measures include a flight tax and a higher car registration tax depending on the CO₂ emissions of the vehicles. Excise duties on tobacco were significantly increased in three stages, in January and June 2011 and in January 2012. From 1 January 2013 mineral oil tax reimbursement for agriculture and public transport is abolished.

Social security contribution increase. From May 2012, social security contribution rates for farmers and the self-employed were increased. The ceiling for the SSC base will again be increased in 2013. Unemployment contributions will be levied on formerly exempt older workers (from 59 onwards) until they reach the legal minimum retirement age. Employers terminating an employment contract will be subject to a processing fee.

Other tax increases. A bank levy based on the balance sheet total (excluding own capital and secured deposits) was introduced in 2011. It ranges from 0% for banks with balance sheets of up to € 1 billion to 0,055% up to € 20 billion and 0.085% above that [0.1% of GDP]. Derivatives trading will be taxed on 0.013% of its volume. Under the stability law, capital gains from rezoning of land property will be taxed and the 10-year holding period, after which realised gains from real estate sales are tax exempt, is abolished. An additional stability surcharge on banks and an advance tax payment on certain company pensions have been introduced in 2012.

Belgium

Personal income tax increase. With effect from 1 January 2012, the withholding tax on interest and dividends rose from 15% to 21%. An additional levy of 4% was introduced on the share of qualifying financial income exceeding € 20020 [0.2% of GDP]. PIT tax expenditure cuts include the abolishment of federal subsidies for environmentally-friendly cars and most of energy saving investments, which might only partly be replaced by regional subsidies. The base for taxation of company cars (catalogue value) was broadened for the user of the car. Moreover, company car taxation takes into account car-specific CO₂ emission levels. From January 2012, the taxable benefit in kind for non-quoted stock options was increased from 15% to 18%.

Corporate income tax increase. In line with the 2012 budget the cap for the notional interest deduction is reduced to 3% from tax year 2013 [0.4% of GDP]. The new base for company car taxation (catalogue value) also affects the company (with a new component in the tax base). Stricter thin capitalisation rules, lowering the maximum threshold for the tax deductibility of interest expenses, were introduced. The possibility of carrying forward the excess notional interest deduction will be abolished from tax year 2013.

VAT increase. From 1 January 2012 the VAT on digital television was increased from 12% to 21%. Notary and bailiff fees were made subject to the standard VAT rate [0.5% of GDP].

Excise duty increase. From January 2012, excises on tobacco were increased [0.04% of GDP].

Other tax increase. From 1 January 2012, stock exchange stamp duty rose by 30% and another increase is scheduled from mid-2012.

Bulgaria

Social security contribution increase. The state pension contribution rate was increased from 16% to 17.8% in 2011.

VAT increase. From April 2011 the reduced VAT rate on travel services was increased from 7% to 9%.

Excise duty increase. From 1 January 2012 the excise duties on diesel, natural gas (used for transport purposes) and kerosene were increased. In June 2012, an excise duty on natural heating gas used by the businesses was introduced. [0.1% of GDP]

Cyprus

Personal income tax increases. In August 2011, an additional tax bracket with a top rate of 35% for personal income over € 60000 was introduced, with effect from 1 January 2011. The tax rate on deemed and accrued dividend distribution was increased from 17% to 20% for a period of two years [0.1% of GDP]. The defence contribution on interest payments on deposits in local banks was also increased from 10% to 15%. In August 2011 a temporary special contribution to strengthen public finances was introduced. It is levied on gross wages at progressive rates for 24 months, starting on 1 September 2011 for public sector employees. This special contribution was extended to private sector employees and pensioners. The rates for public and private sector employees were set at 2.5% for income between € 2 501 to € 3 500, 3% for income between € 3 501 and € 4 500 and 3.5% for income above that.

Social security contribution increase. A permanent contribution of 3% of the gross earnings of current government employees towards government pension schemes was introduced. The contribution to the widows and orphans fund was increased by 1.25 pp to 2% of gross earnings [0.3% of GDP].

VAT increase. From 10 January 2011, 5% VAT on food and medicines, that were previously exempt, was introduced [0.4% GDP]. In line with the austerity package adopted in December 2011 the standard VAT rate was increased from 15% to 17% from 1 March 2012 [0.7% of GDP].

VAT decrease. From 1 November 2011 the reduced 5% VAT rate applies to the construction or purchase of first residences by eligible individuals.

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Table (continued)

Excise duty increase. Excise duties on tobacco were increased by 20% for cigarettes and by 30% for loose tobacco in 2011 [0.2% of GDP].

Other tax increases. In line with the austerity package of August 2011, an annual levy of € 350 on registered companies was introduced. A bank levy was introduced only for two years in 2011. It is 0.095% of the deposits held in banks on 31 December 2010 and 2011, payable in four instalments in 2011 and 2012, with a maximum of 20% of the total taxable profits of the financial institution [0.4% of GDP]. Real estate tax rates were increased. They now range from 0% to 0.8%, depending on the property value (previously 0% to 0.4%) [0.1% of GDP].

Czech Republic

Personal income tax changes. The basic personal income tax credit was reduced for 2011 on account of the unexpected floods expenditure [0.1% of GDP]. In 2012, the tax allowance for families with children was increased [0.1% of GDP]. A comprehensive direct tax reform was adopted on 27 December 2011. It is planned to implement it in 2014. It introduces a personal income tax of 19% of the gross salary (instead of 15% of the 'supergross' salary) and replaces social and health insurance employers have to pay with a 32.5% payroll tax (currently 34% of the contribution base). The maximum amount of mortgage interest payments deductible for a main residence have been reduced from CZK 300000 to CZK 80000 per year. A temporary consolidation package approved by the government in April 2012 to respond to current consolidation needs due to the crisis contains tax measures that should remain in force only from 2013 to 2015. The main ones include removing the basic tax allowance for employees, introducing a temporary 7 pp additional PIT surcharge for high-income earners, limiting tax deductibles for the self-employed and a temporarily increasing in the PIT rate from 19% to 20%.

Corporate income tax increase. From January 2012, a new tax on lottery companies was introduced [0.1% of GDP]. Until then lottery companies had not had to pay corporate income tax. General CIT is now applicable to these companies and the revenue from the tax will be divided between the state budget and municipalities.

Social security contribution decrease. Contribution ceilings were reduced from six times to four times the average wage in 2011 [0.1% of GDP].

Social security contribution increase. under the reform mentioned above, social security and health insurance contributions paid by employees and self-employed people will be taxed at 6.5% in each case. Currently, the rate for health insurance is 4.5%, while the rate for social security contributions is 6.5%.

VAT increase. From 1 January 2012 the reduced VAT rate was increased from 10% to 14% [0.7% of GDP]. This rate will be in force for the fiscal year 2012. Under the temporary consolidation package, from 2013, a 1 pp increase will bring the standard rate to 21% and the reduced rate to 15%. The previous plan to set the two VAT rates at 17.5% was postponed to 2016.

Excise duty increase. Excise duties on tobacco were increased from 1 January 2012. Under the consolidation package, it is planned to introduce a carbon tax and a wine tax, to further increase excises on tobacco and to reduce the number of exemptions from excise duties on certain commodities.

Other tax issues: At the end of 2011 a bill created a one-stop-shop for all taxes, duties, and social security and health insurance contributions. This Integrated Revenue Agency for public revenue is being set up gradually. At first, a Czech Financial Office administered by the newly established General Financial Directorate was set up with effect from January 2011. From 2012, Regional Tax Directorates will be abolished, so that tax administration will consist of two layers (the Financial Directorate and local tax offices). From 2013, social and health insurance services, and from 2014 customs administration, which currently administers the collection of excises, will be integrated. The creation of the one-stop-shop for all taxes is accompanied by recent tax administration measures, such as a disciplinary fine of up to CZK 50000 for not fulfilling certain procedural duties and a fine for not filing a tax return on time. Measures against VAT fraud and evasion have also been adopted. They relate to optional provisions of the VAT Directive on suppliers' and customers' joint liability for VAT payments.

Denmark

Personal income tax decreases. From 1 June 2011, Denmark introduced a temporary deduction for wage expenses for household services and refurbishment. It will expire by the end of 2012.

Personal income tax increases. From 2011, there is a 6% tax on payments from pension schemes exceeding DKK 362 800 (€ 48 370) (part of the 2010 Spring Package). A Fiscal Consolidation Agreement was reached in May 2010. It includes measures such as the suspension from 2011 to 2013 of automatic adjustments to various tax thresholds (including personal allowances), and the postponement from 2011 to 2014 of the planned increase in the threshold for the top income tax rate. The tax deductibility of trade union membership fees is limited to DKK 3 000 (€ 403) from 2011. Child allowances are gradually being reduced by 5% from 2011 to 2013. In the 2012 budget, the limit for deductible contributions to individual pension insurance schemes with less than lifelong coverage was decreased from DKK 100000 to 55 000 with effect from income year 2012 [0.08% of GDP in 2012; 1/5th of that in the long run]. The tax exemption for employer-paid health insurance is abolished as of 2012 [0.03% of GDP].

Corporate income tax increase. From 2012, limitations to loss carry-forward were introduced. Losses can still be carried forward indefinitely, but may be set off against current year income only up to € 1 million without restriction. Amounts over € 1 million may be offset only by 60% of the remaining income (similar to the rules in Germany) [0.02% of GDP].

VAT increase. VAT exemptions were removed for travel agencies, property management and the supply of buildings and building land [0.07% of GDP in 2011].

Excise duty increase. In February 2012 the government put forward a bill attempting to close a loophole in the car registration tax that gives leased cars preferential treatment and to reduce evasion by car dealers related to demonstration cars [0.05% of GDP].

Other tax increase. In 2012 the taxes/duties on unhealthy products such as sweets, soft and alcoholic drinks and cigarettes were increased. From 2011, financial activities tax (FAT) was increased from 9.13% to 10.5% (part of the 2010 Spring Package). FAT is a tax on wage and salary costs for businesses engaged in financial services.

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Table (continued)

Estonia

Excise duty increase. In 2011 excises on tobacco were increased by 10% [0.1% of GDP] and in 2012 by 10% [0.1% of GDP]. The Estonian parliament increased the excise duty on alcohol by 5% from February 2012 [0.04% of GDP]. Tax benefits of using specially marked fuel in mining, building and forestry were abolished in 2012 [0.1% of GDP].

Personal income tax decrease. At the end of 2011, the Income Tax Act was amended abolishing the cap for the reimbursement of tax-free accommodation expenses from 1 January 2012. Previously, the reimbursement of accommodation expenses for business trips was exempt from tax up to € 77 for domestic trips and € 128 for foreign trips.

Finland

Personal income tax decrease. Tax on earned income was slightly reduced in 2012. This was due to a 3.3% inflation adjustment to state income tax scales and a slight increase in the labour income tax credit. The basic income tax allowance was increased in municipal income taxation to ease the tax burden for low incomes. As a result, the top marginal tax rate fell by 0.25 pp and the earned income tax credit and tax allowances in state and municipal taxation increased [0.3% of GDP].

Personal income tax increase. From 2012 the tax rate on capital income was increased from 28% to 30% and to 32% for income exceeding € 50000. Tax deductibility of mortgage interest rate payments is gradually decreased by 2014, so that the share of deductible interest payments will decrease from 100% to 85% in 2012, to 80% in 2013 and to 75% in 2014. The threshold for tax-exempt dividends of non-listed companies was reduced from € 90000 to € 60000 from 2012. From 2012, the maximum amount of the tax credit for the cost of domestic help decreased from € 3 000 to € 2 000 per person per year. The creditable amount of labour costs decreased from 60% to 45%, including VAT that has been paid out, if the party that did the work was a tax-registered firm or an entrepreneur. The creditable amount of the total costs incurred for hiring a worker, including his wages and social costs, decreased from 30% to 15%.

Corporate income tax decrease. The corporate income tax rate was decreased from 26% to 24.5% from 2012 [0.2% of GDP].

VAT increase. From 2012, the VAT rate on newspapers and magazine subscriptions was increased from 0% to 9% and the application of reduced VAT rates on labour-intensive services abolished.

Excise duty increase. From January 2011 a tax on sweets and ice cream was introduced and the current tax on soft drinks was increased. The excise duty on heating fuels and electricity were increased and energy taxation was restructured to take the energy content, CO₂-emissions and local emissions of energy products into account. From 2012 the excise duty rates on alcohol, tobacco, sweets, ice cream and soft drinks were increased. The tax rates on transport fuels will increase by 10% in 2012 and 2014, in addition to the previously agreed increase in the diesel rate, implemented in 2012 [0.2% of GDP]. The rates of vehicle taxes (registration tax and annual circulation tax) and the CO₂ dependence of tax rates were also increased.

Other tax increase. From 2011 the waste tax was increased and the tax base was broadened to include private landfill sites.

France

Personal income tax increase. The 2011 Finance Law increased the top PIT rate from 40% to 41%. The allowance that reduces the amount of employment income subject to the generalized social contribution (CSG) and the social security deficit contribution (CRDS) was reduced from 3% to 1.75% from January 2012. From January 2012, the overall amount of tax incentives (niches fiscales) that a taxpayer may obtain during a fiscal year for individual income tax purposes was further capped for households (foyer fiscal) at € 18 000 (2011: € 18 000; 2010: € 20000) plus 4% (2011: 6%; 2010: 8%) of net taxable income. Many tax credits, including the deductibility of mortgage interest payments, were abolished or reduced as part of a government plan to reduce the budget deficit. From January 2011, the optional levy on dividends and interests was increased from 18% to 19%, and the mandatory final levy on capital gains was increased from 18% to 19%. From January 2012, the optional final levy on dividends was increased from 19% to 21%, and the optional levy on interest was increased from 19% to 24%. The tax shield will be fully abolished in 2013. From 2012, a temporary progressive contribution on top incomes (more than 250000€ a year) was introduced. From August 2012, the exemption of personal income tax and the reduction in social contributions for overtime earnings was abolished. However, the reduction in employers' social contributions for overtime was maintained for small companies (less than 20 employees).

Corporate income tax increase. A temporary CIT surcharge of 5% on companies with (group) gross income over € 250 million was introduced in 2012. In 2011, the carry-back of losses was reduced from three years to one and the carry-forward of losses limited to 60% over € 1 million of taxable profits. The R&D reimbursable tax credit (credit d'impôt recherche) has been reduced. The worldwide tax consolidation regime was abolished. An additional contribution of 3% on distributed earnings was introduced in 2012.

VAT increase. From 2012, a new reduced rate of 7% was introduced. It covers all products and services previously taxed at 5.5% (including restaurants), bar those for disabled people, food and gas and electricity subscriptions. These are still taxed at 5.5%.

Excise duty increase. A specific contribution of € 7.16 per hectolitre was introduced for suppliers of beverages (sodas) with added sugar or sweeteners. The tax base for spirits was broadened and the tax schedule revised, leading to a 10% price increase.

Social security contribution increase. From July 2012 the overall rate of social taxes (i.e. social levies, CSG and CRDS) applicable to passive income will be increased to 15.5% (from the current 13.5%). This is due to the increase in the social contribution from 3.4% to 5.4% for certain types of income (prélèvement social sur les revenus du patrimoine et produits de placement).

Other tax increases. France also announced the introduction of a Financial Transaction Tax with effect from August 2012. Its rate will be 0.2% on the transaction of shares of publicly traded resident companies whose capital exceeds € 1 billion and 0.01% on high frequency and automated trading and on 'naked' credit default swaps for European sovereign debt. From January 2012, a temporary contribution on wealth was also introduced doubling current revenue from tax on wealth (the so called "impôt sur la fortune (ISF)"). In 2012, the allowance for descendants in the direct line that reduces taxation on inheritance and gifts was reduced from € 150000 to € 100000. The time allowed to lapse between two exempt gifts was increased from 10 years (6 years in 2010) to 15 years in 2012.

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Table (continued)

Germany

Personal income tax decrease. Tax simplification measures that took effects on 1 January 2012 include better deductibility of child care costs and an increase in the employee allowance (Arbeitnehmer-Pauschbetrag) from €920 to €1,000 [0.022% of GDP].

Social security contribution decrease. At the end of 2011, the German government decreased the pension insurance contribution from 19.9% to 19.6% with effect from 1 January 2012.

Excise duty increases. A tax on nuclear fuel (Kernbrennstoffsteuergesetz) was introduced from 2011. The supplementary Budget Bill 2011 introduced from 2011 a duty on all airline tickets booked after 1 September 2010 for flights departing from Germany. The rates depend on the flight distance (€ 8 for short-distance flights, € 25 for medium- distance flights and € 45 for long- distance flights).

Greece

Personal income tax increase. A new solidarity contribution was introduced for individuals in July 2011. It applies to income earned from 2010 to 2014. The rates range from 1% for income above € 12 000 to 4% for income above € 100000. The rate for high-ranking state officers is 5%. The maximum PIT exemption was reduced from € 12 000 to € 8 000 in July 2011, and to € 5 000 in October 2011 (applicable since January 2011). The number of tax brackets was also reduced from 9 to 8. Law 4024, enacted in October 2011, amended the provisions of the Income Tax Code on tax credits. Tax credits are still granted for medical expenses, home rent, annual educational expenses, the conversion or installation of environmentally friendly heating systems and other environmentally friendly interventions in buildings, for the annual mortgage interest on the taxpayer's principal home and for life insurance premiums. The ceiling was reduced from 20% to 10% of the cost, subject to certain thresholds depending on the type of cost. The new system also applies to social security contributions, previously fully deductible.

Corporate income tax decrease. The tax law of March 2011 reduced the CIT rate to 20% for income earned in 2011 and abandoned the split system introduced in 2010 for retained and distributed profits.

Corporate income tax increase. The extra contribution charged on large profitable corporations (at progressive rates, initially, of 5, 7 and 10% and since 2010, for income earned in 2009, at progressive rates of 4, 6, 8 and 10%) was previously extended until 2014. From 2012, a 25% withholding tax is levied on profits distributed by corporations, limited liability companies and cooperatives; for the year 2011 the withholding tax rate was 21%.

VAT decrease. From 1 January 2011 the reduced rate on hotels, medicines and picture books for children was decreased from 13% to 6.5%.

VAT increase. From January 2011, reduced VAT rates were set at 13% (up from 11%) and 6.5% (up from 5.5%). The VAT rate on non-alcoholic drinks and restaurant services was increased from 13% to 23% from September 2011. The VAT exemption on the supply of water by public bodies was abolished on 22 August 2011.

Excise duty increase. An excise duty was introduced on electricity in January 2011 and on natural gas in September 2011.

Social security contribution increase. With effect from August 2011, social security contributions were increased by 0.5% both for employers and employees, paid to the unemployment fund of the Workforce Employment Organisation. This change brought the contribution rate to 16.5% for white-collar workers and to 19.5% for blue-collar workers.

Other tax increases. In September 2011 a special real estate duty on residential property was introduced. It is calculated in terms of the surface area of buildings, taking into account also their age and location. It is collected through the payment of electricity bills. Since 2011, the tax-free bracket of the progressive real estate tax introduced in 2010 is reduced from € 400000 to 200000. Until 2012 inclusive, real estate worth more than € 5 million is subject to tax at the rate of 2% (rather than the 1% rate applicable above € 800000). Several measures of the comprehensive reform plan to combat tax evasion were implemented, such as merging smaller tax offices and consolidating key functions, introducing performance-based contracts for auditors and establishing a 'large taxpayer' unit.

Hungary

Personal income tax decrease. A flat personal income tax rate of 16% was introduced in January 2011 [1.8% of GDP]. It means that one tax rate applies to income from wages, rent and capital. In 2011, as in 2010, employers' SSC were still fully included in the tax base, so that the tax base amounts to 127% of the gross wage and the effective tax rate is 20.3%. Also in 2011, the amount of the employment tax credit, benefiting low to medium earners, was reduced by 20% and the income threshold for its application was increased. Substantial tax credits for families with children were also introduced. They are particularly favourable for families with three or more children (HUF 10000 per child per month for one to two children, HUF 33000 per child per month for three or more, with no negative tax possible) [overall, 1.8% of GDP]. With effect from 2012, the tax base of tax payers earning less than HUF 202 000 (€ 653) does not include the employers' social security contributions. The result is a two rate system with rates of 16% and 20.3%. The family tax credit introduced in 2011 was maintained in 2012.

Personal income tax increase. From 2012 the employment tax credit was fully phased out, leading to a net tax increase to low earners with no children.

Corporate income tax decrease. In 2011, the threshold for the lower 10% rate was increased tenfold to HUF 500 million (€ 1.8 million). Accordingly, in 2013 the reduced rate will be 10% and the regular rate 19%. The introduction of a higher 30% rate applicable only to energy and utilities companies was announced. The sectoral surcharges will be phased out (only halved for banks). [0.7% of GDP].

Corporate income tax increase. In 2012, the simplified corporate income tax rate was increased to 37% (from 30%). The eligibility threshold was increased to HUF 30 million (€ 97 000) of annual turnover (from HUF 25 million).

Social security contribution increase. In 2012 the health care contribution was increased to 7% (from 6%). This led to an increase in employees total SSC from 17.5% to 18.5% [0.45% of GDP].

VAT increase. From 1 January 2012 the standard VAT rate was increased from 25% to 27% [0.5% of GDP].

Excise duty increase. Alcohol, tobacco and fuel excise duties were increased in 2012.

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Table (continued)

Other tax increases. A "cultural tax" on pornographic material was introduced on 1 January 2012. A new tax on unhealthy packaged food came into force in September 2011. A levy on phone usage was introduced with effect from July 2012. It amounts to HUF 2 per minute of call or sms [0.1% of GDP]. The introduction of a financial transaction tax in 2013 was announced. Measures to fight tax evasion have been implemented. They include allowing unannounced audits and increasing penalties.

Ireland

Personal income tax increase. Income tax measures contributed around € 1 billion to fiscal consolidation in 2011 mainly through the reduction of tax credits (€ 435 million) and changes in the rate band (€ 395 million). From 2012 the taxes on capital and interest earned are aligned at 30%, in particular the capital acquisitions tax and the capital gains tax were increased from 25% to 30%, and the deposit interest retention tax (DIRT) from 27% to 30%. For certain windfall gains the windfall gains tax rate is 80%.

Personal income tax decrease. Under the Finance Bill 2012, it is planned to increase the lower exemption threshold of the Universal Social Charge, exempting around 330000 people, and the mortgage interest relief for first-time buyers during the property boom of 2004-2008. The same Bill also plans to create tax incentives to attract key employees that are currently foreign-based. Under the Special Assignee Relief Programme (SARP) individuals from abroad who are eligible can receive an exemption from income tax on 30% of their annual salary between €75 000 and €500000 if they are assigned for a minimum of one year to a maximum of five years. Furthermore, a deduction for foreign earnings (FED) is granted for employees assigned from Ireland to work in certain emerging market countries in order to increase trade with those countries. In addition, it is also planned to amend the Research and Development Tax Credit, where the first € 100000 expenditure will be allowable on a volume basis.

VAT increase. The standard VAT rate was increased from 21% to 23% from January 2012.

VAT decrease. The Jobs Initiative temporarily introduced a new reduced VAT rate of 9% on tourism services until end-2013 [0.2% GDP].

Excise duty increase. The mineral oil tax on petrol and auto-diesel was increased first by four cent and then by two cent in 2011 [0.07% of GDP].

Social security contribution increase. Base-broadening measures for Pay Related Social Insurance (PRSI) contributed to fiscal adjustment in 2011, in particular removing ceiling on employee PRSI contributions [0.2% GDP].

Social security contribution decrease. As part of the Jobs Initiative, until end of 2013, the lower rate of PRSI was halved from 8% to 4.25% on jobs that pay up to €356 per week [0.1% GDP].

Other tax increases. A household charge of €100 was introduced in 2012, as an interim measure before implementation of the valuation-based property tax [0.1% GDP]. The temporary measures of the Jobs Initiative are financed by a levy on the pension funds (yielding € 460 million annually in 2011-2014).

Italy

Personal income tax decrease. Changes to the municipal fiscal system were made in 2011 (Law n. 42/2009). Among other things they involve: i) taxing rental income from buildings for residential purposes at a separate, flat rate from 19% to 21%, rather than including it in the personal income tax base (average rates around 30%), with around 20% of the revenue accruing to municipalities; and ii) removing the 'tax rate freeze' on the increase in additional personal income tax (between 0.2% and 0.4%) to be levied by town councils [0.1% of GDP].

Personal income tax increase. The regional PIT surcharge was increased by 0.3% and a temporary 3% solidarity contribution on high incomes was introduced. The 3% levy is deductible from the PIT base.

Corporate income tax decrease. A new allowance for corporate equity (Aiuto alla Crescita Economica, ACE), similar to the Belgian notional interest deduction, was introduced. The ACE is retroactively applied to 2011. It covers capital increases of corporations and even unincorporated businesses. The IRAP, a business tax with a different base than the CIT, saw an increase in deductions for labour costs, notably for women and for employees under 35. Companies can also deduct from their CIT taxable income an amount equal to the part of IRAP paid with reference to the tax base allocated to their share of labour costs [Overall, 0.15% of GDP].

VAT increase. The standard VAT rate was increased by 1 pp on 17 September 2011 (from 20%) [0.3% of GDP]. An additional 2% rise planned for October 2012, unless a general spending review reform makes it unnecessary by generating expenditures saving.

Excise duty increase. From 1 January 2012 fuel excises were increased by about 10 cent per litre [0.5% of GDP].

Other tax increases. A new tax on high-powered automobiles, private boats and aircraft was introduced in 2012. Property taxes were increased by abolishing the exemption on main residences and increasing cadastral values by 60%, although some reductions are granted depending on household composition; properties held abroad, too, were made subject to a 0.76% tax on their value [0.7% of GDP]. Stamp duties on cash, deposit and security accounts were increased and extended to all financial instruments. The withholding tax on both interest (except interest from government bonds) and dividends was set at 20% [0.1% of GDP]. Other reforms addressed tax evasion, e.g. lowering the threshold for electronic payments and the 'income-meter', that estimates the income of individuals based on expenses [0.1% of GDP in 2011; 0.5% in 2012].

Latvia

Personal income tax decrease. In 2011 the general PIT rate was lowered from 26% to 25%. Non-taxable allowances and allowances for dependent persons were increased.

Social security contribution increase. The SSC rate was increased by two percentage points from January 2011 to compensate for the lowering of the general PIT rate.

VAT increase. With effect from January 2011, the standard VAT rate was increased from 21% to 22% and the reduced rate from 10% to 12%. From 1 July 2012 the standard rate of VAT was reduced from 22% to 21%. The reduced rate on electricity was abolished in January, the one on natural gas in July, thereby increasing the rate from 10% to 22%. The reduced VAT rate for medical equipment was amended from 1 June 2011. A VAT on real estate auctions within insolvency process was amended in January 2011 (0.1% of GDP). The usage of reverse VAT was broadened by applying reverse VAT on scrap metal supplies and related services from 1 October 2011 and construction services from 1 January 2012.

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Table (continued)

Excise duty increase. From June 2011 excises on petrol and on ethyl alcohol were increased; the reduced excise tax rate on fuel with bio fuel admixture 5% of volume was abolished from 1 January 2011. From July 2011 excises on tobacco products were increased and the allowance of excises on natural gas for producing electricity was abolished. The excise tax on sweetened non-alcoholic drinks was also increased by 30% from 1 January 2011. From July 2011, allowances for excise duty for diesel fuel used in agriculture were reduced. From 1 February 2012 excise tax base has been widened by including certain lubricating oil groups. From 1 July 2011 an excise tax on natural gas was re-introduced with a reduced rate.

Other tax increases. In 2011 the structure of the vehicle use tax was changed, providing for three components to be taken into account by tax calculation - vehicle gross weight, engine capacity and maximum engine power, thus increasing the tax on luxury, environmentally unfriendly and powerful cars (0.1% of GDP). In 2011 the progressive property taxation of residential buildings was doubled, now ranging from 0.2%-0.6% (0.1% of GDP). From 2012 the tax on gambling, slot machines and gambling tables was increased by 15%. The annual financial stability duty rate was increased from 0.036% to 0.072%. In addition, the base of real estate tax was broadened to include auxiliary buildings, parking slots and houses and lands owned by religious organisations but not used for religious purpose [0.03% of GDP]. The natural resource tax was increased. Lottery and gambling tax rates were increased and reformed in July 2011 and January 2012. Several fees and licences and state duties have been reviewed and increased. Several legislative measures under the Action Plan to Combat the Shadow Economy and Promote Fair Competition entered into force in 2012. Law on Individual Declaration of Property and Reporting of Undeclared Income was adopted with effect from June 2012. It introduces the possibility to legalise previously undeclared taxable income and aims to improve oversight over an individual's financial position, in particular the accuracy of expenses incurred and the payment of taxes and the legality of income derived. [0.25% of GDP].

Lithuania

Corporate income tax decrease. The threshold of the maximum annual income of small companies with up to 10 employees subject to a lower rate of 5% was increased from LTL 500000 (€ 145000) to LTL 1 000000 (€ 290000).

VAT decrease. From 1 January 2012 the VAT registration threshold was increased from 100000 LTL (€ 29 000) to 155 000 LTL (€ 45 000). The application of a 5% reduced VAT rate on medicines was extended until the end of 2012. The application of the 9% reduced rate for residential heating was also extended until 31 December 2012. The 9% reduced rate on accommodation services introduced as a temporary measure in 2011 was abolished from 1 January 2012 [0.02% of GDP].

Excise duty increase. The excise duty on gas oil used as motor fuel was increased by more than 10% from € 274.27 to € 302.07 per 1000 litres with effect from 1 January 2011 [0.1% of GDP]. From 1 March 2012 the excise duty on cigarettes was increased from € 64 to € 67.19 per 1000 cigarettes. It was increased from € 23.16 to € 24.32 per kilogram of cigars and cigarillos [0.02%].

Other tax increase. From 1 January 2012 Lithuania broadened the immovable property tax base to include the immovable property intended for dwelling purposes, gardens and garages etc owned by individuals. Until now these were exempt unless they were used for commercial purposes. The value of previously tax exempt immovable property of natural persons exceeding LTL one million (€ 290000) will be subject to a tax rate of 1% [0.02%].

Other changes: At the end of 2010 the government adopted 'Consolidated strategies of the state tax inspectorate of taxpayers' compliance with tax obligations and assurance of tax collection for the year 2011-2012. Cash registers have been installed in all indoor marketplaces and border control has been strengthened.

Luxembourg

Personal income tax decrease. The temporary crisis tax of 0.8% levied on total income except minimum wage salaries introduced for the year 2011 was abolished from January 2012.

Personal income tax increase. From January 2011, the top income tax rate was increased from 38% to 39%. The surcharge for the employment fund (solidarity tax) was also increased from 2.5% to 4% for income up to € 150000 and to 6% for income above € 150000 [0.20% of GDP].

Corporate income tax decrease. The 2012 budget grants a tax credit to employers hiring workers from the unemployed pool until 2014.

Corporate income tax increase. The 2012 budget introduces a new table with revaluation coefficients for the valuation of business assets and participations.

Excise duty increase. From January 2012 the excise duty rates on manufactured tobacco was increased to 10% of the purchase price with a maximum of € 10 per kilogram.

Malta

Personal income tax decrease. From 2012, new income tax brackets apply to income earned by parents of children under 18 years. Income up to € 9300 is tax-free. From € 9301 to € 15800 a tax rate of 15% applies. From € 15801 to € 21200 a rate of 25% applies and a rate of 35% applies to income above € 21200. Parents who qualify for these tax rates should benefit from an annual tax saving of between € 75 and € 420 per parent [0.2% of GDP]. To help women return to the labour market the current tax credit of up to € 5000 was extended to include self-employed mothers.

Excise duty increase. From 15 November 2011, excise duty rates on cigarettes was increased by 5.8% and excise duty on tobacco was increased by 8.5% [0.1% of GDP]. Excise duty on cement was increased by € 3 on every 1000 kg. Bunkering tax on fuel for ships outside Maltese territorial waters was set to € 1.86 per metric ton or part thereof.

Other tax increases. The registration tax on motor vehicles with Euro 1 to Euro 3 emissions (or worse) increased on 1 January 2012 [0.1% of GDP]. Measures have been introduced to improve the efficiency of the revenue collection, notably pecuniary incentives to reduce tax arrears. Several other initiatives are being implemented to combat tax evasion and avoidance, including reforms aimed at increasing the effectiveness of VAT tax audits [0.6% of GDP].

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The Netherlands

Personal income tax decrease. The rate in the first two brackets consists of two elements: income tax and social security contributions. In January 2011, the combined tax and SSC rate in the first bracket of personal income tax and wages tax was reduced from 33.45% to 33%. From 2012, the tax deduction for R&D activities for self-employed was increased to € 12 310 for entrepreneurs and can be increased by another € 6 157 for starting entrepreneurs. Since 2012 there is a 40% tax deduction for R&D expenses.

Personal income tax increase. From January 2012, the imputed income for the owner-occupied dwellings was increased from 1.05% to 1.3% for the part of the value that exceeds € 1040000. From January 2012, the combined rate for the first bracket increased to 33.10%. From January 2012 two tax credits on labour participation by workers of 65 years and older were decreased. The amount of the cut varies depending on income and age.

Corporate income tax decrease. From January 2011, the corporate income tax rate is reduced to 25% from 25.5% for profits in excess of € 200000 [0.07% GDP]. Since 2012 a new tax facility provides for 40% deduction for R&D expenses.

VAT increase. From 1 July 2011, performing arts were transferred temporarily to the standard VAT rate of 19%.

Excise duty increase. Excise duties on cigarettes and tobacco are increased from 1 March 2011. The yearly adjustment for tobacco and cigarettes took place in April 2012 increasing the minimum excise duty to € 157.28 per 1 000 cigarettes and to € 66.50 per 1000 grams for smoking tobacco. For mineral oils there is an increase of € 0.01 per litre (only for LPG per kilogram) from January 2012 to adjust for inflation.

Other tax decreases. The property transfer tax for owner-occupied dwellings was temporarily reduced from 6% to 2% from 15 June 2011 to July 2012. In July 2012, the reduction was made permanent. From July 2012 the CO₂ limits of the car registration tax (BPM) is tightened each year to ensure stable tax revenue. At the same time the fixed surcharge for diesel cars is replaced by a surcharge depending on the amount of CO₂ emission. The taxes on groundwater and waste materials were abolished in 2012.

Poland

Personal income tax increase. PIT thresholds were frozen at their 2009 level in 2011 and 2012 [0.1% of GDP].

Social security contribution increase. From 1 February 2012, non-wage labour costs were increased by increasing the disability pension contribution paid by employers from 4.5% to 6.5% of gross wages. The total rate of disability pension contribution therefore increased from 6% to 8% of gross wages [0.3% of GDP].

VAT increase. A series of measures came into force in 2011 [0.41% of GDP]. The VAT rates were temporarily increased for the years 2011-13 by 1 pp, from 7% to 8% and from 22% to 23%. A new reduced rate of 5% was introduced for, amongst others, basic foodstuffs. VAT reimbursement for company cars and fuels was abolished in 2011 [0.08% of GDP]. From 2012 the VAT rates for certain products, including some medical devices, clothing and clothing accessories for infants and children's footwear, were increased from 8% to 23%. The 23% rate also applies to the previously exempt services related to the conservation and restoration of registered historical monuments and archive materials and to the services delivered by public institutions.

Excise duty increase. The government is gradually increasing the excise duties rates on tobacco products (8% for cigarettes, 13% for smoking tobacco, 4% for cigars) and for fuels (3% for jet engine fuels, 14% for diesel and intrinsic bio-components). In line with the Energy Directive, from 2012 the excise tax applies to coal, lignite and coke, so far exempted (due to the transition period).

Other tax increases. On 18 April 2012, a new tax on extraction of certain minerals, targeted at copper and silver extraction, came into force. The applicable tax rate is determined based on the exchange rate of American dollar to Polish zloty and copper and silver prices on stock exchanges' quotations in London [0.1% of GDP].

Portugal

Personal income tax increase. From 2011, expense-related tax credits were reduced by imposing an overall ceiling for the two highest income tax brackets. To comply with the MoU targets, a new annual surtax on individual income was introduced on 3 August 2011. It is levied at a rate of 3.5% and applies only to income earned in 2011 that is above the minimum wage income. In 2012 and 2013 a surtax of 2.5% applies to the highest income bracket. The tax rate applicable to capital gains on the sale of shares and other securities was increased from 21.5% in 2011 to 25% with effect from 1 January 2012. An increase from 21.5% to 25% in withholding taxes on income from dividends, interest and other forms of remuneration on shareholders' loans and on share capital derived by resident and non-resident individuals was adopted in 2011.

Corporate income tax increase. From 1 January 2012 the reduced CIT rate of 12.5% was abolished. A State surtax of 3% is levied on corporate income between € 1.5 and € 10 million and a 5% rate is levied on taxable profits over € 10 million with effect from 1 January 2012. The withholding tax on investment income earned by legal entities without a permanent establishment in Portugal was increased from 21.5% to 25%.

