European Commission

ISSN 1725-3217 (online)
ISSN 0379-0991 (print)

Tax Reforms in EU Member States 2014

Tax policy challenges for economic growth and fiscal sustainability

EUROPEAN ECONOMY 6|2014

Economic and Financial Affairs

The **European Economy series** contains important reports and communications from the Commission to the Council and the Parliament on the economy and economic developments.

Unless otherwise indicated the texts are published under the responsibility of the

European Commission
Directorate-General for Economic and Financial Affairs
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LEGAL NOTICE

This report is also published as Taxation Paper No. 48 from DG Taxation and Customs Union.

This paper exists in English only and can be downloaded from
http://ec.europa.eu/economy_finance/publications/.

More information on the European Union is available on http://europa.eu.

KC-AR-14-006-EN-N (online)
ISBN 978-92-79-35349-9 (online)
doi:10.2765/76036 (online)

KC-AR-14-006-EN-C (print)
ISBN 978-92-79-36010-7 (print)
doi:10.2765/77268 (print)

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

2014 Report

EUROPEAN ECONOMY 6/2014

ACKNOWLEDGEMENTS

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Alexander Leodolter (DG ECFIN) was responsible for data, layout and IT. Vukasin Ostojic and Anamaria Maftei (DG ECFIN) provided support with the data. Secretarial support was provided by Maria Stampouli (DG ECFIN). The report benefitted significantly from suggestions by the European Commission's editing service (DGT).

Comments and suggestions by members of the Economic Policy Committee and the Working Group 'Structures of Taxation Systems' are gratefully acknowledged. The report also benefited from comments and suggestions by colleagues in the Directorates-General for Economic and Financial Affairs and Taxation and Customs Union as well as by other services of the Commission.

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ABBREVIATIONS

Member States

BE	Belgium
BG	Bulgaria
CZ	Czech Republic
DK	Denmark
DE	Germany
EE	Estonia
IE	Ireland
EL	Greece
ES	Spain
FR	France
HR	Croatia
IT	Italy
CY	Cyprus
LV	Latvia
LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	Netherlands
AT	Austria
PL	Poland
PT	Portugal
RO	Romania
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden
UK	United Kingdom
EA	Euro area
EU	European Union
EU-28	The 28 EU Member States
EA-18	The 18 Member States in the euro area

Others

ACE	Allowance for corporate equity
AETR	Average effective tax rate
AGS	Annual Growth Survey
AW	Average wage
BEPS	Base erosion and profit shifting

CPB	Central Planning Bureau, the Dutch government's research institute for economic policy analysis
CBIT	Comprehensive business income tax
CIT	Corporate income tax
CCCTB	Common consolidated corporate tax base
DG ECFIN	Directorate-General for Economic and Financial Affairs
DG TAXUD	Directorate-General for Taxation and Customs Union
EA	Euro area
EBITDA	Earnings before interest, taxes, depreciation and amortisation
ECB	European Central Bank
ECOFIN	Economic and Financial Affairs Council
EPC	Economic Policy Committee
ESA79	European system of accounts 1979
ESA95	European system of accounts 1995
ESA 2010	European system of accounts 2010
EU	European Union
FTT	Financial transaction tax
GDP	Gross domestic product
GNI	Gross national income
JRC-IPTS	The European Commission Joint Research Centre's Institute for Prospective Technological Studies
LR	Long run
METR	Marginal effective tax rate
MoU	Memorandum of understanding
MTO	Medium-term budgetary objective
OECD	Organisation for Economic Cooperation and Development
PIT	Personal income tax
pp.	Percentage points
R&D	Research and development
SME	Small and medium-sized enterprise
SSC	Social security contributions
VAT	Value added tax
VRR	VAT revenue ratio

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EDITORIAL

A country's tax system affects its government revenues but also has broader economic and societal implications. The question how to effectively address these different dimensions is at the fore of policy discussions in the EU and its Member States.

Carefully designed tax systems can help redefine the triangle between sustainability, growth and fairness, objectives which have become even more important in the aftermath of the most severe economic crisis since the 1930's. The three objectives are sometimes viewed as contradictory, with a focus on one element implying negative consequences for the others. While some trade-offs exist, Member States can at the same time help ensure stable public finances, boost growth, employment and competitiveness, and contribute to a fair distribution of income by changing the tax structure in a balanced way and by improving the effectiveness and efficiency of the system.

The annual Tax Reforms Report aims to make a contribution to these discussions by scrutinising reform trends and providing in-depth analysis of challenges and possible solutions in key areas of tax policy. At the same time, applying an indicator-based, the report identifies Member States that may have room to further improve their policies in specific areas. By making available data and analysis in a timely manner, the report provides relevant input to the process of multilateral surveillance.

This year's edition of the report aims to further stimulate the debate on tax reform. The first chapter of the report provides an overview of tax reforms that Member States implemented over the past year. It shows that many Member States continue to take measures. While the measures often represent steps in the right direction, in many cases further reforms might still be warranted to address the challenges faced.

Chapter two examines the role that taxation can play in addressing consolidation needs and explores ways to make tax structures more growth-friendly. Some Member States still face a significant consolidation challenge and increased taxation may be of help in some cases. Any revenue increases should be carefully designed. With regard to tax structures, there is room in several Member States to limit barriers to growth and job creation by shifting the burden away from labour to sources of revenue that are less detrimental to growth.

Chapter three takes an in-depth look at the size of tax bases, which is an important factor in improving tax systems. While some well-designed tax expenditures – favourable regimes or tax exemptions – can enhance positive spillovers and welfare, a system founded on broader tax bases and lower rates is generally more efficient than a system characterised by narrow bases and higher rates. In view of this, the report examines the efficiency of housing taxation, the debt bias in corporate taxation, commonly used tax expenditures in direct taxation and the VAT base. A main conclusion is that exemptions and preferential rates should be the subject of ex ante and regular ex post evaluation.

Chapter four finally presents an in-depth assessment of three specific items, namely environmental taxes, tax compliance and governance, and the link between the tax system and income equality. With regard to equality, the report illustrates the significant role that tax and benefit systems play in shaping the income distribution.

Member States' ongoing efforts to consolidate, improve the quality of public finances and to foster sustainable economic growth and employment mean that tax issues are likely to be a key issue for the foreseeable future. We hope that the analysis contained in this report will make a relevant contribution to the discussions.

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EXECUTIVE SUMMARY

Improving the design of their tax systems is a way for EU Member States to improve their public finances, to support growth and job creation, to strengthen economic stability and to increase fairness. This report on Tax Reforms in EU Member States presents an overview of the reforms recently introduced by Member States in the main areas of tax policy and provides up-to-date analysis of the main challenges in each area. It also includes an indicator-based assessment, which gives an initial indication of Member States' performance in each area.

The report's review of recent tax reforms shows that Member States have increased the overall tax burden in recent years, as part of a policy of fiscal consolidation. In 2014 the tax burden is expected to stabilise. During this reporting period, many Member States reduced the tax burden on labour. Reductions in taxes were often aimed at specific groups, such as low-income earners. Increases in labour tax were less common, with most taking the form of the removal of tax reliefs and allowances. Some Member States also increased personal taxes on passive income.

The general trend in corporate income taxation was towards a narrowing of the tax base, as Member States sought to stimulate investment and competitiveness in difficult economic circumstances. A minority of Member States however broadened the base for corporate tax, mainly by restricting loss reliefs and interest deductibility. A small number of Member States reduced their headline corporate tax rates.

Many Member States increased consumption taxes, notably by raising reduced tax rates or applying the standard rate more broadly, although there were a number of reforms that stood out as exceptions to this trend. A significant number of Member States also increased environmental taxes, but these reforms tended to have a relatively limited budgetary impact. Of those Member States that have some form of tax relief for mortgage interest payments, the majority reformed their systems so as to reduce the incentive to take on debt. Only a small number of Member States reformed their recurrent property taxes. All Member States introduced measures to fight tax fraud and tax evasion and to improve tax compliance.

In the chapters on the main challenges relating to tax policy, the report first discusses ways to reduce the taxation of labour, and considers whether there is need and scope for using taxation to improve public finances. The tax burden on labour is relatively high in the EU. Reducing this burden, particularly for specific groups such as low-income earners would have positive consequences for many Member States. The critical question however is how to finance such measures. The report notes that reducing labour taxes without offsetting the loss in revenue in is not a feasible option given the risk it would pose to public finances. Lower labour taxes therefore need to be compensated by increases in other sources of revenue, or by a reduction in public spending. Several Member States where there is currently a high tax burden on labour (overall or for specific groups) would have scope to increase taxes that are less detrimental to growth, such as taxes on consumption, recurrent taxes on immovable property, and environmental taxes. These Member States could consider a shift away from labour on to other tax bases. Despite some such measures having been introduced, the group of countries in this situation remains largely the same, suggesting a need for further reforms.

There are a number of Member States that have not yet fully secured the sustainability of their public finances, and they must therefore find an appropriate balance between cutting expenditure and raising revenue. A small number of these Member States appear to still have scope for raising taxes — their overall tax levels are low, and, either taxes have not increased significantly over the past few years, or taxes less detrimental to growth are relatively low. The group of countries in this category has changed over time, reflecting the efforts made by Member States to consolidate public finances.

The scope of the tax base is an important factor in improving tax systems. While some well-designed expenditures can enhance positive spillovers and welfare, a system founded on broader tax bases (with fewer exemptions and preferential rates) and lower rates is generally more efficient (i.e. less distortive with regard to economic decisions) than a system characterised by narrow bases and higher rates. In view

of this, the report examines the efficiency of housing taxation and of VAT, the debt bias in corporate taxation and tax expenditures in direct taxation.

Member States have several options open to them in terms of how to improve the efficiency of taxation on housing. Recurrent taxes on immovable property are among the taxes least detrimental to growth but account for only 3.8 % of total tax revenue in the EU. Increasing such taxes could therefore be a potentially effective strategy for governments looking to consolidate their finances or to finance a shift away from labour taxes. Recurrent taxes on immovable property are less distortive than property transaction taxes, and a number of Member States could therefore benefit from a shift within the taxation of residential property. The report observes that around one third of Member States provide tax relief for mortgage interest payments, a policy that can encourage household indebtedness and overinvestment in housing, can push up house prices, and can lead to an increased risk of financial instability if not complemented by corresponding taxation of imputed rents (or recurrent property taxes). Furthermore, the measures in place in a number of Member States are regressive. Recognising these problems, many of the Member States concerned are in the process of reducing the generosity of the tax relief on mortgages. Dedicated indicator values in the report also show that the difference in the cost of homeownership between EU Member States is significantly influenced by the applicable tax provisions, and the substantial variation in the contribution they make to the cost.

In a large majority of Member States, it is possible to deduct interest payments from corporate income taxes but there is no equivalent provision for the return on equity. The report identifies a number of Member States where the difference in the treatment of the two is especially large, which can create a bias towards the funding of new investment through debt, rather than equity. This asymmetry can encourage excessive leverage in the corporate sector, can lead to higher volatility in the business cycle and can create opportunities for international tax avoidance. The debt bias can be addressed either by limiting the deductibility of interest costs, or by extending the deductibility to equity costs.

The report highlights the benefit for Member States of regularly carrying out a systematic review of their tax expenditures. Tax expenditures include a wide range of specific tax provisions, such as exemptions, allowances, reduced rates and other special regimes, which are all widely used throughout the EU. The report reviews some of the most commonly used tax expenditures in areas such as employment, pensions, education, housing and research and development. While some well-designed expenditures can enhance positive spillovers and welfare, it is important to ensure that they do not cause economic distortions and that they are the most cost-efficient means of achieving economic and social policy goals. VAT is acknowledged to be among the taxes least detrimental to growth. In practice, however, EU Member States collect VAT revenue far below the level that would be reached were there no exemptions or reduced rates. Around a quarter of Member States have a VAT revenue ratio significantly below the EU average. This ratio compares actual VAT revenue with the revenue that would be collected if the standard rate were applied to all final consumption. Member States could narrow this gap by limiting the use of reduced rates and non-compulsory exemptions.

In the final chapter, the report presents an in-depth assessment of three specific items, namely environmental taxes, tax compliance and governance, and the link between the tax system and income equality.

Environmental taxation is not only a relatively growth-friendly source of revenue, it can also contribute to reaching environmental targets. The report identifies a group of around a third of Member States the design of whose environmental taxes offers particular scope for improvement. Specific measures they could introduce include adjusting the level and structure of fossil fuel excise duties so as to reflect the carbon and energy content of the fuels, and indexing environmental taxes to inflation. Member States could also restructure vehicle taxation and/or phase out environmentally harmful subsidies such as reduced VAT rates on energy products, and income tax expenditures for the private use of company cars.

In addition, there are around a third of Member States that could consider making additional use of tax instruments to achieve their targets for reducing greenhouse gas emissions.

All Member States are carrying out reforms to improve tax compliance, i.e. to ensure that the full amount of taxes due according to the law is actually paid. Nonetheless, the report identifies a significant number of Member States that need to do more to address issues in this area. It is important to find a good balance between preventive measures that promote voluntary compliance and corrective measures such as audits and fines. The report identifies Member States where the administrative cost of collecting and paying taxes is relatively high, and where the efficiency of tax administration could therefore be improved.

The report also presents findings on the evolution of inequalities within society. Although inequality as measured by market income (income derived from work and capital) rose significantly in the EU during the crisis years 2008-12, income inequality after taxes and benefits changed relatively little. At least until 2012, tax and benefit systems were able to contain a significant part of the increase in market inequality in most Member States. The picture presented varies significantly between countries however, and some Member States have suffered from rising inequality even once tax and benefits are taken into account. Furthermore, low-income households in some Member States have seen their circumstances deteriorate disproportionately. Even moderately, or not disproportionately, declining incomes tend to imply greater economic hardship for these households. These developments may explain the general perception of a growing inequality in income that is not fully reflected in aggregate statistical measures.

INTRODUCTION

Background and purpose of the report

Tax Reforms in EU Member States is an annual report by the European Commission Directorates-General for Economic and Financial Affairs and for Taxation and Customs Union. The report focuses on policy issues relevant for economic surveillance.

The purpose of the report is fourfold. Firstly, it reviews the most important tax reforms recently implemented in EU Member States.

Secondly, it discusses a number of challenges relating to tax policy that may affect macroeconomic performance, in terms of growth, employment, public finances and macroeconomic stability. As part of this, the report includes an indicator-based screening of Member States' performance in several policy areas. This provides a useful tool for identifying relevant policy challenges, as part of the EU's multilateral surveillance. An essentially mechanical assessment such as this will always however need to be interpreted together with in-depth country analysis, before any firm conclusions on policies can be made.

The in-depth analysis referred to above is carried out as part of the European Semester cycle. The Semester is launched every year with the Annual Growth Survey, a document setting out broad policy priorities for the EU as a whole. The 2014 Annual Growth Survey emphasised the importance of redesigning tax systems by broadening tax bases and shifting the tax burden away from labour onto tax bases linked to consumption, property and environment. It also highlighted the need to improve tax compliance and strengthen tax administrations. The various phases of the Semester process all feed into the country-specific policy recommendations, issued for each Member State as the conclusion of one year's cycle. In July of this year, the Council issued one or more recommendations in the area of taxation for a large majority of Member States.

The third purpose of the report is to stimulate a dialogue, both between the Commission and Member States, and amongst Member States, on the role of tax policies in promoting sustainable growth, employment, and social equity. This will encourage the exchange of best practices on tax reforms.

Lastly, the report contributes to an informed dialogue with civil society on what is generally considered a sensitive topic. This is particularly relevant in the current economic context.

Structure of the report

The structure of the report has been kept largely the same as in previous years, to allow for easy comparison. The discussion of policy challenges has however been divided into three rather than two chapters (chapters two, three and four) so as to make the report more easily navigable for readers with a specific interest.

A new feature in this year's report is the inclusion of tables in Chapter 2 that compare the results of the indicator-based screening with last year's performance. The individual chapters have also been improved by the addition of new elements and more thorough analysis.

Chapter 1 provides an overview of the most important tax reforms implemented by Member States from mid-2013 to mid-2014. Chapter 2 examines the role that taxation can play in meeting the need for consolidation and discusses ways to make tax structures more growth-friendly. Chapter 3 presents an in-depth assessment of the areas to be considered in the context of broadening tax bases: housing taxation, the debt bias in corporate taxation, tax expenditures in direct taxation and VAT. Chapter 4 examines specific challenges related to the design of environmental taxation and to tax governance and discusses the issue of income inequality and taxation. It also includes a general overview of the current challenges in the area of tax policy, summarising the most important findings from Chapters 2, 3 and 4.

1. RECENT REFORMS OF TAX SYSTEMS IN THE EU

1.1. INTRODUCTION

This first chapter identifies the main trends in tax reform seen in the period from mid-2013 to mid-2014, across EU countries. It also briefly discusses the expected change in total tax revenue. ([1]) An overview of the main tax reforms introduced in each Member State is given in Table 1.2 at the end of the chapter. ([2])

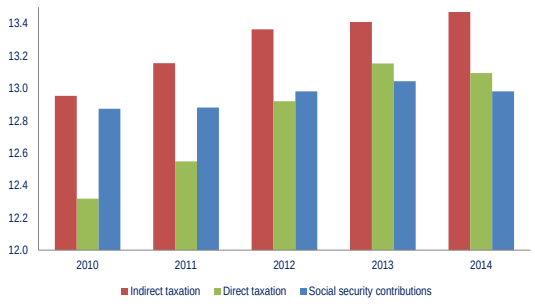
Instead of categorising the reforms according to the type of tax concerned, this chapter groups them so as to reflect the area of focus or objective they are intended to address. The categorisation thus reflects the main messages contained in the 2014 Annual Growth Survey and the associated country-specific recommendations: labour taxation and tax shifting, broadening of the tax base, competitiveness and environmental concerns, immovable property taxation, and tax compliance and tax administration.

1.2. MAIN TRENDS IN TAXATION

As part of fiscal consolidation, Member States have in recent years increased the overall tax burden (comprising direct and indirect taxes and social security contributions), as illustrated in Graph 1.1. Taxes have been increased across the board, as described in recent years' reports on tax reforms. In 2014 the tax burden is expected to stabilise.

The specific reforms introduced in Member States between mid-2013 and mid-2014, see Table 1.1, show that many Member States have taken measures to increase indirect taxes. Consumption taxes and, to a much lesser extent, environmental taxes — both considered to be among the taxes less detrimental to growth — have been increased in a large majority of countries. Nonetheless, although almost half of Member States took measures that improved the efficiency of the VAT structure (e.g. increasing reduced and/or intermediary rates or broadening the application of the standard rate), some also, at the same time, enacted measures introducing new reduced rates or extending the application of reduced rates to new categories of goods and services. Moreover, around a quarter of Member States have decided to rely on increases in the statutory rates rather than on a broadening of the VAT base, for example by narrowing the application of some inefficient reduced rates. Most of the increases in environmental taxes reported relate to excise duties on energy products, with a limited budgetary impact.

Graph 1.1: **Evolution of tax revenues (EU, percentage of GDP)**



Note: 2014 data is based on the Commission's 2014 spring forecast. Data refer to tax revenues to general governments, excluding indirect taxes levied by national governments on behalf of EU institutions. Data is based on ESA95 methodology.
Source: European Commission annual macroeconomic database.

In the field of labour taxation (personal income tax and social security contributions), more countries decreased than increased the tax burden (measured as a percentage of GDP). As described in more detail below, many of the measures introduced to reduce the tax burden on labour were focused on specific groups, such as low-income earners.

Of the Member States that have some form of tax deduction on mortgage interest, a majority have reformed their systems so as to reduce the incentive to take on debt. A small number of Member States made changes to their recurrent taxes on immovable property, with both increases and decreases reported.

Many of the reforms affecting corporate income tax included measures to narrow the tax base, in

([1]) Based on the Commission's 2014 spring forecast, with data from the annual macro-economic database.

([2]) This chapter draws on Garnier et al. (2013 and 2014) and on information provided by Member States in their national reform programmes and/or stability and convergence programmes. An overview of the main tax reforms implemented in the EU Member States since 2010 and reported in this and past editions of the report can be found in the 'Taxation reforms database'.

order to stimulate investment in or improve the competitiveness of certain sectors. A small number of countries also reduced their headline corporate tax rates. There were also countries which broadened the corporate income tax base, mainly by restricting loss relief and interest deductibility.

The majority of Member States took further measures to fight tax fraud and evasion and to improve tax compliance.

Table 1.1: **Tax changes adopted from mid-2013 to mid-2014**

			Statutory rates	Base or special regimes
Personal income tax		Increase	AT, ES, PT	AT, BE, CZ, EL, FI, FR, HR, IE, LT, NL, SE, SI
		Decrease	BG, EE, EL, MT, NL	BE, BG, CZ, DK, DE, EE, ES, FI, FR, IT, LT, LV, MT, NL, SE, RO, SI, UK*
Corporate income tax		Increase	BE, DE, EL, FR, PT, SK	AT, BE, EL, ES, FI, FR, HR*, LT, LV, PL, SE, SK
		Decrease	DK, EE, FI, FR*, ES*, PT, UK, SK	AT, BG, BE, EL, ES, FR, HR, IE, IT, LT, LV, NL, PT, RO, UK
Social security contributions		Increase	CY, HR	CZ, EE, HR, HU, RO, SK
		Decrease	AT, EE*, IT, LV, RO	BE, ES, FR, HU, LV, SE, SI, SK, UK
Value added tax		Increase	CY, FR, IT, LU*, PL(**), SI	BE, CY, DE, DK, EE*, EL, FR, HR, IT, LU*, PL(**), SI
		Decrease		BE, DK, EL, ES, FR, IE(**), LT, RO
Excise duties	Energy products and electricity	Increase	BE, CY, BG, EE, ES, FI, FR, HR, IT*, LV, MT, NL, PL, RO, SI	BE, EE*, FR
		Decrease		BG, DK, DE, HR, UK
	Tobacco, alcohol and sugar etc.	Increase	AT, BE, CZ, DE, EE, ES, FI, HR, IE, IT, LT, LV, MT, NL, PL, PT, RO, SE, SI, UK	
		Decrease	DK, UK	
Environmental taxes (excluding excise duties on energy)		Increase	AT, BG, ES, FI, FR, HR, HU, IT, LT*, LV, NL, PT, SI, UK	BE, CY, FR, NL, UK
		Decrease	BG, IE	DK, MT, UK
Property taxes		Increase	EL, IE, IT, CY, LT, NL, RO	CY, ES, HR*, UK
		Decrease	EL, IT	EE, LV, MT

Note: The table encompasses tax changes implemented or adopted from mid-2013 to mid-2014 including temporary changes. Tax measures are reported individually and not consolidated based on their budgetary impact. Announced changes are marked with a star (*). New taxes are listed as an increase in statutory rate. In VAT, only changes in the standard rate are reported as rate change; any other change (including changes in the level and scope of reduced rates) is considered a change in base/special regime. Special tax regimes include measures designed for targeted groups. Countries marked with (**) are Member States that decided to maintain a temporary measure. If the initial measure was a temporary tax reduction for a given period, the decision to extend this measure is reported as a decrease and conversely.
Source: European Commission.

1.3. LABOUR TAXATION AND TAX SHIFTING

In the context of the economic crisis and, especially, given the current high levels of unemployment, the effect of high taxes on labour is particularly damaging — both in terms of the incentive for individuals to work and for firms to recruit, and from the perspective of fairness. This latter aspect has recently taken on greater importance, influencing reform programmes in several Member States. Reforms relating to labour taxation can take one of two forms (which can be complementary): (i) a general decrease in overall labour taxation; and (ii) a targeted reduction in the tax burden placed on the most vulnerable groups in the labour market.

Between mid-2012 and mid-2013, a third of Member States introduced targeted reductions in labour tax. Over the last twelve months, from mid-2013 to mid-2014, the number of countries implementing such measures increased further. The generally preferred approach of the Member States who chose to reduce taxes on labour in the most recent reporting period was to increase the tax-free allowance or the tax credits offered within the personal income tax system. Thirteen countries — Belgium, Bulgaria, Denmark, Germany, Estonia, Italy, Latvia, Lithuania, Malta, the Netherlands, Finland, Sweden and the United Kingdom — took such a measure. The fact that these reductions in the tax burden direct the benefit towards the employee could be interpreted as a reaction to the nascent recovery and as a shift in policy, with greater emphasis being placed on the need to improve the living standards of disadvantaged groups in society. At the same time, a small number of Member States introduced measures to alleviate the tax burden on employers providing employment for people 'on the margins' of the labour market, such as the long-term unemployed in Slovakia and low-income earners in Belgium. Hungary extended the duration of the reduction in employers' social security contributions for mothers of at least three young children.

A number of Member States also implemented across-the-board measures (affecting both low and higher earners), mostly relating to social security contributions. This was the case for Estonia, France, Italy, Latvia, Hungary ([3]), Austria and Romania ([4]).

([3]) As of 2013, a family tax allowance was introduced in employees' SSC, and an allowance for mothers having at least 3 children was extended within the system of targeted cuts in employers' SSC.
([4]) A measure is planned but has not yet been adopted.

The trend for increases in labour tax that emerged at the height of the economic crisis — targeting higher earners in particular, in the form of surtaxes on high incomes, new tax brackets for top earners and increases in the top-band rate of personal income tax — appears to have run its course. Labour tax increases were relatively scarce in the time period covered in this report, and mostly took the form of restrictions of tax credits or tax reliefs benefiting higher earners (Belgium, Ireland, France, the Netherlands and Austria) or a restructuring of tax rates (Portugal). In addition, Croatia and Cyprus increased social security contributions, Estonia increased the minimum level of social security contributions, and Slovenia abolished a tax allowance for older taxpayers. It should be noted that in several countries where increases to personal income tax or social security contributions were seen, these mainly or exclusively affected passive income and not labour income (the Czech Republic, Croatia, Lithuania, Hungary, Austria, Portugal, Romania, Finland and Sweden).

When public finances are strained, there is often no scope for reducing the tax burden on labour independently. Instead, governments are obliged to offset the lost revenue by reducing expenditure or by shifting the burden from labour onto taxes that are less detrimental to growth, such as taxes on consumption, pollution and property. Those Member States facing the greatest fiscal constraints and, therefore needing to increase overall revenue for the purpose of consolidation, are unlikely to be in a position to reduce labour taxes at all. These countries could still, however, ensure a relative shift in taxes away from labour by not increasing labour taxes while increasing taxes less detrimental to growth more substantially.

In the period under consideration in this report, Member States increased VAT (Spain, France, Italy, Cyprus and Slovenia), excise duties on fuels (Belgium, Bulgaria, Estonia, Spain, France, Croatia, Italy, Cyprus, Latvia, Lithuania, Malta, the Netherlands, Romania and Slovenia) and excise duties on tobacco and alcohol (Belgium, Bulgaria, the Czech Republic, Denmark, Estonia, Spain, Croatia, Italy, Latvia, Lithuania, Malta, the Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Finland and the United Kingdom).

Importantly, there seems to be a growing level of acknowledgement that revenue-raising tax reforms should not, if possible, be at the expense of the poor. Many reforms have therefore been designed with social concerns in mind, and aim to benefit low-income earners in particular, even when the fiscal scope is limited.

1.4. BROADENING OF THE TAX BASE

In many Member States, there is scope to broaden tax bases, and thus to increase the potential for revenue collection, open up the possibility of reducing standard tax rates and/or simplify the tax system. Most tax systems contain various exemptions, allowances, reduced rates and other specific regimes, known as ‘tax expenditures’. These tax expenditures may not always be justified and in some cases may not be the most efficient tools to achieve their social, environmental or economic objectives, as discussed in section 3.3.

Countries broadening the tax base have tended to focus on measures that simplify the system, where VAT is concerned. For personal income tax and corporate income tax the trend is less clear. In many cases where Member States increased statutory tax rates, broadening the tax base may in fact have been a more effective strategy.

1.4.1. Value added tax

A number of studies ([5]) illustrate the welfare gains that can be achieved by means of broadening the VAT base.

Almost half of Member States (Belgium, Denmark, Germany, Estonia, Greece, France, Croatia, Italy, Cyprus, Luxembourg, Poland, and Slovenia) have recently broadened their VAT bases or increased the reduced rates applied to certain goods and services. In Belgium, for example, legal services became subject to standard VAT as of January 2014. Also Italy has lowered the scope of application of reduced rates for specific goods or services. France and Slovenia have increased their reduced VAT rates. At the same time, however, eight Member States (Belgium, Denmark, Ireland, Greece, Spain, France, Lithuania and Romania) either introduced

([5]) e.g. Mirrlees et al. (2011).

new reduced rates, lowered their existing reduced rates, or extended the scope of their application to cover additional goods or services, with, in some cases, significant budgetary consequences. France, for example, now applies its reduced VAT rate to energy and services related to social housing and to cinema tickets. The Czech Republic proposed moving certain items onto one of the lower rates of VAT, instead of, as initially planned, replacing the various different rates with a single rate. (Legislative measures for a single VAT rate had been adopted but were subsequently repealed.) Lithuania extended the 5 % reduced VAT rate for pharmaceuticals and medical aids indefinitely. The VAT rate on household electricity consumption in Belgium was reduced from 21 % to 6 %, with effect from April 2014. Generally such measures run counter to the objective of simplifying the tax system and broadening the tax base.

Around a quarter of Member States, meanwhile, decided to increase their standard VAT rates. These included France, Italy, Cyprus, Luxembourg and Slovenia. Poland chose to maintain its temporary increase in VAT.

1.4.2. Personal and corporate income tax

Extensive use of tax expenditure in personal and corporate income tax may introduce differences in the treatment of taxpayers. These types of tax break could make the system more complex and can increase compliance and administrative costs.

Some countries have increased their personal income tax bases (Belgium, the Czech Republic, Ireland, Greece, France, Croatia, Lithuania, the Netherlands, Austria, Slovenia, Finland and Sweden) and/or their corporate income tax bases (Belgium, Greece, Spain, France, Croatia, Latvia, Lithuania, Austria, Poland, Slovakia, Finland and Sweden).

France made efforts to reduce tax expenditure: several tax benefits, such as the family allowance (based on income splitting) and the exemption for child-related pension bonuses, have been reviewed or abolished, in order to help lower the budget deficit. In Ireland, tax relief on medical insurance premiums will be restricted and tax relief on loans to acquire an interest in a partnership will be phased out over a four-year period. Belgium lowered the upper limit on the tax-deductible value of service vouchers, a system for paying for household services which entails a tax deduction on the amount spent.

In general, most Member States narrowed the tax base for corporate income tax, but a number of countries did also broaden the base. In some cases, reforms were introduced containing both measures to narrow and to broaden the tax base. At first sight, this may seem contradictory, but it actually hides two separate trends: on the one hand, Member States narrowed their tax bases in order to stimulate competitiveness, in some cases of particular sectors (e.g. by extending tax credits for research and development or for the film or tourist industries); on the other hand, they broadened the tax base by restricting loss relief (Greece, Lithuania and Slovakia), or so as to limit opportunities for tax avoidance. Poland, for example, extended the scope of corporate income tax to cover certain forms of partnership used for avoiding taxes; Spain made impairment losses on share capital held in other entities and permanent establishment losses non-deductible, in order to avoid the same losses being deducted twice; Austria now only allows full deduction of interest and royalties payments in cases where the receiver will be subject to tax at a rate of at least 15 % on the amounts in question. Other Member States introducing measures to tackle tax avoidance included Slovakia, which introduced a minimum corporate income tax rate together with a decrease in the headline rate, and Belgium, which introduced a ‘fairness tax’ — a minimum tax for large companies that take advantage of the notional interest deduction and/or carry-forward losses. Payment of this tax is triggered by a dividend distribution where the profits being paid out have effectively not yet been taxed.

1.4.3. Addressing the debt bias

A large majority of corporate tax systems still favour debt over equity financing by allowing the deduction of interest costs while making no similar provision for equity returns. Corporate tax therefore creates a bias towards debt financing. Favourable treatment of debt may create significant risks, as it gives companies an incentive to take on debt. It may also erode the tax base by encouraging international profit shifting and the use of hybrid instruments. In general, the discrepancy in tax treatment can be remedied by

removing or restricting interest deductibility (e.g. by introducing a system of comprehensive business income tax) or by introducing an allowance for corporate equity which counteracts the effect of the treatment of debt finance by offering a tax deduction on normal returns on equity (see section 3.2. for a discussion of this point).

A number of Member States having already started addressing the problem of debt bias in corporate taxation continued to take action in this area. The measures introduced have mainly focused on restricting the level of deductible interest. In Finland, new rules limiting the deductibility of interest on intra-group loans came into force in January 2014. The rules stipulate that net interest of below EUR 500 000 will always be deductible. Above this threshold, the deductibility is limited to 30 % of earnings before interest, taxes, depreciation and amortisation (EBITDA). Greece also introduced measures limiting deductible interest based on EBITDA. The measures apply to all companies, for amounts above the threshold of EUR 3 million (EUR 5 million until the end of 2015). A number of countries adjusted the thresholds for interest deductibility, while others modified their rules on allowances for corporate equity (Belgium and Italy). Italy introduced an incremental ACE incentive (so called 'super ACE') for companies that decide to list themselves on an official EU or EES stock market([6]). In France, as of 2014, deductibility is limited to 75 % of net interest above the threshold of EUR 3 million. Portugal lowered the threshold above which limitations on deductibility apply from EUR 3 million to EUR 1 million. Latvia abolished its allowance for corporate equity and Slovenia introduced changes to its thin capitalisation rules.

Addressing debt bias in housing taxation

In many Member States, interest paid on a mortgage to finance owner-occupied housing is partially or fully deductible from personal income tax, while the 'return' on the mortgage in the form of imputed rent for living in the house is not taxed. This may encourage household indebtedness, contribute to higher house prices and lead to an increased risk of financial instability, in particular in times of crisis. In many countries, the housing market is now emerging from a phase of downward adjustment, and significant efforts are being made to deleverage. Major changes in taxes on housing have therefore been focused on addressing the debt bias, by reducing the deductibility of mortgage interest (see section 3.1 for a discussion of this point). The majority of Member States that have some form of mortgage interest deduction have made changes to their tax system. Spain and Ireland chose to remove interest deductibility entirely for new mortgages (from 2013), while the Netherlands and Finland have taken measures to reduce it gradually. In the Netherlands, interest deductibility will only be available on new mortgages on owner-occupied dwellings if the principal is to be fully repaid within 30 years. Moreover, the maximum income tax rate to be applied for the deduction will be gradually reduced from 52 % to 38 %. From 2015, Belgium is to apply a fixed deduction rate of 45 %, in preparation for the transfer to the regions of additional fiscal powers, including the setting of tax reductions on owner-occupied dwellings. In Finland, the deductible part of mortgage interest will be reduced for homeowners from 85 % in 2012 to 50 % by 2018. Luxembourg and Estonia have both significantly reduced the maximum deduction. Greece brought the tax treatment of owner-occupied housing more into line with that of other investments, by introducing a 15 % withholding tax on capital gains on real estate in 2014.