Social security contribution increase. To align the rates with those of the general social security scheme, employees' contribution rates to the civil service social security scheme were increased by 1 pp from January 2011.

VAT increase. The standard VAT rate was increased from 21 to 23% from January 2011. From October 2011, the VAT rate on electricity and natural gas was increased from the reduced rate of 6% to the standard rate of 23%. A set of categories of goods and services were moved from the reduced and intermediate VAT rates to higher ones in 2011.

Excise duty increase. With effect from 1 January 2012 Portugal introduced an excise duty on electricity consumption by consumer, producers, traders and self-producer. The maximum rates of excise duties on petrol, spirit drinks, heating diesel and tobacco were also increased.

Other tax increases. With effect from 1 January 2012 the minimum and the maximum rates of the real estate tax on urban property were increased by 0.1 percentage points.

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Table (continued)

Romania

Excise duty increase. With effect from 1 July 2012, the excise duty on cigarettes was increased from € 51.49 per 1 000 cigarettes to € 53.18 per 1 000 cigarettes. The total excise duty on cigarettes (i.e. sum of the specific excise duty and the ad-valorem excise duty), is increased from € 76.60 per 1 000 cigarettes to € 79.19 per 1 000 cigarettes for the period from 1 July 2012 until 30 June 2013. Excise duties on unleaded petrol and diesel were increased in January 2011. This was followed by a further increase of excise duties on diesel in January 2012. They currently stand at € 467 per tonne for petrol and € 374 per tonne for diesel.

Other tax increases. Under the legislation that entered into force in mid-January 2012, a pollution tax applies to both new and second-hand vehicles produced in Romania or abroad on their first registration in Romania.

Slovakia

Personal income increase. From 1 January 2011, basic personal allowances can only be claimed on aggregate income from employment, business activities and independent professional activities. The amount of the basic personal allowance and the relevant ceilings are generally based on the amount of the living minimum applicable on 1 January of the tax year. This was € 185 in 2011 and it is € 189 for 2012.

Social security contribution increase. From 1 January 2011, non-monetary benefits given to an employee, regarded as taxable employment income, are also subject to social security and health insurance contributions

Excise duty increase. With effect from January 2011, a tax on CO2 emission quotas was introduced on the emission allowances allocated free of charge to the taxpayer in the period 2011-12. The tax rate is 80%. The tax base made up of transferred emission quota (valued at market price for the calendar month preceding the transfer), and non-consumed emission quotas (valued at the average market price for the calendar year in question). The calculated amount of tax on emission quotas is not considered a tax deductible expense. From 2011, excise duties on tobacco products were increased.

Other tax increases. With effect from 1 January 2012, Slovak banks and branches of foreign banks operating in the Slovak Republic, established under special legislation on banks, are subject to a bank levy. The levy is 0.1%. It is due on the 20th day of every calendar quarter. It is calculated on the basis of the bank's liabilities at the end of the previous calendar quarter (adjusted by certain items defined by law) [0.1% of GDP]. The UNITAS project was launched in January 2012. It aims to merge revenue collection bodies (taxes and customs) into a single institution – Financial Administration (FA) – to reduce administrative and compliance costs and tackle fraud and tax avoidance.

Slovenia

Corporate income tax decrease. With the amendments to the Corporate Income Tax Law approved in April 2012 and applicable with effect from 1 January 2012, the statutory rate was reduced to 18% (from 20%) for the year 2012. Further decreases to 17% in 2013 16% in 2014, and 15% in 2015 are envisaged. The allowance for investments in equipment and intangible assets was increased from 30% to 40% , and the cap of € 30000 was abolished. Tax relief for investment in research and development was increased from 40% to 100%. Special regional tax relief for investment in research and development was therefore abolished [overall, 0.3% of GDP].

Excise duty decrease. After the 7% increase in 2010, excises on fuel were reduced by 15% in 2011.

Excise duty increase. Excise duties on tobacco were increased in 2011 and 2012. Excise duties on alcohol were increased by around 10% in April 2012 [0.2% of GDP].

Other tax increases. Under the Bank Balance Sheet Tax Act adopted in July 2011 a new bank tax was introduced on 1 August 2011. The new tax is applicable to domestic banks, banks from EU Member State and banks from third countries that operate in Slovenia. The tax rate is set at 0.1% of the tax base. The tax base is the average amount of the total assets of the bank within the tax year. Under certain conditions, the amount of the tax may be reduced up to 0.167% of the loans provided to non-financial companies or private entrepreneurs.

Spain

Personal income tax increase. In January 2011, the government introduced two additional tax bands/rates for taxpayers over € 120000 and € 175 000 raising the former top marginal personal income tax rate to 44% and 45%, respectively). From January 2012 the government introduced a temporary supplementary progressive levy (covering years 2012 and 2013) applied to each tax band of the general government tax base, which implies now the existence of seven brackets (24.75%, 30%, 40%, 47%, 49%, 51% and 52%). During 2012 and 2013, savings and capital gains are taxed under a progressive tax schedule with three brackets of 21% on the first € 6 000, 25% up to € 24 000, and 27% on income above (in 2011, they were taxed at 19% on the first € 6 000, and 21% on income above). [Overall, 0.4% of GDP]. (*) The withholding tax rate applied to some types of employment income and to income from professional activities is increased to 21% from 1 September 2012 to 31 December 2013. The mortgage interest deductibility for new mortgages taken for house purchases is abolished from 1 January 2013.

Personal income tax decrease. From January 2012, (and with effect from 1 January 2011), the government re-introduced the 15% tax credit for the acquisition or restoration of the taxpayer's primary residence for all taxpayers, regardless on their tax base.

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Table (continued)

Corporate income tax increase. In March 2012 measures were introduced intended to increase the effective taxation of corporate (including hidden) income, such as: the deferral of tax benefits for goodwill arising from acquisitions and business restructuring operations (for which the annual deductibility limit is one hundredth of the amount), a permanent limit to the deductibility of interest expenses (30% of the operating profits), reduction to 25% (from 35%) of the limits to the deductions aimed at promoting certain activities (e.g. R&D); permanent limits to the "free depreciation" regime (introduced in 2010) for large companies, while for small and medium business "free depreciation" is linked to job creation (for assets acquired before 31 March 2012 the incentive applies with certain limitations); a special 8% tax on qualifying foreign dividends and income derived from the transfer of foreign companies operating in tax havens or similar jurisdictions. (*) Following the measures introduced with Royal Decree-Law 12/2012 of 30 March 2012, further important reforms have been introduced with Royal Decree – Law 20/2012 of 13 July 2012, such as: a new special tax of 10% applicable to dividends and capital gains that do not qualify for participation exemption; limits to the loss carry forward applicable in 2012 and 2013 (50% - instead of 75% - for companies with net turnover between € 20 and 60 million; 25% - instead of 50% - above € 60 million). Rates for the payment on account are increased to 23% (from 21%) if net turnover is between € 10 and 20 million; to 26% (from 24%) if turnover is between € 20 and 60 million; to 29% (from 27%) if turnover is at least € 60 million. In the calculation of the payment on account 25% of the dividends and capital gains accrued should be included. The minimum payment on account rate for companies with turnover above € 20 million is set at 12% (previously 8%).

Corporate income tax decrease. In Spain several measures took place for encouraging investment and employment from 1 January 2011. The annual turnover threshold to be included within the scope of the special regime for small and medium sized enterprises (SMEs) increases from € 8 million to € 10 million. Moreover, the taxable amount taxed at the reduced tax rate has been increased from € 120 202 to € 300 000. Companies that have less than 25 employees and a turnover below € 5 million are taxed on their annual profits below € 300 000 at 20%; annual profits above this threshold are taxed at 25%. As part of additional measures taken in the course of 2011, the loss carry forward period was increased from 15 to 18 years for all companies. At the same time, the amount of losses to be carried forward was limited for big companies for the tax years 2011-2013 (to 75% for companies with turnover between € 20 million and 60 million and 50% for companies with higher turnover).

VAT decrease. At the end of 2011, the application of the super-reduced 4% VAT to the acquisition of new dwellings was extended by one year.

VAT increase. (*) From 1 September 2012 the standard and reduced VAT rates are increased to 21% and 10% (from 18% and 8%, respectively). In addition, the standard rate applies also to some goods and services (e.g. combined hotel and catering, entertainment, discotheque and night-club services, cinema and theatre tickets, supply and receipt of digital radio broadcasting and digital television services) previously taxed at the reduced rate.

Excise duty increase. From January 2012 the tax on diesel for professional use was increased, reducing the amount for partial refunds. (*) Tobacco excises are increased and their structure is modified by reducing the proportional rate and raising the specific one. The minimum tax rate for cigarettes has been fixed at € 119.1 per 1000 units.

Other tax increase. From January 2012 a temporary surcharge (up to 2013) applies in the Real Estate Tax (municipal tax) for immovable properties with an updated cadastral value over the average value in each municipality. In September 2011, the net wealth tax (*impuesto sobre el patrimonio*) was temporarily restored for the years 2011 and 2012. The exemption for dwelling houses was nearly doubled to € 300 000 (previously € 150 253.03) and the tax-free amount (after application of specific tax exemptions) was substantially increased to € 700 000 (previously: € 108 182.18). A special programme was approved to encourage regularisation of the tax status concerning personal and corporate income.

Note: Measures indicated with (*) were taken after the cut-off date.

Sweden

Personal income tax decrease. From January 2011 the basic income tax allowance was increased for people over 65 [0.2% of GDP].

VAT decrease. From 2012 the VAT on restaurant and catering services was reduced by 13 pp to 12% [0.2% of GDP].

Excise duty increase. In 2012 the excise duty on tobacco was increased and annual indexation was introduced, corresponding to a total tax increase of roughly 10%.

United Kingdom

Personal income tax increase. For the fiscal year 2012-13 the basic rate limit was lowered to GBP 34 370 (from GBP 35 000 in 2011-2012). The personal tax allowance was increased to GBP 8 105. Since the 2010-11 tax year, this personal allowance is reduced for income over GBP 100 000 - by GBP one for every GBP two of income over GBP 100 000. This reduction applies irrespective of age. From April 2011 the annual allowance for tax-privileged pension saving was reduced from GBP 255 000 to GBP 50 000. From April 2013 the availability of the income tax age-related allowances will be restricted for current recipients and a cap on all unlimited income tax reliefs will be introduced through a ceiling of GBP 50 000 or 25% per cent of income, whichever is higher. From January 2013 the child benefit will be withdrawn through an income tax charge applicable only to households with someone earning over GBP 50 000 a year; the withdrawal will be gradual for households with someone earning between GBP 50 000 and GBP 60 000.

Personal income tax decrease. From April 2013, the personal tax allowance will increase to GBP 9 205, and the additional rate of income tax (applicable above GBP 150 000 since 2010) will decrease from 50% to 45% [-0.23% of GDP].

Corporate income tax decrease. From April 2011 the headline and small profits rates were reduced from 28% to 26% and from 21% to 20%. From April 2012 the standard CIT rate was reduced further to 24% [0.03% of GDP]. The SME tax relief rate for investment was increased to 200% in April 2011, and further to 225% in April 2012. A special regime introducing a reduced 10% rate on corporate profits from patents and other types of intellectual property (*Patent Box*) will be phased in over five years from April 2013. An 'Above the Line' (ATL) credit for R&D with a minimum rate of 9.1% before tax will be introduced.

VAT increase. From 2011 the standard VAT rate was increased from 17.5% to 20%.

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Table (continued)

Excise duty increase. The general duty rates on alcohol and tobacco were increased by 2% above inflation in March 2011. They were increased by a further 2% (alcohol) and 5% (tobacco) above inflation in March 2012. The fuel duty escalator was abolished and replaced by a fair fuel stabiliser. This means that fuel duty now increases in line with inflation when oil prices are high. When the price of oil falls below a certain level, fuel duty increases by inflation plus GBP 0.01 per litre.

Social security contribution increase. In April 2011 the main and additional rates of National Insurance Contributions (NICs) were increased by one percentage point.

Other tax increases. With effect from January 2012 the bank levy full rate was increased from 0.078% to 0.088%. Another increase to 0.105% is scheduled for January 2013. Since 22 March 2012, a new 7% rate of the stamp duty land tax (increased to 15% if the buyer is a non-natural person) applies to the purchase of residential property worth over GBP two million. The government set up an independent Office of Tax Simplification and in Budget 2012 it announced a consultation on a new general anti-abuse rule (GAAR) to tackle artificial and abusive tax avoidance.

Note: Cut-off date is June 2012.

Source: Commission services.

4. THE EU VAT SYSTEM: ECONOMIC IMPLICATIONS AND POLICY CHALLENGES

Value-Added Tax has been at the core of the Country Specific Recommendations (CSRs) on taxation resulting from the European Semester. The CSRs stress the potential of Member States to make their tax structure more growth-friendly and improve the design of their individual taxes. For VAT, this mainly means using it as a substitute for taxing income but also improving its efficiency as reduced VAT rates ⁽²¹⁾ lower tax collection without always achieving their economic or social objectives.

At EU-level, the European Commission has recently started a wide-ranging review of the EU VAT system. This process began with the presentation of a Green Paper on the future of VAT in December 2010. ⁽²²⁾ Then an ex-post evaluation of the system was carried out through a study produced by the Institute for Fiscal Studies and published in December 2011. ⁽²³⁾ Combined with the numerous contributions received from stakeholders in response to the public consultation launched with the Green Paper, its findings provided the analytical input for the Commission's Communication on the future of VAT adopted in December 2011⁽²⁴⁾. The main points of the Communication are summarised in Box 4.1, at the end of the chapter.

This chapter presents some key economic issues related to the legal and institutional features of VAT in the EU and provides new analytical evidence, largely based on the IFS study. The first section will consider the cause and consequence of abandoning the 'origin principle' in favour of the 'destination principle'. Section 4.2 discusses the general economic implications of the current VAT systems on trade. Sections 4.3 and 4.4 give estimations of cross-border VAT compliance costs and the economic impact of VAT exemptions on trade neutrality. Lastly, Section 4.5 assesses the welfare economic cost of exemptions and reduced

rates and their distributional effects. Section 4.6 is the conclusion. ⁽²⁵⁾

4.1. CHOOSING BETWEEN AN 'ORIGIN' AND A 'DESTINATION' SYSTEM

4.1.1. Issues related with the origin system and merits of the destination system

Although the review of the VAT system has only recently begun, a significant change is already apparent: the Commission no longer aims to change over to a VAT origin system in the foreseeable future. This is important as, ever since the 1992 Single Market Programme, the current destination system was supposed to be just a temporary solution before switching to the permanent origin system. The Council has decided to abandon the objective of switching to the origin principle, although it should be noted that this is justified on the basis of political feasibility rather than on the economic desirability *per se* of this objective. ⁽²⁶⁾

The difference between the two systems lies in how imports and exports are treated. Under the origin system, the country of the seller levies tax at its domestic rate, and the importing country does not levy any VAT. Under the destination system, the importing country levies tax at its domestic rate and conditions. In the current EU system, which is a variant of a destination system, goods for export are zero-rated, that is to say they are free of VAT, and the seller can claim back the VAT paid on the inputs. VAT is levied on imported goods at the rate and according to the rules applicable in the importing country, with the customer paying VAT to the Treasury. In the destination country, VAT is levied at the same rate on imported goods as on domestic goods and there is thus no direct effect of VAT on relative prices. Thus, the benefit of the destination system is that it allows Member States to have different VAT rates according to their

⁽²¹⁾ Throughout this report, the term 'reduced VAT rates' covers all VAT rates applied in the EU other than the standard rate.

⁽²²⁾ COM(2010) 695 final, 1 December 2010.

⁽²³⁾ IFS et al. (2011).

⁽²⁴⁾ COM(2011) 851 final, 6 December 2011.

⁽²⁵⁾ Due to space restrictions, this chapter does not assess the effects of broader VAT bases on inflation or as a possibility for fiscal devaluation.

⁽²⁶⁾ See Conclusions of the 3167 meeting of the Council of Economic and Finance Ministers, 15 May 2012.

revenue needs and preferences. Under the origin system, by contrast, any rate difference will result in a corresponding impact on the relative terms of trade.⁽²⁷⁾ For this reason, use of the destination principle was never really challenged until the Single Market programme of 1992 led to the abolition of border controls, which had been identified by the Cecchini report as costing intra-community traders 2% of their turnover.⁽²⁸⁾ The problem, as far as VAT was concerned, was that abolishing border controls removed one crucial element of the destination system, i.e. certification that the goods that were zero-rated for export actually left the country and were taxed on importation in the destination country.

The solution initially proposed in 1987 by the Commission⁽²⁹⁾ involved a shift to the ‘origin principle’. Instead of being zero-rated, transactions between Member States liable to VAT would be subject to the tax already charged in the country of origin, which traders could then deduct as input tax in the normal way. Hence, the origin system is by design not exposed to types of fraud such as carousel fraud that exploit the zero-rating of exports. The system would have resulted in goods moving between, say, England and France, or France and Germany, treated in exactly the same way as those moving between England and Scotland or Bavaria and Baden-Württemberg. There would have remained, however, one obvious difference: VAT paid in England and Scotland goes into the same Treasury; that paid in England and France does not. Estimates showed that there would have been substantial transfers of tax revenues, notably to Germany and Benelux from the rest. Accordingly, the Commission proposed a clearing system⁽³⁰⁾ to re-allocate the VAT collected in the countries of origin to the countries

of destination. This might have been based on VAT returns or on macro-economic statistics.⁽³¹⁾

The Commission proposals, however, were not accepted by the Council. In the second half of 1989, a high-level working party convened by the Council outlined an alternative which retained the destination principle for transactions involving VAT-registered traders.⁽³²⁾ This became the basis of the transitional system proposed by the Commission in the following year, and which came into effect at the beginning of 1993.⁽³³⁾ However, for sales to private individuals other than distance sales exceeding a significant threshold and sales of new means of transport, the principle of taxation in the Member State of origin was accepted. The system was originally intended to apply until the end of 1996 and was known as the ‘transitional VAT system’. However, after a second set of simplification measures⁽³⁴⁾ and numerous other modifications, it has remained in force until today.

Therefore the destination principle continues to apply to most transactions between registered traders. However, as tax controls at frontiers have been abolished, traders are required to keep detailed records of purchases from, and sales to, other countries, and the system is policed by administrative cooperation between Member State tax authorities. In practice, goods supplied between taxable persons (or VAT registered traders) are exempted with a right to deduct the input VAT (zero-rated) on dispatch if they are sent to another Member State. This is known as an ‘intra-Community supply’. The customer can establish his status by providing his VAT number, which the supplier can check using the VAT Information Exchange System (VIES).

Three main reasons explain the reluctance of Member States to change over to the origin

⁽²⁷⁾ It is theoretically possible that, in an origin system in which two countries have different VAT rates, trade will not be distorted in the long-term, if there is a free trade environment and flexible exchange rates because these will adjust (Genser and Schulze, 1997). However, the conditions required seem unlikely to apply to a real-world situation. Furthermore, trade neutrality would presumably take even longer to be achieved in a multi-country setting with a fixed exchange rate regime, i.e. the euro zone.

⁽²⁸⁾ The following discussion on the origin and destination principle is largely based on the report from the European Parliament (2000).

⁽²⁹⁾ COM(87) 322 final/2, 21 August 1987.

⁽³⁰⁾ COM(87) 323 final/2 25 August 1987.

⁽³¹⁾ COM(89) 260, 14 June 1989.

⁽³²⁾ The origin system applies to most sales made directly to final consumers, except those by mail order companies and similar entities, which, over a certain threshold, must apply the rate at destination. Sales of new means of transport, too, constitute an exception, as they are taxed at the rate of the country of destination.

⁽³³⁾ Directive 91/680/EEC of 16 December 1991 together with Directive 92/111/EEC of 14 December 1992, which introduced a first set of simplification measures.

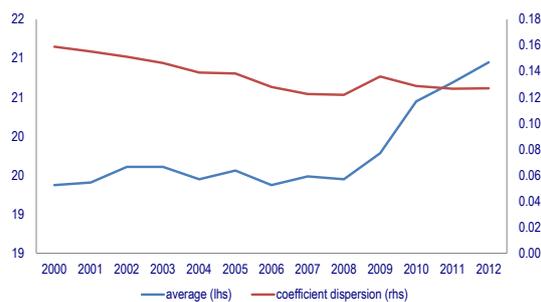
⁽³⁴⁾ Directive 95/7/EC of 10 April 1995.

system. The first was that Member States had some doubts that the proposed clearing house system would offer all the necessary guarantees and incentives regarding fiscal controls and ensure a fair distribution between Member States of the VAT collected.

Second, shifting to an origin-based VAT would have required substantial convergence of the VAT rates between Member States, as the origin system can tolerate only very small differences in rates, owing to its immediate implications on trade distortion. This would mean a significant reduction in Member States' room for manoeuvre. Today, the difference between the highest (HU) and the lowest (LU) rate in the Union is 12 percentage points, which is very high. Overall, there has been only a very gradual and limited closing of the gap between standard rates, even partly reversed in recent years (see Graph 2.1).

Third, the differences in the tax base may be (for tradable goods, of course) even greater than for standard VAT rates. Although EU legislation has limited the right of Member States to grant a more favourable VAT treatment to a specific set of goods, major differences in the base for VAT remain.⁽³⁵⁾

Graph 4.1: Standard VAT rate in EU-27



Source: Commission services.

⁽³⁵⁾ The VAT revenue ratio can give a rough measure of this. The indicator is the ratio between actual VAT revenue and the theoretical amount that could be obtained by taxing all consumption at the standard VAT rate. The low value of the indicator for most countries highlights that actual VAT revenue is only a small fraction of the theoretical total. While this is likely to be to some extent due to differences in rates of tax evasion, the large variation in the levels of the indicator seems to confirm that Member States differ substantially in the degree by which they exempt, or tax more favourably, certain goods and services.

It appears highly unlikely that there will be convergence in VAT (standard and reduced) rates in the future. VAT is one of the main tax policy variables left for Member States to adjust their revenue in the short term, but only a VAT system based on taxation at destination provides the necessary flexibility for this, as it allows differentiated levels of VAT between Member States and changes in rates. The room for increases in taxes other than VAT has been gradually eroded, either because they have already reached high levels, or due to increased competition for mobile tax bases. In addition, recourse to the main alternative revenue raiser in all Member States, i.e. labour taxation, has been made more and more problematic by the need to boost the EU's unsatisfactory employment levels.⁽³⁶⁾ VAT hikes have predominated as the preferred tax revenue raiser since the beginning of the crisis (see European Commission, 2012a). This also reflects policy suggestions by the European Commission to shift tax away from labour towards less distortionary tax bases (European Commission, 2012b).

4.1.2. Dealing with VAT fraud in the current destination system

A consequence of abandoning the origin system is that it removes a promising systemic solution to deal with VAT carousel fraud in the current destination-based system. 'Carousel fraud' is a type of fraud that exploits the zero-rating of exports combined with the deferred payment of VAT on imported goods to disappear before paying the VAT charged on the subsequent domestic sale with the customer claiming its refunds. Although, given the nature of fraud, it is difficult to quantify its extent, all estimates put the level of fraud at extremely high levels (Baldwin (2007) quotes estimates ranging from € 60 to € 250 billion annually EU wide). Carousel fraud is linked to the design of the current VAT system, which provides for an exemption of exports from VAT—this is the step targeted by fraudsters. So far, two types of solutions have been put forward to tackle this problem: one relies on better cooperation within national tax administrations, aiming at facilitating and speeding up detection and repression; the other relies on system reforms of various kinds. One proposal, put forward in the

⁽³⁶⁾ See also Chapters 2 and 3 of this report.

past notably by Germany and Austria, involves the ‘domestic reverse charge mechanism’, where VAT on products and services delivered in the same Member State is owed by the recipient and not by supplier. Other solutions, such as the VIVAT system proposed by Keen and Smith (1999), centres on reducing the financial incentives for fraud, essentially by preventing the VAT chain from being broken by levying a low common rate of VAT on trade between registered traders, including intra-EU trade. ⁽³⁷⁾

4.2. GENERAL IMPLICATIONS OF THE CURRENT VAT SYSTEM ON TRADE

The focus of this section is on the general implications of the current VAT system on trade. If the destination principle is to be used permanently, it is even more important to examine critically the weaknesses of the current VAT system, which is a variant of a destination system, and to reflect on alternative solutions to achieve a properly functioning destination system.

4.2.1. The current VAT system: strengths and weaknesses

VAT was first introduced in the EU and has been a very successful tax since its inception. Its success is measured by the fact that it has been introduced in at least 145 countries so far ⁽³⁸⁾, including many developing countries where it was initially deemed to be too complicated (Bird, 2005: ‘VAT has swept the world’). In the EU, the long-term growth of VAT rates, compared with the trend for lower taxation of labour and capital income, is testimony to the robustness of this. Furthermore, according to recent research, VAT is considered to be one of the taxes that have the least negative effect on economic growth. ⁽³⁹⁾ VAT also has, at a first approximation, by and large a neutral effect on international trade, a factor that was instrumental in its adoption in the EU, as the previous old-style sales tax ran the risk of generating trade distortions among Member States due to the difficulty in exempting taxes on inputs.

⁽³⁷⁾ The main advantage of VIVAT is that it enables neutrality for international trade and subsidiarity for domestic taxation at the same time.

⁽³⁸⁾ See PwC (2011).

⁽³⁹⁾ European Commission (2011b) gives a good overview of this literature.

The basis of the EU system dates back to the 1st and 2nd Directives, originally adopted in 1967. Although the Directives on VAT – in particular the 6th Directive ⁽⁴⁰⁾ have been amended over time, the changes have been adaptive, rather than systemic reforms. A number of initial choices have not been reassessed, despite their negative consequences. The main characteristics of the current VAT system are as follows.

Although the legal form of the tax must conform to the EU VAT Directive ⁽⁴¹⁾, Member States have considerable leeway to define their rates.

Member States can even amend the base for VAT. Reduced rates and exemptions differ strongly, in practice, from one Member State to another. This is because overall, the current VAT system in the European Union gives considerable operational and administrative freedom to national governments. The main limit to Member States is that goods or services cannot be freely moved from the standard rate to a reduced rate, as only those listed in Annex III of the VAT Directive can be taxed at a reduced rate.

Despite some safeguards to guarantee an equal playing field, the system exempts most of the output of the public sector, creating a number of distortions wherever public and private producers of a good or service compete or could compete one with another. Other newer systems have limited the public sector exemption.

The system excludes most of the financial sector from taxation due to technical difficulties in determining the value added in margin-based activities, creating distortions and probably contributing to overconsumption of financial services. ⁽⁴²⁾

4.2.2. Theoretical impacts on the current systems on trade

These fundamental choices have a number of consequences for trade. First, the patchwork of legal rules on VAT, the differences in procedures and in the definition of the base create an implicit tax barrier for intra-EU trade, even though VAT is, in principle, neutral with regard to trade due to the

⁽⁴⁰⁾ 77/388/EEC of 17 May 1977.

⁽⁴¹⁾ 2006/112/EC of 28 November 2006.

⁽⁴²⁾ See Section 4.4 for further details.

application of the destination system to most transactions. A number of elements support the view that the different VAT regimes do have an impact on trade.

IFS et al. (2011)⁽⁴³⁾ identifies four potential types of impacts. First, the higher cross-border costs and the sizeable one-off learning costs needed to start exporting, due to the need to learn about the destination country's VAT rules. Second, differences in VAT regimes may also affect the choice of exporting vs setting up a local subsidiary, particularly for firms that organise complex trade networks in intermediary goods. Third, they may also have an impact on the structure of demand. VAT rates, VAT exemptions and the compliance cost burden associated with a national VAT regime may have domestic price and volume effects that affect the structure of a country's foreign trade. This is because multiple VAT rates and exemptions influence the structure of relative prices in a country. This may push up the demand for low-rated or exempted goods and services, while putting a brake on the demand for other items. This may well affect a country's specialisation in international trade.

The fourth impact of VAT regimes on trade is immediate and relates, of course, to cross-border purchases of goods by final consumers,⁽⁴⁴⁾ particularly between Schengen area members, as the abolition of cross-border identity checks facilitates shopping. The main impact of differences in tax regimes is on excisable goods. Cnossen (2002) notes that the impact of different VAT rates was found to be relatively limited in Denmark, despite a significant difference in rates vis-à-vis neighbouring Germany. However, the strong recent increases of VAT standard rates, which still diverge, may increase the scale of cross-border shopping. The distance-selling arrangements laid down in the VAT Directive ensure taxation at destination and therefore neutralise the differences in VAT rates, but only for those supplies for which the supplier takes care of the transport of the goods.⁽⁴⁵⁾

⁽⁴³⁾ See p. 159-160.

⁽⁴⁴⁾ Most of them are subject to the origin principle.

⁽⁴⁵⁾ The rise in the use of the internet by the population may increase cross-border shopping, as shoppers in neighbouring countries find it easier to shop for goods and services on the other side of the border and modern GPS

Therefore, cross-country differences in VAT regimes are likely to result in a sub-optimal international division of labour. These are not only limited to compliance costs and the effects of rate and base differences. In an early, well-known discussion of the impact of VAT on international trade, Feldstein and Krugman (1990), while starting from the well-known theoretical result that in the first approximation that VAT is neutral on trade, also demonstrate that exemptions and reduced rates may well have an impact on the international division of labour, notably on the financial sector.⁽⁴⁶⁾

4.3. ESTIMATING THE IMPACT OF CROSS-BORDER COMPLIANCE COSTS

The compliance costs of VAT are not trivial. IFS et al. (2011) reports that past estimates for compliance costs have ranged from 0.3% of turnover to as high as 8 or even 25% of VAT collected in countries such as Croatia or Slovenia. Compliance costs are known to differ substantially between Member States, even though the general principles of VAT are common. Data from World Bank / PwC (2011) 'Paying Taxes'⁽⁴⁷⁾ show that for a model company, the time required to comply with VAT obligations varies very greatly amongst EU Member States. For a fictional model company, they range from 22 hours in Finland to 288 in Bulgaria (PwC, 2010). This suggests a high level of inconsistency. Furthermore, the estimates of 'Paying Taxes' assume that companies carry out solely domestic transactions.

There are good reasons to believe that the compliance costs linked to cross-border trade are even higher. This is because cross-border trade requires applying complex rules and fulfilling additional obligations. Very often it also requires acquiring knowledge of the foreign legislation and

technology facilitates driving to new destinations in neighbouring countries.

⁽⁴⁶⁾ Anecdotal evidence suggests, for example, that cross-border trade in personal services like hairdressing or dentistry has grown, notably in the border regions of Austria or Germany. While the main driver of these trends probably lies in strong differences in the cost of labour, VAT factors may either amplify or artificially restrict this trend. This explains the attention of Member States to issues such as granting reduced rates to labour-intensive services in neighbouring countries.

⁽⁴⁷⁾ See PwC et al. (2011).

VAT practice. These costs are proportionately much higher for SMEs, as the profit to be obtained from foreign sales may be uncertain and limited at the beginning, whereas the costs sunk into setting up a system for dealing with foreign VAT are up-front and certain. But there are other, more subtle effects.

It has been known for a long time that the cross-border VAT compliance costs are well above those for domestic transactions. In general, VAT-related obligations have been identified as a major source of the compliance costs for European firms, due to their pervasive role in everyday transactions. A European Commission survey in 2000 showed that 26% of businesses found difficulties related to the VAT system and VAT procedures to be an obstacle to doing business in the Internal Market. A further survey ⁽⁴⁸⁾ in 2001 showed that VAT payments and refunds were the third most costly regulatory burden for companies. The multiplicity and complexity of VAT requirements in the EU-15 Member States, i.e. the 'old' EU Member States, combined with difficulties for businesses in obtaining VAT refunds from other Member States leads to substantial costs and represents a real barrier to cross-border activities. ⁽⁴⁹⁾ Out of 25 priority areas identified in the VAT legislation by their contribution to the compliance cost burden of European companies, eight specifically pertain to cross-border activities. ⁽⁵⁰⁾

The impact of this on trade has always been difficult to quantify due to a lack of estimates of the scale of cross-border compliance costs, compared with domestic costs. However, IFS et al. (2011) sheds some new light on the issue. It suggests that the distortionary effect on trade is strong. It found many differences across Member States in VAT-related administrative procedures: on average, a firm trading in two EU-15 Member States would have to deal with eleven differences ⁽⁵¹⁾. These intra-EU differences are a

source of trade costs that hamper the development of the internal market and discourage cross-border trade.

The results confirm that there are considerable differences, not only in the structures and levels of VAT but also in the administrative procedures. An interesting finding is that administrative procedures in the EU-15 have not tended to converge appreciably, although several decades have gone by since the VAT system was set up. The VAT dissimilarity indicator ⁽⁵²⁾ for the EU-15 shows that on average, more than 11 out of the 30 aspects of the administrative and procedural VAT regime differ between each EU-15 country pair. By contrast, the ten member states that joined the EU in 2004 have fewer administrative differences in their VAT regimes than the EU-15 countries have among each other. This may be because these countries were able to start a VAT tax system from scratch and have chosen to adapt best-practice procedures from the EU-15 countries. ⁽⁵³⁾ Rates also differ less between the new Member States than among the EU-15 Members. This suggests that convergence is not a natural phenomenon over time, but the result of deliberate policy alignment.

IFS et al. (2011) uses an innovative indirect approach to simulate, in the absence of data on cross-border compliance costs, the order of magnitude of the possible impact on the economy. ⁽⁵⁴⁾ The estimates suggest that a 10% reduction in differences in VAT procedures could boost intra-EU trade by up to 3.7% and GDP by up to 0.4%. The simulation results also suggest that removing national VAT obligations that go beyond EU requirements would yield a growth in

⁽⁴⁸⁾ European Commission (2001).

⁽⁴⁹⁾ An overview of these results is given in IFS et al. (2011), pp. 157-158.

⁽⁵⁰⁾ See the report by the High Level Group of Independent Stakeholders on Administrative Burdens (2009), and http://ec.europa.eu/enterprise/policies/better-regulation/administrative-burdens/priorityareas/tax/index_en.htm; Ministry of Finance, et al. (2005); Diemer (2010); Skatteverket (2006), Verwaal and Cnossen (2002).

⁽⁵¹⁾ IFS et al. (2011), p. 15.

⁽⁵²⁾ The VAT-regime dissimilarity indicator compares across countries various aspects and functional domains in national VAT regimes. The aspects include rate structures, the heterogeneity of administrative procedures, and the compliance cost burdens created by national VAT regimes. Dissimilarity indicators are calculated for all 676 (=26x26) bilateral country pairs in the EU in order to allow maximum accuracy in detecting the VAT influences on bilateral trade between Member States.

⁽⁵³⁾ IFS et al. (2011), p. 168.

⁽⁵⁴⁾ The method is an econometric approach based on comparing the trade structure of each country with the above-mentioned estimates for the dissimilarity of VAT regimes. The results capture the direct (partial equilibrium) effects of VAT policy on trade only and do not take into account trade diversion or other indirect effects. For trade in services, the study distinguishes three types of trade flows: total services, travel, and other business services.

intra-EU trade volumes by 2.6% and GDP by 0.2%.

Overall, although the authors of the study consider these estimates, owing to methodological limitations, to be clearly the upper bounds of the range of possible impacts, the effects of this magnitude clearly highlight that simplifying and harmonising procedures and converging tax rates and bases are an important policy issue. This is confirmed by the robustness check performed by the study. It simulates the impact on trade of abolishing all VAT compliance costs, on the basis of the assumption that it may raise firm turnover by 1%. The estimated increase in intra-EU trade is 4.3% and the estimated impact on GDP is 0.4%.

4.4. ESTIMATING THE IMPACT OF VAT EXEMPTIONS ON TRADE NEUTRALITY

The basic result that VAT has a neutral effect on vertical integration and world trade is no longer strictly true when there are exemptions and reduced rates.

Exemptions apply in a significant number of areas and sectors: examples include many financial services (given the difficulty of identifying economic value added in a financial transaction) and certain services of public interest (e.g. health services). The distortion affects both the input and the output side. On the input side, it is due to the fact that exempted sectors do not have to add VAT to the sale price and are also not allowed to deduct the VAT they pay on their inputs.⁽⁵⁵⁾ As a result, exempted sectors have a financial incentive to internalise production inputs, because internal value added goes untaxed, but VAT paid on inputs acquired from other sectors is irrecoverable and increases production costs. This may lead the public or the financial sector to engage in activities which could be outsourced at a lower total running cost. A recent study⁽⁵⁶⁾ on VAT in the public sector and exemptions in the public interest found that in the EU public sector alone, thus excluding the financial and charity sector, eliminating this distortion would result in gains of up to 0.3% of consumption.

⁽⁵⁵⁾ This situation is different from ‘zero rating’ where turnover is not taxed and the producer is allowed to deduct VAT paid on inputs, resulting in zero effective taxation. Exports, for example, are zero rated.