1.5. COMPETITIVENESS AND ENVIRONMENTAL CONCERNS

1.5.1. Competitiveness

Facing concerns about declining competitiveness, many Member States introduced tax changes that they hoped would cushion the effects of the crisis. These were aimed in particular at helping small companies, and stimulating private sector investment. Several Member States made changes to the corporate tax base designed to incentivise investment and entrepreneurial activity. Measures

([6]) The recently adopted Decree Law 91/2014 has strengthened some features of the ACE: for companies that decide to list themselves on an official EU or EES stock market, for three years the amount of additional equity, subject to ACE, is incremented by 40% (so-called "super ACE"). The Decree Law sets that the measure will become operational upon authorization by the European Commission.

included the introduction of more generous incentives for research and development and innovation, and for start-ups and small businesses. These types of tax incentive should be carefully designed so as to reduce windfall gains and promote the cost-effectiveness of the incentive. In addition, a small number of Member States reduced their headline tax rate on corporations (Denmark, Estonia, Finland and the United Kingdom), while others announced reductions in corporate income tax rate (Spain and France). Italy lowered the standard IRAP rate from 3.9% to 3.5%, and confirmed tax relief for new jobs created, by allowing deductions from the IRAP tax base for new workers hired with a permanent contract. In Slovakia and Portugal, reductions in the headline rates were accompanied by the introduction of a minimum rate (Slovakia) and by an extension of the extraordinary surcharges on high profits and the introduction of a reduced rate for smaller businesses (Portugal).

Incentives for research and innovation

A large majority of Member States apply tax incentives to stimulate private investment in research and development. This type of incentive has become increasingly attractive since the onset of the crisis. The trend reported last year of extending tax incentives for research and development in order to stimulate private sector investments continued into 2013-14. During this reporting period, around half of Member States introduced or announced changes to the tax support they offer for research and development. Latvia introduced a new form of tax relief for certain costs related to research and development which will apply from July 2014. Italy established a tax credit for R&D, targeted at firms with turnover below 500 billion euros, for the years 2014-2016.

The emphasis in many reforms appears to be on attracting top talent, by improving the incentives offered to those working in research and development (the Czech Republic, France, Italy, Portugal and Sweden). Sweden has reduced employers' social security contributions for employees working in research and development. Italy introduced a tax credit for recruiting new highly skilled employees in research and development and France extended its research tax credit so as to offer a greater tax incentive to young, innovative companies, notably by extending exemptions from social security contributions to cover employees involved in innovative activities. The Czech Republic has extended the application of tax deductions for professional development of employees.

Other changes focused on improving the way in which tax incentives for research and development are used to help companies with insufficient profits to fund the necessary investment themselves (Denmark, Spain, Portugal and the United Kingdom). Denmark and the United Kingdom increased the maximum value of tax incentives for research and development that can be given as a cash payment (for small and medium-sized enterprises only in the United Kingdom) and Spain amended its rules on tax incentives so as to allow businesses to be reimbursed for unused credits. A small number of Member States also introduced quality control measures to ensure the relevance of the research and development being supported (Belgium, Austria and Portugal). Since 2013, the Austrian Research Agency has been assessing the scientific relevance of claims for tax credits for research and development on behalf of the Finance Ministry. Portugal introduced reforms in all three of the areas mentioned above, by extending the period during which unused credits can be carried forward, offering more generous tax deductions for employees holding PhDs and introducing mandatory audits by a research agency upon conclusion of a project. France has published an evaluation of its direct subsidies and fiscal incentives to R&D. ([7])

It is important to evaluate tax incentives for research and development regularly, in order to ensure that they are cost-effective and achieve their intended objectives. An expert group commissioned by the European Commission issued specific guidance in 2009 for conducting such evaluations ([8]) but only a relatively small number of Member States evaluate the tax incentives they offer in this area on a regular basis.

([7]) Lhuillery S., Marino M. et P. Parrotta, « Evaluation de l'impact des aides directes et indirectes à la R&D en France », décembre 2013. http://www.enseignementsup-recherche.gouv.fr/cid80828/evaluation-de-l-impact-des-aides-directes-et-indirectes-a-la-r-d-en-france.html

([8]) European Commission expert group, (2009).

Incentives for entrepreneurship and investments

Several Member States introduced or extended tax measures aimed at incentivising entrepreneurial activity, investment in certain sectors or specific investments. Some Member States introduced tax incentives to stimulate reinvestment of profits, in particular for small companies (Ireland, Spain and Portugal). A small number of Member States tried to stimulate equity investment in small unquoted companies (Spain, France, Finland, Sweden and the United Kingdom). Sweden launched a new tax incentive for business angels in December 2013, whereby individuals acquiring shares in new or expanding small and medium-sized enterprises can deduct half of the amount of the purchase, up to SEK 650 000 per person and per year, from their net capital gains for the year. The United Kingdom introduced a new tax relief measure for investment in shares and certain qualifying debt instruments issued by social enterprises. A tax relief measure introduced to promote investment in 'seed enterprises' (small business not yet quoted on the stock exchange) was also made permanent. In addition, the United Kingdom announced an increase in the annual investment allowance from GBP 250 000 to GBP 500 000 for an extended temporary period from April 2014 to 31 December 2015. The increase in the allowance will be effective for expenditure incurred on or after 1 April 2014. Italy introduced a 15% tax credit on expenses in equipment and machinery exceeding the previous 5 years average. Portugal granted a temporary corporate income tax credit limited to 20 % of investment expenses or EUR 1 million (corresponding to a maximum eligible investment of EUR 5 million), for investments made between 1 June and 31 December 2013.

A small number of Member States introduced or extended incentives relating to specific sectors, for example the cultural and creative sectors, in the case of Spain, Italy, Lithuania and the United Kingdom. Italy launched an 'Artbonus', a new tax credit designed to support cultural heritage (art and architecture, theatres and music foundations). The tax credit is awarded for up to 65 % of an investment in 2014, and up to 50 % in 2015 and 2016, and it is also limited with reference to the investors own taxable income – the credit claimed cannot represent more than 15 % of his or her taxable income. This tax credit can be granted to individuals and not-for profit taxpayers. Italy has also introduced a new tax credit to support digitalisation and modernisation of the tourist sector, and a 15 % tax credit on additional investment in machinery and equipment made within the year from the end of June 2014. At the same time, however, Hungary increased sector specific taxation. It introduced a new tax on advertising and increased the rate of the telecommunication tax and the financial transaction levy.

1.5.2. Environmental and health taxation

Many Member States could do more to accommodate environmental concerns within their tax systems. There is scope to make changes both to the levels of taxation and to the structure and design of environmental taxes. Tax expenditure that has a negative environmental impact also needs to be revised, e.g. reduced VAT on energy and the implicit subsidies in the tax regimes for company cars. In addition, many Member States also have scope to increase health-related taxes (i.e. taxes on products detrimental to health). Health- and environment-related excise duties can contribute to consolidation or can be used as an alternative source of revenue in place of more distortive taxes. Beyond this, they can also offer additional benefits by inducing changes in behaviour.

Continuing the trend from the previous year, a significant proportion of Member States increased excise duties on energy, albeit in many cases with limited budgetary consequences (e.g. Bulgaria and Latvia). In some Member States, however, decreases took place or were prolonged (Bulgaria, Denmark, Germany, Croatia, Latvia and the United Kingdom).

A number of Member States are relying increasingly on taxes on pollution and resources. Italy, for example, introduced, taxes on waste, Lithuania announced a similar tax and Hungary extended its existing measures. Latvia increased the existing taxes on natural resources and introduced two new taxes in this area, and Spain introduced a tax on fluorinated greenhouse gases.

Some Member States have taken measures to improve the design of taxation on cars (Bulgaria, France, Croatia, Cyprus, and Austria). Bulgaria,

for example, is changing the rates of tax on motor vehicles to better reflect their environmental impact. Croatia introduced special taxes on motor vehicles. Cyprus pursued its reform of the excise duties on motor vehicles, based on environmentally friendly principles (with carbon dioxide emissions being used as a reference). France proceeded to the hardening of its 'malus automobile', in order to promote the acquisition of environmentally-friendly cars. Estonia is also currently making changes to the taxation of company cars by reducing the VAT deductibility of company cars used for private purposes to 50 %. Portugal increased the corporate tax rate on expenses related to company cars, with the new rate coming into effect in 2014. In Italy companies can deduct 20% (down from the previous 40%) of the costs of cars available within the company for general use and 70% (down from the previous 90%) of the costs of cars assigned to an employee for business and personal use.

A small number of reforms also stand out as exceptions to the trends described above. Belgium introduced a reduced rate of VAT for household electricity consumption, Bulgaria reduced to zero the excise duty on electricity for households, the Czech Republic abandoned plans to introduce a carbon tax, the United Kingdom planned a freeze on fuel duty (to be effective as of September 2014) and removed some destination bands for air passenger duty, and France abandoned plans to introduce a tax on heavy trucks (eventually to be replaced by a toll transit for heavy trucks).

Lastly, more than half of Member States have increased excise duties on tobacco, alcohol or sugar.

1.6. IMMOVABLE PROPERTY TAXATION

A number of Member States have begun shifting more of the tax burden onto immovable property, as recurrent property taxes are considered to be among the least detrimental to growth. Moreover, the measures introduced by some Member States are designed to make property taxation more progressive, by targeting higher-end properties so as to minimise the potential social impact.

In 2013, Lithuania increased the upper limit of the tax rate on immovable property. A new local property tax came into force in Ireland in July 2013. Residential properties are now subject to a tax rate of 0.18 %, up to the value of EUR 1 million, rising to 0.25 % on the excess above this threshold. In April 2013, the United Kingdom introduced changes to legislation on the taxation of properties with a taxable value over GBP 2 million owned by specified non-natural persons, in order to close certain tax avoidance loopholes. The threshold for this tax will be gradually reduced to GBP 500 000 in 2016. In 2014, Romania introduced a new tax of 1.5 % on the book value of specific types of building that were not already subject to local property taxes.

Cyprus increased the tax rates applicable to immovable property and also widened the property tax base in 2013. Spain extended the application of its surcharge on real estate taxation from 2013 to 2015. The Netherlands introduced a new tax on renting out social housing in 2013. This rate will increase from 0.381 % of the value in 2014 to 0.536 % of the value in 2017. Both Greece and Italy merged several taxes on immovable property into one in 2014. In Italy, houses are subject to a new tax (TASI) related to indivisible services supplied by local communities to occupiers, both owners and renters. In Slovenia, the new tax on immovable property was abolished in 2014 after a decision by the Constitutional Court.

A number of Member States reduced recurrent property taxes. In 2013, Estonia, Italy and Latvia reduced recurrent property taxes for specific groups: Estonia abolished the land tax on small and medium-sized residential properties; Italy excluded a person's main or only residence (apart from luxury houses) from the recurrent property tax; and Latvia introduced a law allowing a possible reduction in property taxes for families with three or more children.

Only a small number of Member States (Greece, France, Italy, Cyprus, and Romania) have announced plans to update cadastral values. In many countries, the property values used for the purpose of taxation are out of date. As property prices can have changed quite differently in different regions, use of out-of-date valuations can create problems in terms of the equity of the tax. Furthermore, updating cadastral values can offer an opportunity for increasing revenue. In 2013, Portugal completed a major exercise involving the

revaluation of 4.9 million properties, in order to provide up to date valuations as a basis for the new property tax regime. The value used for calculating property tax still differs however from the market value in some cases, and the taxable values will need to be updated regularly, with due consideration given to the consequences of revaluations. With the enabling law for reforming the tax system, Italy will update the current cadastral values. The aim is to bring them in line with market values in order to improve fairness in property taxation.

A number of countries increased property transfer taxes while others reduced them. Recurrent property taxation on immovable property is generally considered more efficient than taxing transactions involving property, due to the frictions in the market which are created by the latter. Gearing the system towards recurrent taxes could help to improve the overall design of property taxation. The Czech Republic and Finland nonetheless increased property transfer taxes, introducing new rates of 2 % and 4 % respectively. Italy reduced the rate applicable to main or only residences to 2 % and increased the rate for other immovable property to 9 %, as of January 2014. In March 2014, the United Kingdom introduced the lower threshold of GBP 500 000 (previously GBP 2 million) for the 15 % tax rate applying to non-natural persons purchasing high-valued property. Having introduced a capital gains tax on immovable property, Greece reduced its real estate transfer tax to 3 % in 2014.

1.7. TAX COMPLIANCE AND TAX ADMINISTRATION

The fight against tax fraud, tax evasion and aggressive tax planning has been gathering pace across the EU. The political momentum behind these actions stems from the desire to make the tax system fairer and more efficient. Examples of the results of action taken by Member States include: in Spain, enforcement actions brought in additional revenue of EUR 10.9 billion in 2013, as compared with EUR 9.2 billion in 2011; in France, the additional revenue collected thanks to detection of tax evasion and avoidance rose from EUR 16.4 billion in 2011 to EUR 18 billion in 2013. In the United Kingdom, the revenue authority's efforts to tackle non-compliance has brought in additional tax revenue of GBP 23.9 billion in 2013-14, an increase of about 30% compared with 2011 figures (GBP 18.6 billion). ([9]) Fighting tax evasion not only contributes to reducing the tax gap, it can also help tax authorities to meet two other critical objectives: making tax collection more efficient and reducing the compliance burden for taxpayers. While all tax administrations aim to improve their efficiency, in some Member States in particular, much more could, and should, be done, as illustrated in Chapter 4.

The issues of non-compliance with tax legislation and poor quality of tax administration are interlinked, and the measures needed to resolve both can be encompassed collectively termed 'improving tax governance': for example, in order to reduce tax evasion, a country might step up the checks it carries out, which may in turn increase the administrative burden of paying taxes. On the other hand, simplifying tax regulations and procedures for payment and helping taxpayers to fulfil their obligations can have a positive effect on tax compliance.

There is a general consensus that an efficient tax administration policy needs to include both systems for detection of tax fraud and tax evasion and measures to simplify the payment of taxes: on the one hand, detection of tax fraud or evasion — and sanctions for taxpayers who deliberately avoid paying taxes or make no active effort to comply with tax rules — on the other, simplification for those who want to comply but struggle with the complexities of the system. Finding an appropriate balance between the two can however prove difficult.

Member States took steps to improve tax governance during the reporting period 2013-14. The measures adopted included both systems to facilitate voluntary compliance and strategies for enforcement.

([9]) 2011 values are from OECD, 2013, pp. 370-371. The sources of other figures are, respectively: for Spain, the national agency for tax administration, *la Agencia Estatal de Administración Tributaria* (see link to website in reference list); for France, the government's public finance department, *la Direction générale des Finances publiques*, 2014; and for the United Kingdom, Her Majesty's Revenue and Customs (see link to website in reference list).

These were designed, variously, to facilitate voluntary compliance, and to improve enforcement of tax legislation. Member States tailored their actions to their individual circumstances, some focusing more on simplification and others more on compliance enforcement.

Reform of tax administrations at organisational level continues to feature strongly in Member States' strategies. Bulgaria, for example, has set up a specialised directorate for detection of tax fraud within its national revenue agency. The Czech Republic is reviewing the scope of its project to set up a 'single collection point', which would merge the collection of taxes, duties and social security contributions. Croatia has reorganised its tax administration, with the aim of improving its efficiency. Cyprus is planning to set up a single restructured revenue agency combining what were previously two separate revenue collection agencies into a single restructured revenue agency. Denmark has reviewed the administrative structure of its tax administration in order to improve the efficiency of tax audit and control. Malta is planning to complete the merger of its revenue departments into a single authority by November 2014, combining the administration of VAT and income tax returns. Romania has restructured its national agency for fiscal administration, setting up a new anti-fraud department. Portugal's compliance risk management unit is now fully operational.

Tax collection could be said to be 'mostly a matter of information processing' ([10]) and it is therefore essential for tax administrations to be able to make use of appropriate IT systems for managing tax collection, including for their anti-fraud operations, and for providing services to taxpayers. Bulgaria, for example, has extended the range of e-services offered to taxpayers, while Ireland, has introduced a new IT system for submitting local property tax returns online. Italy has fully implemented its new income assessment system. Poland has begun implementing a comprehensive project to modernise tax administration. It is preparing to introduce pre-filled tax returns, and has reorganised the databases used by its tax authorities. Spain has tightened controls on e-commerce and online gambling. The United Kingdom has launched a new digital strategy for its tax administration.

Several Member States have undertaken more targeted enforcement actions against tax fraud and tax evasion, often as part of multiannual strategies focused on important sectors considered high risk with regard to tax fraud. Bulgaria, for example, has focused investigations on tobacco smuggling and fuel frauds. Cyprus is currently developing a comprehensive compliance management strategy based on risk analysis. Estonia has prioritised checks on high-risk sectors such as construction, catering and hospitality and is considering possible improvements to the use of risk management in tax audits. Finland has continued to implement its multiannual action plan to tackle the shadow economy. In Italy, the fiscal authorities have started implementing plans for operations targeting undeclared income and money laundering. Latvia completed the implementation of its plan for combating the shadow economy and ensuring fair competition. The Lithuanian State Tax Inspectorate has been implementing its action plan on tax compliance for 2013-14, which targets the most common tax evasion practices and includes measures to improve voluntary compliance. Malta has introduced several measures to improve tax audits and risk analysis. Slovakia has pursued the implementation of its three-stage anti-fraud action plan focusing on VAT compliance. Slovenia has adopted a programme to tackle the shadow economy. ([11])

Enforcement actions, such as those described above, have been used by Member States alongside measures to make paying taxes simpler, such as extending the e-services offered by tax administrations — as already mentioned above — and also, in some cases, changes to tax rules. Austria, for example, has raised the threshold below which certain simplifications are allowed in VAT invoices. Bulgaria has introduced an optional cash-based VAT regime for small taxpayers, and, in December 2013, Cyprus introduced a cash accounting scheme. Italy has approved a set of provisions to send out pre-filled tax returns to around 30 million taxpayers, especially employees

([10]) From the 2011 Finnish tax administration annual report, p. 26.

([11]) Although these efforts suggest that several Member States are stepping up the fight against tax fraud and evasion, it is difficult to assess whether they have increased enforcement actions in *all* sectors of tax fraud and evasion and whether they are becoming more effective in fighting it.

and pensioners, starting from 2015, and to expand the use of e-invoicing. Latvia has reduced the administrative burden associated with paying VAT on real estate transactions. In 2013, Portugal introduced an e-invoicing system, making invoicing mandatory and requiring invoice data to be submitted electronically. It has also provided tax incentives to encourage consumers to request invoices in certain sectors where collection of tax revenues is particularly difficult.

While tax laws have in some cases been changed to simplify tax collection, in other instances, Member States have tightened the rules to prevent tax fraud and tax evasion. A growing number of countries are targeting cash transactions and many are also considering making greater use of reverse charge mechanisms for VAT. Austria, for example, has strengthened the supervisory framework for gambling activities. Bulgaria has tightened rules on the movement of goods classed as being at high risk of fiscal fraud within the country. In the course of 2013, Croatia completed the implementation of its strategy on online cash registers ('fiscalisation'), designed to make it easier for the tax authorities to monitor cash transactions. ([12]) The Czech Republic is planning to lower the limit for cash payments and to extend the use of reverse charges for VAT. ([13]) France is considering extending the use of reverse charges to the construction sector and introducing a quick reaction mechanism, an accelerated procedure whereby a reverse charge can be applied to specific supplies of goods and services for a short period of time in cases of sudden large-scale VAT fraud, subject to approval by the European Commission. Germany has decided to tighten its rules on voluntary disclosure to discourage tax evasion. Hungary has completed the introduction of online cash registers across the country, extended requirements for information from VAT taxpayers and introduced a reverse charge mechanism for VAT in the agricultural sector. Italy has made it compulsory for businesses to accept credit cards as a means of payment for purchases of goods and services, including professional services. Malta has tightened provisions regulating the transfer of shares and has strengthened its legal framework in order to combat tax evasion. The Netherlands is planning to take measures to restrict the improper use of company structures to avoid obligations towards employees. Slovakia has extended the use of reverse charges for VAT. Slovenia has tightened rules on the use of cash registers.

Tax administrations are cooperating to an increasing extent with other domestic law enforcement agencies and also with tax authorities in other countries. Austria, for example, has developed its system for exchange of information between tax and social security authorities. Moreover, Member States have extended their information exchange network, for example, Malta has strengthened its links with foreign tax authorities and Spain has further extended its network of international agreements on exchanging tax information. More generally, almost all Member States have reached agreement with the US on the Foreign Account Tax Compliance Act (FATCA) ([14]) and have promoted cooperation both at regional level within the country (e.g. the United Kingdom with its Overseas Territories and Crown Dependencies) and with other EU Member States. During the United Kingdom's Presidency in 2013, the G8 promoted automatic exchange of information in tax matters and encouraged tackling international tax avoidance and improving tax collection in developing countries.

([12]) Croatia expects that these measures will lead to around HRK 1 billion of additional revenue per year (approximately 0.3% of GDP). Source: Croatia's 2014 national reform programme, pp. 13-14.

([13]) Reverse charge can only be applied to a small number of specific transactions.

([14]) For full details of the EU countries having signed the Foreign Account Tax Compliance Act, please refer to: http://www.treasury.gov/resource-center/tax-policy/treaties/Pages/FATCA-Archive.aspx.

Table 1.2: **Overview of tax reforms in Member States**

Austria

Personal income tax, increase: The solidarity levy on the 13th and 14th salary payments ('extra' payments made in addition to the 12 monthly salary payments, usually in June and November, on which tax had previously been charged at a flat rate of 6 %) which was originally due to expire in 2016 has been made permanent. As of 2014, the securities component of the profit allowance was restricted to residential construction bonds; allowable expenses have been restricted.
Corporate income tax, decrease: The loss carry-forward limit of 75 % was removed, with effect from 2014.
Corporate income tax, increase: Wages over EUR 500,000 are no longer deductible. Foreign subsidiaries based in countries not having any mutual administrative assistance with Austria can no longer be part of an Austrian enterprise group (*Unternehmensgruppe*). As of 2014, interest and royalty payments are only fully deductible if the receiver will be subject to tax at a rate of at least 15% over these payments.
Excise duties on alcohol and tobacco, increase: Excise duties on alcoholic drinks have been increased by 20 %, with effect from 2014. Excise duties on sparkling wine have been reintroduced and duties on tobacco are being increased gradually up to 2016.
Environmental taxes (excluding taxes on energy), increase: The rates of car insurance tax (*Versicherungssteuer*) and car registration tax (*Kraftfahrzeugsteuer*) were increased for higher-powered cars, with effect from 1 March 2014. The level of duty on vehicles based on fuel consumption (*Normverbrauchsabgabe*) to be paid is now based on carbon dioxide emissions.
Other taxes, increase: As of 2014, **t**he base for the stability levy (bank tax) will be limited to the sum of the balance sheet. The rate of the surcharge will be increased from 25 % to 45 %.

Employers' social security contributions, decrease: Employers' accident insurance premiums were reduced by 0.1 percentage points, with effect from June 2014. Employers' contribution to the insolvency repayment fund will be reduced by 0.1 percentage points from January 2015.

Belgium

Personal income tax, increase: The tax expenditure for service vouchers was reduced, with effect from July 2013.
Personal income tax, decrease: Income tax bands were re-indexed to inflation in January 2014. The tax credit for low-income workers was increased with effect from April 2014, thus increasing the employment bonus.
Corporate income tax, increase: Belgium introduced a 'fairness tax' — a minimum tax for large companies that distribute dividends while taking advantage of the notional interest deduction system and/or the carry-forward of losses. The rate is set at 5.15 %. Changes have been made to the allowance for corporate equity, with both the base and the rate being increased.
Corporate income tax, decrease: A patent income deduction for small and medium-sized enterprises was introduced for the fiscal years 2014 and 2015, in order to support investment.
VAT, increase: As of 2014, legal services are subject to VAT.
VAT, decrease: Households benefit from a reduced VAT rate (6 %) on electricity, as of April 2014.
Other taxes, increase: The rate of the bank levy was increased. Capital gains on shares, previously exempted, are now taxed at a rate of 0.412 %, which is expected to generate additional revenue of EUR 115 million.
Excise duties, increase: The excise duty on biofuels has been increased, but they still benefit from preferential treatment. This is expected to generate additional revenue of EUR 118 million. Excise duties on energy products have been increased by 8 %, with effect from August 2013, with the exception of petrol and diesel, natural gas, heating oil, coal and electricity, where the rates were left unchanged. Similarly, excise duties on alcoholic beverages were increased by 8 %. Tobacco products were also subject to an increase in excise duties.
Social security contributions, decrease: Existing reductions applying to employers' social security contributions for the first three members of staff appointed are being extended to cover the first five members of staff.
Other measures (e.g. compliance and anti-fraud): Belgium has strengthened its overall strategy for tackling fraud. In January 2014, a new provision came into force, requiring legal arrangements (e.g. trusts, foundations or partnerships) set up by private persons to be declared to the authorities. General anti-abuse rules and their implementation were strengthened. At the same time, a new tax amnesty was run late 2013.

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Table (continued)

Bulgaria

Personal income tax, decrease: A tax relief measure for minimum wage earners came into force in January 2014. The tax rate on interest income from deposits was reduced to 8%, and is to be progressively reduced further, to 6% in 2015, 4% in 2016 and 0% as of 2017.

Corporate income tax, decrease: Resident companies' interest payments on bonds and other debt instruments to non-resident companies have been exempted from withholding tax, under certain conditions, with effect from January 2014.

Excise duties and other taxes on energy products and electricity: The rate on natural gas for heating for business use has been increased, while excise duties on electricity used by households is zero.

Non-energy environmental taxes, increase: The rates of tax on motor vehicles were adapted to better reflect environmental concerns. A 20% fee on the production of electricity from renewable sources of energy (wind and solar power) was introduced in 2013. However, this measure was later declared unconstitutional and as August 2014 it is no longer applicable.

Social security contributions, increase: The monthly maximum insurance contribution has been increased from BGN 2200 to BGN to 2400 (about EUR 1230), with effect from January 2014.

Croatia

Personal income tax, increase: The taxing of dividend income as part of personal income was reintroduced in October 2013. In January 2014, Croatia replaced the tax relief granted to sectors of particular national importance with a new measure giving tax relief to sectors receiving support from the state. The net effect has been a reduction in tax expenditure in the area of personal income tax. Croatia plans to introduce taxation of interest earned on savings with effect from 2015.

Corporate income tax, increase: Tax relief granted to sectors of particular national importance was replaced by a new measure giving tax relief to sectors receiving support from the state. Croatia plans to review the tax relief currently granted for reinvested earnings, with the aim of reducing its use to only the part of the profit registered as capital stock or invested in fixed assets.

VAT, increase: The higher of the two reduced rates was increased from 10% to 13%, with effect from January 2014. As of 1 July 2013, Croatian VAT legislation is in line with the EU *acquis*.

Excise duties, decrease: In July 2013, Croatia introduced optional exemptions for households that use energy from natural sources for their own use and for energy which has a dual use (i.e. which is used both for heating and for a purpose other than heating or providing motor fuel, e.g. in chemical reduction, electrolytic or metallurgical processes).

Excise duties, increase: Excise duties on tobacco were increased in March 2014. In July 2013, Croatia introduced the final changes necessary to align its legislation on excise duties with the EU *acquis*. It now applies excise duties to natural gas, electricity, coal and coke. Excise duties on fuels (petrol, gas oil and kerosene) have been increased three times since mid-2013: in July and September 2013 and then in April 2014.

Property taxes: Croatia plans to introduce a new recurrent property tax which would take effect in 2016, replacing the existing fee for utility services and the property tax on second homes.

Other taxes, increase: Croatia increased radio frequency licensing fees, with effect from May 2014. Since April 2014, Croatia has increased taxes on gains from lottery and betting games.

Social security contributions, increase: The rate for health insurance contributions was increased from 13 % to 15%, with effect from April 2014.

Other measures (e.g. compliance and anti-fraud): Over the course of 2013, Croatia increased its monitoring of cash transactions by introducing online cash registers (the 'fiscalisation project'). In January 2014, a simplified tax return form was introduced, replacing five existing forms and allowing real-time information on tax payments to be sent to the tax administration. During 2013-14, Croatia also reformed its tax administration, rationalising its network of local offices and standardising processes used across the country, and began modernising its risk management process.

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Table (continued)

Cyprus

VAT, increase: The standard VAT rate was increased from 18% to 19% in 2014 and the reduced VAT rate from 8% to 9%.

VAT, change: The cash accounting scheme was introduced into Cypriot VAT law in December 2013. The scheme is optional and certain exemptions apply.

Social security contributions, increase: Social security contributions paid by employees and employers on pensionable earnings were both increased by one percentage point with effect from January 2014, resulting in a total increase in contributions of two percentage points. Contributions were increased by one percentage point for self-employed people and by half a percentage point for civil servants, also with effect from January 2014.

Excise duties, increase: Excise duties on motor fuels (petrol and gasoil) were increased by EUR 0.05 in January 2014.

Non-energy environmental taxes, increase: The circulation tax and excise duties on motor vehicles were reformed in January 2014, on the basis of environmentally friendly principles (with carbon dioxide emissions being used as the main criteria).

Property taxes, increase: The value bands and tax rates for immovable property taxes were changed, with effect from 1 January 2013 (on the basis of 1 January 1980 property values). A general valuation of all immovable properties has been launched to determine new property values. According to the memorandum of understanding, the reform of the immovable property taxation is to be implemented in 2015

Other taxes, decrease: The special defence contribution payable on dividends paid to individuals who are tax resident in Cyprus has been reduced from 20% to 17%, with effect from January 2014.

Other measures (e.g. compliance and anti-fraud): In June 2014, the Cypriot Parliament passed a law on the creation of a new tax authority, which would merge the current inland revenue department and the VAT service. It also passed a law strengthening the tax authorities' powers to ensure payment of outstanding tax obligations, including by giving it the authority to garnish the taxpayer's bank account (order a bank to pay funds from the account over to the tax authority) or to prohibit the sale or use of assets, including property and bank accounts, by the taxpayer. The garnishing of bank accounts will not require prior court approval but the taxpayer may be granted a short appeal period, during which the relevant amount will remain frozen. Legislation has been adopted establishing the principal of self-assessment for all individuals liable to pay income tax by changing from a system of pre-assessment verification of income tax returns to one based on post-assessment audits, where cases are selected on the basis of risk.

Czech Republic

Personal income tax, increase: For self-employed people, a cap was introduced on deductible flat-rate expenses in the categories eligible for a 60% or a 80% deduction, with effect from 2015. Child tax credits have been restricted to residents from the EU, Norway and Iceland only, with effect from 2014.

Personal income tax, decrease: Child tax credits will be extended to apply to the second and subsequent children, with effect from 2015. The basic allowance for working pensioners will be reintroduced in 2015, also retroactively for 2014.

Personal income tax, neutral: Revenue-neutral changes to personal income tax, including changes to the tax base, to rates and to allowances, will come into force in 2016. As of 2015, the reverse-charge mechanism will be applied for further goods and services.

Social security contributions, increase: Employee benefits, which had previously been exempt from social security contributions, will become part of the base used for calculating the level of contributions, with effect from 2015. The upper limit on health contributions will be gradually removed, beginning in 2016.

Excise duties, increase: Duties on tobacco were increased in 2014.

Excise duties, decrease: A rebate on oil excise duties for agricultural users took effect in July 2014.

VAT, decrease: A second reduced VAT rate has been introduced for medicines, books and child nutrition, and will take effect in 2015.

Other measures (e.g. compliance and anti-fraud): The system for using electronic tax returns has been strengthened, with electronic reporting of VAT becoming compulsory in 2014.

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Table (continued)

Denmark

Personal income tax, decrease: Measures to reduce the tax burden on labour have been accelerated, compared to the timetable specified in earlier tax reform plans. In particular, the personal tax allowance has been increased, with effect from 2014. The temporary reduction in the tax payable on the conversion of pension rights into a capital lump sum has been extended to 2014. This added incentive is expected to encourage more people to convert their pension rights, and revenue expectations are therefore higher for 2014.
Corporate income tax, decrease: The corporate tax rate is being gradually reduced, from 25 % to 24.5 % in 2014, to 23.5 % in 2015 and to 22 % in 2016. Profits from drilling of North Sea oil and natural gas are excluded from this reduction.
Excise duties, decrease: The carbon dioxide duty on electricity has been abolished, with effect from 2014. The duty on soft drinks has also been abolished and the duty on beer reduced.
Non-energy environmental taxes, decrease: The planned abolition of the weight-based element of the tax on packaging has been accelerated, with effect from 2014.

Estonia

Personal income tax, decrease: Legislation had already been adopted in 2011 to reduce the flat rate of personal income tax from 21 % to 20 %, with effect from 2015. In 2014, the annual allowance for pensions was increased from EUR 2 304 to EUR 2 520 and a further increase to EUR 2 640 is planned for 2015. The government plans to increase the monthly personal allowance from EUR 144 (EUR 1 728 p.a.) to EUR 154 (EUR 1 848 p.a.) in 2015.
Corporate income tax, decrease: The headline rate of corporate income tax will be reduced from 21 % to 20 %, with effect from 2015. As for the reduction in personal income tax, legislation introducing this change had been adopted in 2011.
VAT, increase: The government plans to restrict the VAT-deductibility of company cars, with effect from 2015. Only 50 % of VAT incurred in relation to the purchase and use of company cars that are also being used privately will be deductible.
Excise duties, increase: Estonia plans to abolish the exemption from fuel excise duty for specially marked fuels in 2015, with the exception of fuels used in agriculture and for small vessels, which will continue to benefit from the exemption. The excise duty on natural gas is to be increased by 20 % in 2015. In 2014, excise duties on tobacco were increased by 6 %. Excises duties on alcohol are to be increased by 5 % per year over the period 2014-16. The new government decided to further increase the excise duties on alcohol by introducing a 10 % increase in 2015, in addition to those already decided.
Social security contributions, increase: The minimum monthly amount on which social security contributions must be paid by employers, which is linked to the minimum wage, will gradually be increased from EUR 290 in 2013 to EUR 320 in 2014, EUR 355 in 2015 and EUR 390 in 2016.
Social security contributions, decrease: The total unemployment insurance contribution rate paid by employers and employees is to be reduced from its current level of 3 % to 2.4 % in 2015.
Other measures (e.g. compliance and anti-fraud): As of 1 July 2014, companies are obliged to register their employees in a single database in advance of their official start date. In November 2014, a new system for digital invoice collection will be launched, which is expected to improve VAT collection.