⁽⁵⁶⁾ Copenhagen Economics et al. (2011).

There is also a distortion on the output side: when an exempted sector, i.e. financial services, sells to a business, the sale cost must include a component to compensate for the VAT on inputs, which the banking sector cannot recover. The business will be unable to recover this amount, departing from the normal case whereby VAT paid on inputs is wholly recovered and therefore indifferent to the business. Therefore the output of the exempted sector is overtaxed when it makes a sale to an ordinary business. On the other hand, not taxing value added results in under-taxation of the output whenever the financial service industry sells to households or exempt entities. This may skew the composition of sectoral demand. Copenhagen Economics (2011) found that a full taxation solution, which would eliminate both distortions, would create potential economic gains from 0.04 up to 0.19% of EU GDP, which is significant. Furthermore, there are frequent situations in which businesses trade in both exempt and non-exempt goods. This creates substantial extra compliance costs.

As recognised by the seminal Feldstein and Krugman (1990) contribution, having exempt sectors weakens the neutrality properties of VAT with regards to international trade. The authors argue that generally, the fact that exemptions are in practice mostly found in the non-traded sector means that they will reduce the size of the tradable sector. In addition, there is a competitiveness issue, which may affect the financial sector in particular. Financial sector exports are harmed by the inability to deduct input VAT and this creates a competitiveness distortion whenever there are different rates. The effect is significant: IFS et al 2011 reports that if financial services firms could reclaim VAT on their inputs, the cost of financial services to businesses would be reduced by around 3–5% in the four biggest euro-area countries (France, Germany, Italy and Spain), leading to an increase in their international price competitiveness of 0.16%, on average. For the EU, financial institutions may well be handicapped by this effect when competing with US institutions (as the US levies no VAT). Overall, this may result in barriers to trade in financial services. Several authors consider comprehensive VAT rates as one of the most important advantages of more modern VAT systems like the New Zealand system, which

gives no exemption for the public sector (Aujean et al., 1999).

4.5. ESTIMATING THE COST OF EXEMPTIONS AND REDUCED RATES AND ITS DISTRIBUTIONAL BENEFITS

Last year's *Tax Reforms Report* discussed the issue of VAT efficiency and called for coordination of policies on VAT rates among Member States. This section adds to this discussion by highlighting the theoretical arguments in favour of using uniform VAT rates and presenting some new empirical results on their effects.

According to Ramsey (1927), an efficient indirect tax system should in theory reduce the consumption of any good in the same proportion. However, this is not possible in reality. The design of such a rate structure would require knowledge of cross-price demand elasticities, which are very difficult to measure. A similar theoretical approach is followed by Corlett and Hague (1953), who showed that efficiency could be enhanced by increasing the tax burden on goods that are complementary to leisure. However, this policy suffers from the same drawback that price elasticities between leisure and those goods are not discernible. ⁽⁵⁷⁾ These difficulties have led economists to pragmatically favour uniform VAT taxation.

This is reinforced by the fact that consumption taxes are poor instruments for redistribution. ⁽⁵⁸⁾ Historically, the main argument for introducing reduced VAT rates was the attempt to counteract the regressive properties of VAT. IFS et al. (2011) relativises this problem, arguing that, while zero and reduced rates can be progressive and can be used to encourage the consumption of socially desirable goods and services, they are costly instruments, as the benefit is by nature spread between all consumers, regardless of income. Indeed, their estimates indicate that it would be possible, in principle, to abolish zero and reduced rates of VAT, compensate low income households

and still have revenue left over. ⁽⁵⁹⁾ In addition, it is not certain that reduced rates or exemptions effectively result in lower prices for consumers as traders may not pass the gains on to consumer prices. Although one might expect that in competitive markets, tax savings should be largely passed on to consumers in the long run, it appears that only 30% of the 2009 cut in VAT on restaurant and catering services in France from 19.6% to 5.5% was passed on to consumers. A similar effect was reported for a 2010 VAT cut in hotel services in Germany and in South Africa on paraffin (Owens et al, 2011). ⁽⁶⁰⁾

The effects of reduced VAT rates to promote employment or the consumption of merit goods are not supported by empirical evidence either (see Copenhagen Economics, 2007). For employment, although there may be some positive effects in the short-term, the long-term impact appears at best low. In addition, the cost of the jobs created appear high. ⁽⁶¹⁾ As for the promotion of merit goods, the concept does not tally with the purpose of redistribution as many of these goods ultimately benefit high-income earners (e.g. cultural goods).

Reduced rates and exemptions generally tend to have a significant budgetary cost. Mathis (2004) found that in the EU-15, only about 69% of VAT-taxable transactions were taxed at the standard rate in 2000, with the share falling to about 50% in some Member States. Besides reducing revenue, reduced rates and exemptions also distort households' spending patterns.

Furthermore, reduced rates and exemptions increase the complexity of the system — thereby increasing administrative costs, litigation costs and compliance costs. Because a large proportion of compliance costs are generated by differences in rates between different products, or between the same products in different countries, this creates a risk of a gradual increase in system complexity and

⁽⁵⁷⁾ For an in-depth discussion of VAT differentiation applied to environmental policy, see Kosonen and Nicodeme (2010), on which we draw.

⁽⁵⁸⁾ See Atkinson and Stiglitz (1976) for the theoretical argument and Copenhagen Economics (2007, 2008) for the empirical evidence.

⁽⁵⁹⁾ Additional details on this are given in European Commission (2011a).

⁽⁶⁰⁾ Preliminary reports on the VAT cut on restaurant services in Sweden in 2012 suggests that around 30% of the tax reduction affected prices while at the same time the employment level in the restaurant sector has increased.

⁽⁶¹⁾ See the report by the French Senate on the effects of reduced VAT rates in restaurants, which estimates that the measure created 20000 jobs for a net cost of € 2.4 billion, representing a cost of € 120000 per job created (http://www.senat.fr/rap/r10-042/r10-042_mono.html).

in the degree of fragmentation of the internal market. Indeed, the countries that have adopted VAT more recently seem to have preferred single-rate regimes to avoid these problems. Australia, Canada, Korea, New Zealand, Singapore and South Africa have broader bases for VAT than the EU. In Africa, two thirds of the 21 countries that adopted the VAT in the 1990s and all but one of the nine that did so in the 2000s have chosen single-rate systems. Current proposals for VAT reform in Switzerland also plan to replace the current three rates of VAT with a single rate. Some studies suggest this may reduce compliance costs by 20-30% and add 0.1-0.7% to growth (Owens et al., 2011). Moreover, avoiding the cost associated with reduced rates and exemptions allows governments to set a lower standard VAT rate. This may also partly explain why the OECD countries that have adopted VAT more recently also have, on average, lower standard VAT rates (although this may also be due to lower overall tax levels than in the EU in general).

Granting exemptions and reduced rates tends to generate constant demand to extend the favourable treatment to other sectors. Uniform VAT is more stable and less prone to lobbyism and manipulation. Experience in operating the EU VAT system does not lead to excessive optimism that the prevalence of reduced rates may diminish over the longer term. On the contrary, events over the past years have tended to highlight that under normal circumstances, reduced rates or exemptions are very difficult to roll back for political reasons. Fundamentally, the constituency that would benefit from the reform, i.e. the general public, would derive from the reform only a limited advantage in per capita terms, whereas the affected sectors stand to lose much more from the withdrawal of special tax treatment and are generally much better organised politically.

Overall, Copenhagen Economics (2007) concludes that there is a strong overall argument for a (more) uniform VAT rate structure in the EU. Although in a few cases (like sectors whose services can be easily substituted by shadow economy activity) there is a convincing case for a lower VAT rate, in general the arguments for reduced VAT rates or exemptions are limited and contingent and the policy aims of reduced rates or exemptions can

often be equally well or better achieved by other means. In particular, the case for granting exemptions on equity grounds is substantially weakened by the fact that the same objectives can be reached at a lower budgetary cost and without distorting the consumption decision through direct payments to needy households (on this point see also IFS et al., 2011).

4.6. POLICY CONCLUSIONS

The first policy conclusion of the ongoing review of the EU VAT system is that the long-standing plan to change to a VAT system based on taxation at origin is no longer feasible. Maybe, due to the loss of flexibility that the origin system entails, it is not even economically desirable under the present circumstances.

Confirming the destination principle reinforces the need to tackle VAT fraud (in particular VAT carousel fraud), as it results in part from the endemic weaknesses of the destination regime and from the high VAT compliance costs for cross-border trade. This will require substantial work to devise alternative concepts for a more robust and simpler destination-based system tailored to the Single Market. This, as well as coordination between Member States, should be the priority, under the general objective set in the Annual Growth Survey 2012 of combating tax fraud and in the Single Market Act. ⁽⁶²⁾

There would be economic benefits from simplifying and standardising VAT procedures as recent research shows that there is a potential increase in trade and GDP in the EU if the number and mismatches of procedures are reduced. The high VAT compliance costs for cross-border trade must also be addressed when seeking solutions to cross-border VAT fraud.

The second important policy conclusion concerns the use of reduced VAT rates and exemptions. Reduced VAT rates and exemptions largely explain why different VAT regimes can impact trade, despite the use of the destination system. Their use mostly reflects policy choices made in the past, often linked to distributional objectives.

⁽⁶²⁾ COM(2011) 206, 13 April 2011.

Box 4.1: Commission's Communication on the future of VAT

This Communication, which was first presented in December 2011, had a dual purpose. First, it set out the fundamental characteristics that must underlie a new VAT regime (long-term objectives). Secondly, it defined the priority actions that were needed for the coming years in order to create a simpler, more efficient and more robust VAT system in the EU, tailored to the single market (short- and medium-term).

First, VAT needs to be simplified in order to make it more workable for businesses. A simpler, more transparent VAT system would relieve businesses of considerable administrative burdens and encourage greater cross-border trade. Second, VAT must be made more efficient in supporting Member States' fiscal consolidation efforts and sustainable economic growth. Broadening tax bases and limiting the use of reduced rates could generate new revenue for Member States without the need for rate increases. Third, the current huge revenue losses, that are due to uncollected VAT and fraud, need to be stopped. It is estimated that around 12% of the total VAT which should be collected is not (the so-called VAT Gap).

Finally, the Commission has concluded that the long-standing issue of changing to a VAT system based on taxation at origin is no longer relevant. VAT will continue to be collected in the country of destination, and the Commission will work on creating a modern EU VAT system based on this principle.

In its Conclusions adopted on 15 May 2012, the Council expressed its support for an EU VAT system which should be simpler, more efficient and neutral, as well as robust and fraud-proof. The Council also emphasized that the current financial and economic situation is difficult and complex, and requires strong fiscal consolidation of national budgets. This should be taken into account at EU level when implementing the objectives of the Communication on the future of VAT. The Council conclusions also invite the European Commission to continue its in-depth analytical work and to set directions for legislative works, and thus are important for the future reform of VAT.

Using reduced VAT rates and exemptions is, however, debatable from an economic perspective, since consumption taxes are poor instruments for redistribution. The effect of reduced VAT rates to promote employment or the consumption of merit goods is not supported by empirical evidence, but reduced rates and exemptions generally tend to have a significant budgetary cost and increase the complexity of the system, thereby increasing administrative and compliance costs.

Third, the study has found new evidence suggesting that differences in VAT regimes, exemptions and reduced rates generate high costs in terms of distortion and fragmentation of the

internal market, probably higher than previously believed. This confirms the recommendations made under the Annual Growth Survey 2012, which stressed that there are potential welfare gains to be made by increasing the efficiency of VAT systems by limiting VAT exemptions, phasing out most VAT reduced rates and using alternative policy instruments to achieve their aims.

The findings of the study and the outcome of the public consultation have provided the input for the Commission's Communication on the future of VAT presented in December 2011 (see Box 4.1).

5. TAX POLICY CHALLENGES IN EU MEMBER STATES

This chapter provides an analysis of macroeconomic challenges that individual EU Member States are facing in the field of taxation and tax policy. The purpose of this chapter serves to supplement understanding of Member States' tax systems, rather than to prescribe recommendations. The coverage is extended to all Member States, while last year's *Tax Reforms Report* only covered euro-area Members. It should be borne in mind that all EU Member States are covered by the European Semester, which also recommends sound national tax policies to favour growth and fiscal sustainability, while avoiding and correcting macroeconomic imbalances. This cross-country analysis is a first screening and needs to be qualified to take relevant country-specific features into account.

Member States are benchmarked using the so-called Lisbon Assessment Framework (LAF) approach (as explained in more detail in Box 5.1). In short, a Member State is considered to face a

challenge in a particular area of tax policy if it is amongst the worst performers, that is, the bottom third of the distribution (under normality assumption).⁽⁶³⁾ This approach is more restrictive than the one applied last year when the GDP-weighted average (for the euro-area Member States only) was used as a benchmark. Certainly assessing countries against best practices would be also very useful but requires in-depth country specific examination, which is outside the scope of this report. In some limited cases, mainly for sustainability indicators, alternative well-established benchmarks are used (instead of LAF). While revisions of challenges compared to last year's report are often due to recent reform efforts, they may also relate to the more restrictive screening approach, the revision of (backward-looking) data and the improvement of the analysis, which has been dug deeper on various dimensions.

⁽⁶³⁾ Based on the sign of the indicator value, a high value corresponds to a good performance. All averages are GDP-weighted unless otherwise indicated.

Box 5.1: Benchmarking approach to identifying Member States that face a challenge in a particular tax policy area

In the horizontal screening applied in this Chapter, the GDP-weighted average of the EU-27 Member States is used as a reference point for benchmarking. A Member State is considered to have performed badly in a particular area if the indicator under consideration is significantly lower than the EU average after normalising, so that a high indicator corresponds to a good performance. This normalisation – not displayed in the tables – is key to calculate the two performance thresholds: 'LAF plus' and 'LAF minus', indicating a good and a poor performance respectively. The direction of performance needs to be indicated, and this is always a delicate normative exercise: is the high value of the original indicator indicative of a bad or a good performance? Each indicator may point to several different concepts and its interpretation depends on its purpose. For example, the tax-to-GDP ratio may indicate either the overall tax burden or the existence of 'overall tax space'.

A Member State is considered to have performed badly in a particular area, if the indicator is significantly worse than this average. Technically, being significantly worse means that the indicator is at least 0.4 standard deviations below the weighted EU average (after normalising). This approach captures the bottom third of total distribution under the normality assumption (i.e. the worst performers). It is applied in the LIME Assessment Framework – LAF (see European Commission, 2008). For the sake of simplicity, the wording 'LAF plus' and 'LAF minus' or 'very high' and 'very low' are used in the Chapter. If a high value of a – normally distributed – indicator refers to a good (bad) performance, the values above (below) 'LAF plus' capture the third best performers. The values below (above) 'LAF minus' capture the third worst performers. The values between 'LAF plus' and 'LAF minus' capture the third of the distribution which is not significantly different from the EU average.

A more elaborate approach is applied if several indicators are used to assess whether a Member State faces a challenge in a particular policy area. In that case, the general approach is to consider that a country faces a challenge if at least one of the indicators is significantly below the average. Different rules are applied in the various policy areas concerning the required minimum level for the other indicator(s). A more detailed explanation is provided in the different sections of the chapter and in Boxes 5.2 and 5.3.

While this mechanical screening is consistent across countries, it does not take country specificities into account. This also implies that Member States coming out as better than 'LAF minus' for a specific policy area could still face a challenge in that area. Hence, before firm policy conclusions can be drawn, an in-depth analysis would have to be carried out. However, such detailed country-specific scrutiny clearly lies outside the scope of this report. Moreover, countries not displaying a strong tax challenge may still require subtle policy adjustments, which would require a more detailed analysis of best practices than EU-27 average performances. Nevertheless, the 'LAF plus' value might be a first – and rough – screening device for identifying countries with good practices.

This chapter first of all updates and refines the analysis carried out in last year's report on the broad challenges linked to the contribution of taxation to fiscal consolidation or related to the need of growth-friendly tax structures (Section 5.1). The chapter then identifies challenges linked to the broadening of tax bases in direct taxation and VAT (Section 5.2). Tax governance is the subject of Section 5.3. Specific issues are addressed in Section 5.4, namely challenges related to housing taxation and environmental taxation. In addition, this section also touches upon some redistributive aspects of the tax system in a non-normative way. Finally, Section 5.5 summarises the results of the analysis and provides in a synoptic table an overview of the tax policy challenges faced by individual EU Member States.

5.1. FISCAL CONSOLIDATION AND GROWTH-FRIENDLY TAX STRUCTURES

Last year's edition of the report analysed two macroeconomic dimensions of taxation in detail: the sustainability of public finances and the growth-friendliness of tax structures. This section updates and refines the analysis aimed at identifying Member States that face overarching macroeconomic challenges relating to fiscal consolidation and growth-enhancing tax structures. As last year, Member States are subject to preliminary quantitative screening. Before drawing firm policy conclusions, it would, of course, be necessary to complement this with an in-depth country analysis, which is outside the scope of this first horizontal analysis.

5.1.1. Consolidation on the revenue side

In the current economic context, many Member States need to undertake significant consolidation efforts. This sub-section identifies those Member States that face sizeable consolidation needs and could consider increasing their tax revenues. Member States that are currently following an economic adjustment programme (Greece, Ireland and Portugal) are excluded from the analysis in this sub-section. The fiscal sustainability indicators used in this sub-section cannot replace detailed and frequent monitoring of debt sustainability carried out by the European Commission, the IMF and the ECB in the context of the adjustment programme.

There is considered to be potential for using tax increases to help consolidation if: (i) tax-to-GDP ratio is relatively low, and (ii) at the same time there is scope for increasing the least distortionary taxes and/or the overall tax burden has not increased substantially (unless warranted by large consolidation needs). The section is based on the approach set out last year, which has been amended this year to take medium-term fiscal sustainability into account. The approach is summarised in Box 5.2 and is explained in more detail in Wöhlbier et al. (2012). Finally, the screening results are presented in Table 5.3.

Table 5.1: Sustainability gap and primary balance

Country	Sustainability gap indicators (2012)			
	S1 - "medium-term"	S2 - "long-term"		
		Total	of which:	
		Initial position	Budgetary position	Ageing component
BE	6.2	7.5	0.5	7.0
DE	0.6	1.8	-0.5	2.3
EE	-2.1	2.1	1.2	0.8
ES	3.7	4.3	2.3	2.0
FR	3.0	2.2	1.3	0.9
IT	-0.9	-2.8	-3.4	0.5
CY	2.3	5.5	-0.2	5.7
LU	0.3	9.8	1.2	8.7
MT	2.9	6.1	1.3	4.8
NL	4.1	7.9	2.4	5.4
AT	2.3	3.7	0.2	3.5
SI	2.2	7.5	0.6	6.8
SK	4.4	8.6	3.5	5.1
FI	1.2	4.9	-0.3	5.1
BG	-1.7	2.6	0.4	2.2
CZ	0.4	4.9	1.1	3.8
DK	-0.6	3.3	0.5	2.9
LV	-1.9	-0.7	0.9	-1.6
LT	-0.1	4.3	0.8	3.5
HU	-0.7	0.5	-0.5	1.0
PL	-0.1	1.5	0.5	1.0
RO	-1.5	3.6	0.1	3.5
SE	-2.9	1.8	-1.1	2.9
UK	5.1	5.2	2.6	2.5
EU-27	2.2	2.9	0.7	2.3
EA-17	2.1	2.4	0.3	2.2

Source: Commission services.

As regards the fiscal sustainability of Member States, the values for the main indicator for *long-term* fiscal sustainability, referred to as 'S2', were revised substantially in spring 2012, following the publication of the new age-related expenditures projections by the Commission and the Ageing Working Group. The S2 indicator (⁶⁴) shows the adjustment to the current structural primary

⁶⁴ Last year's edition of the report includes a Box with an explanation of the concept of fiscal sustainability and of the S2 indicator (see European Commission, 2011b, p. 77). S2 indicators used in this year's report have been calculated on the basis of the Commission services' 2012 Spring Forecast and the new age-related expenditures projections by the Commission and the Ageing Working Group of the Economic Policy Committee (EPC).

Box 5.2: Screening principles to identify a potential need for tax-based consolidation

Quantitative screening on the basis of selected indicators is applied to Member States with a view to identifying countries that might consider using taxation – in addition to expenditure control – to consolidate their public finances and steer them onto a more sustainable path. Such screening should identify both a strong need for consolidation and the availability of tax space. The following screening criteria are considered:

Fiscal sustainability problems

1) Fiscal sustainability is considered problematic, if:

(i) *The indicator of fiscal sustainability gap in the medium-term, "S1", is high* (more than 3, which corresponds to the very top of the indicator distribution).

OR

(ii) *The indicator of fiscal sustainability gap in the long-term, "S2", is high* (more than 6, which corresponds to the very top of the indicator distribution). This generally means that both the initial budgetary position component of the sustainability gap (i.e. the initial deficit) and the long-term budgetary projections of age-related expenditure are very unfavourable.

Availability of tax space

AND: 2) There is ‘overall tax space’ currently available (relatively low tax-to-GDP ratio). This main criterion needs to be met in conjunction with one of the two qualifying criteria below:

AND EITHER: 2(a) There is still scope for increasing the least distortionary taxes (i.e. the share of consumption and/or recurrent property taxes in GDP is not (significantly) above average or there is scope for increasing environmental taxation; see Box 5.3 for details).

OR: 2(b) The tax burden has not increased substantially in the recent past (i.e. no marked increase in tax-to-GDP ratios in the period 2009-2012). The distance between the structural deficit and its medium-term budgetary objective (MTO) is used as a supplementary indicator to check the magnitude of the tax increase in relative terms, i.e. compared with the current consolidation need. Thus, a country is considered not to have experienced a strong rise in its tax burden if the tax-to-GDP ratio increase is above LAF minus and the distance to the MTO is below average.

A low current tax-to-GDP ratio in conjunction with a high fiscal sustainability gap does not necessarily point to a need to change the tax code by increasing tax rates or broadening tax bases. Higher tax revenues might also be achieved by improving tax compliance/administration and fighting tax evasion, without changing tax rules. Similarly, tax increases implemented in the recent past may not lead to equivalent increases in tax-to-GDP ratios due to (higher) tax evasion and Laffer-Curve effects (negative feedback of higher taxes on output and employment, i.e. tax bases).

balance which is required to fulfil the infinite horizon inter-temporal budget constraint, including paying for any additional expenditures arising from an ageing population. It, therefore, considers the projected changes in age-related expenditures over a very long time horizon (to 2060). Moreover, unlike last year, an indicator of *medium-term* fiscal sustainability has been used, referred to later on as ‘S1’.⁽⁶⁵⁾ S1 corresponds to the required adjustment

of the primary balance until 2020 to reach a public debt of 60% of GDP – the debt threshold in the Treaty – by 2030. For the sake of a prudent assessment and as explained in Box 5.2, the analysis in this report considers that Member States need a strong fiscal adjustment to make their public finance sustainable if either the indicator of medium-term sustainability (S1) or that of long-term sustainability (S2) is high according to the

⁽⁶⁵⁾ The values of S1 and S2 are published in the Commission Staff Working Papers published for each Member States by the European Commission on 30 May 2012 to underpin the Country-specific Recommendations 2012-2013 for Stability, Growth and Jobs under the European Semester.

http://ec.europa.eu/europe2020/making-it-happen/country-specific-recommendations/index_en.htm.

usual thresholds used in Commission Sustainability Report. ⁽⁶⁶⁾

Table 5.2: Assessment of 'tax space'

Country	Overall tax space: tax-to-GDP ratio	Room to increase least distortive taxes	No 'Tax Fatigue': Change in tax-to-GDP ratio	Distance to MTO
	2012		2009-12	2012
BE	45.1	X	1.9	3.2
DE	39.4	X	-0.2	-0.1
EE	32.8	(X)	-3.1	0.8
ES	31.8	X	1.1	4.8
FR	44.7	X	2.7	3.2
IT	44.8	X	1.8	0.7
CY	37.8	(X)	2.2	2.7
LU	37.9	X	0.2	1.1
MT	35.2	X	0.9	3.5
NL	38.8		0.5	1.9
AT	42.6	X	0.1	1.7
SI	37.7	(X)	0.1	2.2
SK	28.8	X	-0.2	3.9
FI	43.3		0.4	0.2
BG	27.4	(X)	-1.6	0.2
CZ	35.4	X	1.8	0.8
DK	47.2		-0.6	1.2
LV	28.0	X	1.3	1.7
LT	26.6	X	-2.6	3.4
HU	38.2	(X)	-2.1	0.6
PL	33.8		2.0	1.8
RO	27.8	X	0.8	1.1
SE	45.0		-1.9	-1.3
UK	37.9	(X)	2.0	---
EU-27	39.8		1.1	1.5
EA-17	40.4		1.2	1.9
LAF plus	37.9		0.6	---
LAF minus	41.8		1.6	---

Note: The definition of the tax-to-GDP ratio applied is slightly broader than the one in Chapter 2, as it includes voluntary social security contributions and taxes assessed but unlikely to be collected.

Source: Commission services (AMECO database, Commission's 2012 Spring Forecast).

Based on this approach, Belgium, Spain, Luxembourg, Malta, the Netherlands, Slovenia, Slovakia and the United Kingdom face particular consolidation challenges due to serious sustainability issues in the medium run or/and the long run. Among those Member States with high sustainability challenges, Spain, Malta, Slovenia and Slovakia show some overall 'tax space', which may be used to contribute to consolidation (on the revenue side). As shown in Tables 5.2, such Member States are characterised by a relatively low tax-to-GDP ratio. Moreover, they still have scope for increasing the least distortive taxes and/or they have not increased taxes strongly in the 2009-2012 period, unless the distance from the structural fiscal balance to the medium term budgetary objective (MTO) is relatively high. Using available tax space would be particularly relevant for these countries given the extent of the sustainability issue (see Table 5.1). ⁽⁶⁷⁾ Based on

⁽⁶⁶⁾ For the methodological underpinning and updated results see European Commission (2012k).

⁽⁶⁷⁾ The data, however, does not reflect the substantial tax increases decided upon by Spain in July 2012.

the indicators in Table 5.1 and 5.2 the screening results are presented in Table 5.3.

A more detailed discussion of which tax categories could be used to increase revenues (i.e. that have scope for increases) can be found in Sub-section 5.1.2. Of course, while further detailed country specific analysis is necessary to ascertain the results below, some countries with little tax space (reflected in a relatively high overall tax burden) may still need to raise taxes further – in addition to curbing public expenditures significantly – to meet their consolidation challenges, at least in the short to medium run.

Table 5.3: Overview: fiscal consolidation challenges

Country	Potential need for higher tax revenues to help consolidation	Overall 'tax space' available (low tax-to-GDP ratio)	No significant increase in tax-to-GDP ratio in recent years	Scope for (further) increasing least distortive taxes
BE	X		X	X
DE			X	X
EE		X	X	(X)
ES	X	X	X	X
FR			X	X
IT				X
CY		X	X	(X)
LU	X		X	X
MT	X	X	X	X
NL	X		X	
AT			X	X
SI	X	X	X	(X)
SK	X	X	X	X
FI			X	
BG		X	X	(X)
CZ		X		X
DK			X	
LV		X	X	X
LT		X	X	X
HU			X	(X)
PL		X	X	
RO		X	X	X
SE			X	
UK	X		X	(X)

Note: For an explanation which Member States are considered to have scope to increase least distortive taxes see Table 5.8.

Source: Commission services.

5.1.2. Promoting growth-enhancing tax structures

In many Member States, a high tax burden on labour, especially on those groups that face a particularly weak attachment to the labour market, coexists with relatively low levels of those taxes considered less detrimental to growth, i.e. consumption taxes, recurrent property taxes and environmental taxes. ⁽⁶⁸⁾ This indicates that there is room for a shift away from labour taxes to other

⁽⁶⁸⁾ Consumption taxes include excise duties on tobacco and alcohol. These are part of the so-called 'sin taxes' and meant to reduce their consumption and related health problems. A possible complement for recurrent property taxes could be raising inheritance taxes which are very low in some countries.

tax bases. Certainly, in some Member States the fiscal consolidation constraints are so demanding that a reduction in labour taxes becomes very difficult. However, even those Member States that need to increase revenues to contribute to fiscal consolidation should consider a shift within the overall tax burden in order to limit the detrimental effect of the overall higher tax burden on the economy. Shifting the tax burden towards indirect taxation might require accompanying policies to strengthen tax compliance, which may be more problematic for consumption taxes. ⁽⁶⁹⁾

Box 5.3 outlines the horizontal quantitative screening principles used to identify countries that have both a need and room for improving the structure of taxation to enhance growth. This subsection first identifies Member States that have a particular need to reduce (overall or group-specific) labour taxation and then highlights those countries that appear to have particular scope for increasing taxes which are the least detrimental for growth. ⁽⁷⁰⁾

High tax burden on labour – need for a shift

The overall tax burden on labour, as measured by the implicit tax rate on labour and the tax wedge at average earnings, is considered to be particularly high in Belgium, Germany, France, Italy, Austria, Finland, the Czech Republic, Hungary and Sweden (see Table 5.4). However, it is necessary to look also at output indicators to assess the importance of a labour tax reduction. Of the abovementioned countries, Germany, Austria, Finland, and Sweden have an employment rate significantly above the EU-27 average (above LAF plus), and with the exception of Finland, also above the Europe 2020 employment target of 75%. For these countries, the issue of high labour costs still remains but is considered to be less problematic in the screening analysis when analysing the overall tax burden.

It is, however, important to place a special emphasis on specific labour market groups that face particular employment problems and are at the same time considered to be rather responsive to labour supply disincentives created by a higher

after-tax wage: low-skilled workers ⁽⁷¹⁾ and second earners.

Table 5.4: Tax burden on labour and overall labour market situation

Country	Employment rate (2011)	Unemployment rate (2011)	Implicit tax rate on labour (2010)	Tax wedge (100% AW, 2011)
BE	67.3	6.9	42.5	55.5
DE	76.3	5.9	37.4	49.8
EE	70.4	12.3	37.0	40.1
IE	64.1	14.1	26.1	26.8
EL	59.9	17.6	31.3	38.0
ES	61.6	21.1	33.0	39.9
FR	69.1	8.9	41.0	49.4
IT	61.2	8.1	42.6	47.6
CY	73.8	7.7	27.0	13.9*
LU	70.1	4.8	32.0	36.0
MT	61.5	5.7	21.7	22.4*
NL	77.0	4.0	36.9	37.8
AT	75.2	3.9	40.5	48.4
PT	69.1	12.8	23.4	39.0
SI	68.4	8.2	35.0	42.5
SK	65.1	13.1	32.0	38.9
FI	73.8	7.1	39.3	42.7
BG	63.9	10.9	24.4	32.5*
CZ	70.9	6.5	39.0	42.5
DK	75.7	7.0	34.8	38.4
LV	67.2	15.3	32.5	44.2*
LT	67.2	15.4	31.7	40.7*
HU	60.7	10.9	39.4	49.4
PL	64.8	9.5	30.1	34.3
RO	62.8	7.4	27.4	44.3*
SE	80.0	6.6	39.0	42.8
UK	73.6	7.0	25.7	32.5
EU-27	70.1	8.7	36.0	43.7
EA-17	69.3	9.1	38.1	46.4
LAF plus	72.5	6.9	33.7	40.9
LAF minus	67.6	10.5	38.3	46.6

Notes: Employment rate and unemployment rate (20 to 64 years), tax wedge of single earner without children at 100 % of the average wage for full-time work (AW), implicit tax rate on employed labour; * data for the tax wedge refer to 2010 in the case of Bulgaria, Greece, Lithuania, Latvia, Malta and Romania, and 2007 in the case of Cyprus. Source: Commission services, OECD.

Low-skilled workers also face difficulties with employability given their supposedly high labour costs (including labour taxes) compared with their productivity. Other groups that are often seen to be facing particular labour market problems, in particular young workers and older workers will not be discussed here. It is generally considered that the tax burden is not one of the key drivers of these problems. ⁽⁷²⁾ Table 5.5 nevertheless also

⁽⁶⁹⁾ See, e.g., Watrin and Ullman (2008).

⁽⁷⁰⁾ This sub-section focuses on the main results, whereas a more detailed analysis can be found in Wöhlbier et al. (2012).

⁽⁷¹⁾ In this document, low-skilled and low wage earners are used as synonyms although it is well understood that low wage earners are not necessarily the same as low-skilled workers, partly due to a trend towards over-qualification.

⁽⁷²⁾ Reducing the tax burden is not the best way to address the problems faced by young and older workers. Older workers' disincentives to work may be due to their wage career rather than the supposedly declining age-productivity profile and encouragement to retire earlier. Unemployment among young workers is the result of a wealth of complex factors, ranging from labour protection

Table 5.5: Labour market situation of and tax burden on specific groups

Country	Tax burden on low-wage earners and labour market situation of low-skilled (1)						Youth labour market performance (2)	Tax burden on second earners and female labour market situation (3)				
	Labour market performance	Disincentives to work						Labour market performance		Disincentives to work		
		Employment rate (low-skilled)	Tax wedge (67% AW)	Inactivity trap (67% AW)		Unemployment trap (67% AW)		Unemployment rate (youth)	Employment rate - female	Employment rate - male	Inactivity trap (67% AW)	Low-wage trap (33% to 67% AW, 2010)
	2011			2010	of which contribution from labour tax	2010						
BE	59.3	49.7	66.8	35.5	92.7	35.5	18.7	73.8	84.9	46.5	46.5	58.5
DE	62.0	45.6	65.6	34.4	74.7	34.4	8.6	77.8	87.7	47.8	43.8	45.8
EE	55.1	38.8	46.3	17.6	62.7	12.7	22.3	74.8	81.5	23.2	23.2	23.2
IE	48.8	21.3	78.5	7.9	78.2	7.5	29.4	64.8	74.1	40.6	11.0	23.7
EL	62.4	35.6	5.9	16.0	60.8	16.0	44.4	57.7	80.0	30.4	16.0	16.0
ES	57.9	36.6	44.7	17.5	83.2	13.2	46.4	62.7	74.5	23.1	23.1	22.9
FR	68.2	46.5	61.2	26.1	77.0	19.3	22.1	76.2	86.7	38.8	25.4	30.1
IT	61.2	44.5	24.5	24.5	78.3	21.7	29.1	58.9	83.4	39.7	30.7	47.5
CY	74.9	11.9*	---	---	---	---	22.4	76.6	86.5	---	---	---
LU	73.9	29.2	69.7	16.6	85.7	5.7	16.8	72.9	90.8	32.9	22.5	29.0
MT	59.9	18.1*	59.1	12.0	58.6	12.0	13.7	50.6	89.7	32.9	16.2	22.5
NL	71.5	33.1	82.0	32.7	83.7	8.7	7.6	79.0	89.4	45.7	38.2	39.3
AT	69.2	43.7	65.2	26.3	66.8	26.3	8.3	80.2	89.6	28.8	28.8	37.8
PT	73.4	33.1	36.3	16.8	79.2	16.8	30.1	74.1	81.6	21.3	19.2	28.2
SI	62.9	38.5	60.2	28.7	83.2	13.2	15.7	81.3	84.8	52.4	28.7	37.5
SK	36.9	36.1	40.3	17.6	67.6	17.6	33.2	70.4	82.6	21.8	21.8	34.8
FI	65.8	37.2	68.6	25.3	72.2	13.9	20.1	79.6	84.8	27.6	25.3	32.9
BG	43.5	32.5*	37.7	20.9	80.9	20.9	26.6	73.0	75.0	20.9	20.9	20.9
CZ	54.8	39.5	62.2	18.2	80.0	18.2	18.0	74.3	90.9	33.2	25.4	25.2
DK	69.9	36.8	86.8	26.3	89.2	11.6	14.2	78.9	85.7	79.0	27.4	64.3
LV	55.7	43.5*	59.5	29.9	89.9	29.9	29.1	75.4	76.2	34.9	34.9	32.7
LT	41.0	38.8*	44.0	19.7	69.8	19.7	32.9	78.3	76.3	49.4	19.7	29.0
HU	46.0	45.2	49.9	27.8	82.1	22.1	26.1	66.6	79.6	31.0	27.8	38.3
PL	52.7	33.4	51.5	27.0	81.9	21.4	25.8	71.4	83.0	42.2	23.4	32.4
RO	57.2	43.1*	36.9	27.1	70.6	27.1	23.7	67.4	80.7	32.9	28.2	33.7
SE	69.2	40.7	69.8	28.8	74.7	9.8	22.9	83.2	88.8	22.5	28.8	28.5
UK	62.5	28.5	50.0	22.6	50.0	22.6	21.1	74.5	85.9	46.8	22.6	31.0
EU-27	62.8	40.2	54.6	26.3	74.0	22.1	21.6	72.6	84.9	40.4	30.2	36.9
EA-17	63.4	42.6	54.4	27.0	77.6	22.7	21.6	71.8	84.7	39.2	32.1	38.0
LAF plus	65.1	35.9	47.6	23.8	69.4	18.8	17.2	75.4	86.5	36.8	26.6	32.7
LAF minus	60.6	43.0	61.4	28.7	78.4	25.3	26.0	69.6	83.3	44.7	33.7	40.9

Notes: (1) Employment rate and unemployment rate of low-skilled workers (25-54 years, pre-primary, primary and lower secondary education - levels 0-2, ISCED 1997), long-term unemployment in % of active population. Tax wedge, inactivity trap and unemployment trap for single worker with no children at 67 % of average earnings. *Tax wedge data for the indicators measuring the disincentives to work refer to 2010 in the case of Bulgaria, Greece, Lithuania, Latvia, Malta, and Romania and 2007 in the case of Cyprus. (2) Unemployment rate of young workers (15-24) (3) Employment rate for age group 25-54. Inactivity trap for second earner in two-earner couple with two children, principal earner with 67% of average wage, second earner with 67%, low-wage trap for second earner in two-earner couple with two children, principal earner with 67% of average wage, second earner moving from 33% to 67% of average wage. Data for the traps refer to 2009 in the case of Bulgaria, Lithuania, Latvia, Malta, and Romania. No detailed breakdown of the contribution from labour taxes to the low-wage trap is available. 'Contribution from labour taxes' refers to the contribution to the respective trap in percentage points. Inactivity includes household work.