Finland

Personal income tax, increase: Finland increased taxes on income earned on capital by means of changes to its tax scale, which came into effect in January 2014. The deductibility of mortgage interest was also further restricted, and tax on dividends was increased.
Personal income tax, decrease: Conversely, Finland reduced labour taxation by increasing the deductions which can be applied to employment income, with effect from January 2014.
Corporate income tax, decrease: The corporate income tax rate was lowered from 24.5 % to 20 %, with effect from January 2014.

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Table (continued)

Corporate income tax, increase: New restrictions on the deductibility of interest on intra-group loans entered into force in January 2014. Tax relief for research and development and investment will no longer apply from the end of 2014. In addition, the deductibility of companies' business entertainment costs was repealed, with effect from January 2014.

Excise duties, increase: On 1st January 2014, excise duty rates on transport fuels were increased by 5 %, excise duty on alcohol by 7 % and excise duty on tobacco by 10 %. Excise duty on electricity used in households and public and private service sector (category I) was increased by 12 %. Excise duty on soft drinks was doubled for the beverages containing sugar.

France

Personal income tax, increase: The tax exemption for pension premiums ceased to apply in January 2014. The exemption for employers' participation in group complementary insurance has also been abolished. The family allowance calculated based on the principle of income splitting was reviewed, with the result that the upper limit has been reduced from EUR 2 000 to EUR 1 500.

Personal income tax, decrease: In 2014, the scale of income tax was indexed to inflation and the amount of ʿthe tax rebate for modest households (ʿdécote') was increased. The solidarity and responsibility pact adopted in April 2014 introduced an immediate EUR 1.3 billion reduction in personal income tax (in the form of a non-refundable tax rebate) for the most vulnerable households.

Corporate income tax, increase: The temporary surcharge was extended to 2015 and its rate increased from 5 % to 10.7 %. The solidarity tax on high remuneration has been in force since February 2014 and is expected to remain in force for two years.

Corporate income tax, decrease: The tax credit to aid competitiveness and promote employment has been increased from 4 % to 6 % of gross wages up to 2.5 times the minimum wage, with effect from January 2014. The budgetary cost for the State should reach EUR 20 billion in subsequent years. The special regime for young innovative companies was extended by the introduction of new social security exemptions for employees involved in innovative activities. The cost of these measures is not however significant in the context of the overall budget, at around EUR 50 million for 2014. The company solidarity contribution ('contribution de solidarité des sociétés' (C3S)) will be abolished by 2017, with a budgetary cost of EUR 6 billion whereas several « small taxes » are being removed. The government also announced a gradual decrease in the statutory rate of corporate income tax, from 33.3 % to 28 % by 2020 and the suppression of the temporary surcharge on corporate income tax.

VAT, increase: The increase in the standard and intermediate VAT rates (respectively a 0,4 point and a 3 points increase of the rate) came into effect in January 2014, with respective new rates of 20 % and 10 %. The standard rate now applies to a wider range of agricultural fertilisers, which had previously benefited from the intermediate rate.

VAT, decrease: The application of the reduced rate has been extended to include building work to improve the energy efficiency of houses, renovation of social housing and cinema tickets.

Excise duties, increase: The preferential tax treatment for biofuel started being phased out in March 2014.

Environmental taxes, increase: The carbon tax ('contribution climat énergie' (CCE)) based on the fossil fuel excise duties that reflects the carbon content on fossil energy at a level of 7€/tCO_2, increasing to 22€/tCO_2 in 2016, came into force in April 2014. Also some exemptions on energy tax (agricultural sector, gaz taxation for households) were reduced or cut. The budgetary revenues should amount to 4Md€ in 2016. A number of other minor measures were enacted, albeit with limited budgetary consequences: the scope of application of the tax on polluting activities was extended, and the bonus-malus system for car taxation was further developed.

Social security contributions, decrease: As part of the responsibility and solidarity pact, the government announced an additional EUR 10 billion reduction in employers' social security contributions, the first step (EUR 5.5 billion) taking place at January 1st, 2015.

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Table (continued)

Germany

Personal income tax, decrease: The basic allowance was increased by EUR 224 to EUR 8 354, with effect from January 2014.

Social security contributions, increase: The planned reduction of the pension contribution rate from 18.9 % to 18.3 % was suspended.

Property taxes, increase: The real estate transfer tax was increased in four federal states — from 5 % to 6 % in Berlin, from 4.5 % to 5 % in Bremen, from 4.5 % to 5 % in Lower Saxony and from 5 % to 6.5 % in Schleswig Holstein — with effect from January 2014.

VAT, increase: Commercial dealing in art was made subject to the standard VAT rate, having previously benefited from the reduced rate, with effect from January 2014.

Excise duties, decrease: The reduction in energy taxes on natural gas and liquefied petroleum have been extended to beyond 2018.

Excise duties, increase: Excise duties on cigarettes were increased to EUR 96.30 per 1 000 pieces and on fine-cut smoking tobacco to EUR 46.75 per kg, with effect from January 2014.

Greece

Note: A major reform of the laws on personal income tax and corporate income tax took place in July 2013. Measures designed to increase government revenue were front-loaded however, being introduced in January 2013. These measures were described in the 2013 report on tax reforms and are not repeated here.

Personal income tax, increase: A 15 % withholding tax on capital gains on real estate was introduced. Capital gains are deflated in accordance with the holding period, at a deflation rate of up to 60 % for holding periods exceeding 26 years.

Personal income tax, decrease: The rate of the final withholding tax on profit distributions and capitalisations was reduced from 25 % to 10 %, with effect from January 2014.

Personal income tax, change: From 1 January 2014, farmers income has to be accounted for as business income. It will be taxed at a flat rate of 13 %, without the formerly existing tax-free bracket of EUR 5 000.

Corporate income tax, increase: A restriction on the carry-forward of losses was introduced for cases where there is a change of more than 33 % in the value of the direct or indirect holding. Rules were introduced on the definition of earnings before interest, taxes, depreciation and amortisation (EBITDA) for the purposes of determining the tax base, thus limiting the deductibility of interest. A new provision on controlled foreign companies (CFC) and a general anti-avoidance rule (GAAR) were also brought in.

Corporate income tax, decrease: Research and development costs were made deductible as a one-off expense at 130 %.

VAT, decrease: The VAT rate on restaurant and catering services (except for alcoholic drinks and non-alcoholic refreshments like juices and soft drinks), supplies of prepared food, coffee and other beverages (herb teas etc.) that are prepared on site by enterprises that supply those foods, was reduced from 23 % to 13 %, on 1 August, 2013. The standard VAT rate continues to apply on supplies of services from places of amusements (nightclubs, bars with music etc), supplies of alcoholic drinks and non-alcoholic refreshments (cola type, juices etc.) including sparkling water.

VAT, limitation of special regime: From 1 January 2014, the application of the special VAT regime has been narrowed to farmers with no other activity who, in the previous tax year, made a turnover of less than EUR 15 000 from the sale of agricultural products of their own production and the supply of agricultural services and received state subsidies of less than EUR 5 000.

Property taxes, increase: A new joint tax on real estate property was introduced in January 2014 to replace previously existing taxes. The tax consists of a principal tax and a supplementary tax. The principal tax is computed based on a formula, taking into account the geographic position of the property, the area, the type of use, the age, and the floor on which it is located. The supplementary tax applies to estates worth more than EUR 300 000. As compared to the taxes which had previously been in place, the supplementary tax has a higher threshold and is set at a lower rate.

Property taxes, decrease: To balance out the introduction of a capital gains tax on real estate, the rate of the real estate transfer tax was reduced to 3 %.

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Table (continued)

Hungary

Social security contributions, increase: A 6% health care contribution on interest income came into effect in August 2013.
Social security contributions, decrease: The family tax allowance was extended to include employees' social security contributions, with effect from January 2014. This will mainly benefit families with at least three children.
Other taxes, increase: Financial transaction duties were increased from 0.2% to 0.3% (for most transactions) and from 0.3% to 0.6% (for cash withdrawals), with effect from August 2013, and the previous cap (limiting the total amount which could be charged) was removed. The telecommunications tax was increased for corporate users and the mining fee (the tax payable on the value of mineral oil and natural gas mined from hydrocarbon fields) also went up. A progressive tax on advertisement revenues came into effect in July 2014.
Non-energy environmental taxes, increase: An electronic motorway toll system for lorries has been in operation since July 2013. The waste deposit duty was extended with effect from August 2013.
Other measures (e.g. compliance and anti-fraud): The VAT rate on wholesale pork products (including live pigs) was reduced from the standard rate of 27% to 5%. Implementation of the mandatory electronic connection of cash registers with the tax authorities is ongoing.

Ireland

Personal income tax, increase: The tax credit for one parent families has been replaced by a new tax credit for single person child carers, with effect from January 2014. Tax relief on medical insurance premiums has been restricted, with effect from October 2013. Tax relief on loans to acquire an interest in a partnership will be phased out over four years and top slicing relief (which ensured that lump sum payments made on redundancy or retirement were not taxed at a rate higher than the average rate of tax that the recipient had paid over the three years prior to redundancy or retirement) will no longer be available in respect of any 'goodwill' lump sum payments (i.e. payments which an employer is not legally obliged to make), having already been removed for payments of EUR 200 000 and above.
Personal income tax, decrease: Several measures have been introduced to promote entrepreneurship and stimulate investment. A tax exemption was created for people starting their own business who have been unemployed for at least 12 months, and the employment and investment incentive (a scheme offering tax relief on income from shares held by individual investors in certain companies for a minimum of three years) was removed from the high earners' restriction for three years, thus opening the scheme up to some investors who had previously been excluded. A number of measures supporting the construction and building sector have also been introduced or extended. A scheme promoting home renovations was introduced and the 'living city' initiative was extended. Tax relief for the film industry has also been extended in scope, in value and in time.
Corporate income tax, decrease: The tax credit for research and development has been extended. The limits on both the total expenditure eligible for the tax credit and the amount of the expenditure on research and development which can be outsourced to third parties were also increased.
Corporate income tax, change: Rules on corporate residence were amended.
VAT, decrease: The 9% reduced rate of VAT for the tourism sector has been maintained. The farmer's flat-rate addition (a rate paid on the produce and services supplied by the farmer to compensate for VAT paid on supplies to him or her) was increased. The upper limit on VAT cash receipts for small to medium businesses has also been increased.
Excise duties, increase: Excise duties on tobacco and alcohol were increased in October 2013.
Excise duties, decrease: The air travel tax was abolished, with effect from April 2014.
Non-energy environmental taxes, decrease: Tax relief on electric and hybrid cars has been extended to December 2014.
Property taxes, increase: A new local property tax was introduced, with effect from 2013, replacing previous charges on housing. A rate of 0.18% is applied to residential properties up to the value of EUR 1 million, rising to 0.25% on excess above this value.

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Table (continued)

Other taxes, increase: A new levy on financial institutions was introduced. The 0.6% pension fund levy will be abolished from 31 December 2014. However, an additional levy on pension fund assets of 0.15% is introduced for 2014 and the levy on pension fund assets for 2015 will be 0.15%. The deposit interest retention tax and the exit taxes on life assurance policies and investment funds are being increased.

Other taxes, decrease: A measure granting tax relief from capital gains tax was introduced to encourage entrepreneurs to invest and re-invest in assets used in new productive trading activities. Relief from capital gains tax has also been extended to cover the disposal of leased farmland under certain circumstances. Certain listed shares have been exempted from stamp duty.

Other measures (e.g. compliance and anti-fraud): Anti-fraud measures targeting smuggling of fuel and tobacco have been introduced.

Italy

Personal income tax, decrease: Over 2013-14, Italy reduced personal income tax for low-income earners twice, firstly by extending tax credits as part of the 2014 law on stability, and subsequently by introducing a special personal income tax bonus for 2014 for employees earning less than 26 000 EUR a year. Personal income tax has also been reduced for those investing in start-up companies, in home renovation works and in art, and for operators in the tourist sectors who invest in order to modernise their businesses. The government confirmed its plans to introduce lower personal income tax for productivity-related wages. Property tax is allowed to be partially deducted from personal income tax for self-employed people.

Personal income tax, increase: Personal income tax remained at the same high level for top earners, with the government maintaining the solidarity contribution for incomes above 300 000 EUR a year. The only measure leading to a more widespread, albeit marginal, increase in personal income tax (and a reduction in tax expenditures) was the reduction of tax credits for insurance premiums.

Corporate income tax, decrease: Italy introduced several measures to reduce corporate income tax for specific sectors and for firms in particular circumstances. Tax credits were introduced for art, cinema, modernisation of the tourist sector, recruitment of research and development staff, investment in start-up companies and new investment in machinery and equipment. Moreover, the government increased the allowance for corporate equity and extended the scope of deductions, including by allowing the partial deduction of property tax.

Corporate income tax, increase: At the same time, however, the 2014 law on stability streamlined some tax concessions and tax credits, repealing the European attraction tax regime, the industrial district tax regime, exemptions for capital gains reinvested by companies established in the last three years and the tax credit for scientific research for small and medium-sized enterprises.

VAT, increase: The standard VAT rate was increased by one percentage point in October 2013 to 22 %. The VAT rate on food and beverages dispensed by vending machines has been increased from 4 % to 10 %, with effect from January 2014. Furthermore the VAT rate on some goods sold with editorial products has been increased from 4 % to 22 %.

Social security contributions, decrease: The government reduced insurance premiums and contributions for industrial accidents and work-related diseases, with effect from January 2014.

Excise duties, increase: Excise duties on alcohol, tobacco and lubricant oils were increased in 2013. Excise duties on fuels could be increased in 2017 and 2018, if this proves necessary in order to achieve public finance objectives.

Non-energy environmental taxes, increase: In Italy companies can deduct 20% (down from the previous 40%) of the costs of cars available within the company for general use and 70% (down from the previous 90%) of the costs of cars assigned to an employee for business and personal use.

Property taxes: Italy redesigned its property tax regime, introducing a new tax on indivisible services, rebranding the waste tax, and re-introducing the exemption from the recurrent property tax for main residences. Also, the transfer tax rate for main residences was reduced from 3 % to 2 % and the rate for other real estate transfers was set to 9 % from 1 January 2014.

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Table (continued)

Other taxes: Italy lowered the standard regional production tax (IRAP) rate from 3.9% to 3.5%, and introduced tax relief for new jobs created, by allowing deductions to be made from the tax base for the regional production tax for each new employee recruited on a permanent contract. In order to compensate for the reduction in the regional production tax, the government increased the rate of the withholding tax on households' financial income, from 20% to 26%.

Other measures (e.g. compliance and anti-fraud): Italy is currently carrying out a major reform of its tax system, implementing the March 2014 law on tax reform. Areas subject to reforms include taxation of gaming, tax administration, indirect taxation including VAT, excise duties, environmental taxes, the land registry and measures countering tax abuses. The government plans to complete the implementation of these reforms by March 2015.

Latvia

Personal income tax, decrease: With effect from 2014, the monthly non-taxable allowance was increased to EUR 75, and the allowance for dependants was increased to EUR 165 per person.

Corporate income tax, increase: The allowance for corporate equity and the transfer of losses within groups of companies were both abolished, with effect from January 2014.

Corporate income tax, decrease: Tax relief on certain research and development costs came into effect in July 2014. The application of tax relief on investment in new production technologies and supported investment projects has been extended until 2020.

Social security contributions, decrease: The social security contribution rate was reduced by one percentage point, with effect from January 2014, with both the employers' and the employees' contribution reduced by half a percentage point. A cap was also introduced on the amount of income which attracts contributions. This was set at EUR 46400 for 2014.

Excise duties, increase: Excise duties on liquefied petroleum gas, on natural gas not used in agriculture and industry and other gaseous hydrocarbons and on tobacco products were increased, with effect from January 2014. At the same time, the reduced tax rate for natural gas used in industrial production was set in the amount of EUR 5,56 per 1000 m^3. The excise duty structure for cigarettes was changed as of 1 July 2014.

Non-energy environmental taxes, increase: The tax rate on natural resources was increased. This applies to subsoil resources, the disposal of household waste in landfill sites, environmentally hazardous goods, packaging, old and end-of-life vehicles, air pollution and emissions of polluting substances into water. The use of water resources for the production of electricity in small hydroelectric plants was also made subject to the natural resource tax, as were fireworks.

Other taxes, increase: As of January 2014, manufacturers of electricity that have been given the right to sell electricity through the mandatory procurement procedure are subject to a new subsidised electricity tax. Rates of 15%, 10% and 5% apply, depending on the energy resources used in the generation process.

Other measures (e.g. compliance and anti-fraud): As of January 2014, a register of people considered 'high risk' for tax purposes was set up, and the tax authorities are obliged to provide information on such individuals to the commercial register, with the possibility to suspend business activity in the case of a serious tax violation.

Lithuania

Personal income tax, increase: The base was broadened by including capital gains and interest exceeding LTL 10000, with effect from 2014.

Personal income tax, decrease: The tax-free allowance and allowances for children were increased. The tax rate payable on dividends was decreased, with effect from 2014.

Corporate income tax, increase: New restrictions on the carry-forward of losses were introduced. As of 2014, taxpayers can offset losses carried-forward up to 70% of the current year's taxable income.

Corporate income tax, decrease: Tax deductions providing an incentive for investment were extended for the period 2014-18. Deductions were also introduced for donations made to the film industry, with effect from 2014.

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Table (continued)

VAT, decrease: The 9% reduced VAT rate on residential heating (including supply of hot water) was extended for a further year. A 9% rate will apply to accommodation services, with effect from 2015. The 5% rate for reimbursable pharmaceutical products and medical aids was made permanently.
Excise duties, increase: Excise duties have been increased on ethyl alcohol and alcoholic beverages, and on tobacco products.
Non-energy environmental taxes, increase: A proposal to introduce landfill tax as of January 2016 has been submitted to the Lithuanian Parliament and to be discussed in autumn 2014.
Property taxes, increase: The highest rate of immovable property tax was increased.
Other measures (e.g. compliance and anti-fraud): A proposal on limits on the use of cash for transactions above LTL 10 000 has been submitted to the Lithuanian Parliament to be discussed in autumn 2014.

Luxembourg

VAT, increase: The government announced an increase in the standard VAT rate from 15% to 17%, in the intermediate rate from 12% to 14% and in the reduced rate from 6% to 8%, with effect from January 2015. The standard rate will extend to all real estate investments except the acquisition of a main residence.

Malta

Personal income tax, decrease: The tax rate for income between EUR 19 501 and EUR 60 000 was reduced from 32% to 29%. The tax-free bracket applicable to parents was increased from EUR 9 300 to EUR 9 800.
Energy excise duties, increase: Excise duties on fuel have been increased.
Non-energy excise duties, increase: Excise duties on cigarettes and tobacco and on beer and spirits have been increased.
Non-energy environmental taxes, decrease: Registration tax on non-polluting cars imported from outside the EU and less than eight years old has been reduced.
Property taxes, decrease: A temporary exemption from stamp duty on the first EUR 150 000 of the value of the property being acquired was introduced for first time buyers. It applies from November 2013 to December 2014.
Other measures: As part of efforts to fight tax evasion in the construction sector, a new system was introduced whereby VAT receipts are required to substantiate the estimated valuation of works.

The Netherlands

Personal income tax, increase: The tax brackets were not adjusted in line with inflation (i.e. effectively lowering the threshold levels at which a person's income goes over into a higher rate band). Tax on severance payments can no longer be deferred by converting the payment into an annuity. The general tax credit is being increased to EUR 2 263 in 2017, but is reduced for higher incomes. Overall this will lead to an increase in revenue and an increase in the tax payable on incomes of above EUR 30 000. The working bonus for those remaining in employment between ages 61 and 64 will be gradually phased out from 2015 onwards. The maximum deduction rate for mortgage interest is being gradually reduced by 0.5 percentage points a year, from 52% to 38%. The tax credit on education and training for employees has been replaced by a subsidy. The additional wage withholding tax of 16%, payable on wages in excess of EUR 150 000, was extended to 2014.

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Table (continued)

Personal income tax, decrease: The labour tax credit for employees and the self-employed is being gradually increased, by a total of EUR 950 by 2017. This credit will however be reduced for higher incomes. Only those with income of above EUR 95 000 will pay more tax, and overall, revenue will fall. The effect on revenue of the increase in the labour tax credit will outweigh the effect (see above) of the changes to the general tax credit. To balance out the reduction of the maximum deduction rate of mortgage interest, the upper limit on the third tax bracket will be raised. The tax rate paid on income from closely held companies (when the shareholder holds directly or indirectly more than 5 % of the shares) will be reduced from 25 % to 22 %, as a temporary measure for 2014 only. Revenues are expected to increase because owner-managers will use the opportunity to pay out dividends to themselves at a reduced rate.
Corporate income tax, decrease: The R&D deduction for qualifying R&D activities has been raised to 60% for 2014. The ceiling to which the wage tax reduction applies has been raised to EUR 250,000 and the rate of the wage tax reduction has been reduced from 38% to 35%.
Excise duties and other taxes on energy products and electricity, increase: Excise duties on petrol and diesel were increased with effect from 2014.
Excise duties on alcohol and tobacco, increase: Excise duties on alcoholic drinks were increased with effect from 2014 and on tobacco with effect from 2015.
Environmental taxes (excluding taxes on energy), increase: Car circulation tax was increased on cars older than 25 years. The tax on waste was reintroduced with effect from April 2014. The water tax rate was increased. Plans to abolish the ceiling of 300 cubic metres per year were dropped.
Property taxes, increase: The landlord's levy on renting out social housing was increased to 0.381 % of the value of the dwelling in 2014 and will be gradually further increased to 0.536 % of the value in 2017.

Poland

Corporate income tax, increase: The corporate tax was extended to cover certain types of partnerships which had previously been used for tax avoidance purposes.
VAT, increase: The temporary increase in the standard VAT rate was extended for another three-year period (until the end of 2016).
Excise duties and other taxes on energy products and electricity, increase: Excise duty on natural gas for heating was introduced, with effect from November 2013.
Excise duties on alcohol and tobacco, increase: Excise duties on tobacco products were increased by 5 % and duties on alcohol by 15 %.
Other measures (e.g. compliance and anti-fraud): In April, the government presented a package of further reforms designed to improve both tax compliance and the efficiency of tax and customs administration. A consolidation of organisational functions within the tax administration has been announced. A single database of tax identification numbers was introduced to replace the local databases managed by the tax offices.

Portugal

Personal income tax, increase: The 3.5 % surtax was extended to 2014. The highest rate of withholding tax has been increased, with effect from January 2014.
Corporate income tax, decrease: A full-scale reform of the corporate income tax regime was carried out in 2014. The main changes included: a reduction of the statutory tax rate from 25 % to 23 %; the introduction of a reduced 17 % tax rate applicable to taxable income up to EUR 15 000 earned by small and medium-sized enterprises; the introduction of an optional special regime for small enterprises (with maximum turnover of EUR 200 000), under which they benefit from reduced taxable amounts; and the introduction of several measures simplifying the payment of corporate income tax. Portugal has also introduced a tax credit for investment, it has extended incentives for research and development up to 2020 and introduced a tax deduction for retained and reinvested earnings.
VAT: The VAT rates applicable in the Azores have been increased. Changes have been made to rules on the collection and assessment of VAT. In particular, optional VAT cash accounting schemes have been introduced and changes have been made to the systems for goods in circulation and for the recovery of unpaid VAT.
Excise duties, increase: Excise duties on beer and other alcoholic products have been increased slightly, with effect from 2014. Changes were also made to excise duties on tobacco.

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Table (continued)

Social security contributions: Self-employed people will have the option to pay social security contributions based on their normal level of income or, alternatively, based on income two levels above or below this level.
Other measures (e.g. compliance and anti-fraud): Portugal is reviewing its systems for green taxation and for personal income tax. Dedicated reform committees have been set up. A public consultation was held on the initial proposals for green taxation and the final outcome of the review is expected by September 2014. As a way of improving tax compliance, Portugal launched the 'lucky invoice' programme, designed to encourage compliance on the part of individuals. It rewards individuals whose tax number was included on invoices that are reported to tax authorities.

Romania

Personal income tax, increase: The tax incentive for collective savings for housing was abolished in 2013.
Corporate income tax, decrease: The additional tax deduction for expenses relating to qualifying research and development was increased from 20 % to 50 %, with effect from February 2013. A special tax regime was introduced in 2014 for holding companies, exempting certain items of income — such as dividends, capital gains on the sale of shares, and income from the liquidation of a company — from taxation. New rules also came into effect in 2014 allowing unused tax credits for sponsorship expenses and royalties to be carried forward for seven years.
VAT, decrease: The VAT rate was reduced to 9 % for bread, flour and related products, with effect from September 2013.
Excise duties, increase: An excise duty was introduced for luxury products with effect from September 2013. Excise duties on energy products were increased to reflect inflation, with effect from January 2014. Excise duties on cigarettes were also increased. An additional increase to the excise duty on fuel was introduced, and excise duties on alcohol were increased by 33 %, both with effect from April 2014.
Social security contributions, increase: As of 2014, rental income is included in the taxable base for statutory health insurance contributions.
Social security contributions, decrease: A reduction of employers' social security contributions by five percentage points is scheduled to enter into force in October 2014.
Other measures (e.g. compliance and anti-fraud): Certification of corporate income tax returns by tax consultants became mandatory in 2014. The reverse charge mechanism has been introduced for the supply of energy, for green certificates and in the wood industry.
Property tax, increase: A new tax on specific buildings not already subject to local property taxes was introduced in 2014. It is paid at a rate of 1.5 % on the book value of the property.

Slovakia

Corporate income tax, increase: Slovakia introduced minimum levels of corporate income tax. These range from EUR 480 to EUR 2 880, depending on the turnover and VAT status of the business, and some exemptions are made, e.g. for start-ups. There is possibility to lower the tax due in the subsequent 3 years by the amount of paid minimum tax, but not below the given limit. As of 2014, the carry-forward of losses is limited to four years (previously seven years) and the amount that can be used (i.e. deducted from the tax base) in any one year is capped at one quarter of the losses carried forward. The categories of income sourced in Slovakia on which non-residents are taxable were extended and legislation on transfer pricing was amended.
Corporate income tax, decrease: The corporate income tax rate was reduced from 23 % to 22 %.
Social security contributions, increase: The assessment base for self-employed social security contributions continues to increase with change in the coefficient used for its calculation.
Social security contributions, decrease: Social security contributions payable by employers and employees were reduced for long-term unemployed workers (those who have been out of work for at least 12 months) recruited for jobs paying less than 67 % of the average wage. This targeted exemption applies for a maximum period of one year. There is no longer a separate maximum assessment base for health insurance contributions paid on dividend income.

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Table (continued)

Other measures (e.g. compliance and anti-fraud): As of 2014, an accompanying statement must be submitted with VAT returns, providing details of all transactions. Slovakia's 2014 national reform programme included plans to introduce cash registers for doctors and other liberal professions. In September 2013, the government launched the VAT receipts' lottery. The reverse charge has been extended to cover supplies of mobile phones, integrated circuits, specific agricultural crops and metals. Slovakia now publishes the White List of countries and introduced the definition of a taxpayer of a non-contracting state (i.e. one not on the White List) into its provisions on income tax. New rules requiring some taxpayers (e.g. those paying VAT and tax advisers) to communicate electronically with the tax administration were introduced.

Slovenia

Personal income tax, increase: The personal allowance for taxpayers over 65 (previously EUR 1 421.35) and also a special allowance for daily cross-border migrants (in 2013, EUR 7,576.62) have been abolished, with effect from 1 January 2014. In general, personal allowances and net tax basis will no longer be automatically revalued in line with inflation on an annual basis. Automatic indexation of income limits of tax brackets on an annual basis in line with the inflation rate has also been terminated as from 1 January 2014. Allowances, together with net tax basis, will only be revalued when the annual inflation rate (from August of the previous year to August of the current year) exceeds 3 %.

Personal income tax, decrease: The tax base for income earned under an individual contract (contract worker) may be decreased for 10 % of lump sum costs (or may claim actual costs of transport and accommodation in connection with the performance of work or services) and additionally for (newly introduced) worker's health insurance contributions and pension and disability insurance contributions, (as of January 2014).

Corporate income tax: The further yearly reductions of the corporate income tax rate (from 17% in 2013 to 15 % in 2015) stipulated in the Corporate Income Tax Act have been abandoned, keeping the corporate income tax rate at 17%. Changes have been made to transfer pricing rules and thin capitalisation rules, with effect from January 2014. The definition of related parties has been extended to include sister companies. In order for two (or more) companies to qualify as sister companies, one shareholder, i.e. the parent company (whether an individual or a company), must hold, directly or indirectly, at least 25 % of the shares or the voting rights in each of them. Thin capitalisation ratio equity is to be calculated on the basis that capital includes all categories of equity, as specified in accounting standards, except the net profit/loss of the year.

VAT, increase: The standard VAT rate was increased by two percentage points (to 22%) and the lower VAT rate by one percentage point (to 9,5%), with effect from July 2013.

Excise duties, decrease: Unleaded petrol excise duty was changed on several occasions from mid-2013 to mid-2014, starting at EUR 531.39 at the beginning of July 2013 and ending at EUR 514.95 per 1,000 litres in June 2014.

Excise duties, increase: The exemption from excise duties granted to bio fuels blended with fossil fuels was abolished in April 2014. The excise duty on gas oil used as propellant was changed on several occasions from mid-2013 to mid-2014 (starting at EUR 408.88 at the beginning of July 2013 and ending at EUR 412.92 per 1000 litres in June 2014), so was the excise duty on heating gas oil (increasing from EUR 88.72 in July 2013 to EUR 95.65 per 1,000 litres in June 2014). Excise duty on liquid petroleum gas used as propellant was raised from EUR 125 to EUR 127.5 per 1000 kg (in April 2014). Due to expiry of the 10-year transition period, excise duty on natural gas used as propellant was first raised from EUR 0.018 to EUR 0.0184 (in April 2014) and then further to EUR 0.092 per cubic meter (in May 2014). Excise duties on tobacco were also increased in the observed period: the minimum duty on cigarettes increased from EUR 97 to EUR 106 per 1 000 cigarettes, the duty on cigars and cigarillos increased from 5% to 6% of retail selling price, and the duty for fine-cut tobacco was raised from EUR 56.25 to 35% of the retail selling price plus EUR 40 per kg (with the minimum duty set to EUR 88 per kg). Excise duties on alcohol (beer, ethyl alcohol and intermediate products) were increased by 10% (April 2014).

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Table (continued)

Other taxes: introduction of a new tax on lottery tickets (10% of the net retail selling price) and an increase in the annual charge for the use of vehicles on the road (for around 13% in 2013), which is set in line with engine capacity (and not carbon dioxide emissions) criteria.

Social security contributions increase: As of January 2014, civil contract workers are liable to pension and disability insurance contribution (15.5% of gross income but only workers that are not fully insured on other legal basis) and as of February 2014 also to health insurance contribution (6.36 % of gross income). As of February 2014, employers contribute to occupational injuries and diseases insurance (0.53% of gross income) in addition to the contributions to pension and disability insurance for which they were already liable.

Social security contributions decrease: An employer who, during the period of validity of the Employment Relationships Act, permanently employs an unemployed person under the age of 30 who has been registered as unemployed for at least one month, is fully exempt from paying the employer's contributions for the initial two years of the employment.

Property tax: Following a decision by the Constitutional Court, the real estate tax law, which came into effect on 1 January 2014, was abolished in March 2014.

Other measures (e.g. compliance and anti-fraud): Several anti-fraud measures entered into force in January 2014. An increased tax rate of 70% was introduced for undeclared taxable income and the period during which such undeclared income may be established was extended from 5 to 10 years. When assets or businesses have been transferred to another person in order to avoid payment of tax, the tax authorities may collect the unpaid tax (which would have been paid by the person who transferred the asset) from the person to whom the asset has been transferred. Stricter provisions have been introduced relating to the use of cash register software. Measures have been taken to try to prevent illegal work and employment.

Spain

Personal income tax, increase: The complementary surcharges on personal income tax were extended to 2014.

Personal income tax, decrease: New tax incentives for business angels were introduced in September 2013 and entrepreneurship incentives and tax credits for training employees in new technologies were extended to 2014.

Corporate income tax, increase: Provisions setting limits on the deduction of depreciation of intangibles and goodwill and on the carry-forward of losses were extended for the period 2014-15. Impairment losses resulting from participation in the capital of entities and losses generated by permanent establishments abroad are no longer deductible, with effect from January 2013.

Corporate income tax, decrease: Spain extended tax credits for research and development and for the employment of disabled workers. The patent box scheme, allowing companies to pay a lower rate of tax on profits derived from patents, was also extended. A 10% tax credit was introduced for small and medium-sized enterprises reinvesting profits in assets. The tax credit for training employees in new technologies was extended and the tax credit for the film industry was made permanent.

VAT, decrease: The VAT rate was reduced from 21% to 10% for certain transactions relating to works of art, antiques and collectibles, with effect from January 2014.

Social security contributions, decrease: In February 2014, Spain introduced a flat rate for the social security contribution relating to general risks paid by employers. It applies to new workers recruited between 25 February and 31 December 2014. The reduced contribution will apply for 24 months (and employers with fewer than 10 employees at the moment of signing the contract with the new employee can apply a 50% reduction of social security contributions for an additional 12 months thereafter).

Excise duties, increase: Excise duties on tobacco and alcohol were increased (with the exception of those on beer and wine), with effect from June 2013. At regional level, standardised excise duties on hydrocarbons were increased. A duty was also introduced on fluorinated greenhouse gases, with effect from January 2014.

Property taxes, increase: Spain extended the wealth tax for the period 2013-14.

Other measures (e.g. compliance and anti-fraud): A special plan to tackle the shadow economy was launched in February 2014, providing for an increase in staff working hours for the purpose of carrying out e-audits.

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Sweden

Personal income tax, decrease: The earned income tax credit was reinforced as from 1 January 2014. At the same time, the tax-free allowance for individuals over 65 years old was again increased. As from 1 January 2014, the relatively favourable tax treatment of environmentally friendly company cars has been extended to an additional three years until the end of 2016. The special rate of personal income tax for Swedish nationals resident abroad was lowered by five percentage points to 20 % as from 1 January 2014.
Personal income tax, increase: A proposal was presented on 28 May 2014 to reduce deductions for pension fund premiums from 12 000 to 2 400 SEK per year, with effect from January 2015. The rules governing the taxation of income from closely-held companies (so called 3:12 companies) have been changed, as regards the amount of owner income from such businesses that is taxed as capital income at a reduced rate.
Corporate income tax, increase: The tax exemption for income resulting from ownership of buildings with a particular qualifying purpose (such as religion, education or sport) has been abolished.
Social security contributions, decrease: Sweden has introduced reductions in employers' social security contributions for employees working in research and development. They can be reduced with 10 percentage points and may at the most amount to SEK 230 000 per month and group of companies. Social security contributions reductions for entrepreneurs/company owners have been raised up to 7.5 % (an increase of 2.5 percentage points on the previous level of 5 %) and the maximum reduction was increased from SEK 5 000 to SEK 15 000 per year as from 1 January 2014.
Excise duties, increase: Excise duties' rates on alcohol have been increased by between 1 and 7 percentage points.
Other: As from 1 January 2014, certain types of trusts (collective agreements and personal trusts) are allowed to make contributions to education measures, whilst retaining their favourable tax treatment, with the purpose of facilitating labour market restructuring.