Source: Commission services, OECD.

presents data on the unemployment rate of young workers whose labour market situation has deteriorated dramatically in several Member States since the beginning of the crisis.

On the basis of the indicators presented in Table 5.5, in particular Belgium, Germany, France, Italy, Austria, Latvia, Hungary, Romania, and Sweden are faced with the challenge of reducing the tax burden on low-skilled workers.⁽⁷³⁾ Austria and

Sweden, however, show relatively high employment rates for low-skilled workers, which is again reflected in the screening.⁽⁷⁴⁾

Turning to second earners, the data in Table 5.5 show that in Belgium and Germany there are specific disincentives to return to work from inactivity and to increase the number of hours worked, whereas in the Netherlands and Latvia the tax disincentives to return to the labour market

legislation to wage gaps for a supposedly inexperienced segment of the population and labour market mismatches. Thus, these two groups are not referred to in the taxation annex of the 2012 AGS, although they are stressed in the 2012 AGS itself.

⁽⁷³⁾ Given that the indicators look at specific wage levels, they do not reflect potential measures aimed at reducing labour

supply disincentives and/or labour costs at lower wage levels, as, e.g., in place in Belgium and France.

⁽⁷⁴⁾ For a discussion of which components of the tax burden should be reduced – which of course depends on the specific Member State – see last year's report. Generally, a reduction of employers' social security contributions has a direct impact on labour costs, at least in the short term.

from inactivity are high. The labour market situation of second earners, taking the female employment rate as a proxy, is, however, significantly better than the EU-27 average in Germany, the Netherlands and Latvia. Again this is reflected in the screening. The employment rate, however, does not capture the number of hours worked, which is another important indicator of labour underutilisation. In particular, the average number of hours worked is low for second-earners in the Netherlands, while the share of women working full-time is low in Germany.

Room for manoeuvre– potential to increase consumption, property or environmental taxes

Member States are considered to have room to shift taxes away from labour if their tax burden is relatively low in at least one of the following three areas: consumption taxes, recurrent property taxes or environmental taxes. All of these tax categories have been found to be among those which are the least detrimental to growth.

By far the broadest tax base to which a tax shift could be considered is consumption. As measured by the share of consumption taxes in GDP in 2010, revenues from consumption taxes are particularly low in Ireland⁽⁷⁵⁾, Spain, Italy, Luxembourg and Slovakia and are also below the EU-27 average in Belgium, Germany, France, the Czech Republic and Latvia (see Table 5.6). In addition to those countries, Greece, Portugal, Lithuania and the UK as well as Cyprus, Malta and Romania had a tax burden on consumption below the EU-27 average in 2010, as measured by the implicit tax rate on consumption.⁽⁷⁶⁾ Moreover, in France there is a large gap between the tax burden on labour and consumption, as measured by the two implicit tax rates, clearly above the EU-27 average. Hence, there appears to be potential room for shifting taxation from labour to consumption.

However, as the data used in the screening stop in 2010, there is a need to take into account the often substantial tax reforms implemented in 2011 and early 2012 and presented in Chapter 3. As a rough

⁽⁷⁵⁾ The rather low value is also due to a high share of multinational companies in the Irish economy and a comparison of consumption taxes to GNI would provide a more favourable picture.

⁽⁷⁶⁾ For an explanation of the concept of implicit tax rates see Glossary and Chapter 2.

proxy for the impact of these changes on revenues from consumption taxes, the change in revenues from indirect taxes over the 2010-2012 period is used.⁽⁷⁷⁾ Among those countries found to have the potential to increase consumption taxes, revenues from indirect taxes are forecast to increase by more than one percentage point in Italy, Malta and Portugal and by more than 0.5 percentage points in Greece, France, the Czech Republic, Romania and the United Kingdom.⁽⁷⁸⁾ Assuming that these increases are confirmed and indeed linked to higher consumption taxes, they would tend to limit the actual scope for future increases. This points to the need for further country-specific analysis, as this dimension is not factored into the screening.

When considering increases in consumption taxes it is important to see in which sub-category (VAT, excise duties on alcohol and tobacco or energy) Member States have a particular scope for increasing revenues, as was done in last year's report.⁽⁷⁹⁾

Table 5.6: Indirect and consumption taxes

Country	Share of indirect taxes in total taxation		Indirect taxes as % of GDP		Share of consumption taxes in total taxation	Consumption taxes as % of GDP	ITR on consumption	Gap: ITR on labour and consumption
	2012	change 2008-12	2012	change 2010-12				
						2010		2010
BE	28.7	0.4	12.9	0.1	24.7	10.9	21.4	21.1
DE	28.9	1.1	11.4	0.3	28.4	10.8	19.8	17.6
EE	42.4	4.8	13.9	0.0	39.8	13.6	25.6	11.4
IE	39.5	-2.2	11.5	0.1	35.5	10.0	21.6	4.5
EL	39.1	0.4	12.8	0.8	38.9	12.1	15.8	15.5
ES	30.8	1.1	9.8	-0.6	27.2	8.7	14.6	18.4
FR	35.0	0.4	15.6	0.8	25.6	10.9	19.3	21.7
IT	34.5	2.4	15.5	1.4	24.2	10.2	16.8	25.8
CY	39.9	-6.7	15.1	-0.4	37.8	13.5	18.8	8.1
LU	31.6	-1.5	12.0	0.2	26.8	9.9	27.3	4.7
MT	43.4	1.2	15.3	1.6	39.5	13.2	18.9	2.8
NL	29.6	-1.5	11.5	-0.6	31.0	12.0	27.0	9.9
AT	33.9	0.9	14.5	0.0	28.1	11.8	21.4	19.1
PT	43.6	0.7	14.8	1.4	37.1	11.7	17.4	6.1
SI	38.3	0.7	14.4	0.1	37.5	14.2	24.1	10.9
SK	36.5	1.0	10.5	0.3	36.1	10.1	17.7	14.4
FI	33.0	3.1	14.3	1.0	31.2	13.1	25.2	14.0
BG	53.3	-0.7	14.6	-0.2	53.0	14.5	22.8	1.6
CZ	34.2	3.6	12.1	0.9	32.3	10.9	21.1	17.9
DK	36.1	0.5	17.0	0.3	31.5	15.0	31.5	3.3
LV	42.1	4.9	11.8	0.5	39.5	10.8	17.3	15.2
LT	44.8	6.9	11.9	0.1	42.5	11.5	18.2	13.5
HU	45.6	6.9	17.4	0.5	39.2	14.8	27.2	12.2
PL	41.4	0.2	14.0	0.4	38.6	12.3	20.2	9.9
RO	45.6	4.0	12.7	0.8	42.4	11.5	18.9	8.5
SE	41.3	2.9	18.6	0.7	29.0	13.3	28.1	10.9
UK	35.4	4.3	13.4	0.7	31.5	11.2	18.4	7.3
EU-27	33.9	1.6	13.5	0.5	29.1	11.0	19.7	16.3
EA-17	32.5	0.9	13.1	0.4	27.7	10.7	19.2	18.9
LAF plus	35.6	2.3	14.3	0.7	30.7	11.5	21.0	13.4
LAF minus	32.2	0.9	12.6	0.3	27.4	10.5	18.2	18.7

Note: The last column shows the difference between the ITR on labour and the ITR on consumption.

Source: Commission services.

⁽⁷⁷⁾ Indirect taxes are broader than consumption taxes as they also include revenues from other taxes, in particular large parts of property tax revenues, some additional smaller environmental taxes, stamp taxes and payroll taxes.

⁽⁷⁸⁾ The data does not include the increase in VAT in Spain applicable since 1 September 2012.

⁽⁷⁹⁾ The scope for increases in environmental taxes is discussed below. For a detailed discussion on which consumption taxes could be increased, see Wöhlbier et al. (2013).

Box 5.3: Screening principles when identifying a potential need, and room, for a tax shift

Quantitative screening on the basis of selected indicators is applied to Member States with a view to identifying countries that might consider shifting taxation away from labour. Such screening should identify both a need for a reduction in labour taxation and the availability of tax space for specific tax categories. The following screening criteria are considered:

Need to reduce labour taxation

Labour taxation is problematically high if:

1(a) The ‘overall tax burden on labour’ is very high (significantly above the average, i.e. above LAF minus). This is considered the case if either the implicit tax rate (ITR) on labour or the tax wedge at average earnings are significantly above the average, with the other indicator not being significantly below this average.

OR: 1(b) The tax burden on specific labour market groups is very high (low-skilled workers and/or second earners). The assessment is based on different tax wedge and trap indicators.

The *tax burden on low-skilled workers is considered very high* if

(i) the tax wedge on low-skilled workers is very high (significantly above the average)

AND/OR

(ii) labour taxes contribute to a high inactivity trap and/or a high unemployment trap (with the contribution from labour taxes to the other trap not being significantly below the average).

The *tax burden on second-earners is considered very high* if

(i) the contribution from labour taxation to the inactivity trap is very high

AND/OR

(ii) the low-wage trap is very high (with the contribution from labour taxes to the inactivity trap not being very low. The low-wage trap acts as a disincentive for the second-earner to work full-time, instead of part-time).

If the employment level is very high (either overall or for specific groups), a very high tax burden is still an issue, but less problematic.

Scope for increasing the least distortionary taxes

There is still scope for increasing the least distortionary taxes. Increasing taxes does not necessarily point to a need to increase tax rates. The result could also be achieved by a broadening of tax bases, while paying attention to enhance tax compliance effectively in the short- to medium-term.

AND EITHER: 2(a) There is scope for increasing consumption taxes. This means that:

(i) *the share of consumption taxes in % of GDP is (significantly) below the EU average,*

OR

(ii) *the ITR on consumption is (significantly) below the EU average*

OR

(iii) *the gap between the ITR rate on labour and consumption is very high and the ITR on consumption not yet very high.*

OR: 2(b) There is scope for increasing recurrent taxes on housing (i.e. the share of revenues from recurrent tax on housing in GDP is significantly below average).

OR: 2(c) There is scope for increasing environmental taxation (i.e. either the share of revenues from environmental taxes or the ITR on energy are significantly below average with the other indicator not being significantly above it).

The rise of consumption taxes might lead to a rise in price levels, translating into higher inflation in the short run. This may (partly) counteract the cut in labour costs from the tax shift, depending on the response of wages to prices.

A second category of less growth-harmful taxation is recurrent property taxes, although substantially smaller in revenue terms than consumption taxes. In terms of revenues, those are particularly low in Malta, Luxembourg, Austria, the Czech Republic, Greece, Bulgaria, Hungary, Estonia, Lithuania, Slovakia, Germany and Slovenia (see Graph 5.7 in Sub-section 5.4.1). Those Member States could raise revenues by 0.4% of GDP or more by bringing revenue in line with the EU-27 average. ⁽⁸⁰⁾ However, taxes on imputed rent, the revenue from which are not included in the data, are applied in the Netherlands and Luxembourg and could explain the very low revenue from recurrent taxes on immovable property in these countries. As discussed in Sub-section 5.4.2, revenue from recurrent housing taxes should, first of all, be increased by bringing the cadastral values of housing in line with market values. Tax rates should only be increased as a second step.

The third tax category which has been found to be less detrimental to growth is that of environmental taxes, in particular those falling on consumption. Moreover, as discussed in more detail in Sub-section 5.4.2 they can help to reach environmental targets. There is potential to raise revenue both through tax increases as well as through reducing tax expenditure in this area, i.e. by reforming environmentally harmful subsidies. Revenue expectations should not be too high, however. Based on the criteria outlined in Box 5.3 and the data provided in Table 5.7, Belgium, Greece, Spain, France, Austria, Slovakia, the Czech Republic, Latvia, Lithuania and Romania seem particularly apt to increase revenues from environmental taxes. ⁽⁸¹⁾

⁽⁸⁰⁾ Countries that are below, but not significantly below, the EU-27 average are not looked into here as the EU-27 average is partly driven by the United Kingdom. The EU-27 average excluding the UK would be rather in line with LAF minus.

⁽⁸¹⁾ The two indicators shown in Table 5.7 are both used for the assessment. Each one has its own weaknesses. Environmental (or energy) tax revenue as a % of GDP does not take into account the level of energy consumption in a country and, therefore, does not measure a 'true' tax burden.

Table 5.7: Tax burden on the environment

Country	Environmental taxes as % of GDP, 2010		Implicit tax rates on energy, 2009
BE	2.1	125.2	
DE	2.2	215.4	
EE	3.0	127.5	
IE	2.4	198.3	
EL	2.4	135.5	
ES	1.6	154.2	
FR	1.8	178.8	
IT	2.6	259.4	
CY	2.9	142.1	
LU	2.4	210.1	
MT	3.1	195.5	
NL	4.0	231.9	
AT	2.4	169.5	
PT	2.5	175.3	
SI	3.6	226.8	
SK	1.9	100.7	
FI	2.8	129.1	
BG	2.9	108.6	
CZ	2.4	130.6	
DK	4.0	330.9	
LV	2.4	97.1	
LT	1.9	116.4	
HU	2.6	112.6	
PL	2.6	106.8	
RO	2.1	86.1	
SE	2.8	210.0	
UK	2.6	220.9	
EU-27	2.4	198.5	
EA-17	2.3	198.3	
LAF plus	2.6	217.0	
LAF minus	2.1	179.9	

Source: Commission services.

Summary findings on the need and potential for tax shifting

Based on the screening summarised in Table 5.8, Belgium, France, Italy, the Czech Republic, Latvia and Romania in particular and, to a lesser extent, Germany, Austria, and Hungary face the challenge of reducing the tax burden on labour (either overall or for specific groups) and at the same time appear to have room to increase taxes which are less detrimental to growth. Thus, these Member States should analyse in greater detail whether to shift the tax burden away from labour and if so, how.

In this analysis, Member States need also to take into account the effect of such a shift on tax compliance, which, in some countries, might be more difficult to ensure in the area of indirect taxation than direct taxation. Therefore, tax shifts should go hand in hand with measures to improve tax compliance, namely in the area of VAT and

In the case of the implicit tax rate on energy, it is not the whole base (level of energy consumption) that is actually taxed: i.e. transport is heavily taxed in most countries, while energy use for heating and industrial production is taxed much less or exempt. Therefore, Member States with, in relative terms, a large low taxed industrial sector and low, or not taxed, heating use appear 'bad'. Moreover, an increased use of (untaxed) renewable energy over time (as set out in the energy/climate policy) leads to a lower indicator and hence a weaker performance.

other indirect taxes. The effect on income redistribution – discussed in more detail in Sub-section 5.4.3 – also needs to be taken into consideration.

Table 5.8: Overview: tax structure indicators

Country	High tax burden on labour		Potential to shift			Need and room for tax shift
	Overall	Specific groups	Low consumption taxes	Low recurrent taxes on housing	Low tax burden on the environment	
BE	X	X	(X)		X	X
DE	(X)	(X)	(X)	X		(X)
EE				X		
IE			X			
EL			X	X	X	
ES			X		X	
FR	X	X	X		X	X
IT	X	X	X			X
CY			(X)			
LU			X			
MT			(X)	X		
NL		(X)				
AT	(X)	(X)		X	X	(X)
PT			X			
SI				X		
SK			X	X	X	
FI	(X)					
BG				X		
CZ	X		(X)	X	X	X
DK						
LV		X	(X)		X	X
LT			X	X	X	
HU	X	X		X		(X)
PL						
RO		X	(X)		X	X
SE	(X)	(X)				
UK			(X)			

Note: High tax burden on specific labour market groups in a Member State either refers to low-skilled workers or second earners in couples or both. (X) depicts borderline cases. Member States are considered to have a room to shift if consumption tax indicators are very low (below LAF minus), if they are low (below average) combined with a very low burden on at least one of the two other potential bases for tax shifts, or if the burden on at least one of the other bases is very low with the burden on the other one being low. Member States are considered to have limited room for a tax shift if at least one of the indicators signals some potential to shift.

Source: Commission services.

5.2. BROADENING TAX BASES

There is wide agreement that broader tax bases allow for lower tax rates and, therefore, help to reduce the distortionary effects of taxation.⁽⁸²⁾ As discussed in Chapter 3, in recent years many Member States have implemented measures aimed at broadening tax bases via a reduction in tax expenditures. Tax expenditures not only reduce the amount of revenues collected and tend to lower the efficiency of the tax system; they also increase compliance costs and the costs of tax collection (see Section 5.3). However, a reduction is often difficult, notably for political reasons.

Tax expenditures can be defined as ‘...provisions of tax law, regulation or practices that reduce or postpone revenue for a comparatively narrow population of taxpayers relative to a benchmark tax.’ (Anderson, 2008). As stressed in last year’s edition of the report and in OECD (2010a), it is difficult to distinguish unambiguously tax expenditures from what is considered to be a norm, as the latter is loosely defined. This makes international comparisons very difficult.⁽⁸³⁾ Moreover, estimates of tax expenditures, based on micro studies, are not available for all Member States and not consistent across countries.

It is important that Member States regularly inform the public about the cost of tax expenditures in terms of revenues foregone and that they assess to what extent the original objectives are still being met or if they could be met via other means at a lower cost. The redistributive effects⁽⁸⁴⁾ of tax expenditures are also important as several of these items tend to benefit high-income households and therefore have a regressive effect. It also needs to be ensured that such tax expenditures do not constitute illegal state aid under Art. 107 TFEU.⁽⁸⁵⁾ Tax measures meeting the cumulative criteria of Art. 107 TFEU are subject to a system of prior Commission authorisation and Member States may not put the proposed aid measures into effect until the Commission has approved them. When designing their tax measures and especially differential tax treatments, Member States therefore have to assess the need to notify the Commission, in particular where such tax measures introduce favourable tax treatment for certain categories of undertakings or for the production of certain goods.

This section analyses tax expenditure in personal and corporate income taxation, looks into the debt bias in corporate taxation, and assesses the efficiency of the VAT system in Member States.

⁽⁸³⁾ See OECD (2010a and 2010b) for a discussion of the difficulties of measuring tax expenditure.

⁽⁸⁴⁾ For an analysis of redistributive aspects of the tax system see Sub-section 5.4.3.

⁽⁸⁵⁾ Article 107(1) TFEU states that ‘any aid granted by a Member State or through state resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, in so far as it affects trade between Member States, be incompatible with the Internal Market’.

⁽⁸²⁾ See, e.g. OECD (2010b).

5.2.1. Reviewing tax expenditures in personal and corporate income taxation

This sub-section restates the main findings of last year's report on tax expenditure in personal income taxation⁽⁸⁶⁾ and analyses in more detail tax expenditure in corporate income taxation.

Personal income tax expenditures

The analysis contained in last year's report highlighted those euro-area countries for which OECD data or other specific information on levels of tax expenditure in the area of personal income taxation are available. According to this analysis⁽⁸⁷⁾, Greece, Spain, Italy, Portugal, France and Austria as well as Belgium need to review their tax expenditure in personal income taxation given their scale and the overall revenue foregone (as a % of total revenue from personal income taxes). In general, several Member States have implemented base-broadening measures in recent years but no updated data on tax expenditure levels have been published by the OECD since.⁽⁸⁸⁾ In addition to the above mentioned euro-area Member States, OECD data points to high levels of tax expenditure in two non-euro-area Member States, namely the United Kingdom and, to a lesser extent, Poland. In both these countries, tax expenditures amounted to around 20% (in 2007-08) and around 11% (in 2007) of revenues from personal income taxation, respectively. Given the lack of (comparable) data it is important that those Member States that have not published data yet, step up their efforts to do so. Moreover, it is important that individual tax expenditure items are assessed regularly.

Corporate tax expenditures

Tax expenditures are also widely used for corporate tax purposes. An important distinction should be drawn between those affecting the tax rate and those impacting the tax base.

Reduced tax rates and special regimes

Many Member States favour specific companies by granting them reduced corporate income tax rates or special regimes. Table 5.9 and Table 5.10 show which Member States make use of reduced tax rates to support particular types of companies, regions or sectors. In most cases, these reduced rates are provided for small and medium-sized enterprises (SMEs), for companies operating in economically-distressed regions or for companies operating in specific economic sectors.

Table 5.9: **Reduced corporate income tax rate for small businesses (2012)**

Country	Standard rate	Reduced rates for SMEs	Eligibility criteria for reduced rates / thresholds for lower rates
BE	33%		Companies that fulfil a number of conditions relating to the activities of the company, the shareholding of the company, the rate of return of distributed profits and the remuneration of their managers benefit from reduced rates.
		24.25%	profits of up to €25,000
		31%	profits between €25,000 and €90,000
		34.50%	profits between €90,000 and €322,500
	+ 3% austerity surcharge on income tax rate		
ES	30%	25%	Companies with a turnover below €10 million. Only on a taxable base of up to €300,000.(1)
		20%	In 2009-2012: micro-enterprises with a turnover less than €5 million, employing fewer than 25 employees and maintaining or increasing employment. Only on a taxable base of up to €300,000.
FR	33.33%	15%	Largely independent businesses with an annual turnover no greater than €7.63 million. Only on the first €38,120 of profit.
LU	21%	20%	Taxable base up to €15,000
	+ 5% solidarity tax		
NL	25%	20%	On the first €200,000 of profits
LV	15%	9%	Micro-enterprises with a turnover less than LVL 70,000, employing up to 5 employees (if turnover above, excess taxed at 20%)
LT	15%	5%	Companies with a taxable profit less than LTL 1 million, employing up to 10 employees
HU	19%	10%	On the first HUF 500 million of profits per annum
RO	16%	3%	Privately-owned companies with a turnover less than €100,000, employing up to 9 employees (optional)
UK	24%	20%	Companies with profit under GBP 300,000. Marginal relief is available on profits between GBP 300 000 and GBP 1.5 million

Notes: (1) As of 2011, companies in Spain that grow above the limits applicable for small companies can benefit from the lower rate for three years after losing their small-business status.

Source: Commission services, national authorities.

⁽⁸⁶⁾ Tax expenditure items related to housing taxation are discussed in more detail in Sub-section 5.4.1.

⁽⁸⁷⁾ The data does not take into account all the specific features of the national tax system.

⁽⁸⁸⁾ Portugal has, e.g. in line with the Memorandum of Understanding started to substantially reduce tax expenditure in personal income taxation (see European Commission, 2012).

As discussed in last year's report, the preferential treatment of SMEs may find its roots in the general perception that corporate taxation could be regressive, in the wish to make up for possible market imperfections — such as difficulties in accessing credit, the absence of large economies of scale for SMEs or their lack of resources to optimise their tax burden. However, using the tax system to correct these possible distortions does not seem to be the first-best solution. ⁽⁸⁹⁾ Instead, considerations of political economy may lie behind the choice to provide SMEs with reduced corporate income tax rates, even though the latter encourage entrepreneurs to incorporate for tax purposes ⁽⁹⁰⁾ and discourage companies to grow. As shown in Table 5.9, ten Member States currently make use of reduced corporate tax rates to support SMEs.

In some Member States companies operating in specific, often economically-distressed, regions may also benefit from reduced tax rates. Table 5.10 indicates those Member States which grant tax relief to companies solely on the basis of their location, (often) independently of their economic activity.

Moreover, specific sectors of activity are sometimes granted a favourable tax regime, which affects the general tax rate to which those sectors are in principle subject. ⁽⁹¹⁾ Many EU Member States (see Table 5.10), for instance, provide a specific corporate tax regime for the shipping sector ('tonnage tax') under which the taxable income is determined based on the volume transported (tonnage of vessels) rather than the income generated.

In the past, regional and sector-specific incentives used to be more numerous but as a consequence of the OECD work on harmful tax practices, of the EU Code of Conduct on Business Taxation and the rules on State Aids, as well as the supervisory role performed by the European Commission as the guardian of the Treaties ⁽⁹²⁾, many of these

specific measures have been put on standstill and rolled back.

Table 5.10: **Reduced corporate income tax rates and special tax regimes for specific regions and sectors**

Country	Standard Rate	Reduced rates for economically-distressed regions	Special tax regimes for specific sectors
BE	33% + austerity surcharge		Sh
DE	31%		Sh
IE	12.5%		Sh
EL	20%	Some Aegean islands (12%)	Sh
ES	30%	Canary Islands (4%) Ceuta and Melilla (15%) Basque country (28%) Navarre (20%-27%)	Sh
FR	33.3%	Overseas departments (0% for newly-created companies)	Sh
IT	31.1%		Sh
CY	10%		Sh
MT	35%		Sh, In
NL	25.5%		Sh
PT	25%	Azores (17.5%) Madeira (20%)	
SI	20%	Koper and Maribor (10%)	Sh, In (0%)
FI	26%		Sh
BG	10%	High unemployment regions (0%)	Sh, Ag
CZ	19%		In (5%)
DK	25%		Sh
LV	15%	Free Economic Zones (3%)	Sh
LT	15%	Free Economic Zones (0%)	Sh
HU	19%		Tr (0%)
PL	19%		Sh
UK	24%		Sh, Tr (0%)

Note: The list of economic sectors is non-exhaustive. 'Sh' refers to the shipping sector (tonnage tax), 'Ag' refers to the agricultural sector, 'In' refers to investment companies, and 'Tr' refers to trusts.

Source: Commission services.

Reduced tax bases

Tax provisions impacting the computation of the tax base are common in almost all Member States. By deviating from the domestic tax norm, those provisions grant a favourable tax treatment for specific items. These tax provisions often serve economic purposes, but their extended use may make corporate taxation more distortive. This section focuses on the most common tax expenditures used across Member States. ⁽⁹³⁾

Most EU Member States allow the taxable base to be reduced by the economic depreciation of assets according to a straight-line method or a declining-

⁽⁸⁹⁾ An alternative solution could be to impose a minimum corporate tax as some Member States already do.

⁽⁹⁰⁾ See de Mooij and Nicodeme (2008).

⁽⁹¹⁾ Some Member States, like Hungary, also apply surcharges to specific sectors.

⁽⁹²⁾ http://ec.europa.eu/taxation_customs/taxation/company_tax/harmful_tax_practices/index_en.htm

⁽⁹³⁾ Tax expenditures related to company cars are discussed in Sub-section 5.4.2. Although many Member States offer the possibility to carry-forward (or back) unused losses for tax purposes, this feature of the tax system is not analysed here. For information on this item see European Commission (2010d) and 'Taxes in Europe' Database.

balance method.⁽⁹⁴⁾ In all, 15 of them allow accelerated depreciation or immediate expensing for small-value items⁽⁹⁵⁾ (see Table 5.11), which not only narrows the tax base but also distorts investment choices. That said, going closer to a cash-flow tax where investment is immediately expensed has interesting economic properties, in particular a zero marginal effective tax rate on investment.

The corporate tax system of most EU Member States also includes provisions aiming at promoting R&D or spurring investment. A majority of Member States has R&D or investment incentives (see Table 5.11), which are given in the form of a tax credit or a tax allowance. Obviously, fine-tuning the focus of these measures is important to avoid distortions in investment and R&D choices. Some Member States also direct their investment incentives to specific economic activities, such as audio-visual activities (e.g. Luxembourg), the sponsoring of sport (e.g. Hungary), venture capital (e.g. Luxembourg), urban renovation (e.g. Portugal) or new industrial activities (e.g. Luxembourg).

A number of Member States also try to boost employment through the use of specific tax expenditures. These employment incentives take the form of a tax credit for disabled workers in the Czech Republic and tax deductions for newly created jobs in Bulgaria, Portugal (young or long-term unemployed) and Slovenia (young or older unemployed).

Table 5.11 indicates for each EU Member State the corporate tax expenditure items that may be worth assessing and points to which Member States are

⁽⁹⁴⁾ Depreciation based on declined-balance does not necessarily provide a more accelerated system than straight-line. It all depends on how many years straight-line depreciation is given for (e.g. a 4-year straight-line depreciation for PCs allows faster depreciation than a 25% declined-balance system).

⁽⁹⁵⁾ For more information on the items for which accelerated depreciation is available, see the 'Taxes in Europe' Database. This report lists Member States with available accelerated depreciation. An assessment of the budgetary impact, which might be relatively low for some schemes, is, however out of the scope of the report and for example, the impact of the depreciation at will for environmentally friendly assets (VAMIL) in the Netherlands is estimated at € 40 million per year. For Belgium, accelerated depreciation is almost limited to newly launched sea ships. In Spain, a recent decree from March 2012 limits the choice of depreciation by large companies.

particularly suitable for such a tax expenditure review. Although some of the tax expenditure items may find their rationale in the achievement of specific policy objectives (growth, employment, innovation, etc.), the question remains whether they are effective and whether they are the best instruments for achieving their goals.

Table 5.11: Issues in the area of corporate tax expenditures in EU Member States

Country	Corporate tax expenditures					Room for tax expenditure review
	Reduced rates for SMEs	Reduced rates for regions / sectors	Accelerated Depreciation	R&D Incentives	Investment Incentives	
BE	X	X	X	X	X	X
DE		X	X			
EE						
IE		X		X		
EL		X			X	
ES	X	X	X	X	X	X
FR	X	X	X	X		X
IT		X			X	
CY		X				
LU	X		X		X	X
MT		X		X	X	X
NL	X	X	X	X	X	X
AT				X		
PT		X		X		
SI	X	X		X	X	X
SK			X		X	
FI		X	X			
BG		X				
CZ			X	X	X	X
DK		X	X			
LV	X	X	X		X	X
LT	X	X	X	X	X	X
HU	X				X	
PL		X	X			
RO	X		X	X		X
SE						
UK	X	X	X	X		X

Note: Member States are considered to have a room for a tax expenditure review if they have an 'x' in at least three categories in columns 2-6.

Source: Commission services, IBFD and Taxes in Europe Database.

In the light of this overview and on the basis of a cost-benefit analysis, some countries may review their tax systems and consider making use of other channels to accomplish their policy objectives. Based on available information, a regular (partial or complete) assessment of tax expenditures is carried out in a limited number of Member States only (Austria, Belgium, Finland, France, Germany, Greece, Italy, Netherlands, Poland, Portugal, Spain, Sweden and the United Kingdom⁽⁹⁶⁾). Such regular assessment by Member States should be

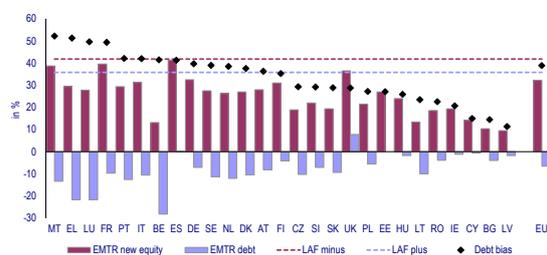
⁽⁹⁶⁾ See OECD (2010b) for an overview and IGF (2011) for the full French review. No information is currently available for non-OECD EU Member States. So far a review of tax expenditures in Poland has only been carried out once (in 2010). According to national authorities, Sweden also carries out a regular review.

the norm as it provides relevant information to policy-makers and taxpayers.

Debt bias in corporate taxation

The corporate tax system of almost all EU Member States allows interest payments on corporate debt to reduce the taxable base. This type of tax expenditure, however, considerably favours the use of debt over equity as a financing mode. The issue of tax-induced debt-bias in corporate taxation was developed in last year's report. ⁽⁹⁷⁾ Graph 5.1 shows the effective marginal tax rates (EMTR) on debt- and equity-financed new corporate investment. It highlights the gap between the tax treatment of debt and equity in all Member States. As in 2010, Malta, Greece, Luxembourg and France stood out as the countries with the highest gap in 2011. Although clearly lower, the gap was also significantly above the EU average gap, in Portugal and Italy and above the EU average in Belgium, Spain, Germany and Sweden in 2011.

Graph 5.1: Effective marginal tax rates on debt- and equity-financed new corporate investment, 2011



Source: ZEW (2012), unpublished, partly provisional data.

To counter this debt-bias, some Member States, have introduced some type of Allowance for Corporate Equity (ACE) making it possible to deduct equity costs for corporate tax purposes. Belgium has an ACE in place since 2006 and Latvia since 2009. ⁽⁹⁸⁾ Italy introduced it for new

⁽⁹⁷⁾ Fatica et al. (2012) also review the topic and possible solutions to address the bias.

⁽⁹⁸⁾ For Belgium, the notional interest rate used in the EMTR computation is the 10-year state interest rate (OLO). Because this rate is relatively low (3.425% for 2011), there remains a gap between the EMTR on debt-financing (-28.2%) and on equity financing (13.2%). A sensitivity analysis shows that increasing this rate reduces and eventually nullifies this gap. Note that the European Commission has officially asked Belgium to amend its legislation on the notional interest deduction. Current Belgian rules provide that a notional interest deduction is granted for Belgian real estate and permanent

equity in 2011 ⁽⁹⁹⁾ - after a previous episode between 1997 and 2003. ⁽¹⁰⁰⁾ Although an ACE further narrows the corporate income tax base and would, at least ex ante, lead to a revenue shortfall at unchanged tax rates, it seems an appropriate way of limiting the debt bias.

On the other hand, some Member States have developed alternatives to limit the interest deductibility. One alternative involves thin-capitalisation rules, which disallow the tax deductibility of interest costs related to debt exceeding a given ratio of total (or alternatively internal) debt to equity.

Table 5.12: ACE, CBIT, thin-capitalisation and earnings-stripping rules in EU Member States, 2012

Country	Some form of ACE/CBIT	Thin capitalisation rule	Earnings-stripping rule
BE	X	X	
DE			X
EE			
EL		X	
ES		X	
FR		X	X
IT	X		X
CY			
LU			
MT			
NL		X	
AT			
PT	X	X	
SI		X	
SK			
FI			
BG		X	X
CZ		X	
DK		X	
LV	X	X	
LT		X	
HU		X	
PL		X	
RO		X	
SE			
UK		X	

Source: Commission services and Blouin et al. (2012).

In 2012, 16 Member States are using some kind of thin-capitalisation rule for corporate tax purposes, although their details vary dramatically from one country to another. Another possibility involves earnings stripping rules, which disallow the tax deductibility of interest costs exceeding a percentage of a company's taxable profit (often measured as the earnings before interest, taxes,

establishments, while no deduction is granted for foreign real estate and permanent establishments.

⁽⁹⁹⁾ This recent reform is not reflected in the data in Graph 5.1.

⁽¹⁰⁰⁾ Portugal has applied a form of ACE for SMEs since 2010. Austria had an ACE in place between 2000 and 2004. See Klemm (2007) for an overview of ACE systems in practice.

depreciation and amortisation — EBITDA).⁽¹⁰¹⁾ Table 5.12 provides an overview of rules which reduce the debt-bias in EU Member States. Estonia only taxes distributed earnings.⁽¹⁰²⁾

5.2.2. Increasing VAT efficiency

As discussed in detail in Section 4.5, results from the economic literature, confirmed by recent econometric estimations, underline the benefits in terms of efficiency of a uniform VAT system. Deviations from uniformity even though justifiable from a theoretical point of view, seem to lack practicability (e.g. updating cross price elasticity in real time), not to fulfil their primary objective (e.g. redistribution) or to lead to substantial economic costs (including compliance costs). Regarding the latter, VAT should in general be levied to the extent possible on a broad base minimising revenue losses from exemptions and reduced rates.