United Kingdom

Personal income tax, increase: A two percentage point increase will be applied to each tax rate in the graduated table of bands for taxing the benefit of a company car, with effect from April 2016. The rates will thus range from 7 % for cars emitting 0-50 grams of carbon dioxide per kilometre to a maximum of 37 % for cars emitting 200 grams or more of carbon dioxide per kilometre. The supplement on diesel cars has been repealed, and diesel cars will therefore be subject to the same level of tax as petrol cars. These measures will also affect employers' social security contributions.
Personal income tax, decrease: The seed enterprise investment scheme (a range of tax relief measures for individual investors who purchase new shares in small, early-stage companies) has been made permanent. Social investment tax relief, a new tax relief for investment in equity and certain debt instruments issued by social enterprises, has been introduced. Following on from previous increases, the 2014 budget announced that the personal allowance for the tax year 2015-16 would be increased to GBP 10 500 and that the upper limit of the basic rate tax band would be raised to GBP 31 785. For the tax year 2015-16, the starting rate for savings income will be reduced from 10 % to 0 %, and the maximum amount of an individual's savings income that can qualify for this starting rate will be increased to GBP 5 000.
Corporate income tax, decrease: The standard rate of corporation tax was reduced from 28 % to 21 % in April 2014, and is to be further reduced to 20 % as of April 2015. Three incentives were introduced to encourage employee ownership: (i) relief from capital gains tax on disposals of shares that result in a controlling interest in a company being held by a trust used as an indirect employee ownership structure; (ii) annual exemption from income tax on bonuses or equivalent payments up to an amount of GBP 3 600 for employees of companies that are indirectly employee owned; and (iii) an increase in the maximum value of shares that an employee can acquire with tax advantages in one year under the share incentive plan. The proportion of research and development tax credit that can be paid to loss-making small and medium-sized companies as cash credit has been increased. The annual investment allowance has been increased from GBP 250 000 to GBP 500 000, and the temporary period for which the legislation is in force has been extended to 31 December 2015. The increase in the maximum amount applies to expenditure incurred on or after 1 April 2014.

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Table (continued)

Social security contributions, decrease: Employer's national insurance contributions for under-21 year olds earning less than GBP 813 per week, equivalent to the point at which the higher tax rate is charged, have been abolished, with effect from 6 April 2015.

Excise duties, decrease: A reduced rate of fuel duty on methanol will come into effect in April 2015. Exemptions from the climate change levy have been introduced for energy used in metallurgical and mineralogical processes, with effect from April 2014. Excise duties on beer were reduced, with effect from March 2014 and the bingo duty was halved. The 2014 budget included a reform of air passenger duty, involving the merging of bands B, C and D, with effect from April 2015. This will eliminate the two highest rates currently charged on flights to countries over 4 000 miles from the UK.

Excise duties, increase: Excise duties on tobacco were increased, with effect from March 2014.

Non-energy environmental taxes, increase: Both the standard and lower rates of landfill tax are to be increased in line with inflation. The increase will apply for disposals of waste at landfill sites from April 2015. The main rates of the climate change levy are to be increased in line with inflation.

Property taxes, increase: Capital gains tax was introduced for non-residents disposing of UK residential property. The annual tax on developed properties was reformed so as to discourage the use of corporate envelopes for investing in high-value UK housing that is left empty or underused. Two new bands were created for properties worth between GBP 500 000 and GBP 1 million and between GBP 1 million and GBP 2 million respectively, so as to bring properties in these value bands within the scope of the tax. In addition, the capital gains charge associated with this tax will apply to properties in the new bands. The 15 % rate of stamp duty land tax that applies to acquisitions of properties by corporate envelopes will also be applied to properties valued above 500 000 GBP.

Other taxes, increase: The bank levy was increased to 0.0156 %, with effect from 1 January 2014.

Other measures (e.g. compliance and anti-fraud): Measures were taken to tackle tax avoidance, the most significant for the corporate sector being those targeted at disclosed (i.e. marketed) tax avoidance schemes and the general anti-abuse rule, together expected to bring in GBP 3.9 billion over the tax years from 2014-15 until 2018-19.

Note: The list of reforms is based on the 2014 national reform programmes, the 2014 taxation trends report, the International Bureau of Fiscal Documentation database, the Directorate-General for Taxations and Customs Union's databases and other sources used by the Commission in the annual assessment of the national reform programmes. Reforms introduced after June 2014 are not included.
Measures described as having been 'announced' by a government have not yet been enacted.
Source: Commission services.

2. CHALLENGES RELATED TO FISCAL CONSOLIDATION AND GROWTH-FRIENDLY TAX STRUCTURES

This and the next two chapters provide a first identification of main policy challenges faced by Member States in the area of taxation. They relate to important aspects of national tax systems in which policy action is expected to affect macroeconomic performance, including GDP, employment, fiscal sustainability and possibly macroeconomic stability. The areas discussed are connected to the design of national tax policies that are under the direct control of governments. ([15])

This chapter focuses on two wide-ranging macroeconomic challenges in the area of taxation that are relevant to several EU Member States: (i) the possible need for fiscal consolidation and the scope to use taxation to that end (Section 2.1); and (ii) the extent to which the structure of the tax system can be changed to support economic growth (Section 2.2). These issues are particularly important at the present time, with a number of Member States needing to continue their consolidation efforts and most aiming to stimulate growth from its current weak levels. Improving the quality of taxation is one way to support growth in a budget-neutral manner.

The methodology used in this chapter is briefly explained in Section 2.1 and in more detail in Annex A1.1. ([16]) The chapter updates and refines the analysis carried out in last year's report on the two challenges mentioned above. The results of this year's screening are also compared with those of the last two years so as to identify possible policy developments. Section 2.1 also discusses the scope for non-budget-neutral labour tax reduction, in the case of Member States with a low fiscal-sustainability risk and a high tax burden on labour.

The outcome of the screening for the countries under economic adjustment programmes does not pre-judge the content of the Memorandum of Understanding (MoU) or the programme implementation reviews carried out jointly by the European Commission, the European Central Bank and the International Monetary Fund. ([17])

The last section (Section 2.3) presents the results of recent QUEST modelling analysing the macroeconomic and redistributive effects of a tax shift from labour to consumption.

2.1. FISCAL CONSOLIDATION ON THE REVENUE SIDE — AN INDICATOR-BASED SCREENING

Many Member States have improved their budgetary situation over recent years ([18]) but several still face a particular sustainability challenge. This section identifies those Member States with high consolidation needs and 'tax space' available. These countries could, therefore, consider increasing their tax revenues to assist their fiscal consolidation process. Ireland and Portugal, which have exited their economic adjustment programmes, are included in the analysis for the first time. Greece, Croatia and Cyprus do not feature in the screening. ([19])

2.1.1. Benchmarking approach

As in the previous reports, Member States undergo a preliminary quantitative screening. Their performance in relevant areas is benchmarked using the Lisbon Assessment Framework (LAF), which is explained in more detail in Annex

([15]) Issues that relate specifically to the functioning of the single market and require legislative action or more informal initiatives at EU level (such as tax competition, double taxation, profit shifting and base erosion, and tax havens) are excluded.

([16]) A more detailed discussion can be found in Wöhlbier et al. (2014).

([17]) The screening results for countries under economic adjustment programmes (Cyprus and Greece) are included in this chapter in Section 2.2 and in Chapters 3 and 4. These results are only indicative, but provide useful information.

([18]) The European Commission's 2014 spring forecast predicts that the structural budget balance for the EU as a whole will improve to -1.7% in 2014, from a level of -4.8% in 2010.

([19]) As in previous years' reports, Member States that are currently subject to an economic adjustment programme (Cyprus and Greece) are excluded from the analysis in the section on broad challenges linked to consolidation on the revenue side. This is because the detailed and frequent monitoring of debt sustainability carried out by the European Commission, the International Monetary Fund and the European Central Bank as part of an adjustment programme is more precise than the fiscal sustainability indicators used in this section. Croatia is not included due to data limitations.

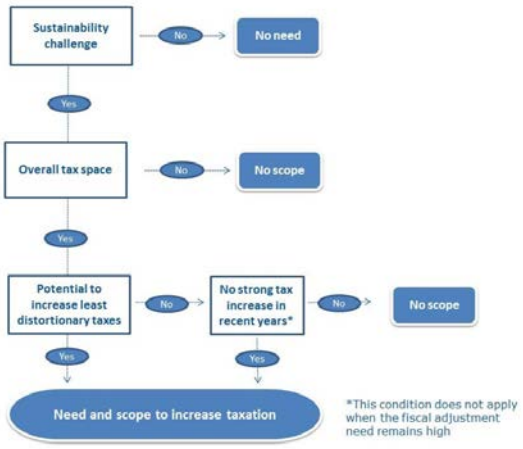
A1.1. ([20]) Under this approach, a Member State is considered to face a challenge in a particular area of tax policy if its performance differs significantly, in a negative way, from the EU average. ([21]) Conversely, Member States whose performance is significantly better than the average, i.e. above LAF plus and in the top third of the distribution, are considered to perform very well in this area. Before drawing firm policy conclusions, however, a complementary in-depth country analysis should be carried out, which is beyond the scope of this general examination. ([22]) In some limited cases, mainly for sustainability indicators, well established alternative benchmarks are used instead of the LAF thresholds.

2.1.2. Screening of Member States

There is considered to be potential to use tax increases to support consolidation if there is some overall tax space, combined with either scope for increasing the least distortionary taxes or the absence of 'tax fatigue', i.e. there have been no significant tax increases in recent years. ([23]) Graph 2.1 gives a general overview of the screening approach applied.

As a first step, the need for consolidation (a sustainability challenge) is assessed on the basis of the commonly accepted indicator of fiscal sustainability in the medium term — the S1 indicator ('debt compliance risk'). ([24]) This is an important indicator used in the preventive arm of the Stability and Growth Pact to assess Member States' fiscal sustainability. The higher the value of the indicator, the less sustainable is the level of public debt. S1 corresponds to the adjustment in the budget balance (as a percentage of GDP) needed by 2020 to achieve a general government gross debt of 60 % of GDP — the limit set by the Treaty on the Functioning of the European Union — by 2030. ([25]) The indicator takes into account the current budgetary position, the debt

Graph 2.1: **Need for consolidation and scope for increasing taxation**



Source: Commission services.

([20]) The latest data for the indicators used in this chapter can be found in the TAX LAF online database. This database collects available data relevant to measure the macroeconomic performance of tax policy in EU Member States. The access of the database will be possible at the end of October 2014, via the DG ECFIN database website.

([21]) A country's performance is considered to differ significantly from the EU-28 average if it is further from the average then the 'LAF minus' point. The 'LAF minus' point is determined using the average and the standard deviation, so as to capture the dispersion of the distribution, and on the assumption of a normal distribution. The 'LAF minus' point is then set such that the countries below this point (or above, if high values of a particular variable indicate negative performance) are in the bottom third of the distribution, assuming a normal distribution. All averages are GDP-weighted unless otherwise indicated.

([22]) This in-depth country analysis is carried out as part of the European Semester.

([23]) For a discussion of the effect of tax fatigue, resulting from high tax levels or past tax increases, on tax morale, see Lago-Peñas and Lago-Peñas (2010).

([24]) The indicator for long-term fiscal sustainability, referred to as S2 ('ageing-induced fiscal risks') in previous years' reports, is no longer used in the screening. This reflects the change in the methodology used for calculating the S1 and S2 indicators, introduced for the 2012 sustainability report (European Commission, 2012e) and the focus now placed on the S1 indicator for assessing fiscal policy over the medium term. This medium-term perspective is the most relevant when considering the need for consolidation, in terms of the reduction in the fiscal deficit and in public debt necessary to comply with the provisions contained in the Stability and Growth Pact. Reducing the long-term sustainability gap, represented by the indicator S2, requires structural measures capable of curbing the long-term trend in ageing-related expenditure (such as an adjustment of the exit age from the labour force), rather than measures designed to increase revenue. For a detailed discussion of the S1 indicator, see European Commission (2012e, Chapter 1.3 and Annex 8.1).

([25]) For example, the value of 1.7 for the EU as a whole indicates that Member States would have to tighten their fiscal stance, in terms of the structural primary balance, by an average of 1.7% of GDP by 2020 for their public finances to return to a sustainable path in the medium run.

requirement and the additional expenditure brought about by an ageing population. It is explained further in Annex A1.2.

For countries which are found to be facing a sustainability challenge, the screening then looks at the tax space available. There is considered to be some overall tax space if the tax-to-GDP ratio is relatively low. ([26]) At the same time there would have to be either scope to increase the least distortionary taxes (taxes on consumption, recurrent housing taxes and environmental taxes) or an absence of tax fatigue. The latter is considered to be the case if the overall tax burden has not increased substantially since 2009, unless further increases warranted by large remaining consolidation needs.

Belgium, Ireland, France, Portugal and the United Kingdom face strong consolidation needs as they are facing high sustainability risks in the medium run. The S1 indicator for these Member States is greater than 2.5 (see Table 2.1). ([27]) With an S1 indicator value of around 2, Slovenia and Finland are not far below the critical threshold of 2.5.

Table 2.2 shows indicators assessing the tax space available in each country:

(i) the tax-to-GDP ratio, as an indicator of the overall tax space ([28]);

(ii) the change in the cyclically adjusted tax-to-GDP ratio over the period 2009-14, as an indicator of tax fatigue ([29]);

(iii) the aggregate effect of discretionary revenue measures over the 2010-14 period as an additional indication of tax fatigue; and

(iv) the magnitude of the fiscal adjustment needed, expressed as the distance between the structural balance and the medium-term objective (MTO).

If the distance to the medium-term objective is above the EU average, this overrides the tax fatigue argument because of the scale of the adjustment still needed.

Table 2.1: **Medium term sustainability gap**

Country	Total	of which:			Strong consolidation challenge
		Initial budgetary position	Debt requirement	Ageing component	
BE	5.4	0.5	2.7	2.2	X
BG	-1.2	0.2	-2.5	1.0	
CZ	0.6	0.9	-0.9	0.7	
DK	-2.1	-1.2	-1.0	0.1	
DE	0.1	-1.6	0.8	0.8	
EE	-2.8	0.3	-3.5	0.5	
IE	5.2	1.0	3.9	0.3	X
ES	0.2	-0.3	0.6	-0.1	
FR	2.6	0.3	3.0	-0.7	X
HR	-	-	-	-	-
IT	1.5	-2.9	4.6	-0.3	
LV	-2.4	0.5	-1.7	-1.2	
LT	-1.0	-0.3	-1.2	0.5	
LU	0.4	0.7	-2.3	2.0	
HU	-0.8	-0.7	1.2	-1.3	
MT	1.6	0.4	0.7	0.5	
NL	1.2	-0.7	0.9	1.0	
AT	1.7	-1.2	1.3	1.7	
PL	0.2	0.6	-0.6	0.2	
PT	2.6	-1.2	4.0	-0.2	X
RO	-0.5	0.3	-1.2	0.4	
SI	1.9	-0.5	1.5	0.9	
SK	-0.1	-0.3	-0.2	0.3	
FI	2.1	-0.3	0.1	2.3	
SE	-1.6	-0.8	-1.3	0.6	
UK	4.3	1.8	2.2	0.3	X
EU	1.7	-0.4	1.8	0.3	
EA	1.5	-0.9	2.2	0.2	

Notes: Indicator values above zero are indicative of a sustainability gap. No data is available for Croatia due to problems with the availability and quality of demographic projections, which prevented the Economic Policy Committee from approving projections for the cost of ageing in Croatia.
Source: Commission services.

In addition to these indicators of tax space, it is important to assess how much scope Member States appear to have to increase the least

([26]) The screening does not attempt to analyse what the optimal tax-to-GDP ratio should be and focuses only on the level of the ratio in comparison with other Member States. It is sometimes argued that even though the level of taxation is the result of a political and societal choice, the capacity to tax appears to be positively correlated to the income per capita of a country. Thus, the tax-to-GDP ratio might tend to be lower in countries with lower GDP per capita.

([27]) This corresponds to 'high risk' in the Commission's sustainability assessment framework. The figure of 2.5 is derived from the benchmark consolidation path for the period 2016-20, which sets a minimum of 0.5% of GDP consolidation per year. 2016 is the first year outside the timeframe covered by the Commission's 2014 spring forecast.

([28]) The available overall tax space is determined not only by the current tax-to-GDP ratio but also by the scope there is for increasing this ratio, which depends on the individual characteristics of each country. Identifying overall tax space is not intended as a call for higher taxes, and results must be interpreted in the context of the expenditure side of the budget and the public's preferences as regards redistribution.