When designing their VAT systems Member States are bound by the VAT Directive. In this respect they are not free to transfer goods or services from the standard to the reduced rate, as only those listed in Annex III to the Directive can be taxed at a reduced rate. However, within this legal framework national governments retain significant operational and administrative freedom as to the possibility of amending the base for VAT. In practice, VAT is heterogeneously designed across Member States and reduced rates and exemptions differ strongly.⁽¹⁰³⁾

Breadth of VAT base

To give an idea of the share of consumption expenditure spared from taxation at the standard VAT rate, Graph 5.2 compares actual VAT revenue with the revenue that would accrue if all private consumption⁽¹⁰⁴⁾ were taxed at the

standard rate and revenue effectively collected.⁽¹⁰⁵⁾ This share gives a good first indication of the impact of exemptions and reduced rates, i.e. of ‘policy efficiency’. However, it is also affected by the share of tax evasion or tax non-compliance (‘collection efficiency’), which also diminishes the ratio.⁽¹⁰⁶⁾

Graph 5.2 suggests that the impact of reduced rates, exemptions and/or VAT fraud and evasion is indeed significant, as actual VAT revenue in the EU-27 is less than 50 % of the theoretical total in 2010. It should be mentioned, however, that these figures might be overestimated as the indicator includes (untaxed) imputed rents in the base. This leaves the country ranking largely unchanged.⁽¹⁰⁷⁾

Compared to the previous year the indicator increased by 1.5 percentage points, reversing a backward trend since 2007. The same development can be seen for the euro-area, where the indicator rose even more markedly, by 1.9 percentage points. This indicates that old EU Members States have increased reduced rates and/or broadened the base more strongly.

Although quite high on average, the impact of reduced rates, exemptions and tax fraud varies significantly across Member States. In fact the difference between the highest VAT revenue ratio in Luxemburg⁽¹⁰⁸⁾ and the lowest one in Greece is substantial: 56 percentage points. Next to

⁽¹⁰¹⁾ Germany and Italy introduced this kind of rule in 2008. Finland and Spain are in the process of adopting similar rules.

⁽¹⁰²⁾ Estonia applies an S-base cash flow tax.

⁽¹⁰³⁾ Denmark is the only Member State that does not apply any reduced rates. However, Denmark applies zero rates to supplies such as newspapers and exempts supplies such as education and passenger transport.

⁽¹⁰⁴⁾ Note that, although this is a reasonable approximation, private consumption is in some respects narrower than the VAT base (as the latter includes some construction work, which is classified as investment in the national accounts) and in some respects wider than it (some items belonging to personal consumption are exempt from VAT, such as spending on financial services or on public services).

⁽¹⁰⁵⁾ This measure is analogous to the ‘C-efficiency’ or the ‘VAT revenue ratio’ computed by the OECD, see OECD (2011c).

⁽¹⁰⁶⁾ Unless, due to the existence of the informal sector, private consumption is understated by national accounts in an equal proportion to the share of VAT evasion, which seems unlikely.

⁽¹⁰⁷⁾ The consumption of housing services by owner-occupiers, an item on which VAT cannot be levied, on average accounts for slightly less than 12 % of final consumption, which is used as a proxy for the potential tax base. On the other hand, while this results in a downward bias in the ratio, other items tend to boost it, one example being sales of residential housing, which yield VAT revenues but are not part of final consumption. Overall, the exclusion of consumption of housing services by owner-occupiers does not have a major impact on the ranking of countries in terms of the ratio. An alternative calculation, e.g. the one made in the OECD review of France, identifies the same countries as having the narrowest VAT base (see OECD, 2011a, page 17).

⁽¹⁰⁸⁾ However, the high value of Luxemburg might be affected by cross-border shopping, as VAT revenues are included in the nominator of the indicator while the denominator excludes consumption expenditure of non-resident households.

Luxemburg only five countries – Cyprus, Estonia, Bulgaria, Slovenia and Austria – gather more than 60% of the theoretical amounts.

The two dotted lines shown in Graph 5.2 indicate an indicator's value significantly below the EU-27 average (LAF minus) and significantly above the average (LAF plus). According to this assessment, six Member States – Greece, Italy, Spain, Latvia, Romania and United Kingdom – exhibit a VAT revenue ratio significantly below the EU-27 average (LAF minus). This means that these countries could substantially improve the design of VAT in order to increase its efficiency. In addition, the ratio is below the EU average in Slovakia, Portugal, France, Belgium, Ireland, Poland and Lithuania, signalling scope for increasing VAT efficiency.

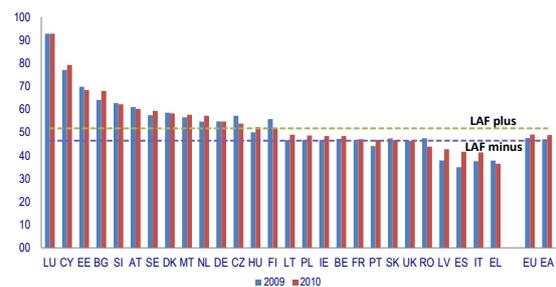
From a comparison of 2010 to 2009 it is clear that the increase in the EU-27 VAT revenue ratio is driven by an augmentation in fifteen Member States. The strongest increase was in Spain where the indicator's value rose by almost a fifth from 35% to 41.7%. This development could to a large extent be due to the increase of the two reduced rates by 1 percentage point as of July 2010. Latvia exhibited the second and Italy the third strongest increase of 13% (from 37.9% to 42.8%) and 10% (from 37.6 to 41.3%) respectively. The improvement of the ratio in Latvia may have been driven by an augmentation of the reduced rate by 100% (from 5% to 10%) which was effective in 2009 but came fully into effect in 2010 most likely due to the crisis.

There are a number of reasons why the indicator could have been affected negatively by the crisis and the economic cycle in general, even though VAT is a proportional tax. First, the recession is likely to have shifted consumption patterns towards primary goods, which are more frequently subject to lower VAT rates. Second, the share calculated here is affected ⁽¹⁰⁹⁾ by the decline in construction activity, which was particularly marked in this recession. Third, rising bankruptcies reduce the amount of VAT paid, as do inventories

⁽¹⁰⁹⁾ This is because VAT paid on construction is counted in the numerator of the ratio, but is excluded from the denominator (not being consumption expenditure). This statistical bias implies that any decline in construction activity will tend to have an over-proportional impact on the share.

involuntarily accumulated by businesses during the recession. ⁽¹¹⁰⁾ Finally, many countries have introduced measures aimed at making it possible for companies to defer tax payments, including VAT.

Graph 5.2: Actual VAT revenues as a percentage of theoretical revenues at standard rates in 2009 and 2010



Note: The ratio consists of actual VAT revenues divided by the product of the VAT standard rate and net final consumption expenditure, i.e. final consumption expenditure minus VAT receipts. A low value of the ratio suggests that exemptions, reduced rates, or tax evasion have a significant impact.

Source: Commission services.

The increase of the revenue ratio in Italy was partly due to measures taken by the government to combat VAT fraud and evasion. The outlook for future development with respect to improvement of the VAT efficiency in Member States may be favourable. As shown in Chapter 3 quite a number of Member States increased recently reduced rates and/or broadened the VAT base. This will help reduce the significant cost created by deviation from uniformity – not only in budgetary terms, but also in terms of administrative and compliance costs.

VAT compliance gap

As mentioned above, the difference between theoretical and actual tax revenue is also due to VAT fraud and evasion, which is already included as one element in the VAT revenue ratio discussed above. It is certainly very difficult to quantify this variable. The 2009 study by Reckon is the most comprehensive recent report attempting to do so. It quantifies and analyses the VAT ‘compliance’ gap in the EU-25 Member States over the period 2000-2006.

⁽¹¹⁰⁾ National accounts data indicate, however, that a destocking of inventories took place in 2009.

Table 5.13: VAT 'compliance' gap, EU-25, in %

Country	2000	2002	2004	2006
BE	10	13	12	11
DE	12	13	14	10
EE	12	15	21	8
IE	5	3	4	2
EL	24	20	29	30
ES	9	12	8	2
FR	5	7	7	7
IT	22	24	27	22
CY	---	---	---	---
LU	12	5	2	1
MT	17	4	14	11
NL	7	9	6	3
AT	13	10	13	14
PT	5	7	8	4
SI	16	13	8	4
SK	27	27	24	28
FI	2	4	5	5
CZ	15	16	13	18
DK	9	8	7	4
LV	31	32	31	22
LT	15	18	28	22
HU	15	25	24	23
PL	22	20	19	7
SE	6	4	4	3
UK	16	17	15	17
EU-25	12	14	14	11
EA-17	12	13	13	10
LAF plus	10	11	11	8
LAF minus	15	16	16	14

Note: The study covers the EU-25 Member States. No data is available for Cyprus. The VAT gap compares VAT receipts with a theoretical net VAT liability. The latter is calculated by identifying the categories of expenditure that give rise to irrecoverable VAT and combining them with appropriate VAT rates.

Source: Reckon (2009).

As explained in last year's report, the aggregate VAT gap for the EU-25 (excluding Cyprus) amounted to €106.7 billion in 2006, which constituted 11 per cent of theoretical liability.

On the basis of the 2006 results of the Reckon Study ⁽¹¹⁾, in particular the following Member States, faced in this year the challenge of addressing a high VAT compliance gap: Greece, Slovakia, Italy, the Czech Republic, Latvia, Lithuania, Hungary and the United Kingdom. All these countries have an indicator value higher than LAF minus, which points to a need to improve VAT compliance.

5.3. IMPROVING TAX GOVERNANCE

Efficient tax collection is a prerequisite for financing European welfare states with a relatively high level of public services and redistributive tax and transfer systems. Tax evasion, which results from shadow economic activities (undeclared work) and underreporting of income in tax returns, undermines the revenue-raising and redistributive

objectives of the tax system. It leads to unintended redistribution from those who do respect the rules to those who do not. Moreover, it creates unfair competition between formal and informal actors. Finally, it further weakens tax morale and can lead to more evasion. This is a risk at a time when tax increases are necessary to meet severe consolidation challenges. Reducing tax evasion and improving tax compliance is, therefore, of particular importance at this juncture and, as discussed in Chapter 3, several Member States are seeking to step up efforts to improve tax collection.

In the conventional view of economic models of taxpayer behaviour, taxpayers comply with tax laws if the expected value of the penalty where evasion is detected exceeds the tax to be paid. However, a host of other factors such as social values, public morality, and people's perception of the efficiency of the public sector and the fairness of the tax system also matter in shaping attitudes to tax laws. ⁽¹²⁾

The goal for revenue authorities is to collect the full amount of taxes and duties payable in accordance with the law. Tax authorities should aim at reducing the tax compliance gap while at the same time minimising the administrative costs of collecting taxes for the government (collection costs) and of paying taxes for taxpayers, i.e. businesses and individuals (compliance costs).

Tax authorities apply policies to facilitate and stimulate 'voluntary' compliance, to prevent and deter evasion, to detect and combat tax fraud, to enforce compliance, as well as to collect effectively taxes which are due and in arrears. These policies are interlinked: facilitating voluntary compliance decreases the need for enforcement, while an effective enforcement policy will contribute to more voluntary compliance. In general, policies aimed at enhancing voluntary compliance will have a positive impact on administrative burdens, while the opposite might be the case for enforcement policies. However, a tax administration policy needs to include both. The challenge is to strike a proper balance between these two elements. This

⁽¹¹⁾ The European Commission is in the process of updating this study because of possibly significant changes in VAT compliance.

⁽¹²⁾ See e.g. Dell'Anno (2009) and Slemrod (2007).

section extends the analysis of tax governance contained in last year's report. ⁽¹¹³⁾

5.3.1. Tax compliance issues: Reviewing available indicators

The size of the shadow economy gives an initial idea of the extent of tax non-compliance. According to Dell'Anno (2003), the shadow economy includes those economic activities and the income derived thereof that circumvent or avoid government regulation or taxation. The avoidance of tax and social security contribution (SSC) payments, but also the avoidance of labour protection legislation and consumer rights protection laws can contribute to a large share of the shadow economy in official GDP.

By definition, the size of the shadow economy is difficult to ascertain. Reflecting these difficulties, different studies, which apply different methods, come to rather different results for some Member States. ⁽¹¹⁴⁾ One of these approaches, applied by Schneider (2012), uses the Multiple Indicators Multiple Causes (MIMIC) model which examines the relationship between the unobserved shadow economy and a set of observable variables. Although the methodology faces strong criticism and should not be taken as producing uncontested values, the results have the advantage of coming from the consistent application of a methodology across Member States and time, allowing for a basis for comparisons between countries and identifying trends in the phenomenon. ⁽¹¹⁵⁾ However, the available results only provide an indication of the extent of the problem and the development over time, so that the levels should

not be taken as an absolute measure of the phenomenon. ⁽¹¹⁶⁾

According to Schneider (2012), shadow economic activity varies considerably across Member States. In 2012, Bulgaria is estimated to have the largest shadow economy in the EU, followed by Romania, Lithuania, and Estonia (see Table 5.14). According to Schneider (2012), the size of the shadow economy increased steadily between 2008 and 2010, but dropped again in 2011 and 2012.

Another important source is the European Employment Observatory, which collected national data in 2004 and 2007 for the share of undeclared work. Depending on availability, these figures are based on micro surveys, labour-force survey studies, macro studies or other available information. ⁽¹¹⁷⁾ Hence, the reported national data for undeclared work are not fully comparable across countries but appear to complement usefully the indicator scheme, given its methodological drawbacks. In some cases, divergences between the two indicators stress the need for cautious assessment based on this set of indicators. The data for undeclared work points to a great deal of heterogeneity with estimates ranging from 2% to 30%. The estimated size of undeclared work is usually significantly lower in the reported national data than in the Schneider (2012) estimates for the size of the shadow economy. For most Member States, the difference between figures in Schneider (2012) and national estimates amounts to around 6-8 percentage points. For Greece, Slovakia, Malta and Hungary, the discrepancy is lower or even absent, while national estimates are more than 10 percentage points lower for Cyprus, Estonia (in both cases around 21 pp), Portugal, Lithuania, Poland, Romania, Denmark and Italy. ⁽¹¹⁸⁾

⁽¹¹³⁾ It is also partly based on Jensen and Wöhlbier (2012). See also Gayer and Mourre (2012).

⁽¹¹⁴⁾ Available methods include direct approaches (based on audits and taxpayers' surveys), indirect approaches (using the gap between declared income and income in national accounts; the currency demand approach based on the relationship between the quantity and the velocity of money; the estimated gap between official income and that estimated from an assumed relationship between income and the observed consumption of specific goods and services (e.g. energy); the rate of non-filing; and experiments using behavioural economics approaches. See Alm (2012) for a survey.

⁽¹¹⁵⁾ It is an indirect measure based on statistical relationships, notably the currency demand, which can partly capture home production. It might not take country specific characteristics and differences sufficiently into account as the parameters of the model are estimated jointly for a large group of countries.

⁽¹¹⁶⁾ Arguably, they overestimate the true measure of the shadow economy.

⁽¹¹⁷⁾ In micro surveys individuals are asked if they have performed (or acquired) activities in the shadow economy during the previous year. One reason for the lower results is that micro surveys usually apply a more narrow definition of the shadow economy, focusing on households' supply of black labour, whereas the macro studies tend to include also other types of tax evasion. Another possible reason might be biased reporting. Nevertheless, it is likely that the size of the shadow economy is overestimated, at least for some countries, in macro estimations like Schneider (2012).

⁽¹¹⁸⁾ In the case of Cyprus, information included in the 2012 National Reform Programme points to a high level of

Comparable micro surveys are only available for a few Member States (see right-hand side column of Table 5.14).

There seem to be some common characteristics in the prevalence of undeclared work: it is most prevalent among men, singles, people with short or craft education as well as workers employed in the construction sector and in the hospitality sector. It is more common in sparsely populated areas.

In addition to the shadow economy, which is not necessarily driven only by tax reasons but has a large impact on tax revenues, a sizeable part of tax evasion consists of underreporting in the formal sector. The ability to misreport and the will to exploit opportunities to do so – tax morale – seem to be decisive explanatory variables for the size of the shadow economy and the total amount of tax evasion.⁽¹¹⁹⁾

As discussed in Sub-section 5.2.3, Reckon (2009) provides estimates for the VAT gap in 25 Member States, which includes fraud, legal avoidance⁽¹²⁰⁾ and unpaid VAT liability due to insolvencies (see Table 5.13). Although the exact amount involved in VAT fraud is difficult to quantify, filing of false returns and unauthorised deductions of VAT are believed to be a key factor in explaining revenue loss. For this reason, some Member States have tightened their measures to combat VAT fraud, by imposing new obligations on taxpayers in the chain of production and distribution to submit additional information to the tax authorities.

Member States are considered to have a particular need and scope for improving tax compliance if: (i) the size of the shadow economy as estimated by Schneider (2012) is significantly above the EU-27 average and other national sources indicate that the extent of undeclared work is above the EU-27 average, or, (ii) the VAT gap is significantly above the EU-27 average. According to these criteria, Belgium, Bulgaria, Greece, Hungary, Italy,

Lithuania, Malta, Poland, Portugal, Romania, Slovenia and Spain as well as Cyprus⁽¹²¹⁾, face a particular challenge in this area.

Table 5.14: Size of the shadow economy and undeclared work in the EU Member States

Country	Size of shadow economy (in % of GDP)			Undeclared work (share of GDP or employment, 1995-2006)	Micro survey, Undeclared work (working hours in % of hours in formal economy)
	2005	2010	2012		
BE	20.1	17.4	16.8	6-10	
DE	15.4	13.9	13.3	7	4.1
EE	30.2	29.3	28.2	7-8	
IE	14.8	13	12.7	NA	
EL	27.6	25.4	25.0	25	
ES	21.3	19.4	19.2	12	
FR	13.8	11.3	10.8	4-6.5	
IT	24.4	21.8	21.6	12	
CY	28.1	26.2	25.6	4.2	
LU	9.9	8.4	8.2	NA	
MT	26.9	26	25.3	25	
NL	12	10	9.5	2	
AT	10.3	8.2	7.6	2	
PT	21.2	19.2	19.4	5	
SI	26	24.3	23.6	17	
SK	17.6	16.4	15.5	13-15	
FI	16.6	14	13.3	4.2	
BG	34.4	32.6	31.9	22-30	
CZ	18.5	16.7	16	9-10	
DK	16.5	14	13.4	3	3.8
LV	29.5	27.3	26.1	18	
LT	31.1	29.7	28.5	16-18	
HU	24.5	23.3	22.5	15-20	
PL	27.1	25.4	24.4	12-15	
RO	32.2	29.8	29.1	16-21	
SE	17.5	15	14.3	5	2.3
UK	12	10.7	10.1	2	1.2
EU-27	17.4	15.4	14.9	7.2	
EA-17	17.6	15.5	15	8	
LAF plus	15.1	13.4	12.8	5.3	
LAF minus	19.1	17.4	16.8	9.1	

Note: The size and development of the shadow economy is calculated with the MIMIC estimation procedure. The currency demand approach was used for Austria, Germany and Poland. Averages are GDP-weighted. For undeclared work, national data is collected by European Employment Observatory, Spring Review 2004 and 2007 (figures for Belgium, Italy and Lithuania are based on the articles on undeclared work from national SYSDM correspondents).

Source: Schneider (2012), European Commission (2004, 2007) and Pedersen (2003).

Various policy instruments can be used to increase tax compliance. Box 5.4 provides an overview of practical measures which are crucial for improving tax compliance. The effectiveness of each measure depends on the underlying cause of non-compliance. Moreover, reform priorities differ across Member States, reflecting differences in tax systems, stages of development, administrative capacity, and the extent and type of tax evasion. Thus, reforms need to be tailored to each Member State's circumstances. The relatively wider tax compliance gaps and lower revenue productivity of the less developed Member States generally

undeclared work and confirms the high figures in Schneider (2012).

⁽¹¹⁹⁾ See, e.g., Robinson and Slemrod (2011) and Kleven et al. (2011).

⁽¹²⁰⁾ Although legal, tax avoidance involves the abusive exploitation of 'loopholes' in national or international laws, allowing companies to shift profits from one country to another with the intention of reducing the amount of taxes they pay.

⁽¹²¹⁾ Based on the national source referred to in footnote 118.

Box 5.4: Selected measures to improve tax compliance and promote efficient tax administration*

Developing a compliance strategy and targeting efforts against tax evasion

Developing an overall compliance strategy is critical for tax authorities' ability to improve taxpayer compliance and enhance revenue collection.⁽¹⁾ The purpose of a compliance strategy is to identify and respond to the most significant risks in the tax collection system and achieve the widest possible impact on voluntary compliance.

Revenue agencies following this approach have moved away from administrative assessment systems, where all or most tax returns are examined, to a system which relies on limiting standard taxpayers' ability to evade and on taxpayers' voluntary compliance with their obligations without the intervention of a tax official. Voluntary compliance is encouraged through an appropriate balance of targeted audits, taxpayer education and assistance, to help taxpayers and their advisors understand and fulfil their obligations and entitlements (see European Commission, 2010c).

Taxpayers are more likely to comply if they perceive the likelihood of detection as high and see blatant non-compliers being brought to account. The use of risk-management approaches improves compliance behaviour by deterring non-compliance through targeting of audits. Segmenting taxpayers into four compliance categories (compliant; attempt to comply but fail; general non-compliant; deliberate fraud) in the so-called compliance pyramid can help tax authorities differentiate in their approach towards the taxpayer between service and control (or even criminal investigation in the event of fraud). Moving beyond segmentation to determine whether a taxpayer should generally be approached with service or control, the building up of databases with information on taxpayers' income and assets can lead to better targeting of tax authorities' audits, through a system of flags for instance. Flag systems use available data to pinpoint which tax returns of individuals and businesses can be expected to have the largest deviations and which it would be most beneficial to examine more closely. The flag system could build on data relating to sources of income, size of taxpayers' reported changes to the preliminary assessment of income, income levels, any mismatch between income and consumption levels, and perhaps socio-economic factors as well.⁽²⁾

Third-Party Information

Third-party reporting of income is a crucial element in an efficient tax administration. It limits a normal taxpayer's possibilities of under-declaring income and makes tax evasion considerably more difficult. For example, it is mandatory for employers to report the taxable wages of their employees directly to the revenue authorities together with the payee details. The relevant fields on the tax return containing third-party information can then be locked, so that the taxpayer cannot change the information. This is in contrast to self-declaring, where individual citizens are responsible for reporting their incomes and deductions themselves. In a detailed study on Danish data, Kleven et al. (2011) found a significant negative correlation between the share of an income type reported by third parties and the proportion of tax evasion for the income type.

In most Member States, employers are obliged to report to the tax authorities the taxable wages and royalties they pay their employees (including non-monetary wage components). Some Member States have extended the obligation to conduct third-party reporting to financial institutions regarding each account holder's interest payments (positive and negative), dividends and yields on bonds, as well as the purchase and selling prices of shares and bonds. This means that large parts of the taxpayer's capital income, including capital gains, can be calculated automatically by the tax authorities. In some Member States, deductible expenses such as union fees and child-care expenses are third-party reported directly to the tax authorities.

The better the coverage of third-party information, the more resources are freed up to be targeted, for example, at revenue sources reliant on self-reporting and at combating the shadow economy.⁽³⁾

* This box is based on Jensen and Wöhlbier (2012).

⁽¹⁾ Kleven et al. (2001) found that the presence of types of income difficult to detect (e.g. self-employed income and other income not reported by a third party) is the most important factor in predicting evasion, whereas the socio-economic characteristics of the individual have little explanatory power.

⁽²⁾ See, e.g., Russell (2010).

⁽³⁾ It should, however, be kept in mind that in small companies with only a few employees, it could be relatively easy for the employee and the employer to collaborate on under-declaring, and thus third-party reporting conducted by small businesses should not be totally excluded from scrutiny.

(Continued on the next page)

Box (continued)

Pre-filled tax returns

Pre-filing appears to be a successful formula for improving the efficiency of tax collection for personal income tax. Pre-populated tax returns have become a significant component of e-government strategies by revenue bodies in many countries. While not removing the possibility of under-declaration, pre-filled tax returns with third-party information have a significant impact on tax compliance and make it easier for the taxpayer to comply and pay taxes.

In pre-filing, revenue bodies use information already held by them (e.g. taxpayer identity information, elements of taxpayer history, and third-party reports of income and deductions) to populate fields within tax returns that are made available to taxpayers for their examination. In its most advanced form, tax return preparation has been fully automated for the vast majority of the taxpayer population. In the Nordic countries, at the end of the year tax administrations generate a fully completed personal income tax return in electronic and/or paper form for the vast majority of taxpayers required to file tax returns. The remaining share of taxpayers receives a partly pre-filled tax return (see OECD, 2011).

When taxpayers receive the pre-filled return, they have the option of making adjustments and submitting a new return. Taxpayers' access for adjusting the final tax return should be limited technically to those types of income and deductions for which the tax authorities do not possess hard and reliable information from third parties.

Measures to contain the shadow economy

In most Member States, the shadow economy (undeclared work) accounts for the vast majority of tax evasion. Increasing the probability that working in the shadow economy will be exposed, or increasing the penalties, reduces the expected gains from shadow-economy activities and can have a deterrent effect. However, simply to increase control measures could prove relatively costly in relation to the direct revenue gains. Unlike under-reporting of income or over-reporting of tax deductions, it is difficult for tax authorities to detect undeclared work when auditing annual tax returns, as it is not possible to obtain third-party reports on income from the shadow economy and the activity is typically concealed both by the person performing the work and by the customer.

One potentially powerful option would be to *criminalise the purchaser* of undeclared work if the seller does not pay the appropriate tax on the transaction, unless the purchaser pays by electronic means. Some studies have shown that the buyer of undeclared work reaps a large part of the evaded taxes through a lower price.⁽⁴⁾ Thus, there is currently a lack of proportionality between buyers' gain and their potential punishment.

In Italy it is illegal to purchase undeclared work. However, to avoid criminal liability it is sufficient for the buyer to show a receipt for the work performed. In other Member States it is mandatory to keep invoices for work carried out for some time (e.g. for two years in Germany). However, these systems create an administrative cost for the buyer, who must keep track of receipts. It would be preferable to require the purchaser to pay by electronic means in order to avoid criminal liability for purchases of undeclared services. This system has, e.g., been implemented in Norway and is due to be implemented in Denmark.

A common measure in the fight against the shadow economy is the use of *mandatory electronic payments* for purchases over a certain threshold, as they leave a trace. The obligation to pay for purchases over a certain amount by electronic means exists, e.g., in Italy (€ 1 000) and Greece (€ 1 500).

A related measure to detect tax evaders is to exploit data relating to an individual's electronic transactions and compare them with that individual's declared income. If a person has a low reported income and at the same time a high level of private consumption, it could be an indication that the taxpayer requires a closer audit. Italy pursues this strategy fairly systematically with the so-called 'income meter'. Denmark and Sweden also exploit data on electronic purchases for audits of taxpayers.

Introducing tax deductions for certain activities and sectors (such as the construction sector and household services) with a high prevalence of undeclared work, i.e. *monetary incentives* ('carrot approach'), could be effective although very costly. This approach, which is applied in Belgium, Denmark, France, Germany and Sweden for example, tends to be very costly.⁽⁵⁾ It involves a high deadweight loss and implies an undermining of the fairness of the tax system.

Tax morale is considered to be a key factor for tax compliance. Low tax morale can be contagious. If an individual justifies his evasion by the fact that everyone else does it, existing tax evasion becomes a motive for further cheating. Hence, it is important that governments protect and nurse the tax morale of the population. This can be achieved by highlighting the risk of being detected. In combination with a high likelihood of detection, an active communication strategy drawing attention to successful control measures and detection of evaders can prove a cost-effective way of underpinning tax morale and increasing the perceived probability of being detected.

⁽⁴⁾ See Danish Economic Council (2011).

⁽⁵⁾ This, for example, concerns the titre service in Belgium, the Servicefradraget in Denmark, mini-jobs and tax deductions for services close to home in Germany, and the RUT deduction in Sweden.

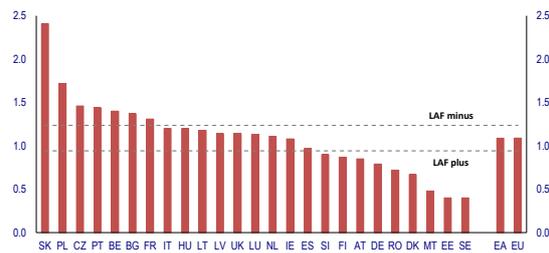
suggest potential for bigger revenue increases based on initiatives to improve compliance. For these countries, taxpayer service operations and effective audit and enforcement should be the first step.

5.3.2. Quality of tax administration

In the area of tax governance, an important question is the cost of tax collection for the administration. According to OECD (2011a), the average costs of tax collection in the EU-27 amounted to € 1.1 per 100 units of revenue (see Graph 5.3). No clear trend is discernible for the period 2005-2009. ⁽¹²²⁾ In 2009, Poland, the Czech Republic, Portugal, Belgium, Bulgaria and France faced a challenge in the high costs of tax collection. Slovakia's costs were high in 2007, the latest year for which data are available.

In general, it is difficult to construct indicators that give an exhaustive description of the quality of tax administration. However, comparative data do exist for a few specific areas which are of particular relevance for efficient tax administration: i) number of employees and local branches per capita; ii) use of third-party information to obtain information on taxpayers' taxable activities; and iii) the use of pre-filling of tax returns.

Graph 5.3: Administrative cost per net revenue collection (costs per 100 units of revenue, 2009)

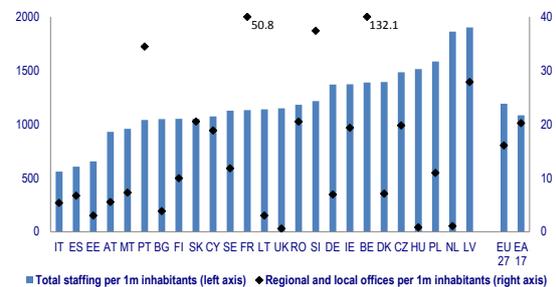


Note: No data available for Greece. Data for Slovakia refers to 2007. Data for Cyprus is currently under revision following a request by the Cypriot authorities for the year 2009 and over.
Source: OECD (2011a).

Size and organisation of tax administrations

The size and organisation of tax administrations vary considerably between Member States. Some of these disparities can be attributed to different ways of organising the administration of SSC, customs and excises which may or may not be part of the tax agency. Setting up an integrated tax and SSC collection agency could improve efficiency and effectiveness, and reduce the compliance burden for businesses. ⁽¹²³⁾ First of all, the differences concern the total staffing of tax authorities. This is rather low in Italy, Spain and Estonia, while it is relatively high in the Netherlands and Latvia. Although there are no norms in terms of the ideal size of a tax administration, the examples of Austria, Finland, Sweden and the United Kingdom show that it appears possible to run an efficient tax administration with staff of slightly above 1 000 per 1 million inhabitants (see Graph 5.4).

Graph 5.4: Size of tax administrations (total staffing) and number of local branches



Note: Averages are unweighted.
Source: OECD (2011a).

To ensure cost efficiency and specialisation of staff, field offices should not be too widely dispersed geographically. In smaller Member States, local tax centres might not contain the whole range of functions. Some specialised functions such as corporate income tax, large corporations or frontier taxpayers (taxpayers who derive income in one Member State but reside in another), may be concentrated at one physical address.

The number of local and regional tax offices or branches varies considerably between Member

⁽¹²²⁾ The trend in the 'cost of collection' ratio is influenced by a series of factors: (i) changes in tax rates over time; (ii) macro-economic changes; (iii) abnormal expenditure by tax administrations; and (iv) changes in the scope of taxes. Thus, its value as an indicator of effectiveness is rather limited.

⁽¹²³⁾ See Kidd (2010).

Table 5.15: Use of third party information in Member States

Country	P (Pre-filled Returns); A (Audit / Control); R (Risk Analysis)					
	Wages and salaries (reported by employer, entity paying the income)	Royalties	Financial information (reported by financial institution and insurance companies)			
			Interest payments	Dividends	Sales and purchase of financial assets	Suspicious transactions
BE	P, A, R		A, R			
DE	NA	NA	NA	NA	NA	NA
EE	A, R					R
IE	R		R			A, R
EL					A	A
ES	P, R		P, R		R	
FR	NA	NA	NA	NA	NA	NA
IT	A, R		A, R			A, R
CY	A, R	A, R				
LU	NA	NA	NA	NA	NA	NA
MT	P, R		P, R	P, R		
NL	P, R		P, R	P, R	A	R
AT	R					
PT	P, R				A	
SI	A, R	A				R
SK					A, R	A, R
FI	P, A, R	P, R	P, R		P, R	
BG						
CZ	NA	NA	NA	NA	NA	
DK	P	P	P	P	P	
LV	R	R	R			
LT	P, R	P, A			A	
HU	A, R		A, R		A, R	A, R
PL	A, R		A			
RO	P		A		A	A
SE	P	P	P	P	P, R	
UK	R		R			

Note: P's for pre-filled returns are put in bold to emphasise the importance of this dimension. A missing 'P' for financial information in European Commission (2012e) is added for Denmark.

Source: European Commission (2012e).

States: from 35 in the United Kingdom to 3,271 in France (¹²⁴) and 1,421 in Belgium. At a time when information technology is playing an ever increasing role in connecting taxpayers and administrations, a relatively small number of local tax offices (less than 10 per 1 million inhabitants), could support professional competency, ensure quality of service and improve administrative cost effectiveness. (¹²⁵)

Third-party information and easy tax reporting

An overview of the use of third party information in the EU by the Fiscalis Risk Management Platform (European Commission, 2012e), shows that third-party information regarding individual income is widely used (see Table 5.15). According to this source, ten Member States (Belgium, Denmark, Finland, Lithuania, Malta, Netherlands, Portugal, Romania, Spain and Sweden) use the information to pre-fill tax returns. Other sources

show that additional countries including France use pre-filling. (¹²⁶) Pre-filling appears to be a successful formula for improving the efficiency of tax collection for personal income tax. Pre-filled tax returns containing third-party information make it easy for taxpayers to comply and pay taxes. At the same time, pre-filling more or less eliminates taxpayers' ability to misreport and evade taxes if the third-party reported fields on the tax return are locked for editing. Many Member States also make use of third party information for audit or control and for assessment, while the majority of countries use the information for risk analysis. Third-party information is also an important source for debt collection.

It should be as easy as possible for taxpayers to fill in and file their tax returns, even if they are not pre-filled. While in some cases complicated tax rules cannot be avoided, appropriate IT solutions should simplify the filling-in process. As shown in

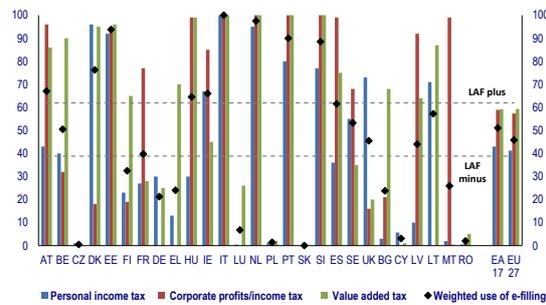
(¹²⁴) The two main fiscal administrations in France were merged in 2008. The process should end in 2012 and aims at a reducing administrative costs.

(¹²⁵) There is no doubt that political factors and aspects such as the federalist structure of a country have an impact on the organisation of tax administrations.

(¹²⁶) According to the OECD, substantial use of pre-filling to complete tax returns (fully or partly) for a significant share of taxpayers takes place in Belgium, Denmark, Estonia, Finland, France, Lithuania, the Netherlands, Portugal, Slovenia, Spain and Sweden (see OECD, 2011a).

Graph 5.5, the use of electronic filing varies widely across Member States. ⁽¹²⁷⁾

Graph 5.5: Use of electronic filing for PIT, CIT and VAT, 2009

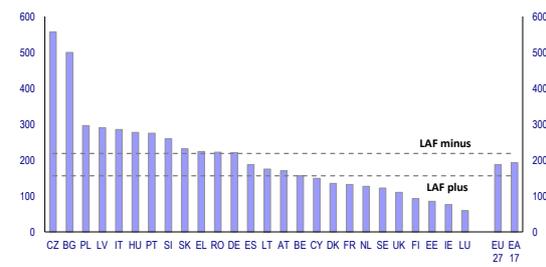


Note: No data is available for Slovakia, Czech Republic (for CIT and VAT) and Cyprus (for CIT). 'Weighted use of e-filing' is calculated with a weight of 50% of PIT and 25% of CIT and VAT respectively.
Source: OECD (2011a).

Costs of compliance

Compliance costs are an important variable often associated with non-compliance. A widely used indicator for measuring tax compliance costs for small and medium-sized enterprises is the 'paying taxes' indicator. ⁽¹²⁸⁾

Graph 5.6: Administrative burden of tax systems for a medium-sized company



Note: Total hours to comply across the EU include: corporate income tax time, labour income tax time, and consumption tax time. Data for Malta are not available.
Source: PwC et al. (2011).

In 2011 the Czech Republic and Bulgaria in particular but also ten other Member States

⁽¹²⁷⁾ Several Member States have implemented measures recently to increase the share of electronic filing. In Cyprus, for example, e-filing is compulsory for legal persons in PIT and CIT who submit audited accounts in since 2010.

⁽¹²⁸⁾ It measures the time required to prepare, file and pay (or withhold) corporate income tax, value added or sales tax and labour taxes, including payroll taxes and SSC for a case study company. The indicator is calculated annually by PwC, the World Bank and IFC; see PwC et al. (2011).

showed high tax compliance costs (above LAF high, see Graph 5.6). Overall, however, compliance costs have trended downwards in the EU recently (2005 average: 212 hours, 2011: 189 hours).

Overall results for quality of tax administration

When assessing whether Member States are considered to have a particular need and scope for improving the administrative system, the following four criteria are applied: (i) administrative costs per net revenue collection is significantly above the EU-27 average; (ii) the administrative burden of tax systems for mid-sized companies are significantly above the EU average; (iii) third party information is not used for pre-filing tax returns; and (iv) the extend of e-filing is significantly below the EU average. Table 5.16 presents an overview of these four indicators. Member States that fulfil either the first two criteria or three of the four criteria are considered to face a particular challenge to review their tax administration. This applies to Bulgaria, the Czech Republic, Greece, Portugal, Poland and Slovakia.

Table 5.16: Overview table of tax administration challenges

Country	Cost of revenue collection	Cost of paying taxes	Use of third party information	Use of e-filing	Overall Challenge
BE	X				
DE		X	NA	X	
EE			X		
IE			X		
EL	NA	X	X	X	X
ES					
FR	X		NA		
IT		X	X		
CY	NA		X	X	
LU			X	X	
MT		NA		X	
NL					
AT			X		
PT	X	X			X
SI		X	X		
SK	X	X	X	X	X
FI				X	
BG	X	X	X	X	X
CZ	X	X	NA	X	X
DK					
LV			X		
LT			X		
HU		X	X		
PL	X	X	X	X	X
RO		X		X	
SE					
UK			X		

Note: An 'X' in columns four and five indicate that third party information and e-filing, respectively, are not used in the Member State.
Source: Commission services.

5.4. SPECIFIC ISSUES

This section addresses three specific issues in more detail: housing taxation, environmental taxation and redistributive aspects of taxation. Whereas the discussion in the first two sub-sections is an

extension of the analysis in last year's report, the discussion of the redistributive aspects of taxation is an innovation which has been included in this report because of its increasing importance in policy discussions.

5.4.1. Housing taxation

Various studies have shown that property taxes, and in particular recurrent taxes on immovable property, are among the taxes least detrimental to growth. Taxes on immovable property or housing take various forms and include both recurrent and transaction taxes.⁽¹²⁹⁾ Moreover, taxes on capital gains also affect investment decisions in residential housing. As these taxes affect incentives to invest, rent and build residential housing, the design and structure of housing taxes matters for the overall functioning of the economy.⁽¹³⁰⁾

Transaction vs recurrent taxes on housing

Transaction taxes tend to discourage transactions that would allocate properties more efficiently. The market will be thinner and the price discovery process, which is already slow in the housing market, could be hampered. These taxes would also have a negative impact on labour mobility given the high transaction costs incurred by changing property. Theoretically, it is always possible to replace a transaction tax with a recurrent tax, which would entail less distortion on the housing market.⁽¹³¹⁾ Moreover, revenues from transaction taxes are often very volatile as revenue development in the crisis has recently shown, with tax windfalls in housing market booms and tax shortfalls in busts.

On the positive side, a tax on real property transactions could theoretically deter speculation and thus possibly help reduce the risk of housing market bubbles. However, this relationship

remains empirically ambiguous. It could also prove to be politically difficult to use the transaction tax as a timely policy response to mitigate price increases in the housing market. Moreover, other policies are available that can deal more effectively with housing market bubbles.⁽¹³²⁾

Current systems for taxing immovable property that rely heavily on transaction taxes provide scope for improving tax design. A shift from taxes on transactions to recurrent taxes on real estate would reduce the distortions introduced by taxation and improve economic efficiency. The latter is warranted by the fact that this type of tax has a limited negative impact on the overall allocation of resources in the economy compared to other sources of revenue.

Property taxes generally play a relatively small role in the EU Member States in terms of revenue (1.4% of GDP), and around a third of that refers to taxes on transactions (0.5% of GDP).⁽¹³³⁾ Variations between Member States are significant, and transaction tax revenues were estimated to be close or higher than 1% of GDP in Belgium, Spain, France, Italy, Luxembourg and Malta in 2010. However, these data include revenue from other capital and financial transactions.⁽¹³⁴⁾ The tax rates applied also provide an indication of the importance and the distortive impact of the tax. Belgium, Italy and Greece apply a tax on real estate transactions at a rate above or equal to 10% (see Table 5.17), even if reductions and exemptions apply in some cases (e.g. for first-time buyers).

Table 5.17: Tax rates on real estate transactions in EU Member States, 2012

Tax level	Member State
≥10%	BE, EL*, IT*
5-8%	FR, ES, LU, CY*, PT*, UK*
≤5%	AT, DE, IE, MT, NL, SI, FI, CZ, DK, LV, SE, HU*
None	EE, SK, BG, LT, PL

Note: * indicates a progressive or multiple rate structure; no rate indicated for Romania; the top rate in the UK of 7% applies to properties above GBP 2million. In Italy some rates are levied on cadastral values rather than transaction values.

Source: Commission services.

⁽¹²⁹⁾ European Commission (2010c) provides an overview of the literature on this topic. The analysis here is limited to residential property because commercial buildings, along with other physical capital used as an input in the production process, should ideally not be taxed due to efficiency considerations.

⁽¹³⁰⁾ This section draws on last year's report. A more elaborate analysis is available in Johannesson Linden and Gayer (2012). See also Gayer and Mourre (2012). For a discussion of other structural features of the housing market, e.g. regulations that are important for the stability of market itself and of the broader economy, see European Commission (2011g).

⁽¹³¹⁾ See, e.g., Johannesson et al. (2008).

⁽¹³²⁾ Crowe et al. (2011).

⁽¹³³⁾ For country data, see Graph 5.7.

⁽¹³⁴⁾ No further disaggregation of data is currently available.

A second set of countries (Portugal ⁽¹³⁵⁾, Spain, Luxembourg, France and Cyprus ⁽¹³⁶⁾) currently apply rates in the 5-8% range, while nearly half of the Member States apply tax rates below or at 5% on real estate transactions. Ireland reduced its stamp duty to 1-2% (from 7-9%) in 2011, while the Netherlands first temporarily and then permanently reduced the real estate transaction tax from 6% to 2% as from July 2011. Moreover, Cyprus has suspended the application of the tax on real estate transactions until the end of 2012. Several Member States do not levy taxes on real estate transactions. A gradual shift from a tax on real estate transactions to a recurrent tax on real estate could potentially improve the functioning of the housing market in Belgium, Italy and Greece, but also in Spain, Luxembourg, France, Cyprus, and Portugal. ⁽¹³⁷⁾

The design of recurrent taxes on housing

Several approaches to designing taxes on residential property have been discussed in the literature and are applied in different countries. One difficulty lies in the fact that ownership of a house involves both a consumption decision and an investment decision, which potentially has an impact on the design of the tax. In most cases, the taxation of immovable property is related to the capital taxation rules. Alternative approaches are to consider the real estate tax as a tax on the consumption of housing services or as a payment for local public services.

Capital-based housing taxation

An ideal tax system aims at neutrality, which implies that returns from residential property should be taxed as other capital income. Accordingly, the return from the house, less depreciation allowances and interest payments (i.e.

the net return), should be subject to personal income tax or capital income tax at the personal level. ⁽¹³⁸⁾ In the case of owner-occupied housing, this principle of neutrality translates into taxing an imputed return, while at the same time allowing for mortgage interest deductibility and depreciation. Consistent with the treatment of other financial assets, capital gains from housing transactions should also be taxed in order to achieve neutrality vis-à-vis other assets. ⁽¹³⁹⁾ A tax on imputed rental income could be approximated through a recurrent annual tax on the property. ⁽¹⁴⁰⁾ In both cases, it is important that the value of the tax base is regularly updated.

A tax on imputed rents and/or a recurrent property tax are essential to balance the tax subsidy provided through interest rate deductibility. The tax is needed to achieve a neutral tax treatment of various investment possibilities. If interest deductibility is provided to house-owners while imputed rental income is either (i) not taxed or taxed too low or (ii) approximated with recurrent property tax which is too low, a tax subsidy is provided which favours investments in owner-occupied housing and household indebtedness through mortgage loans. A neutral tax treatment will depend on the taxation of other financial investment, which implies that a recurrent property tax or a tax on imputed rents can be motivated by the taxation of other financial returns/returns on savings. ⁽¹⁴¹⁾

Favourable tax treatment of home ownership is based on the assumption that it generates positive externalities for society (e.g. in the form of better social outcomes for the children of homeowners and more commitment to the local community). However, there are several drawbacks of such tax subsidies to home ownership and of interest rate deductibility. Home ownership tends to reduce labour mobility. ⁽¹⁴²⁾ There is a risk that interest

⁽¹³⁵⁾ In Portugal the transaction for first residences ranges from 0% to 8%.

⁽¹³⁶⁾ The rate in Cyprus varies between 4 and 8%, with lower rates and reduced valuations for transactions within the extended family.

⁽¹³⁷⁾ Under the financial assistance programmes, Greece has committed to updating property values and raising more revenue, while Portugal has committed to rebalancing property taxation towards recurrent real estate taxes and away from the transaction tax while protecting vulnerable households. Moreover, incentives to rent and own should be equalised by removing mortgage interest deductibility. Italy recently increased recurrent taxes on real estate with the introduction of the so-called IMU.

⁽¹³⁸⁾ In a comprehensive income tax system, it would be taxed as part of the (progressive) personal income tax, while in a dual-income tax system the tax rate on capital income at the personal level would apply.

⁽¹³⁹⁾ OECD (2010c).

⁽¹⁴⁰⁾ A tax on imputed income is a direct tax levied on the income. A recurrent property tax is generally classified as an indirect tax as the tax burden is typically independent of the taxpayer's income situation.

⁽¹⁴¹⁾ See, e.g., Keen et al. (2010) and Andrews et al. (2011).

⁽¹⁴²⁾ See Andrews and Caldera Sanchez (2011) for an overview of the benefits and costs of homeownership (box 1).

deductibility encourage households to invest too much in housing in relation to other assets, which could contribute to higher private-sector debt and an over-allocation of capital to the housing sector. ⁽¹⁴³⁾ Empirical studies also indicate that reduced interest costs are capitalised into higher house prices, implying that the policy does not achieve its aim of lowering costs for homebuyers. ⁽¹⁴⁴⁾ Tax subsidies for mortgage interest payments have also been found to be correlated with price volatility on the housing market. ⁽¹⁴⁵⁾

In this context, a second-best design of the taxation of owner-occupied housing could be: (i) not to allow mortgage interest deductibility and (ii) to levy a (lower) recurrent tax on real estate properties. In this way, housing investments would be taxed in line with other capital assets and the tax system would not favour debt. In order to relate the tax to the return from the house, it is important for the tax base to be closely linked to properly updated market values. Moreover, the tax level should broadly take account of the tax treatment of interests (i.e. the absence of mortgage interest deductibility in relation to other assets) and capital gains (possibly favourable). ⁽¹⁴⁶⁾

Consumption-based housing taxation

One way to tax the consumption of housing services is to levy VAT on the first sale of all new houses. The tax would then be regarded as a levy on the present value of the stream of services that the house will generate in the future. ⁽¹⁴⁷⁾ This would be in line with the treatment of other durable goods, e.g. cars or refrigerators.

⁽¹⁴³⁾ European Commission (2010d).

⁽¹⁴⁴⁾ Capozza et al. (1996), Harris (2010) and Agell et al. (1995). Moreover, recent results indicate that demand shocks (e.g. through financial deregulation) have a greater likelihood of being capitalised into real house prices when the country provides interest deductibility. (Andrews 2010).

⁽¹⁴⁵⁾ Van den Noord (2005), Andrews (2010).

⁽¹⁴⁶⁾ To ensure neutral tax treatment vis-à-vis other assets, capital gains from housing transactions should be taxed as other capital gains are. In practice, many countries reduce, exempt or defer the tax on the capital gains made on the primary residence. Capital gains tax on housing transactions generally suffers from the same set of drawbacks as a transaction tax, i.e. it creates lock-in effects and risks reducing labour mobility.

⁽¹⁴⁷⁾ It would also imply that subsequent sales should not be taxed, nor should the yearly consumption service, as the first application of VAT covers all future services.

An alternative approach to taxing housing services would be to tax the consumption value of the housing service, i.e. imputed rents, every year with VAT, in the same way as for other services. A practical problem in this context is the difficulty of properly and fairly estimating the housing service for owner-occupied housing. Thus, most countries do not apply this approach, and with a view to achieving equal treatment, do not levy VAT on rental payments either. ⁽¹⁴⁸⁾

In line with the tax treatment of other durable goods, the financial return of a house should normally not be taxed with a consumption-based approach, as the VAT is levied on the rent (i.e. the service provided). To achieve consistency between the tax treatment of the consumption and investment aspects of housing, Mirrlees et al. (2011) propose levying a tax on housing services as a substitute for VAT, which ideally could be combined with a capital tax on above normal returns on owner-occupied and rental housing.

At present, most Member States apply VAT on some housing-related consumption, namely the construction, alteration and maintenance of immovable property. Moreover, several Member States levy reduced rates on renovation and repair works of private dwellings. The rental of residential properties is normally exempt or zero-rated. VAT is levied on the sale of new buildings in about 2/3 of the Member States and exempted in the others, while construction work on new buildings is normally covered by VAT. This implies that VAT is generally levied on the construction of a residential property, but not always on the final sale of it (European Commission, 2012f and OECD, 2010c).

A charge for local service

Property taxation has also been regarded as a payment for the local provision of public service, i.e. as a user charge. Tiebout (1956) and Hamilton (1976) model local government in order to analyse

⁽¹⁴⁸⁾ In the case of the UK, the Mirrlees review proposes a Housing Service Tax to approximate a VAT on housing services. It reflects the fact that the UK applies a zero VAT-rate on the construction and sale of residential property, and the difficulties of covering both new and old houses. The proposal is a tax on the flow of housing service consumed, which is based on the rental value of each property, both owner-occupied and rented. (Mirrlees et al., 2011)

the conditions which ensure efficiency of resource allocation in the local public sector. In this field of work, a property tax is regarded as a payment in exchange for benefits of local public service, and thus is considered to be non-distortive. Moreover, it should not affect capital intensity or aggregate land or property values as the tax only reflects the level of local public service. However, most empirical work indicates that local property taxes should rather be regarded as a capital (or consumption) tax which does have an impact on house prices and the allocation of housing investments. ⁽¹⁴⁹⁾ In terms of their practical implementation, recurrent taxes on immovable property are usually levied at the municipal level to finance the local community. In many cases central government sets specific bands in order to limit municipalities' discretion in determining the tax rates.

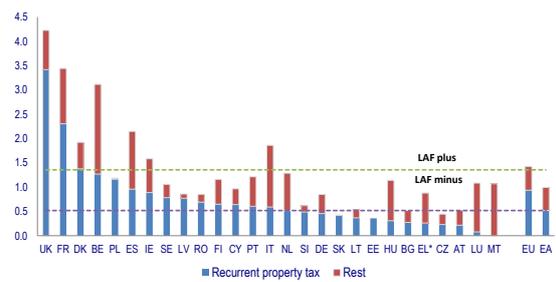
Increasing tax revenue on housing: revaluation of the tax base and increasing rates

As the available data indicate, reliance on recurrent property taxes varies considerably between Member States. Recurrent taxes on immovable property range from nearly 3.4% of GDP to nil (there is no recurrent property tax in Malta) with an average of 0.9% of GDP (see Graph 5.7). In some cases very low shares can partly be explained by the taxation of imputed rents, whose proceeds fall within the personal income tax and are therefore not included in the data. Generally revenues from recurrent real estate taxes should first be increased by bringing the tax base in line with the market value of the property. This is important if the tax is to function properly, that is to reflect the return on the investment or the rental value. The rents charged for the housing will reflect the value of the property in well-functioning markets. Hence, the quality of the service received will depend on the building's location and its condition, which will be reflected in its value. If the tax is part of an overall tax on capital, it should be levied on the market value of the house in order to tax correctly the various types of assets and not distort the allocation of capital.

Rising house prices result in higher tax liabilities if the tax base properly reflects the market valuation. In a rising market, this tends to result in political

pressures to freeze the valuation (or reduce tax rates). Once the tax base is frozen, however, it becomes politically very difficult to update the tax base as reflected by the actual practice across the EU. Any property revaluation creates losers and winners, with losers often being very vocal. ⁽¹⁵⁰⁾ As market prices diverge from the valuation used for taxation purpose, both the economic implications and the political difficulties of a revaluation grow. As failures to increase the tax base support rising prices, it is important to maintain a regular revaluation of the cadastral values used as the tax base. Failure to update regularly risks leading to erosion of the tax base and of revenues over time.

Graph 5.7: Revenues from property taxes, 2010 (in % of GDP)



Note: Ordered by revenues from recurrent property taxes. 'Other taxes on property' includes taxes on net wealth, inheritance, gifts and other property items as well as financial and capital transactions. Data does not include PIT on imputed rents. * Data for Greece is provisional.
Source: Commission services.

Many Member States have not updated property values for many years. Examples include Austria, which applies cadastral values from 1973, Cyprus (1980), and the UK (1991). ⁽¹⁵¹⁾ Belgium (values from 1975) and Germany (generally from 1964) update cadastral values with inflation or a corrective factor respectively, but do not link them to house-price developments. A few Member States show examples of good practice and undertake regular updates. The Netherlands does so annually, Denmark biannually and Sweden every third year. According to the information available, at least ten Member States (Belgium, Germany, Estonia, Greece, Spain, France, Italy, Cyprus, Luxembourg, and Austria) apply out-dated property values. A few Member States (e.g. Greece, Portugal and Italy) are currently reassessing real estate values with a view to

⁽¹⁴⁹⁾ See Zodrow (2007) for an overview.

⁽¹⁵⁰⁾ See Mirrlees et al. (2011)

⁽¹⁵¹⁾ Cadastral values in Wales refer to 2003.

bringing them into line with market values and some others (e.g. Germany) are considering doing so. ⁽¹⁵²⁾ However, Denmark and Sweden, which regularly update cadastral values, do not use these updated values as a general basis for the recurrent property tax. ⁽¹⁵³⁾

One alternative is simply to increase the tax rates for the recurrent property tax. However, to adjust the rate without updating the tax base implies that the increased tax burden reflects the valuation of properties at some specific time in the past. Moreover, as the tax burden is not proportionate to current house values, the tax increase could not properly help to dampen the price increase by increasing the costs of owning a house.

Measures addressing distributional aspects might need to accompany housing taxation reforms to facilitate their implementation. As property taxes often accrue to the local level of government, inter-governmental transfer systems might also need to be adjusted accordingly.

Reducing the debt-bias in housing taxation

The tax deductibility of mortgage interest payments (or even capital (re)payments) in many Member States favours debt creation and leads to a debt bias in the taxation of housing. Even if account is taken of recurrent property taxes, the taxation of housing appears debt-biased in many Member States as recurrent tax rates or cadastral values are low compared to proper taxation of the rental return. This type of tax relief is considered to have contributed to the increase in housing prices, debt leverage and household over-indebtedness. ⁽¹⁵⁴⁾

An indicator that measures the wedge introduced by tax relief (reflecting tax systems in 2010) is presented in Andrews et al. (2011). These empirical results indicate that the Dutch and Czech tax rules are the most generous ones and the most favourable to debt-financed housing investments within the European Union. The systems in the Nordic countries appear generous, but Belgium

and Spain also provide a sizeable tax subsidy to mortgage interest payments. ⁽¹⁵⁵⁾ This ranking is based on an indicator that takes into account the deductibility of mortgage interest payments (including potential time limits or ceilings) and tax credits for loans, but does not include taxation of imputed rents or recurrent property taxes. The indicator applies the value of zero to those countries that do not subsidise mortgage interest payments via a tax deduction.

Several Member States are in the process of changing their rules on the tax deductibility of mortgage interest payments, thereby reducing the debt bias in the tax system. In 2011, France stopped providing five years of tax deductibility of mortgage interest rates. Ireland is in the process of phasing out interest deductibility by 2017, while Estonia has decided to reduce both the personal income tax (as of 2015) and the ceiling for tax deductibility (in 2012). Finland is reducing the share of mortgage interest rate payments that are deductible. The share is 85% in 2012 and will be 80% in 2013 and 75% in 2014. In line with the Memorandum of Understanding, Portugal will eliminate the deductibility of payments of principal and interests for new mortgages in 2012 and will be phasing out the deductibility of mortgage interest payments for owner-occupied housing. Following several reforms in the recent past, Spain decided in July 2012 to eliminate the income tax deduction for mortgage interest payments on house purchases from 1 January 2013.

As Table 5.18 shows, around half of the Member States' tax systems continue to favour mortgage debt financing of homeowners. In all, 12 Member States (Belgium, Estonia, Greece, Spain, Italy, Luxembourg, the Netherlands, Portugal, Finland, the Czech Republic, Denmark and Sweden) face the challenge of a debt-biased tax system favouring housing investments, although to a different degree. It is noteworthy that nine of these countries were singled out in the context of the macro-economic imbalance procedure as having a private debt above 160% of GDP in 2010. ⁽¹⁵⁶⁾ As mentioned above, Ireland, Portugal and Spain are

⁽¹⁵²⁾ See Chapter 3 for countries that are currently carrying out reassessments.

⁽¹⁵³⁾ In Sweden the cadastral value is used to calculate the tax burden for low-value properties.

⁽¹⁵⁴⁾ See Keen et al. (2010).

⁽¹⁵⁵⁾ Hemmelgarn et al. (2011) confirm the generosity of the Dutch system when calculating an effective personal income tax rate on housing covering eight EU Member States.

⁽¹⁵⁶⁾ European Commission (2012g).

Table 5.18: Rules for mortgage interest deductibility for owner-occupied properties in EU Member States

Country	Mortgage interest deductibility
Belgium	Yes. All of the payment (interest, insurance, and capital repayment) can be deducted up to a ceiling of €2,770 for the first 10 years, and €2,080 thereafter. According to the political agreement on the reform of the federal system in December 2011, interest mortgage deductibility will be phased out at the federal level and this competence will be transferred to regions as of 2014 (regions have not yet indicated their intentions with respect to deductibility).
Germany	No
Estonia	Yes
Ireland	Yes. To be phased out by 2017. Relief of 20% on the interest of qualifying loans for 7 tax years, (higher rates for first homebuyers). Mortgage interest relief is restricted to € 3000 for singles and € 6000 for married/widowed taxpayers.
Greece	Yes. Mortgage loans taken after 2002, a credit of 20% of the annual mortgage interest on principal home is granted (on the first € 200,000 of the loan). The tax credit was reduced to 10% in October 2011.
Spain	Yes, 15% of quantities paid for the house (repair, mortgage etc) to a max EUR 9040, thus the maximum credit is EUR1356 (for a period, the credit was removed for incomes above EUR 24170). Spain decided to abolish the mortgage interest deductibility for new mortgages taken for house purchases from 1 January 2013.
France	No (2007-2010 Tax credit for interest on loan for principal residence for 5 years. The credit is equal to 20% up to € 3750 per year, increased by € 500 per year for each dependent person. The limits are doubled for couples.) In 2010, subsidised loan schemes were introduced targeted at first-time buyers, low-earners, housing-shortage areas, and purchases of new dwellings.
Italy	Yes. Interest on mortgage loans for building or buying the principal residence is subject to a tax credit equal to 19% up to a maximum interest payment of EUR 4000 (i.e. a maximum tax credit of EUR 760).
Cyprus	No
Luxemburg	Yes, with a ceiling of the tax deduction at EUR 1500 per person in the household. Reduced to EUR 750 after 12 year of occupancy. No tax deductible on secondary homes.
Malta	No
Netherlands	Yes, fully.
Austria	No
Portugal	Yes, tax credit of 30% of interest and principal repayments on loans for permanent residence. The Memorandum of Understanding foresees that the mortgage interest deductibility for new mortgages will be eliminated in 2012 and the mortgage interest deductibility for owner-occupied housing in general will be phased out.
Slovakia	No. Subsidised interest rates
Slovenia	No
Finland	Yes Deductible from capital income. Beyond that, 28% of the deficit due to interest on owner occupied dwellings up to EUR 1400 can be credited against taxes paid on earned income. The share of deductible interest payments is reduced to 85% in 2012 (80% in 2013, 75% in 2014).
Bulgaria	Yes, but limited to the interest payments on the first BGN 100000 of a mortgage loan. Only applicable for young married families below 35 years of age owning one family dwelling.
Czech Republic	Yes, interests relating to the main residence are deductible up to a limit of CZK 300000 (a reduction to CZK 80000 will enter into force in 2014).
Denmark	Yes. The tax deduction on interest has a taxable value corresponding to approximative 33%, which is to be phased down to 25% by 2019.
Latvia	No.
Lithuania	No (deduction provided for interest on a loan taken before January 1 2009, limited to one dwelling).
Hungary	No
Poland	No (loan taken 1 January 2002 through 31 December qualify for deductibility based on older provisions up to 2027)
Romania	No
Sweden	Yes. Deductible against capital income, in case of deficit then 30% tax reduction against labour income.
UK	No

Source: Commission services, OECD.

phasing out interest deductibility, while Bulgaria strictly limits deductibility both in monetary terms and as regards eligibility (young families).

In the presence of mortgage interest deductibility, a neutral tax system of investments in residential property should, ideally, provide for taxation of the corresponding return on the property. In practice, however, as in the above-listed countries, taxes on imputed rents or recurrent property taxes are normally too low to tax imputed rents properly in line with other investments. However, a few

countries have recently taken steps to increase the recurrent property tax. Political considerations often make it difficult to tax property at the level required to make the tax system neutral. If this is the case, removing the debt bias in the tax system by gradually phasing out interest rate deductibility would be a viable second-best option. If necessary for distributional concerns, the tax deductibility of mortgage interest payments could be retained as a targeted subsidy for those households that need this support, e.g. low-income households and/or first-time homebuyers.

5.4.2. Environmental taxation

Environmentally related taxes primarily serve an environmental purpose, but also provide fiscal revenue. Fiscal consolidation, which reduces the scope for environmental policy measures on the expenditure side of the budget, strengthens the need to use taxes as well as other market-based ⁽¹⁵⁷⁾ policy instruments in environmental policy. A uniform tax, i.e. price on emissions or other negative environmental externalities, has the advantage of providing an incentive to change behaviour as well as allocating emission reduction efforts in a cost-efficient way. Market-based instruments also provide incentives for further technology developments which will reduce the environmental impact.

In terms of environmental policy, there are several tax-related challenges. First, it is important to ensure that the policy instruments in place, including taxes, other market-based instruments and regulation ⁽¹⁵⁸⁾, are sufficient to meet the agreed policy objectives. If there is a need for further policy measures, environmental taxes (or other market-based instruments) should play a role in the policy mix to achieve cost-efficiency. Secondly, energy taxes and other environmental taxes should be designed in such a way that they provide appropriate incentives to reduce emissions over time and improve resource efficiency, including through environmentally consistent tax rates across various energy carriers and emissions (e.g. across fuels). Finally, environmentally harmful subsidies in the tax systems should be phased out. ⁽¹⁵⁹⁾ Various measures, outlined below, could be taken at national level to improve on existing tax systems.

Fulfilment of the agreed limitation targets for green-house gas emissions

Energy taxes, together with the EU Emission Trading System (ETS), are two of the main instruments in climate and energy policy. In this

⁽¹⁵⁷⁾ The importance of market-based instruments is underlined in the Europe 2020 Strategy, which refers to the use of these policy instruments as well as the work to phase out environmentally harmful subsidies as essential elements of the climate and energy policy.

⁽¹⁵⁸⁾ Which can be substitutes or complements.

⁽¹⁵⁹⁾ This concerns preferential tax treatment of specific sectors, uses and goods. See e.g. the Inventory of Estimated Budgetary Support and Tax Expenditure for Fossil Fuels (OECD (2011d)).

context, the Member States have undertaken to reach legally binding national targets concerning greenhouse gas emissions by 2020. ⁽¹⁶⁰⁾ The overall EU-wide target is to reduce greenhouse gas emissions by 20% as compared to 1990 levels, which is equivalent to a 14% reduction in relation to 2005 emission levels. ⁽¹⁶¹⁾ National targets, which cover emissions in the sectors outside the ETS, range from limiting the increase in emissions by 20% to implementing a 20% emission reduction (vis-à-vis 2005 emission levels). According to the latest projections, the EU-wide target is expected to be reached in 2020. However, several Member States will still need to adopt and effectively implement additional policy measures to achieve their individual targets for non-ETS emissions. The level of ambition relating to these targets varies considerably between Member States.

One sub-set of these countries is expected to achieve their reduction targets provided they implement those additional measures that have so far only been planned. These countries include Austria, Finland, Italy, Slovenia, Cyprus and Denmark. For another sub-set of countries, the measures that are planned but not yet implemented are judged as insufficient. Projections regarding greenhouse gas emissions indicate that Luxembourg, Malta, Ireland, Lithuania, Belgium, Greece, and Slovakia risk not to achieve their targets in 2020 unless they implement new policy measures. ⁽¹⁶²⁾ ⁽¹⁶³⁾

All those countries that need to undertake further policy measures to achieve the targeted emission reduction should work primarily with market-based measures, i.e. taxes, charges, or emission quotas. Taxes have the advantage of providing fiscal revenue while at the same time allowing for a cost-efficient allocation of abatement efforts. All those Member States should allow carbon and

⁽¹⁶⁰⁾ The national targets are defined in the Effort Sharing Decision (406/2009/EC, 23.4.2009).

⁽¹⁶¹⁾ This effort will be divided between the EU ETS and non-ETS sectors as follows: a 21% reduction in EU ETS sector emissions by 2020 and a reduction of approximately 10% for sectors that are not covered by the EU ETS.

⁽¹⁶²⁾ COM(2011)624 final.

⁽¹⁶³⁾ Note that a few countries (i.e. France, Germany, Spain and Sweden) have projected emission gaps close to 0% and have, therefore, not been included in this list. As the emission gaps are based on projections, the future policy might need to be reviewed to take account of changing conditions in order to ensure fulfilment of the emission targets.

energy taxation to play an important role when designing the policy mix to fulfil their commitments according to the Effort Sharing Decision.

However, the projected distance to 2020 emission limitation targets per se is not specific and targeted enough to assess the extent to which environmental taxation reforms are needed. Even Member States that are projected to meet their targets easily should consider such reforms. The role of environmental taxes in fiscal consolidation policies and tax shifts to more growth friendly tax structures is analysed in Section 5.1. The following sub-sections consider the need to improve the design of energy taxes and other environmental taxes so that they do not contain any implicit environmentally-harmful subsidies and provide appropriate incentives to reduce emissions over time and improve resource efficiency. ⁽¹⁶⁴⁾

Structure of excise duty rates on fossil fuels

In the current fiscal context, and faced with the serious challenge of climate change, it becomes crucial to use energy taxes to their full extent in climate and energy policy in order to minimise the overall cost of the policy. However, the current structures of excise duty rates in Member States do not normally reflect the environmental and energy properties of the various fuels. In fact, the current structures implicitly promote fuels that are relatively more detrimental to the environment and/or are less energy-efficient. It is important that the relative tax rates reflect the environmental and energy properties of the fuels correctly. Proper ranking of fuels could be achieved by a carbon or an energy tax, or through a combination of the two. ⁽¹⁶⁵⁾

The Energy Tax Directive currently provides for lower EU minimum levels of taxation (expressed in € per 1000 litre) for diesel than for petrol. In fact all Member States apply lower tax rates on diesel

given the higher energy and CO₂ content of this fuel. This results in preferential treatment favouring the road transport sector. It reflects a different tax treatment of fuels mainly used for commercial versus private use, also partly motivated by tax competition. As a result, the market share of diesel cars has increased substantially in the EU since 1995 to around 60%.

Tax rates determined according to carbon or energy content would result in a higher tax rate per volume on diesel than on petrol. A carbon tax on motor fuels would imply a tax rate on diesel which is around 15% higher than the tax on petrol in terms of litres. A tax based on energy content would only translate into a tax rate which is around 8% higher for diesel. A combination of these two types of taxes would result in a relative rate differential within this range of 9%-15%. In contrast, Member States tend to promote strongly the use of diesel through their relative tax rates (see Graph 5.8). The EU average for the diesel vs petrol tax ratio has increased slightly in 2012 compared to last year. Several Member States have increased their tax on diesel more than their tax on petrol, namely Belgium, Bulgaria, Denmark, Hungary, Poland and Finland. In a few other cases (Latvia and Slovenia) the ratio has fallen, potentially pointing towards a larger tax subsidy to diesel. Overall, substantial progress still needs to be made and the preferential tax treatment of diesel, particularly in Belgium, Germany, Greece, France, Lithuania, Luxembourg, the Netherlands, Portugal, Slovenia, Slovakia, and Finland, to be reviewed. ⁽¹⁶⁶⁾ Some countries offset this advantage for diesel by levying a higher annual circulation tax. Such a tax adds to the overall cost of owning the car. However, it has the drawback that it does not impact on the marginal cost of additional driving in the same way as a fuel tax does. Consistent and neutral taxation of all transport fuels is important with a view of providing proper incentives for the development of carbon- and energy efficient fuel technologies without favouring specific fuels or technologies.

There are similar inconsistencies in the taxation of fossil-based heating fuels in many Member States. Normally, heating oil is taxed heavily, while rates on natural gas and coal are relatively low. This rate

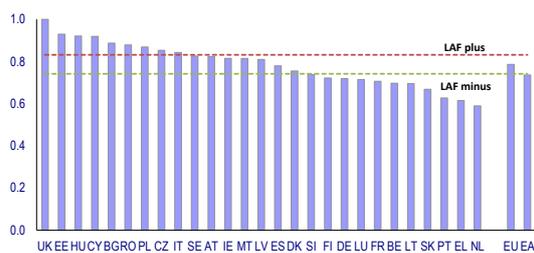
⁽¹⁶⁴⁾ The need to achieve resource efficiency is captured by the 2020 renewable energy targets and the 2020 energy efficiency targets.

⁽¹⁶⁵⁾ A carbon tax would be based on the carbon content of the fuel and would thereby rank the various fuels according to their carbon content. A neutral energy tax, in terms of promoting energy efficiency equally across energy products, would tax fuels according to their energy content. The Commission proposal to revise the Energy Tax Directive (COM(2011) 169/3) addresses these issues.

⁽¹⁶⁶⁾ Some of these countries are already taxing diesel at relatively high rates in level terms.

structure is based on the tradition of taxing oil rather heavily, while coal and natural gas have been brought into the energy tax framework more recently at lower rates. Thus, coal – but also natural gas – is normally given a tax advantage as a heating fuel. The situation is rather complex as conditions vary considerably between Member States according to industrial structure and fuel mix. The issue mainly concerns households and businesses falling outside the scope of the ETS. Several countries also exempt household consumption of heating fuels. It is important to ensure that energy tax rates become more consistent across both fuels and uses, and that the tax system does not unduly favour fossil-based solutions. Consistent tax rates are also important in order to provide correct framework incentives for technology development.

Graph 5.8: Diesel/petrol ratio, 2012



Note: The ratio compares the excise duty rates per 1000 litres of fuel.
Source: Commission services.

Indexation of environmental taxes

Neither the current EU Energy Tax Directive nor the majority of the Members States' current tax frameworks require automatic indexation of energy and other environmental taxes. ⁽¹⁶⁷⁾ Indexing excise duty levels to inflation has two advantages: (i) it helps maintain the real value of taxes over time and thereby also prevent an erosion of government tax revenues and - more importantly for the functioning of the tax - (ii) it helps maintain the impact of the tax on relative prices and thereby on agents' behaviour. ⁽¹⁶⁸⁾ The fact that revenue from environmental taxation fell in relation to GDP in the 1999 – 2008 period is

⁽¹⁶⁷⁾ Indexation is relevant for all excise duties that are levied on the quantity of the product (i.e. not ad valorem).

⁽¹⁶⁸⁾ Indexing EU minimum level excise rates could also help to reduce (or at least maintain the current degree of) price divergence across Member States and hence the potential for downward tax competition.

partly attributed to the fact that these excise duties are normally not adjusted to changes in the general price level. Only few Member States currently apply indexation (e.g. Denmark, the Netherlands and Sweden). It is noteworthy that Sweden introduced indexation of major excise duties, including the energy tax, in 1994 ⁽¹⁶⁹⁾ as part of fiscal consolidation efforts. The introduction of indexation of excise duties to core inflation in 2012 is included in the Memorandum of Understanding for Portugal. ⁽¹⁷⁰⁾

However, indexing environmental taxes does have a few disadvantages that need to be taken into consideration. The major drawback is that it can potentially influence inflation expectations. Hence, there is a risk of damaging feedbacks to inflation and inflation expectations dynamics, in particular if the indexation is endogenised by economic agents. Nevertheless, this effect can be expected to be rather limited as energy accounts for a relatively low share of overall consumption (around 11% of the Harmonised Index of Consumer Prices (HICP)). Moreover, the adjustment should preferably be based on an index of consumer prices that excludes energy and unprocessed food. Using this measure of core inflation (rather than headline inflation (HICP)) diminishes volatility stemming from energy and food prices, which are not included in this core inflation measure. As such, this would lead to a smoother adjustment and, most importantly, it avoids a situation in which the indexation of energy taxes feeds into the same index which is used for the indexation. This is an important aspect in relation to energy price developments.

Indexation also entails some minor administrative costs related to the decision mechanism and the adjustment of tax rates. However, these costs are no higher than the transaction costs incurred by a discretionary increase of energy taxes. Such costs could also be reduced by adjusting the frequency of the indexation, e.g. by adjusting the rates every second or third year and by setting a minimum HICP change threshold for this indexation. However, at the same time it is vital to maintain regular adjustments in order to secure the real value of the tax rate and of the revenue.

⁽¹⁶⁹⁾ Svensk Författningssamling (SFS) 1993:1508; 1512-1513.

⁽¹⁷⁰⁾ See European Commission (2012i).

Reduced VAT on energy

As discussed in Chapter 4 and Sub-section 5.2.2, a broadening of the VAT base (i.e. removing reduced rates, zero rates and exemptions) would improve efficiency by reducing the distortions generated by differential treatment while at the same time generating more revenue. At present, Member States have the possibility to levy lower VAT rates on electricity and natural gas, as well as district heating. However, these reduced rates conflict with overall ambitions in energy and climate policy and constitute environmentally harmful subsidies. Moreover, targeted support can be provided more efficiently to vulnerable households through general welfare payments, which would also avoid windfall gains for more affluent households.

According to the European Commission (2012f), at the beginning of 2012 Greece, France, Ireland, Italy, Luxembourg, Malta and the UK were reported to tax natural gas and electricity at a reduced VAT rate. Moreover, Belgium, Ireland, Luxembourg, Portugal and the UK apply reduced VAT rates on fuel oil and/or solid fuels (European Commission, 2011h). These Member States face a challenge in phasing out these subsidies. However, it should be acknowledged that since 2011, Portugal has removed the reduced VAT rate on electricity and natural gas⁽¹⁷¹⁾, while Latvia has removed the reduced rate on natural gas for private consumers.

Taxation of company cars

Company cars are defined as passenger light-duty vehicles leased or owned by companies, but used by their employees for business or personal travel. Copenhagen Economics (2009) conclude that the favourable taxation of company cars in many EU Member States is distortionary and imposes welfare costs on society. Tax treatment depends on how the ownership and use of the car are taxed in corporate taxation for the employer and in income tax as a benefit for the employee. The rules tend to encourage car ownership and affect the choice of car model, as well as driving habits. Company car schemes in particular mitigate and counteract incentives to reduce fuel consumption provided

through energy and vehicle taxation. Moreover, tax regimes often provide incentives to buy relatively larger cars, which have a detrimental impact on the environment through increased overall fuel consumption. Roughly 50 per cent of all new cars sold in the EU in 2008 were company cars, which imply that these schemes have a large and long-term impact on the overall composition of the car fleet.

At present, the taxation regime for company cars in most Member States promotes the use of such cars beyond merits. According to Copenhagen Economics (2009) private use of company cars has been heavily subsidised in several Member States. The subsidy (measured as the percentage gap in the imputed tax base) is particularly large – according to the LAF-criteria – in Belgium, the Czech Republic, Germany, Greece, Hungary, Italy, Portugal and Slovakia. Against this background, r these countries in particular should consider reviewing the tax treatment of company cars.⁽¹⁷²⁾ It would be beneficial to reduce these subsidies and thereby favour the deployment of cleaner vehicles. Belgium is reviewing its company car regime with a view to reducing the incentive to choose large cars, while Hungary and Portugal have increased the tax on company cars.

Vehicle taxation

Transport taxes are an important category of environmentally-related taxes in the EU, accounting on average for 0.5% of GDP and 21% of environmental tax revenues. The two main forms of transport taxes are registration taxes levied on acquisition of the car and circulation taxes levied annually on car ownership.

Today the transport sector accounts for close to one quarter of all the CO₂ emissions in the EU Member States, the share of road transport being close to 70%. Moreover, the share of CO₂ emissions of the transport sector in the EU is projected to rise rapidly over the next 30 years in spite of the fact that the fuel efficiency and CO₂ intensity of new cars sold in the EU have constantly improved due to regulatory and other

⁽¹⁷¹⁾In line with the Memorandum of Understanding, see European Commission (2011h).

⁽¹⁷²⁾Note, however, that there is missing data for Bulgaria, Cyprus, Estonia, Ireland, Latvia, Lithuania, Malta, and Romania.

Table 5.19: Summary of challenges in area of environmental taxation

Country	Additional measures to achieve national greenhouse gas emission target	Scope to improve environmental tax design					Scope for CO ₂ -related vehicle taxation
		Summary	Diesel vs. petrol ratio	No indexation of environmental taxes	Reduced VAT on energy	Low taxation of company cars	
BE	X	X	X	X	X	X	
DE		X	X	X		X	
EE				X			X
IE	X			X	X		
EL	X	X	X	X	X	X	
ES				X			
FR		X	X	X	X		
IT	(X)	X		X	X	X	
CY	(X)			X			
LU	X	X	X	X	X		
MT	X			X	X		
NL			X				
AT	(X)			X			
PT		X	X		X	X	
SI	(X)		X	X			
SK	X	X	X	X		X	
FI	(X)		X	X			
BG				X			X
CZ				X		X	
DK	(X)						
LV				X			
LT	X	X	X	X			X
HU				X		X	
PL				X			X
RO				X			
SE							
UK				X	X		

Source: Commission services.

measures taken. ⁽¹⁷³⁾ It is essential to address transport sector emissions to achieve the ambitious EU climate policy targets. In this context, vehicle taxes have recently started to be used as an environmental policy instrument. ⁽¹⁷⁴⁾ They are increasingly designed in such a way that the tax burden depends on the car's CO₂-emissions.

CO₂-based vehicle taxation can be regarded as a complement to transport fuel taxes, which also induces consumers to purchase fuel-efficient and hence low-emitting cars. Fuel taxation has the added advantage that it also affects driving habits. Several studies ⁽¹⁷⁵⁾ suggest that when consumers make decisions to purchase cars they are more affected by retail prices than by future fuel costs. One explanation could be that consumers are short-sighted and hence apply very high discount rates on future fuel costs. Another possible explanation is that new cars are sold after a few years of use, and hence fuel costs in the more distant future are not taken into account by the buyer or the initial user of the car. This would

apply, in particular, to company cars, which are generally sold after 2-3 years of use. There are also indications of very high own-price elasticities (in absolute terms) of car demand. ⁽¹⁷⁶⁾ Such evidence implies that registration taxes, which affect the retail price, could have a strong influence on the fuel-efficiency of cars. There is not yet much evidence relating to the efficiency of the recently introduced CO₂-based vehicle taxes in reducing transport-related CO₂ emissions. ⁽¹⁷⁷⁾

The number of countries applying CO₂-based vehicle taxation has increased rapidly in recent years. In 2010, 17 countries applied CO₂-based registration taxes, circulation tax or both, while in 2006 only 9 countries had done so. ⁽¹⁷⁸⁾ ⁽¹⁷⁹⁾

⁽¹⁷³⁾ European Commission (2012i).

⁽¹⁷⁴⁾ Vehicle taxes were originally introduced for fiscal purposes and to finance road infrastructure. Moreover, private cars were seen as luxury goods that could be taxed higher than normal goods.

⁽¹⁷⁵⁾ See the Impact Assessment accompanying the Commission proposal for a Council Directive on passenger related taxes (SEC(2005) 809), Kågeson (2005) and the report for the Commission by TNO, IEEP and LAT (2006).

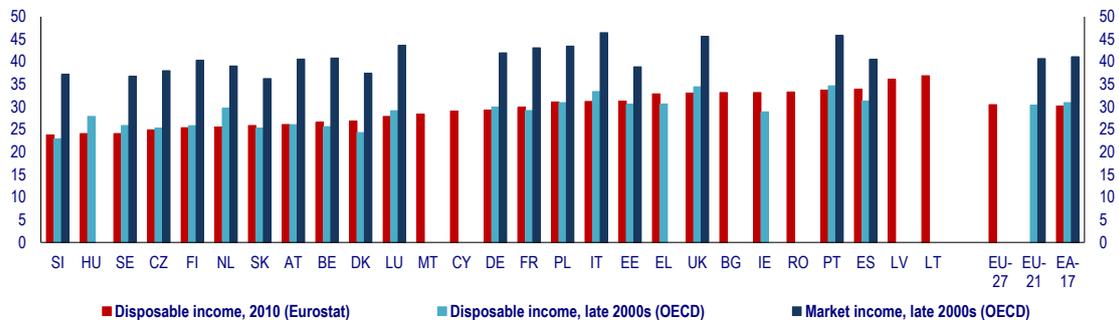
⁽¹⁷⁶⁾ See Adamou et al. (2010). On the other hand, Vance and Mehlin (2009) present econometric evidence according to which circulation taxes and fuel costs also have a significantly negative impact on car demand, in addition to retail prices.

⁽¹⁷⁷⁾ Giblin and McNabola (2009) studied the Irish reform in 2008 which introduced both CO₂-based registration and circulation taxes. The reform would bring about a 3 % reduction in CO₂ emissions from private transport, which reflects a 3.8% reduction of emission intensity for petrol cars and a 3.6% reduction for diesel cars, as well as a shift of 6% from petrol to diesel car ownership.

⁽¹⁷⁸⁾ ACEA (2012); European Commission, Taxes in Europe Database.

⁽¹⁷⁹⁾ In 2005, a Commission proposal (COM(2005) 261final) aimed at removing cross-border obstacles to trade in cars and improving the functioning of the internal market by

Graph 5.9: Concentration of market income and disposable income measured by the Gini-coefficient



Note: Member States are ranked in increasing order of disposable income inequality according to Eurostat. Eurostat data is available only for disposable income and cover the entire population, while OECD data refer to the working-age population (18-65 years old). Late 2000s refers to a year between 2006 and 2009. Income data are adjusted for household size (equivalization). Averages are arithmetic and refer to the Member States for which the respective data is available. EU-21 refers to those 21 OECD member countries that are also EU Member States.
Source: Eurostat and OECD.

At present, 18 EU countries apply a registration tax. In 14 of them the tax is based on CO₂ emissions, often in addition to other characteristics of the car. In all, 23 Member States currently apply a circulation tax, and in half of these countries the tax rate is determined, partly or entirely, by CO₂ emissions. However, the design of the CO₂-component varies considerably between countries. Tax rates usually increase with CO₂ emissions, but may also depend on many other of the car's characteristics.

Some countries use 'bonus-malus' systems (Austria, Belgium (Wallonia), France), in which a 'bonus' is granted for very low-emitting cars, while high-emitting cars pay a penalty. In a number of countries (seven) electric (and hybrid) vehicles are exempt from vehicle taxes, while in some countries they receive a subsidy (bonus).

Estonia and Lithuania are the only two countries that do not apply any vehicle taxes. Bulgaria and Poland apply one of these taxes, but without CO₂ or fuel-efficiency differentiation. Thus, these four countries could benefit from reviewing whether a CO₂-based vehicle tax could help them to reduce transport-related CO₂ emissions more efficiently.

first making the registration taxes refundable and then phasing them out. A further aim was to transform vehicle taxation into a more efficient environmental policy instrument by introducing differentiation according to CO₂ emissions. The proposal has not been adopted by the Council, but as shown above, Member States have integrated parts of the proposal into their tax systems.

Summary of challenges in the area of environmental taxation

The challenges discussed in this section can be divided into: (i) the need to make more use of the taxation tool to achieve environmental objectives; and (ii) tax design issues in the area of environmental taxation. There are of course links between these two dimensions. For example, indexation of environmental taxes has an impact on incentives and hence the achievement of the objectives, in particular over time. The various measures that could be taken at a national level to improve the existing design of the tax system in this area include: (a) adjusting the structure of tax rates on fossil fuels according to their carbon and energy content; (b) indexing environmental taxes; (c) considering the abolition of reduced VAT rates on energy; (d) reducing tax subsidies for company cars; and (e) introducing CO₂-related vehicle taxation. Individual Member States are considered to face an overall challenge regarding tax design issues if challenges have been defined in three out of the five areas discussed. On this basis, nine Member States have particular scope for improving the design of their environmental taxes: Belgium, Germany, Greece, France, Italy, Luxembourg, Portugal, Slovakia, and Lithuania. Table 5.19 provides an overview of the challenges Member States face in the area of environmental taxation.

5.4.3. Some redistribution aspects

The previous sections have focused on improving the efficiency of the tax systems in EU Member

States. However, the redistributive effects of a tax system can be just as important as its efficiency. There is often – although not always – a trade-off between efficiency and equity. Assuming that there is a social preference against inequality, social welfare is greater when consumption possibilities are more equally distributed, but redistribution may reduce the incentives to work and earn income in the first place. Therefore, when efficiency is scrutinised it is relevant to consider redistributive outcomes as well.

Furthermore, income redistribution is one of the three objectives of taxation, alongside macroeconomic stabilisation, and resource allocation. ⁽¹⁸⁰⁾ Redistribution can take place through several instruments, including taxation – in particular progressive taxation of labour income – but also through income replacing transfers, targeted benefits and public consumption expenditures (transfers in kind). Redistribution through the tax and transfer system is the prerogative of Member States, which – depending on their citizens' preferences – have different perceptions of social equity and different collective preferences for the balancing of efficiency and equality. However, a Member State which faces substantial efficiency challenges in the tax-benefit system (e.g. measured by a large share of tax expenditures) and at the same time achieves an inferior outcome in terms of mitigating market income inequalities, may have scope for improving efficiency without compromising redistribution policies or for increasing redistribution without hampering efficiency. ⁽¹⁸¹⁾ Redistributive policies should also take account of the need to ensure the sustainability of public finances.

Comparing the distribution of market and disposable income

The distribution of market income, obtained either from labour or capital, is a prior determinant of the distribution of household disposable income. ⁽¹⁸²⁾

⁽¹⁸⁰⁾ See Musgrave (1959).

⁽¹⁸¹⁾ In formal economic terms, this means that a government could enhance one dimension without harming the other until the optimal Pareto frontier is reached. The position on this 'trade-off' frontier, once reached, depends on collective choice.

⁽¹⁸²⁾ Market incomes are wages, self-employed income, and personal capital income before deduction of taxes and social security contributions. Disposable income is market income plus social transfers less income taxes.

The more unequally market income is distributed, the greater the amount of redistribution required to achieve a given degree of equality in disposable income.

The distribution of market income is more unequal than the distribution of disposable income in the EU. ⁽¹⁸³⁾ On average, the Gini-coefficient ⁽¹⁸⁴⁾ for market income for working-age population in the EU-21 (0.41) is about 35% higher than for disposable income (see Graph 5.9). This reflects the significant role of (country-specific) tax-benefit systems to smooth out market-income inequality. However, inequality patterns are less dispersed across countries in terms of market income than in terms of disposable income, suggesting differences in national preferences for redistribution. Member States with low inequality in market income for the working-age population also tend to redistribute the most (i.e. they are the ones with the highest difference between the two Gini coefficients). According to OECD data for 21 EU countries, the range of the Gini-coefficient is about 10 points for market income (from 0.36 to 0.46) and around 12 points for disposable income (from 0.23 to 0.35).

Lithuania and Latvia display the highest levels of inequality for disposable income of the entire population in 2010, followed by Spain, Portugal, Romania, Ireland, Bulgaria, the United Kingdom and Greece. Disposable income is most equally distributed in Slovenia, followed by Hungary, Sweden, the Czech Republic, the Netherlands and Belgium. ⁽¹⁸⁵⁾

⁽¹⁸³⁾ Redistribution is expressed by the difference between the Gini-coefficient for market income and disposable income. Working-age population (rather than total population) is used to compare redistribution across Member States because it avoids the influence of differences in pension systems and different demographic patterns.

⁽¹⁸⁴⁾ The Gini-coefficient is the most used inequality measure. It varies between 0, when everyone receives an identical amount of income, and 1, when a single individual receives all the income. Higher values of the Gini-coefficient thus indicate higher inequality in the income distribution. Besides the Gini-coefficient, several other indicators are available to describe inequality and the redistributive impact of tax-and benefit systems; see, e.g., European Commission (2009b).

⁽¹⁸⁵⁾ However, there is a significant difference between the Eurostat figures and the OECD figures for the Gini-coefficient for disposable income. This is in particular the case for Hungary, Ireland and the Netherlands, which all have a Gini-coefficient close to the EU-21 average

Turning to the difference between market income and disposable income, Slovakia, Denmark and Sweden show the lowest levels of market income inequality of the working-age population but not of disposable income inequality. On the other hand, Luxembourg, Germany and France have market income inequality at or above the (un-weighted) EU-average, but the tax-benefit system reduces the inequality to a level below the average. A strong redistributive effect is also visible in Italy, Poland, the United Kingdom and Portugal, although the inequality of disposable income remains above the EU average in these countries. In Spain and Estonia, by contrast, the redistributive effect is rather modest, as the Gini-coefficient for disposable income is close to the one for market income.

From a long-term perspective, inequality has generally been rising in the EU since the 1970', 80' and 90', although there are several exceptions, particularly in southern Europe. ⁽¹⁸⁶⁾ Since the mid-2000s, however, inequality in disposable income has hardly changed in the EU.

Tax policy instruments for redistribution

Different types of taxes have different distributive properties. Personal income taxes are in most cases progressive, but the degree of progressivity and, therefore, the redistributive power varies considerably among Member States. Social security contributions are often proportional or even regressive (if they are capped). As they are largely equivalent, economically speaking, to personal income taxes on labour income, their distributional impact should be evaluated jointly with personal income tax. VAT is often thought to be regressive because of the higher propensity to consume at low income levels. However, all income is going to be spent at some point. Theoretically, from a life-time perspective with no bequests, uniform VAT without reduced rates is proportional. ⁽¹⁸⁷⁾ ⁽¹⁸⁸⁾ In general, excise duties are regressive as they are set as a fixed amount per quantity, but the redistributive properties also

according to OECD figures, and for Denmark, which would rank as having the second lowest Gini-coefficient.

⁽¹⁸⁶⁾ See OECD (2011b).

⁽¹⁸⁷⁾ In a closed economy, a uniform commodity tax is equivalent to a proportional tax on wage income, both in terms of distortions and (absence of) distributional impact.

⁽¹⁸⁸⁾ See Caspersen and Metcalf (1995).

depend on which income groups consume the commodity in question.

It is well established that the most efficient policy instrument for redistributing income is progressive taxation of labour income along with income-replacing transfers and targeted benefits. ⁽¹⁸⁹⁾ It is possible to introduce progressive elements in taxes other than labour income taxes, such as personal capital income taxes, corporate income taxes and consumption taxes. However, these instruments are less efficient than progressive labour income taxation and subsidies.

Personal capital income taxes adversely affect savings/consumption as well as portfolio decisions and capital is far more mobile than labour. ⁽¹⁹⁰⁾ However, a counter argument for taxing personal capital income at progressive rates, despite additional distortionary effects compared to labour taxes, is that capital income is more unevenly distributed than labour income. ⁽¹⁹¹⁾ Corporate income taxes do not directly affect the income distribution of individuals ⁽¹⁹²⁾, but they do adversely affect capital formation and, therefore, reduce labour productivity and wages.

With regard to consumption taxes, most EU Member States apply different VAT rates apparently for redistributive reasons (e.g. reduced rates on food, housing, medicine, children's clothing etc.). However, as discussed in Chapter 4, differential commodity taxation is an ill-targeted and costly instrument for the pursuit of equity objectives. While it is true that the less well-off spend a higher proportion of their income on consumption items taxed at reduced rates than the better off do, high-income individuals spend a larger absolute amount on such items. Crawford et al. (2010) show for the United Kingdom (which has a zero rate for certain consumption items) that it is possible to unify VAT rates, while at the same time compensating the losers with direct transfers

⁽¹⁸⁹⁾ See e.g. Mirrlees et al. (2010), Sørensen (2007) or Boadway and Keen (2000).

⁽¹⁹⁰⁾ See Sørensen (2006).

⁽¹⁹¹⁾ Furthermore, property taxes could be made progressive through a basic allowance. Inheritance taxes could also be made progressive on the same grounds as capital income taxation.

⁽¹⁹²⁾ Profits of corporations net of corporate income tax are eventually taxed as dividends or capital gains under personal income tax.

Box 5.5: Distributional effects of environmental taxation

Environmental taxes can be cost-effective instruments for achieving environmental policy goals. They increase the relative price of consumption with a negative environmental impact, thereby encouraging consumers to switch to more sustainable patterns of consumption and providing incentives for producers to invest in clean technologies. However, the distributional consequences of such taxes are debated and could be an obstacle for implementing environmental tax reforms. In fact, environmental tax reform does not necessarily have a negative impact on the distribution of consumption possibilities.

The commonest forms of environmental taxes, and the most important ones from the fiscal point of view, are taxes on energy. Energy products, such as electricity and fuels for heating and transport, are considered, like food, to be necessary goods to the extent that the share of income devoted to these goods typically declines with the level of income. Hence, poorer households bear a larger burden of the taxes imposed on these products than richer households do, relative to their income.

Most empirical evidence indicates that taxing domestic heating and electricity does tend to be regressive. At the EU-27 level, Cambridge Econometrics (2008) show that a 10 % increase in gas and electricity prices will have a regressive impact across five income quintiles of real household disposable income (see Table 1A).

Table 1A: Changes in real household incomes (per cent) as a result of a 10 per cent increase in electricity and gas prices for five income quintiles, EU-27

All households	1st quintile	2nd quintile	3rd quintile	4th quintile	5th quintile
-0.54	-0.69	-0.65	-0.59	-0.53	-0.43

Source: Cambridge Econometrics (2008), reproduced in European Commission (2011).

Similar evidence is found in studies concerning individual Member States.⁽¹⁾ Evidence in Tuuli (2009) indicates that electricity taxes are at least mildly regressive in Finland. In Denmark, the Danish Ministry of Taxation (2005) shows that the excise duties on electricity and on fuels for heating purposes are clearly regressive, both measured in relation to consumption and total household income. A recent study by Vivid Economics (2012) concludes that taxes on residential energy are regressive in Spain, Hungary and Poland. There is also evidence indicating that countries may differ with respect to the regressive nature of energy taxes. For instance, energy taxes appear to be more regressive in the UK and Ireland than in other European countries (see EEA, 2011 and Kosonen, 2012). Differences in the levels of consumption of energy for heating in northern and southern Europe and differences in the design of vehicle taxation also affect the overall distributional effects of environmental taxes across Member States.

However, not all environmental taxes are regressive. Taxes on transport fuels and other transport-related taxes tend to be somewhat progressive.⁽²⁾ This is because car ownership increases heavily with income, so that taxes affecting the cost of fuel or the purchase and ownership of cars are paid more by middle- or high-income households than by those with the lowest incomes.⁽³⁾ Several empirical studies from individual countries indicate that the shares of income paid on transport-related taxes or expenses also tend to rise with income up to a relatively high-income level. Jacobsen et al. (2003) conclude that in Denmark the share of disposable income paid on transport-related taxes (car registration tax, annual ownership tax, tax on insurance premiums and excise duty on petrol) increase up to the 9th decile. Thus, these taxes are progressive as a whole.⁽⁴⁾ Tuuli (2009) studies the incidence of motor fuel taxes in Finland using total expenditure as the income concept. The findings show that the share of total expenditure spent on motor fuels increases up to the 6th-8th expenditure decile and declines slightly thereafter and thus would be progressive for a large share of the income scale. Ahola-Carlsson-Sterner (2009) present similar evidence

⁽¹⁾ See EEA (2011) for an overview of the literature.

⁽²⁾ Taxes on transport fuels represent about 78 % of energy tax revenues in the EU-27.

⁽³⁾ While car ownership and purchase increases with income all the way throughout the income distribution, annual driving per household is flat in the upper half of the income distribution.

⁽⁴⁾ See also Danish Ministry of Taxation (2005).

(Continued on the next page)

Box (continued)

from Sweden: taking total expenditure, the tax burden would increase from the lowest up to the 8th decile. Evidence from the UK also indicates that middle-income households would be more affected by fuel tax increases than low- or high-income households ⁽⁵⁾, while if only car-owning households are considered, fuel taxes would be regressive. Several studies also point out that rural households are more affected by transport fuel taxes than urban households are.

This evidence implies that transport-related taxes can significantly mitigate the regressive impact of other energy taxes, or even completely offset that impact. In this respect, however, there is variation across countries, and this needs to be taken into account when a tax reform is designed. The Cambridge Econometrics (2008) study for the Commission investigates the impacts of various energy tax reform packages at EU level. The results indicate that the inclusion of transport fuel taxes in the reform package more or less neutralises the regressive overall impact of other energy taxes. However, the distributional effect of tax reforms also depends on how the extra revenue from excise duties is used. If distributional neutrality is a reform objective, such as in a reform increasing environmental taxes and reducing taxes on labour income, low-income and non-labour-income households could be compensated through a higher basic allowance or a targeted income transfer.

As with many environmental taxes, excise duties on health-related products such as tobacco, alcohol, confectionary and saturated fat (sin taxes) tend to be regressive. Again, it is possible to mitigate the impact on low-income households via personal income taxation or direct transfers.

⁽⁵⁾ Blow-Crawford (1997) and Johnstone-Alavapati (1998).

in a way that improves both the progressivity and the efficiency of the overall tax system and also increases overall revenues to finance desirable reforms. A number of indirect taxes other than VAT may also have non-negligible effects on the distribution of consumption possibilities. The distributional impact of environmental taxes is reviewed in Box 5.5.

Personal income tax and social security contribution progressivity

A tax schedule can be considered to be progressive if the average tax rate rises with income, i.e. the marginal tax rate at a given level of income exceeds the average tax rate. ⁽¹⁹³⁾ ⁽¹⁹⁴⁾ An index of progressivity (IP) can be defined as follows:

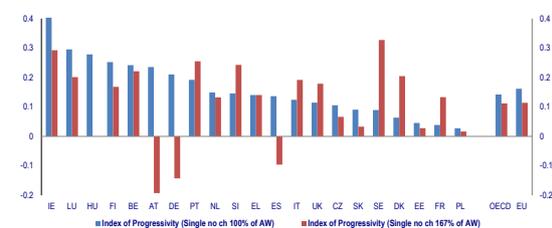
$$IP = 1 - (1-MTR)/(1-ATR)$$

where MTR = marginal tax rate and ATR = average tax rate. For a progressive tax system, i.e. MTR higher than ATR, the index of progressivity is bounded between 0 and 1. Higher

values of the index imply higher progressivity. ⁽¹⁹⁵⁾

This index varies substantially between Member States (see Graph 5.10 and Table A.8 in the Annex). At the average wage (AW) level, progressivity is by far the highest in Ireland (0.41), followed by Luxembourg and Hungary. Italy, Germany, and France, rank approximately in the middle with a mean comprised between 0.13 and 0.17.

Graph 5.10: Index of progressivity at the 100% and 167% level of the wage of the average worker (single no children), 2010



Note: Data not available for Bulgaria, Cyprus, Latvia, Lithuania, Malta and Romania.

Source: OECD.

⁽¹⁹³⁾ The marginal tax rate is the amount of personal income tax and social security contributions paid on an additional unit of income. The average tax rate is the ratio of the total amount of personal income tax and social security contributions to total gross income.

⁽¹⁹⁴⁾ See Jakobsson (1976) for an overview of different measures of tax progression.

⁽¹⁹⁵⁾ For MTR=100% and ATR <100%, IP=1. For ATR=MTR, i.e. a purely flat tax system, IP=0.

Table 5.20: Overview table: Tax policy challenges in Member States

Country	Contribution of tax increases to consolidation	Need and room for tax shift	Broadening tax bases				Tax governance challenges		Special topics			
			Need to review tax expenditure in PIT	Need to review tax expenditure in CIT	Debt bias in corporate taxation	Increasing VAT efficiency	Tax compliance	Tax administration	Housing taxation		Environmental taxation	
									Structural shift	Debt bias	GHG target	Design
BE		X		X		(X)		X			X	X
BK		(X)	(X)		(X)							X
EE										X		
IE	-			X			(X)				X	
EL	-		X		X	X		X	X	X	X	X
ES	X		X	X	(X)	X		X		X	X	
FR		X	X	X	X	(X)				X		X
IT		X	X			X		X		X	X	(X)
CY							(X)			X		(X)
LU				X	X					X	X	X
MT	X			X	X			X			X	
NL				X						X		
AT		(X)	X								(X)	
PT	-		X	X	X	(X)		X	X	X	X	X
SI	X			X				X			(X)	
SK	X						(X)	X	X		X	X
FI										X	(X)	
BG								X	X			
CZ		X		X			(X)	X	X		X	
DK										X	(X)	
LV		X		X			X					
LT				X			(X)	X			X	X
HU		(X)						X				
PL			(X)					X	X			
RO		X		X				X	X			
SE					(X)					X		
UK			X	X			X					

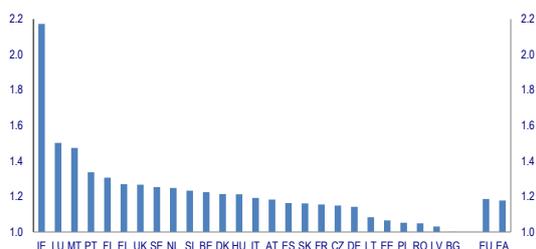
Note: (X) depicts borderline cases. Member States under an economic adjustment programme (Greece, Ireland and Portugal) are excluded from the analysis in the first column.

Source: Commission services.

Most of the Member States that have joined the EU since 2004 display lower progressivity. For Austria, Germany and Spain, ceilings on social security contributions create a negative index of progressivity at the 167% AW level. The index of progressivity is also rather sensitive to the threshold of the top personal income tax rate.

Another related measure of progressivity compares the tax wedge for a single person with no children earning 167% of the AW, with the tax wedge of a single person earning 67% of the average (see Graph 5.11 and Annex Table 8).

Graph 5.11: Ratio of tax wedge 167% / 67% of the average worker (single, no children), 2010



Source: Eurostat and OECD.

At EU level, the average tax rate (including SSC and standard family benefits) at the 167% AW

level is 19% higher than the average tax rate at 67% of the average wage. According to this measure, redistribution is high in Ireland (where the tax wedge is very low at 67% of the AW), Luxembourg and Malta. On the contrary, in Bulgaria the 67% earner and the 167% earner face exactly the same tax wedge. There is also a relatively low difference in the tax wedges in Romania, Poland and the Baltic countries.

5.5. OVERVIEW OF TAX POLICY CHALLENGES

This chapter analysed potential challenges that EU Member States are facing in the area of tax policy. These challenges concern both the macroeconomic effects of the tax system and the design of individual taxes. Table 5.20 provides a synoptic overview of Member States that may need to consider tax policy measures in the different areas discussed.

Based on a quantitative screening, Section 5.1 analysed in which Member States tax increases could contribute to consolidation and in which there appeared to be scope, and a need, for a tax shift. The analysis found that Spain, Malta, Slovakia and Slovenia faced consolidation challenges and had 'tax space' at the same

time. ⁽¹⁹⁶⁾ They could, therefore, consider using measures on the revenue side of the budget – in addition to those on the expenditure side – to consolidate their public finances and make them more sustainable. Such revenue raising measures have been taken recently in Spain but are not reflected in the data yet.

Around one third of Member States could benefit from a tax shift from labour taxes to taxes considered less detrimental to growth (consumption taxes, recurrent property taxes, environmental taxes). In particular Belgium, France, Italy, the Czech Republic, Latvia, Romania and – to a lesser extent – also Germany, Austria and Hungary were found to have both a need to reduce labour taxation and scope for increasing less detrimental taxes.

Section 5.2 analysed which countries might benefit from a broadening of tax bases in direct and indirect taxation. As shown in Table 5.20 many Member States face the challenge of reviewing and potentially reducing tax expenditure in personal and corporate income taxation. Concerning such a review in the area of corporate income taxation, Member States should, where appropriate, assess reduced rates for SMEs, special regions or sectors, accelerated depreciation schemes as well as R&D and investment incentives. Moreover, several Member States should consider addressing the debt bias in corporate taxation (in particular Greece, France, Luxembourg, Malta, Portugal, but also Germany, Spain and Sweden). Despite recent measures to improve VAT efficiency, many Member States still need to address the often very high policy and/or compliance gaps in the area of VAT.

A number of Member States face the challenge of improving tax governance as analysed in Section 5.3. Challenges can be related to either (i) the need to improve tax compliance as a consequence of a large shadow economy and/or high levels of potential VAT fraud and evasion, or (ii) a specific potential to improve their tax administration as indicated by high costs of paying and/or collecting taxes and little use of pre-filing or third-party information.

Housing taxation in EU Member States is often based too much on rather distortive transaction taxes as opposed to recurrent taxes on immovable property, which are considered less detrimental to growth. In particular Belgium, Greece, Spain, France, Italy, Cyprus, Luxembourg and Portugal should consider a shift within property taxes in favour of recurrent taxes and/or continue with the measures recently implemented or discussed. ⁽¹⁹⁷⁾ Moreover, nearly half of the Member States face the challenges of reducing the debt bias in housing taxation created by the (partial) deductibility of mortgage interest, although to differing degrees. In these countries, either imputed rents or recurrent property taxes on owner-occupied housing are too low to tax immovable property returns at a level consistent with alternative investment items. Given the political difficulty of raising property taxes, a second-best option might be the gradual phasing out of interest-rate deductibility in order to remove this debt bias in the tax system and make the tax treatment of different capital goods more neutral.

Sub-section 5.4.2 analysed tax-related challenges in terms of environmental policy. First, it is important to ensure that the policy instruments in place, including taxes, are sufficient to meet the agreed environmental objectives concerning GHG emissions. If there is a need for further policy measures, environmental taxes should play a role in the policy mix. Secondly, energy taxes and other environmental taxes should be designed so that they provide appropriate incentives to reduce emissions over time. Various measures could be taken at the national level to improve the existing design of tax systems, in particular by: i) adjusting the structure of tax rates on fossil fuels according to their carbon and energy content; ii) indexing environmental taxes; iii) considering the abolition of reduced VAT rates on energy; iv) reducing tax subsidies for company cars and v) introducing CO₂-related vehicle taxation. Overall, a third of Member States appear to have specific scope for improving the design of their environmental taxes.

The challenges identified in this chapter relate to improving the efficiency of national tax systems. However, the redistributive effects of the tax system can be equally important. Redistribution

⁽¹⁹⁶⁾ In that analysis programme countries Greece, Ireland and Portugal were not included.

⁽¹⁹⁷⁾ For instance Italy recently increased recurrent taxes on real estate with the introduction of IMU.

can occur via several instruments, including taxation, and progressive taxation of labour income in particular. Redistribution through the tax-benefit system is the prerogative of Member States, which have different perceptions of social equity and different collective preferences for balancing efficiency versus equality. Therefore, it is difficult to come up with prescriptive policy recommendations in this complex and sensitive area and the identification of clear policy

challenges at national level. However, a Member State which faces substantial efficiency challenges in the tax-benefit system and at the same time achieves an inferior outcome in terms of mitigating income inequalities, may have some scope for increasing either redistribution or efficiency without harming the other dimension. When deciding on their redistributive policy, Member States also need to ensure that the sustainability of public finance is not jeopardised.

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GLOSSARY

ACE (Allowance for Corporate Equity) allows for a deduction for the return on equity from the corporate income tax base (taxable profits). Coupled with a deduction for interest payments, it would equalise the tax treatment of debt and equity finance.

CBIT (Comprehensive Business Income Tax) Interest payments can no longer be deducted from corporate profits, and are thus fully taxed at the corporate income tax rate, similarly to the return on equity.

Convergence programmes Medium-term budgetary and monetary strategies presented by Member States that have not yet adopted the euro. They are updated annually, according to the provisions of the *Stability and Growth Pact*. Prior to the third phase of EMU, convergence programmes were issued on a voluntary basis and used by the Commission in its assessment of the progress made in preparing for the euro. See also *stability programmes*.

Direct taxes Taxes that are levied on income, wealth and capital, at the personal or corporate level.

Discretionary fiscal policy Change in the *budget balance* and in its components under government control. It is usually measured as the residual of the change in the balance after the exclusion of the budgetary impact of *automatic stabilisers*. See also *fiscal stance*.

Economic Policy Committee (EPC) Group of senior government officials whose main task is to prepare the discussions of the (ECOFIN) Council on structural policies. It plays an important role in the preparation of the *Broad Economic Policy Guidelines*. It is also deals with policies related to labour markets, methods to calculate cyclically-adjusted budget balances and ageing populations.

Effective tax rate The ratio of broad categories of tax revenue (labour income, capital income, consumption) to their respective tax bases.

Effectiveness The same concept as efficiency except that it links input to outcomes rather than outputs.

Efficiency Can be defined in several ways, either as the ratio of outputs to inputs or as the distance to a production possibility frontier. *Cost efficiency* measures the link between monetary inputs (funds) and outputs; *technical efficiency* measures the link between technical inputs and outputs. *Output efficiency* indicates by how much the output can be increased for a given input; *input efficiency* indicates by how much the input can be reduced for a given input.

Environmental taxes These include taxes on energy, transport, pollution and resources (excluding value added types of taxes because they are levied on all products). **Energy taxes** include taxes on energy products used for both transport (e.g. petrol and diesel) and stationary purposes (e.g. fuel oils, natural gas, coal and electricity). **Transport taxes** include taxes related to the ownership and use of motor vehicles. They also include taxes on other transport equipment such as planes and related transport services such as duties on charter or scheduled flights. **Pollution taxes** include taxes on measured or estimated emissions to air (except CO₂ taxes) and water, on the management of waste, and on noise. **Resource taxes** include any taxes linked to extraction or use of a natural resource (e.g. extraction of gas and oil, licences paid for hunting, fishing and the like).

Euro-Plus Pact Agreed in spring 2011 by the 17 Member States of the euro area, joined by Bulgaria, Denmark, Latvia, Lithuania, Poland and Romania. The Pact commits signatories to economic coordination for competitiveness and convergence, also in areas of national competence, with concrete goals agreed on and reviewed on a yearly basis by Heads of State or Government. It is integrated into the *European semester* and the Commission monitors the implementation of the commitments.

ESA95 / ESA79 European accounting standards for the reporting of economic data by the Member States to the EU. As of 2000, ESA95 replaced the earlier ESA79 standard with respect to the comparison and analysis of national public finance data.

European semester New governance architecture approved by the Member States in September 2010. It means that the EU and the euro zone will coordinate their budgetary and economic policies

ex ante, in line with the Europe 2020 strategy, the Stability and Growth Pact and the Macroeconomic Imbalances Procedure. On the basis of previous discussions on the Commission's Annual Growth Survey, each summer the European Council and the Council of Ministers provide policy advice before Member States finalise their draft budgets.

Excessive Deficit Procedure (EDP) A procedure according to which the Commission and the Council monitor the development of national *budget balances* and *public debt* in order to assess and/or correct the risk of an excessive deficit in each Member State. Its application has been further clarified in the *Stability and Growth Pact*. See also *stability programmes*.

Implicit tax rates General measure for the effective average tax burden on different types of economic income or activities, i.e. on labour, consumption and capital, as the ratio between revenue from the tax type under consideration and its (maximum possible) base.

Implicit tax rate on consumption Ratio between the revenue from all consumption taxes and the final consumption expenditure of households.

Implicit tax rate on labour The sum of all direct and indirect taxes and social contributions levied on employed labour income as a percentage of total compensation of employees from national accounts.

Implicit tax rate on capital Ratio between taxes on capital and aggregate capital and savings income. Specifically, it includes taxes levied on the income earned from savings and investments by households and corporations as well as taxes, related to stocks of capital, stemming from savings and investment in previous periods. The denominator is an approximation of world-wide capital and business income of residents for domestic tax purposes

(Real) implicit tax rate on energy Ratio between total energy tax revenues and final energy consumption, deflated with the cumulative % change in the final demand deflator.

Fiscal consolidation An improvement in the *budget balance* through measures of *discretionary fiscal policy*, specified either by the amount of the

improvement or the period over which the improvement continues.

General government As used by the EU in its process of budgetary surveillance under the *Stability and Growth Pact* and the *excessive deficit procedure*, the general government sector covers national government, regional and local government, as well as social security funds. Public enterprises are excluded, as are transfers to and from the EU Budget.

Inactivity trap Measure for the disincentive to return to employment from inactivity. The inactivity trap is also often referred to as the participation tax rate. The inactivity trap measures the part of additional gross wage that is taxed away in the form of increased taxes (personal income tax and employee social security contributions (SSC) and withdrawn benefits such as unemployment benefits, social assistance, and housing benefits in the event of an inactive person taking up a job.

Indirect taxation Taxes that are levied during the production stage, and not on the income and property arising from economic production processes. Prominent examples of indirect taxation are value added tax (VAT), excise duties, import levies, energy and other environmental taxes.

Integrated guidelines A general policy instrument for coordinating EU-wide and Member States' economic structural reforms embedded in the Lisbon strategy, whose main aim is to boost economic growth and job creation in the EU.

Lisbon Strategy for Growth and Jobs Partnership between the EU and Member States for growth and more and better jobs. Originally approved in 2000, the Lisbon Strategy was revamped in 2005. On the basis of the Integrated Guidelines (merger of the *broad economic policy guidelines* and the employment guidelines, dealing with macro-economic, micro-economic and employment issues) for the period 2005-2008, Member States drew up three-year national reform programmes at the end of 2005. They reported on the implementation of the national reform programmes for the first time in autumn 2006. The Commission analyses and summarises these reports in an EU Annual Progress Report each year in time for the Spring European Council.

Low-wage trap Effective marginal tax rate defined as the rate at which taxes are increased and benefits withdrawn as earnings rise due to an increase in work productivity. This kind of trap is most likely to occur at relatively low wage levels due to the fact that the withdrawal of social transfers (mainly social assistance, in-work benefits and housing benefits), which are usually available only to persons with a low income, adds to the marginal rate of income taxes and social security contributions.

Medium-term budgetary framework An institutional fiscal device that lets policy-makers extend the horizon for fiscal policy-making beyond the annual budgetary calendar (typically 3-5 years). Targets can be adjusted under medium-term budgetary frameworks (MTBF) either on an annual basis (flexible frameworks) or only at the end of the MTBF horizon (fixed frameworks).

Medium-term objective (MTO) Represents a budgetary position that safeguards against the risk of breaching the 3% of GDP threshold of the Treaty and ensures the long-term sustainability of public finances.

One-off and temporary measures Government transactions having a transitory budgetary effect that does not lead to a sustained change in the budgetary position. See also *structural balance*.

Policy-mix The overall stance of fiscal and monetary policy. The policy-mix may consist of various combinations of expansionary and restrictive policies, with a given *fiscal stance* either supported or offset by monetary policy.

Pro-cyclical fiscal policy A *fiscal stance* which amplifies the economic cycle by increasing the *structural primary deficit* during an economic upturn, or by decreasing it in a downturn. A neutral fiscal policy keeps the *cyclically-adjusted budget balance* unchanged throughout the economic cycle but allows the *automatic stabilisers* to work. See also *tax-smoothing*.

QUEST The macroeconomic model of the EU Member States plus the US and Japan developed by the Directorate-General for Economic and Financial Affairs of the European Commission.

Recently acceded Member States The countries that became members of the EU in May 2004 include Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia. Two additional countries, Romania and Bulgaria joined in January 2007.

Social security contributions (SSC) Mandatory contributions paid by employers and employees to a social insurance scheme to cover pensions, health care and other welfare provisions.

Stability and Growth Pact (SGP) Approved in 1997 and reformed in 2005, the SGP clarifies the provisions of the Maastricht Treaty regarding the surveillance of Member States' budgetary policies and the monitoring of budget deficits during the third phase of the EMU. The SGP consists of two Council Regulations setting out legally binding provisions to be followed by the European Institutions and the Member States and two Resolutions of the Amsterdam European Council in (June 1997). See also *Excessive Deficit Procedure*.

Stability programmes Medium-term budgetary strategies presented by those Member States that have already adopted the euro. They are updated annually, according to the provisions of the *Stability and Growth Pact*. See also *Convergence programmes*.

Statutory tax rate on corporate income Taxation of corporate income is not only conducted through CIT (corporate income tax), but, in some Member States, also through surcharges or even additional taxes levied on tax bases that are similar, but often not identical, to the CIT. In order to take these features into account, the simple CIT rate has been adjusted for comparison purposes. If several rates exist, only the 'basic' (non-targeted) top rate is presented; existing surcharges and averages of local taxes are added to the standard rate.

Tax elasticity A parameter measuring the relative change in tax revenues with respect to a relative change in GDP. Tax elasticity is an input to *budgetary sensitivity*.

Tax expenditure Public expenditure implemented through the tax system by way of a special tax concession — such as an exclusion, an exemption, an allowance, a credit, a preferential rate or tax

deferral — that results in reduced tax liability for certain subsets of taxpayers.

Tax gaps Measure used in the assessment of the *sustainability* of public finances. They measure the difference between the current tax ratio and the constant tax ratio over a given projection period to achieve a predetermined level of debt at the end of that projection period.

Tax smoothing The idea that tax rates should be kept stable in order to minimise the distortionary effects of taxation, while leaving it up to *automatic stabilisers* to smooth the economic cycle. It is also referred to as neutral *discretionary fiscal policy*. See also *cyclical component of fiscal policy*.

Tax wedge Difference between the wage costs of an average worker for his/her employer and the amount of net income that the worker receives in return. That difference is represented by taxes, including personal income taxes and compulsory social security contributions.

Unemployment trap Measure for the disincentive to return to employment from unemployment. It measures the part of the additional gross wage that

is taxed away when a person returns to work from unemployment. It takes into account the reduction in benefits payments following the return to the labour market, as well as higher taxes and employee social security contributions.

VAT revenue ratio (VRR) The VRR is defined as the ratio between the actual VAT revenue collected and the revenue that would theoretically be raised if VAT was applied at the standard rate to all final consumption. In theory, the closer the VAT system of a country is to the ‘pure’ VAT regime (i.e. where all consumption is taxed at a uniform rate), the closer its VRR is to 1. A low VRR can indicate a reduction of the tax base due to large exemptions or reduced rates (‘policy gap’) or a failure to collect all tax as a result of fraud, for instance (‘collection gap’).

VAT ‘collection gap’ The VAT gap is the difference between accrued VAT receipts and the theoretical net VAT liability for the economy as a whole given the country's VAT system. The theoretical net liability is estimated by identifying the categories of expenditure that give rise to irrecoverable VAT and combining these with appropriate VAT rates.

Statistical annex

Table A.1: Total taxes (including social security contributions) and tax structure, % of GDP, 2000-2010, EU-27

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Structure by type of tax											
Indirect taxes	13.7	13.4	13.3	13.3	13.3	13.4	13.5	13.5	13.1	12.9	13.2
VAT	7.0	6.9	6.8	6.8	6.8	6.9	7.0	7.0	6.9	6.7	7.0
Excise duties and consumption taxes	3.0	2.9	3.0	3.0	2.9	2.8	2.7	2.6	2.6	2.6	2.7
Other taxes on products (incl. import duties)	1.7	1.6	1.6	1.6	1.7	1.7	1.8	1.8	1.6	1.5	1.5
Other taxes on production	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0
Direct taxes	14.1	13.6	13.1	12.9	12.8	13.2	13.7	13.9	13.8	12.8	12.6
Personal income	9.8	9.6	9.4	9.2	8.9	9.1	9.2	9.4	9.4	9.3	9.1
Corporate income	3.1	2.9	2.6	2.4	2.7	2.9	3.3	3.3	3.0	2.2	2.4
Other	1.1	1.1	1.1	1.3	1.2	1.2	1.2	1.2	1.3	1.2	1.2
Social contributions	12.7	12.6	12.5	12.7	12.6	12.5	12.4	12.2	12.5	12.9	12.7
Employers´	7.2	7.2	7.2	7.3	7.2	7.2	7.1	7.1	7.2	7.4	7.3
Employees´	4.1	4.0	3.9	3.9	3.9	3.8	3.8	3.7	3.8	3.9	3.8
Self- and non-employed	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.4	1.5	1.6	1.5
Total taxes (including SSC)	40.4	39.5	38.8	38.8	38.7	39.0	39.5	39.4	39.3	38.4	38.4
Structure by economic function											
Consumption	11.4	11.1	11.1	11.1	11.1	11.1	11.1	11.0	10.8	10.7	11.0
Labour	20.2	20.1	19.8	19.8	19.5	19.5	19.3	19.2	19.6	20.0	19.6
Employed	18.6	18.5	18.2	18.2	17.9	17.8	17.7	17.7	18.1	18.4	18.1
Paid by employers	7.8	7.8	7.7	7.9	7.8	7.7	7.7	7.7	7.9	8.0	8.0
Paid by employees	10.9	10.7	10.5	10.4	10.1	10.1	10.1	10.0	10.2	10.3	10.1
Non-employed	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.6	1.5
Capital	8.9	8.4	8.0	8.0	8.2	8.5	9.2	9.3	8.9	7.8	7.8
Capital and business income	6.1	5.7	5.3	5.3	5.4	5.7	6.3	6.5	6.1	5.2	5.3
Income of corporations	3.2	2.9	2.7	2.6	2.8	3.0	3.4	3.4	3.1	2.3	2.4
Income of households	0.9	0.7	0.7	0.7	0.7	0.8	0.9	0.9	0.9	0.8	0.8
Income of self-employed (incl. SSC)	2.1	2.0	1.9	2.0	1.9	1.9	2.0	2.1	2.1	2.1	2.0
Stocks of capital / wealth	2.8	2.7	2.7	2.7	2.8	2.8	2.9	2.9	2.8	2.6	2.5

Note: GDP-weighted EU-27 averages. Totals may be affected by rounding.

Source: Commission services.

Table A.2: Total taxes (including social security contributions) and tax structure, % of GDP, 2000-2010, EA-17

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Structure by type of tax											
Indirect taxes	13.5	13.2	13.2	13.2	13.2	13.3	13.4	13.3	12.9	12.8	12.9
VAT	7.0	6.8	6.7	6.6	6.6	6.8	6.8	6.9	6.8	6.6	6.9
Excise duties and consumption taxes	2.7	2.7	2.7	2.7	2.6	2.5	2.5	2.4	2.3	2.4	2.4
Other taxes on products (incl. import duties)	1.7	1.7	1.7	1.7	1.8	1.9	2.0	1.9	1.7	1.6	1.6
Other taxes on production	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0
Direct taxes	13.0	12.6	12.2	12.0	11.9	12.0	12.6	12.9	12.7	12.0	11.8
Personal income	9.1	8.9	8.7	8.5	8.3	8.4	8.5	8.7	8.9	8.9	8.7
Corporate income	3.0	2.8	2.6	2.4	2.6	2.8	3.2	3.3	2.9	2.0	2.2
Other	0.9	0.9	0.9	1.1	1.0	0.9	0.9	0.9	0.9	1.0	0.9
Social contributions	14.5	14.3	14.3	14.5	14.3	14.2	14.1	13.9	14.1	14.5	14.3
Employers´	8.2	8.1	8.2	8.2	8.1	8.1	8.0	8.0	8.1	8.3	8.2
Employees´	4.6	4.5	4.4	4.4	4.3	4.3	4.2	4.2	4.2	4.3	4.3
Self- and non-employed	1.8	1.7	1.7	1.8	1.8	1.8	1.8	1.7	1.8	1.9	1.9
Total taxes (including SSC)	40.9	40.0	39.5	39.5	39.2	39.4	40.0	40.0	39.6	39.0	38.9
Structure by economic function											
Consumption	11.1	10.9	10.8	10.7	10.7	10.8	10.8	10.7	10.5	10.4	10.7
Labour	21.3	21.1	21.0	21.0	20.6	20.5	20.3	20.1	20.6	21.0	20.8
Employed	19.5	19.3	19.2	19.2	18.8	18.6	18.5	18.5	18.9	19.3	19.1
Paid by employers	8.8	8.8	8.8	8.9	8.7	8.7	8.7	8.6	8.7	8.9	8.9
Paid by employees	10.7	10.6	10.4	10.3	10.0	9.9	9.9	9.9	10.2	10.3	10.2
Non-employed	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.8	1.7
Capital	8.7	8.2	7.8	7.9	8.0	8.3	9.0	9.3	8.6	7.7	7.6
Capital and business income	6.2	5.8	5.4	5.4	5.4	5.6	6.3	6.6	6.1	5.2	5.2
Income of corporations	3.1	2.9	2.6	2.6	2.7	2.9	3.3	3.4	3.0	2.2	2.3
Income of households	0.8	0.7	0.6	0.6	0.6	0.7	0.8	0.9	0.8	0.8	0.7
Income of self-employed (incl. SSC)	2.3	2.2	2.1	2.2	2.1	2.1	2.2	2.3	2.3	2.2	2.2
Stocks of capital / wealth	2.5	2.4	2.5	2.5	2.6	2.6	2.7	2.7	2.4	2.5	2.3

Note: GDP-weighted EA-17 averages. Totals may be affected by rounding.

Source: Commission services.

Table A.3: Development of implicit tax rates, in %

	Implicit tax rate on labour			Implicit tax rate on consumption			Implicit tax rate on capital		
	1995	2000	2010	1995	2000	2010	1995	2000	2010
BE	43.6	43.6	42.5	20.4	21.8	21.4	25.5	29.5	29.5
BG	30.8	38.1	24.4	17.3	18.5	22.8	:	:	:
CZ	41.4	41.2	39.0	20.9	18.8	21.1	22.4	18.7	16.7
DK	40.2	41.0	34.8	30.5	33.4	31.5	29.9	36.0	:
DE	38.8	39.1	37.4	18.8	19.2	19.8	21.3	27.0	20.7
EE	38.6	37.8	37.0	21.2	19.5	25.6	:	5.8	9.1
IE	29.7	28.5	26.1	24.7	25.5	21.6	:	:	14.0
EL	:	34.5	31.3	:	16.5	15.8	:	:	16.5
ES	31.0	30.5	33.0	14.2	15.8	14.6	:	30.8	:
FR	41.1	41.9	41.0	21.7	21.1	19.3	32.2	37.8	37.2
IT	37.8	41.8	42.6	17.4	17.8	16.8	27.3	29.5	34.9
CY	22.1	21.6	27.0	13.0	12.6	18.8	18.0	24.7	31.1
LV	39.2	36.7	32.5	19.4	18.7	17.3	20.5	11.5	7.4
LT	34.5	41.2	31.7	17.7	18.0	18.2	12.7	7.1	6.8
LU	29.3	29.9	32.0	21.0	23.0	27.3	:	:	:
HU	42.3	41.4	39.4	29.6	27.2	27.2	14.9	18.5	17.5
MT	20.1	21.8	21.7	14.8	15.6	18.9	:	:	:
NL	34.8	35.0	36.9	23.3	23.8	27.0	21.0	20.0	12.5
AT	38.5	40.1	40.5	20.6	22.2	21.4	26.6	27.2	24.1
PL	36.8	33.6	30.1	20.7	17.8	20.2	20.9	20.5	20.5
PT	22.3	22.3	23.4	18.1	18.2	17.4	21.5	31.6	30.7
RO	31.6	33.6	27.4	12.6	17.0	18.9	:	:	:
SI	38.5	37.6	35.0	24.4	23.3	24.1	13.3	17.2	22.5
SK	38.5	36.3	32.0	26.4	21.7	17.7	35.0	22.9	15.9
FI	44.2	44.0	39.3	27.6	28.5	25.2	31.1	38.1	28.4
SE	46.8	46.8	39.0	27.9	26.3	28.1	19.9	42.7	34.9
UK	25.9	25.9	25.7	19.6	18.9	18.4	34.3	43.3	:
EU-27 average									
GDP-weighted	36.8	36.7	36.0	19.9	20.0	19.7	:	:	:
arithmetic	35.3	35.8	33.4	20.8	20.8	21.3	:	:	:
EA-17 average									
GDP-weighted	38.1	38.8	38.1	19.4	19.7	19.2	25.7	29.6	27.5
arithmetic	34.3	34.5	34.0	20.2	20.3	20.7	22.8	25.0	23.7
EU-25 average									
GDP-weighted	36.8	36.7	36.1	20.0	20.0	19.7	26.6	32.1	28.8
arithmetic	35.6	35.8	34.0	21.2	21.0	21.4	22.5	24.9	23.3

Note: EU and EA averages are adjusted for missing data.

Source: Commission services.

Table A.4: Statutory tax rates, in %

	Top personal income tax rate						Adjusted top corporate income tax rate					
	1995	2000	2005	2010	2011	2012	1995	2000	2005	2010	2011	2012
BE	60.6	60.6	53.7	53.7	53.7	53.7	40.2	40.2	34.0	34.0	34.0	34.0
BG	50.0	40.0	24.0	10.0	10.0	10.0	40.0	32.5	15.0	10.0	10.0	10.0
CZ	43.0	32.0	32.0	15.0	15.0	15.0	41.0	31.0	26.0	19.0	19.0	19.0
DK	65.7	62.9	62.3	55.4	55.4	55.4	34.0	32.0	28.0	25.0	25.0	25.0
DE	57.0	53.8	44.3	47.5	47.5	47.5	56.8	51.6	38.7	29.8	29.8	29.8
EE	26.0	26.0	24.0	21.0	21.0	21.0	26.0	26.0	24.0	21.0	21.0	21.0
IE	48.0	44.0	42.0	41.0	41.0	41.0	40.0	24.0	12.5	12.5	12.5	12.5
EL	45.0	45.0	40.0	49.0	49.0	49.0	40.0	40.0	32.0	34.0	30.0	30.0
ES	56.0	48.0	45.0	43.0	45.0	52.0	35.0	35.0	35.0	30.0	30.0	30.0
FR	59.1	59.0	53.5	45.8	46.7	46.8	36.7	37.8	35.0	34.4	34.4	36.1
IT	51.0	45.9	44.1	45.2	47.3	47.3	52.2	41.3	37.3	31.4	31.4	31.4
CY	40.0	40.0	30.0	30.0	30.0	38.5	25.0	29.0	10.0	10.0	10.0	10.0
LV	25.0	25.0	25.0	26.0	25.0	25.0	25.0	25.0	15.0	15.0	15.0	15.0
LT	33.0	33.0	33.0	15.0	15.0	15.0	29.0	24.0	15.0	15.0	15.0	15.0
LU	51.3	47.2	39.0	39.0	42.1	41.3	40.9	37.5	30.4	28.6	28.8	28.8
HU	44.0	44.0	38.0	40.6	20.3	20.3	19.6	19.6	17.5	20.6	20.6	20.6
MT	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
NL	60.0	60.0	52.0	52.0	52.0	52.0	35.0	35.0	31.5	25.5	25.0	25.0
AT	50.0	50.0	50.0	50.0	50.0	50.0	34.0	34.0	25.0	25.0	25.0	25.0
PL	45.0	40.0	40.0	32.0	32.0	32.0	40.0	30.0	19.0	19.0	19.0	19.0
PT	40.0	40.0	40.0	45.9	50.0	49.0	39.6	35.2	27.5	29.0	29.0	31.5
RO	40.0	40.0	16.0	16.0	16.0	16.0	38.0	25.0	16.0	16.0	16.0	16.0
SI	50.0	50.0	50.0	41.0	41.0	41.0	25.0	25.0	25.0	20.0	20.0	20.0
SK	42.0	42.0	19.0	19.0	19.0	19.0	40.0	29.0	19.0	19.0	19.0	19.0
FI	62.2	54.0	51.0	49.0	49.2	49.0	25.0	29.0	26.0	26.0	26.0	24.5
SE	61.3	51.5	56.6	56.6	56.6	56.6	28.0	28.0	28.0	26.3	26.3	26.3
UK	40.0	40.0	40.0	50.0	50.0	50.0	33.0	30.0	30.0	28.0	26.0	24.0
EU-27 arithmetic	47.4	44.8	40.0	37.9	37.6	38.1	35.3	31.9	25.5	23.7	23.4	23.5
EA-17 arithmetic	49.0	47.1	41.9	41.6	42.3	43.1	36.8	34.4	28.1	26.2	25.9	26.1

Note: The top PIT rates reflect the statutory tax rate for the highest income bracket. The rates include surcharges, state and local taxes. Only the 'basic' (non-targeted) top CIT rate is presented here. Existing surcharges and averages of local taxes are included. For details of the calculation of the top PIT rates and CIT rates see European Commission (2012a).

Source: Commission services.

Table A.5: Energy tax revenues in relation to final energy consumption

	Nominal			Real (2000 deflator)		
	2000	2008	2009	2000	2008	2009
BE	96.7	114.9	125.2	96.7	95.6	105.2
BG	39.8	107.6	108.6	39.8	73.7	73.3
CZ	53.4	132.0	130.6	53.4	77.2	80.7
DK	299.2	317.5	330.9	299.2	275.7	283.2
DE	191.8	203.8	215.4	191.8	181.6	191.8
EE	31.4	104.0	127.5	31.4	71.7	88.7
IE	140.4	174.5	198.3	140.4	134.4	159.7
EL	117.3	126.1	135.5	117.3	98.7	105.4
ES	138.0	147.9	154.2	138.0	113.5	119.7
FR	166.5	173.5	178.8	166.5	148.2	153.6
IT	245.3	232.6	259.4	245.3	189.1	210.9
CY	43.2	137.8	142.1	43.2	111.5	114.8
LV	48.2	92.2	97.1	48.2	67.9	69.6
LT	57.9	101.6	116.4	57.9	75.3	82.6
LU	167.5	210.2	210.1	167.5	176.9	175.0
HU	77.2	121.4	112.6	77.2	76.4	76.2
MT	161.4	176.0	195.5	161.4	157.1	171.4
NL	153.5	224.8	231.9	153.5	188.4	195.3
AT	138.8	166.8	169.5	138.8	143.4	144.9
PL	58.7	127.6	106.8	58.7	91.4	91.9
PT	111.4	173.4	175.3	111.4	138.0	143.0
RO	58.2	80.1	86.1	58.2	54.2	64.7
SI	118.5	167.7	226.8	118.5	135.1	183.5
SK	39.7	100.7	100.7	39.7	51.5	49.6
FI	109.8	124.2	129.1	109.8	110.0	112.5
SE	179.9	220.8	210.0	179.9	221.3	228.3
UK	249.2	220.3	220.9	249.2	244.3	270.2
EU-27 averages				EU-27 averages		
GDP-weighted	187.0	190.3	198.5	GDP-weighted	187.0	179.3
base-weighted	170.1	183.0	190.0	base-weighted	170.1	170.9
EA-17 averages				EA-17 averages		
GDP-weighted	176.8	186.8	198.3	GDP-weighted	176.8	167.3
base-weighted	171.0	184.2	195.7	base-weighted	171.0	165.1

Note: Nominal: EUR per tonne of oil equivalent; Real: EUR per tonne of equivalent, deflated with cumulative % change in final demand deflator (2000 = 100). 2009 are provisional data.

Source: Commission services.

Table A.6: The composition of tax wedge in 2011, single average income worker

Country	Income tax plus employees' and employers' social security contributions (as % of labour costs, 2011)				Annual change 2011/10 (in percentage points)			
	Tax wedge (1)	Income tax (2)	Employee SSC (3)	Employer SSC (4)	Tax wedge (1)	Income tax (2)	Employee SSC (3)	Employer SSC (4)
BE	55.5	21.7	10.8	23.1	0.2	0.0	0.0	0.1
BG*	32.5	7.4	11.0	15.5	-1.3	0.1	0.2	-1.6
CZ	42.5	8.9	8.2	25.4	0.4	0.4	0.0	0.0
DK	38.4	28.0	10.7	0.0	0.1	0.1	0.0	0.0
DE	49.8	15.9	17.4	16.5	0.6	0.0	0.3	0.3
EE	40.1	12.5	2.1	25.6	0.1	0.1	0.0	0.0
IE	26.8	13.5	3.6	9.7	0.9	3.8	-2.9	0.0
EL	38.0	3.0	12.8	22.2	-0.2	-0.8	0.3	0.3
ES	39.9	12.0	4.9	23.0	0.1	0.1	0.0	0.0
FR	49.4	10.0	9.6	29.7	0.0	0.0	0.0	0.0
IT	47.6	16.1	7.2	24.3	0.4	0.4	0.0	0.0
CY**	13.9	2.1	5.9	5.9	---	---	---	---
LV*	44.2	14.9	7.3	19.4	-0.8	-0.8	0.0	0.0
LT*	40.7	10.1	6.9	23.8	-0.9	-5.5	4.6	0.0
LU	36.0	13.3	11.7	11.0	1.7	0.3	0.7	0.6
HU	49.4	13.6	13.6	22.2	2.8	2.4	0.4	0.0
MT*	22.4	8.5	6.9	6.9	-0.5	-0.3	-0.1	-0.1
NL	37.8	14.5	14.0	9.2	-0.3	-0.1	0.0	-0.2
AT	48.4	11.9	14.0	22.6	0.2	0.2	0.0	0.0
PL	34.3	5.9	15.5	12.9	0.1	0.1	0.0	0.0
PT	39.0	10.9	8.9	19.2	1.4	1.4	0.0	0.0
RO*	44.3	9.3	12.8	22.3	2.0	-0.2	0.5	1.7
SI	42.5	9.6	19.0	13.9	0.0	0.0	0.0	0.0
SK	38.9	7.5	10.6	20.8	1.0	1.0	0.0	0.0
FI	42.7	18.5	5.8	18.4	0.2	0.1	0.0	0.1
SE	42.8	13.6	5.3	23.9	0.0	0.0	0.0	0.0
UK	32.5	14.1	8.5	9.9	-0.1	-0.6	0.3	0.2
EU-27 weighted average	43.7	13.7	10.7	19.3	0.3	0.1	0.1	0.1
EU-17 weighted average	46.4	13.8	11.2	21.4	0.3	0.2	0.0	0.1

Note: *Data for non-OECD-EU countries (BG, LV, LT, MT and RO) are only available for 2010; ** CY data for 2007. For these countries, changes in tax wedge refer to period 2009-2010 (for CY to period 2006-2007).

Source: Commission services.

Table A.7: Standard and reduced VAT rates in the EU

Country	VAT rate	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BE	Standard	21	21	21	21	21	21	21	21	21	21	21	21	21
	Reduced	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12
BG	Standard	20	20	20	20	20	20	20	20	20	20	20	20	20
	Reduced	-	-	-	-	-	-	-	7	7	7	7	9	9
CZ	Standard	22	22	22	22	19	19	19	19	19	19	20	20	20
	Reduced	5	5	5	5	5	5	5	5	9	9	10	10	14
DK	Standard	25	25	25	25	25	25	25	25	25	25	25	25	25
	Reduced	-	-	-	-	-	-	-	-	-	-	-	-	-
DE	Standard	16	16	16	16	16	16	16	19	19	19	19	19	19
	Reduced	7	7	7	7	7	7	7	7	7	7	7	7	7
EE	Standard	18	18	18	18	18	18	18	18	18	20	20	20	20
	Reduced	5	5	5	5	5	5	5	5	5	9	9	9	9
IE	Standard	21	20	21	21	21	21	21	21	21	21.5	21	21	23
	Reduced	12.5 (4.2)	12.5 (4.3)	12.5 (4.3)	13.5 (4.3)	13.5 (4.4)	13.5 (4.8)	13.5 (4.8)	13.5 (4.8)	13.5 (4.8)	13.5 (4.8)	13.5 (4.8)	13.5 (4.8)	13.5 (4.8)
EL	Standard	18	18	18	18	18	19	19	19	19	19	23	23	23
	Reduced	8 (4)	8 (4)	8 (4)	8 (4)	8 (4)	9 (4.5)	9 (4.5)	9 (4.5)	9 (4.5)	9 (4.5)	5.5/11	6.5/13	6.5/13
ES	Standard	16	16	16	16	16	16	16	16	16	16	18	18	18
	Reduced	7 (4)	7 (4)	7 (4)	7 (4)	7 (4)	7 (4)	7 (4)	7 (4)	7 (4)	7 (4)	8 (4)	8 (4)	8 (4)
FR	Standard	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
	Reduced	5.5 (2.1)	5.5 (2.1)	5.5 (2.1)	5.5 (2.1)	5.5 (2.1)	5.5 (2.1)	5.5 (2.1)	5.5 (2.1)	5.5 (2.1)	5.5 (2.1)	5.5 (2.1)	5.5 (2.1)	5.5/7 (2.1)
IT	Standard	20	20	20	20	20	20	20	20	20	20	20	20	21
	Reduced	10 (4)	10 (4)	10 (4)	10 (4)	10 (4)	10 (4)	10 (4)	10 (4)	10 (4)	10 (4)	10 (4)	10 (4)	10 (4)
CY	Standard	10	10	13	15	15	15	15	15	15	15	15	15	17
	Reduced	5	5	5	5	5	5	5/8	5/8	5/8	5/8	5/8	5/8	5/8
LV	Standard	18	18	18	18	18	18	18	18	18	21	21	22	22
	Reduced	-	-	-	9	5	5	5	5	5	10	10	12	12
LT	Standard	18	18	18	18	18	18	18	18	18	19	21	21	21
	Reduced	5	5/9	5/9	5/9	5/9	5/9	5/9	5/9	5/9	5/9	5/9	5/9	5/9
LU	Standard	15	15	15	15	15	15	15	15	15	15	15	15	15
	Reduced	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)
HU	Standard	25	25	25	25	25	25	20	20	20	25	25	25	27
	Reduced	0/12	0/12	0/12	0/12	5/15	5/15	5/15	5	5	5/18	5/18	5/18	5/18
MT	Standard	15	15	15	15	18	18	18	18	18	18	18	18	18
	Reduced	5	5	5	5	5	5	5	5	5	5	5	5/7	5/7
NL	Standard	18	19	19	19	19	19	19	19	19	19	19	19	19
	Reduced	6	6	6	6	6	6	6	6	6	6	6	6	6
AT	Standard	20	20	20	20	20	20	20	20	20	20	20	20	20
	Reduced	10	10	10	10	10	10	10	10	10	10	10	10	10
PL	Standard	22	22	22	22	22	22	22	22	22	22	22	23	23
	Reduced	7 (3)	7 (3)	7 (3)	7 (3)	7 (3)	7 (3)	7 (3)	7 (3)	7 (3)	7 (3)	7 (3)	5/8	5/8
PT	Standard	17	17	19	19	19	21	21	21	20	20	21	23	23
	Reduced	5/12	5/12	5/12	5/12	5/12	5/12	5/12	5/12	5/12	5/12	6/13	6/13	6/13
RO	Standard	19	19	19	19	19	19	19	19	19	19	24	24	24
	Reduced	-	-	-	-	9	9	9	9	9	5/9	5/9	5/9	5/9
SI	Standard	19	19	20	20	20	20	20	20	20	20	20	20	20
	Reduced	8	8	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
SK	Standard	23	23	23	20	19	19	19	19	19	19	19	20	20
	Reduced	10	10	10	14	-	-	-	10	10	10	6/10	10	10
FI	Standard	22	22	22	22	22	22	22	22	22	22	23	23	23
	Reduced	8/17	8/17	8/17	8/17	8/17	8/17	8/17	8/17	8/17	8/17	9/13	9/13	9/13
SE	Standard	25	25	25	25	25	25	25	25	25	25	25	25	25
	Reduced	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12
UK	Standard	18	18	18	18	18	18	18	18	18	15	18	20	20
	Reduced	5	5	5	5	5	5	5	5	5	5	5	5	5
EU-27	Standard	19.2	19.3	19.5	19.5	19.4	19.6	19.4	19.5	19.4	19.8	20.4	20.7	21.0

Note: If two VAT rates were applicable during a year the one being in force for more than six months or introduced on 1 July is indicated in the table. Super reduced rates (below 5 %) are shown in brackets. ES: Standard rate and reduced rate were increased as of September 2012 to 21% and 10%, respectively. IT: Standard rate was increased in September 2011; CY: Standard rate was increased in March 2012; FI: Reduced 17 % rate was decreased to 12 % on 1.10.2009. Standard rate as well as reduced rates were increased by one percentage point on 1.7.2010.

Source: Commission services.

Table A.8: Measures of tax progressivity

	Index of Progressivity (Single no ch 100% of AW)	Index of Progressivity (Single no ch 167% of AW)	Tax wedge 167% / 67% (single no ch.)
BE	0.24	0.22	1.22
BG	NA	NA	1.00
CZ	0.11	0.07	1.15
DK	0.06	0.20	1.21
DE	0.21	-0.14	1.14
EE	0.05	0.03	1.07
IE	0.41	0.29	2.17
EL	0.14	0.14	1.27
ES	0.14	-0.10	1.16
FR	0.04	0.13	1.16
IT	0.12	0.19	1.19
CY	NA	NA	NA
LV	NA	NA	1.03
LT	NA	NA	1.08
LU	0.30	0.20	1.50
HU	0.28	0.00	1.21
MT	NA	NA	1.47
NL	0.15	0.13	1.25
AT	0.24	-0.19	1.18
PL	0.03	0.02	1.05
PT	0.19	0.26	1.34
RO	NA	NA	1.05
SI	0.15	0.24	1.23
SK	0.09	0.03	1.16
FI	0.25	0.17	1.31
SE	0.09	0.33	1.25
UK	0.11	0.18	1.27
<i>Unweighted average:</i>			
EU-21/27	0.16	0.11	1.19
EA	---	---	1.18

Source: Commission services.