([29]) Due to composition effects (i.e. changes in the share of the different tax bases in GDP), the change in the cyclically-adjusted tax burden may underestimate the magnitude of the discretionary tax increases introduced in some Member States, such as Spain. For a more detailed analysis of discretionary tax measures, see Princen et al. (2013).

distortionary taxes (recurrent taxes on immovable property, consumption taxes and environmental taxes). This assessment is carried out in Section 2.2 and summarised in Table 2.12.

Table 2.2: **Indicators of 'tax space'**

Country	Overall tax space: tax-to-GDP ratio	Change in cyclically adjusted tax-to-GDP ratio	Discretionary revenue measures	Distance to medium-term objective
	2014	2009-14	2010-2014	2014
BE	45.9	2.8	2.9	3.0
BG	28.7	-0.3	1.2	0.5
CZ	35.2	1.7	2.2	0.1
DK	49.0	1.3	1.2	-0.3
DE	39.3	-0.5	-0.1	-1.0
EE	32.1	-2.8	0.6	0.5
IE	30.3	1.9	3.1	4.5
ES	33.5	3.0	5.3	2.4
FR	45.7	3.7	3.8	2.3
HR*	-	-	-	-
IT	43.6	0.6	2.7	0.8
LV	27.5	0.7	3.0	0.4
LT	26.9	-3.1	0.2	0.9
LU	38.9	-1.2	0.8	-0.1
HU	39.1	-1.1	3.4	0.5
MT	34.9	1.3	1.4	2.8
NL	40.2	1.9	2.5	0.8
AT	43.6	1.2	1.3	0.8
PL	32.3	0.5	3.7	1.8
PT	34.4	2.6	7.7	1.5
RO	27.6	-0.2	1.8	0.8
SI	38.1	0.9	2.3	2.5
SK	29.6	0.7	2.9	1.7
FI	45.9	3.0	2.7	0.4
SE	44.6	-2.3	-1.0	-0.1
UK	36.3	0.7	1.2	-
EU	39.9	1.3	2.4	0.9
EA	41.0	1.5	2.8	0.9
LAF plus	38.0	0.5	1.4	
LAF minus	41.9	1.8	2.9	

Notes: Data is based on ESA95 methodology. Column 1 shows the tax-to-GDP ratio (excluding imputed social security contributions) based on the Commission's 2014 spring forecast. Column 2 shows the forecast change in the cyclically adjusted tax-to-GDP ratio. Column 3 shows the sum of the discretionary revenue measures as a percentage of GDP over the period 2010-14. Column 4 shows the distance between the structural deficit and the value set by the medium-term budgetary objective. No data is available for Croatia. Data for Portugal for the distance of the structural balance to the medium-term objective is based on the latest assessment by the Commission.
Source: Commission services.

Based on the values of the indicators of the tax space available and the scope for increasing the taxes least detrimental to growth, Table 2.3 identifies the Member States that would have scope to increase taxes, if necessary, for the purpose of improving the sustainability of public finances. Characterised by a relatively low tax-to-GDP ratio, these countries have scope to increase the least distortionary taxes, or have not increased taxes by a significant amount over the past years, or are at an above-average distance from their medium-term objective.

Table 2.4 summarises the results of the screening. Among the Member States with high sustainability challenges, Ireland, Portugal and the United Kingdom are found to have some scope to increase taxes as part of fiscal consolidation.

For Ireland, it is relevant to note that the rather low tax-to-GDP ratio is partly due to a high share of multinational companies in the Irish economy. The ratio would be higher if gross national income were used as a basis, but the ratio for the country would still be below LAF plus. ([30]) In the case of Portugal, recent consolidation has been heavily revenue-based (see Table 2.2), but an above average distance between the structural deficit and the value set by the medium-term objective remains. ([31])

Table 2.3: **Assessment of 'tax space'**

Country	Relatively low overall tax level	Scope to increase least distortionary taxes	No significant tax increase in recent years or large remaining distance to medium-term objective	Outcome: scope for tax rise
BE		X	X	
BG	X	(X)	X	X
CZ	X	(X)	X	X
DK			X	
DE		X	X	
EE	X	(X)	X	X
IE	X	X	X	X
ES	X	X	X	X
FR		X	X	
HR*	-	(X)	-	-
IT		X	X	
LV	X	X	X	X
LT	X	X	X	X
LU		(X)	X	
HU		X		
MT	X	(X)	X	X
NL				
AT		X	X	
PL	X	(X)	X	X
PT	X	X	X	X
RO	X	X	X	X
SI		(X)	X	
SK	X	X	X	X
FI		(X)		
SE		(X)	X	
UK	X		X	X

Notes: Column 1: Member States with a tax-to-GDP ratio below LAF-plus, i.e. in the bottom third of the distribution, are considered as having overall tax space. Column 2: Based on the assessment shown in Table 2.12, Member States with an 'X' have scope to increase the least distortionary taxes (consumption taxes, recurrent taxes on housing and/or environmental taxes). '(X)' indicates limited scope. In column 3, an 'X' is given if the Member State has not increased taxes significantly in recent years (i.e. there is no tax fatigue) or if, despite past tax increases, the distance to the medium-term objective is greater than the EU average. * Croatia was not included in the screening.
Source: Commission services.

Due to the time lag inevitably associated with indicators, this screening may not take into account recent tax increases or other significant measures recently adopted by Member States. This mainly concerns the assessment of the scope to increase the least detrimental taxes, which is generally based on 2012 data and so does not reflect

([30]) The small social security system also contributes to the low tax-to-GDP ratio in Ireland

([31]) It is therefore argued that due to past substantial tax increases, further tax hikes are less growth-friendly than expenditure-based consolidation.

measures adopted in 2013 and 2014, as presented in Chapter 1. ([32])

As further country-specific analysis is necessary, this screening does not preclude the possibility that some countries with little tax space (reflected in a relatively heavy overall tax burden) may still need to raise taxes further — in addition to curbing public expenditure significantly — if they are to achieve the necessary level of consolidation, at least in the short to medium term. On the other hand, a country-specific analysis of Member States found to have some scope for consolidation by means of measures on the revenue side might show that expenditure-based consolidation is preferable. Any revenue increases should be carefully designed.

Table 2.4: **Overview: fiscal consolidation challenges**

Country	Potential need for higher tax revenues as part of consolidation	Scope for tax based consolidation	Potential need and scope for tax based consolidation
BE	X		
BG		X	
CZ		X	
DK			
DE			
EE		X	
IE	X	X	X
ES		X	
FR	X		
HR*	-	-	-
IT			
LV		X	
LT		X	
LU			
HU			
MT		X	
NL			
AT			
PL		X	
PT	X	X	X
RO		X	
SI			
SK		X	
FI			
SE			
UK	X	X	X

Notes: Column 1 is based on Table 2.1 and column 2 on Table 2.3.
* Croatia is not included in the screening.
Source: Commission services.

2.1.3. Comparison of screening results with previous years

The screening above identifies Member States that have a particular need for consolidation and that may have scope to use taxation for this purpose. A very similar screening exercise was carried out in the 2012 and 2013 reports. It is therefore interesting to analyse whether the results have changed and, if so, whether this is due to changes in the indicator values or to modifications made to the screening methodology used.

As shown in Table 2.5, the results of the assessment have changed for five countries. Spain and Slovakia have improved the sustainability of their public finances and are therefore no longer considered high-risk in this area. Malta and Slovenia are also no longer considered high-risk; this, however, is due to the change in the screening approach, which now focuses on the S1 indicator. ([33]) Moreover, the overall tax-to-GDP ratio in Slovenia is no longer significantly below the EU average, as a consequence of recent tax increases and measures taken to improve tax compliance. This changes the assessment of the overall scope for tax increases.

Table 2.5: **Comparison of screening results: 2012-14**

Country	Screening results			Change in the assessment of potential need for tax increases	Change in the assessment of scope for tax increases
	2012	2013	2014		
BE					
BG					
CZ					
DK					
DE					
EE					
IE	-	-	X	Not covered in 2012 and 2013	
EL	-	-			
ES	X	X		X	
FR					
HR	-	-	-		
IT					
CY					
LV					
LT					
LU					
HU					
MT	X	X		X	
NL					
AT					
PL					
PT	-	-	X	Not covered in 2012 and 2013	
RO					
SI	X	X		X	X
SK	X			X	
FI					
SE					
UK			X		X

Notes: Greece, Croatia and Cyprus are not covered by this screening.
Source: Commission services.

The United Kingdom was a borderline case in the past two years as it did not quite meet the

([32]) Reforms that have been introduced but will not yet be reflected in the data include, in particular, changes in recurrent property taxation in Ireland and Portugal, and also changes in the application of VAT rates in Portugal.

([33]) For Malta and Slovenia, the S2 indicator values have remained above 6, the critical level set in last year's screening for a high long-term sustainability risk.

screening criteria needed to qualify as a country with scope for increasing revenue. The latest data show that the United Kingdom meets the criteria this year, in terms of both consolidation needs — as in previous years — and scope for measures to be taken on the revenue side. The indicators of tax fatigue have fallen and are now both very low in the United Kingdom: for the indicator based on cyclically adjusted tax increases over recent years, it is just below LAF plus (i.e. among the Member States where there has been the smallest increase in the tax-to-GDP ratio), and for discretionary revenue measures, it is just above LAF plus, i.e. close to the Member States where the aggregate effect of discretionary revenue measures has been the least severe. ([34])

No comparison is possible for Ireland and Portugal. They were not covered in last year's analysis as they were at the time undergoing a very detailed debt sustainability assessment as part of an economic adjustment programme, which they have both since exited.

2.1.4. Countries with moderate fiscal risk and a high tax burden on labour: scope for reducing taxes

The previous section identified the Member States that might have scope to make greater use of taxation as part of fiscal consolidation; it is also relevant to analyse the scope Member States have for reducing the tax burden on labour in an uncompensated way. Thanks to past efforts to consolidate their public finances, some Member States have regained some room for manoeuvre, in terms of reducing the overall tax burden. These Member States could consider reducing labour taxation (which is considered particularly distortive) without necessarily increasing other taxes. This would result in a relative tax shift, as opposed to a revenue-neutral or pure tax shift, which is discussed in the next section (2.2).

A Member State is considered to have some potential and need to reduce the tax burden on labour (without necessarily increasing other taxes) if:

(i) the indicator of medium-term sustainability risk S1 is low (i.e. below 0), indicating that there is fiscal space and therefore the potential to reduce taxes; and

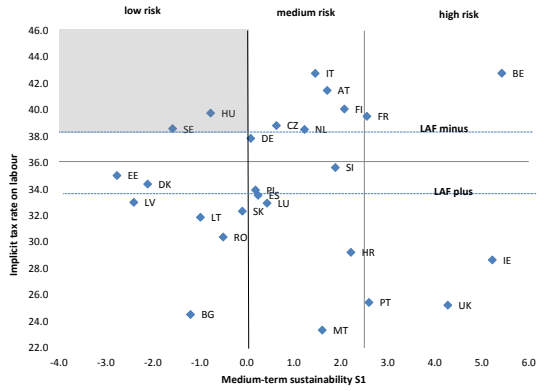
(ii) the tax burden on labour is high, meaning that: a) the overall tax burden on labour, as measured by the implicit tax rate on labour, is very high (i.e. above LAF minus, a rate of 38 % or higher); or b) the tax burden on low-wage earners, as measured by the tax wedge at 67 % of the average wage, is very high (i.e. above LAF minus, at a rate of above 43 %). This situation indicates a particular need to reduce labour taxes. It should be noted that, as discussed in Section 2.2: i) reducing labour taxation on low-wage earners can have a particularly significant effect as this group is especially responsive to labour supply incentives; and ii) it would entail a less severe loss of revenue than would a general reduction in labour taxation and therefore requires less fiscal space.

According to the results of the screening exercise outlined above — which are, however, to be interpreted with some caution (please see below) — with the exception of Hungary, none of the Member States with a very high tax burden on labour has scope to reduce this burden without compensating for the lost revenue elsewhere. Graphs 2.2 and 2.3 plot the medium-term sustainability indicator S1 against the total tax burden on labour and the tax burden on low-wage earners, respectively. Sweden is a borderline case with regard to the total tax burden on labour. Germany, Latvia and Romania are borderline cases with regard to the tax burden on low-wage earners.

The results of this screening should, however, be interpreted with caution, due to the mechanical nature of the screening process. Country-specific circumstances and obligations under the Stability and Growth Pact should also be taken into account. Some of the countries considered, including Germany and Hungary, still have a high level of debt — significantly above 60 % of GDP in 2013 — which suggests that the fiscal margin for manoeuvre could be fairly narrow in the short term. Hungary is a case in point: looking beyond the favourable results of the mechanical screening,

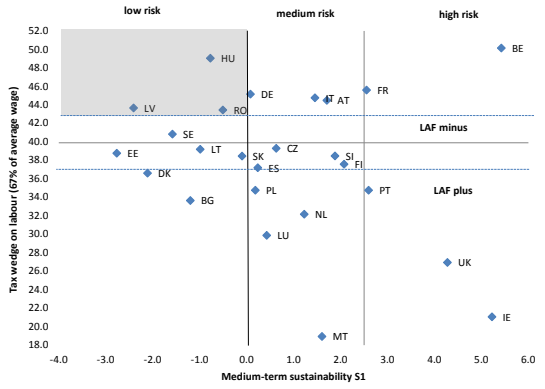
([34]) As a side argument, the tax-to-GDP ratio in the United Kingdom, which had been slightly above the critical 'LAF plus' limit in 2012 (thus placing the country in the top third of the distribution), was below that limit in 2013, but by a very narrow margin. It is now further below it, indicating that there is more overall tax space.

Graph 2.2: **Medium-term sustainability and total tax burden on labour**



Notes: Data for the S1 indicator refers to 2014; data for the implicit tax rate on labour refers to 2012. No data is available for the S1 indicator for Croatia.
Source: Commission services.

Graph 2.3: **Medium-term sustainability and tax burden on low-wage earners**



Notes: Data for the S1 indicator refers to 2014; data for the tax wedge refers to 2013 and to 2012 in the case of Bulgaria, Latvia, Lithuania, Malta and Romania. No data is available for the S1 indicator for Croatia.
Source: Commission services.

it currently has little scope for reducing labour taxation without introducing corresponding increases elsewhere — based on its current position, it will need to increase its efforts if public debt is to remain on a downward path. ([35])

To avoid putting fiscal sustainability at risk, the need to reduce high labour tax in many countries might, therefore, be accomplished through a reduction in public expenditure or, alternatively, through a revenue-neutral shift towards less detrimental tax bases. The next section discusses the latter option in detail.

2.2. GROWTH-FRIENDLY TAX STRUCTURES — AN INDICATOR-BASED SCREENING

2.2.1. Screening approach

The screening exercise presented in the previous section shows that Member States generally do not have scope for reductions in labour tax that are not budget-neutral. Several Member States, however, have both a very high tax burden on labour — especially on groups with only a precarious foothold in the labour market — and relatively low levels of those taxes considered less detrimental to growth, i.e. consumption taxes, recurrent taxes on immovable property and environmental taxes. ([36]) This indicates that there is scope for financing a reduction in labour taxes through a shift to other tax bases. In some Member States the fiscal constraints are clearly so severe that an overall reduction in labour taxes is very difficult. Even Member States that need to increase overall revenue as part of fiscal consolidation could, however, consider a *relative* shift in the tax structure, by raising the least detrimental taxes and avoiding increasing the tax burden on labour.

An overview of the main elements of the screening used to identify countries that have both a need and the scope for improving the structure of taxation, such that it is more effective in stimulating growth, is shown in Graph 2.4. Annex A1.3 sets out the quantitative screening principles in detail.

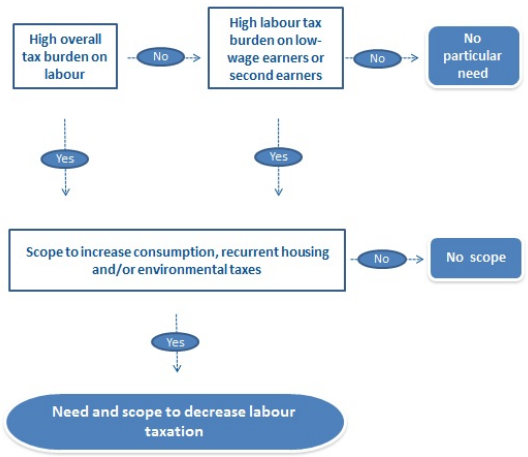
This section first identifies which Member States have very high (overall or group-specific) labour

([35]) The assessment given in the 2014 convergence programme emphasises that – based on the Commission's 2014 spring forecast – Hungary should strengthen its budgetary measures for that year, in the light of the emerging gap relative to the requirements set by the Stability and Growth Pact, namely the debt reduction rule. In 2015 and thereafter, Hungary should significantly strengthen its budgetary strategy to ensure that it reaches the medium-term objective and complies with the debt reduction requirements, in order to keep the general government debt ratio on a sustained downward path.

([36]) Consumption taxes include excise duties on tobacco and alcohol. These form part of the so-called 'sin taxes', which are also intended to reduce consumption of these products and thus reduce the incidence of related health problems.

taxation and then highlights those that appear to have scope for increasing the taxes considered least detrimental to growth. ([37]) Croatia and Cyprus are not included as no data are available for Croatia and no recent data for Cyprus.

Graph 2.4: **Need and scope to reduce labour taxation by means of a revenue-neutral tax shift**



Source: Commission services.

2.2.2. The need for a tax shift: high tax burden on labour

The overall tax burden on labour, as measured by the implicit tax rate on labour and the tax wedge of a single earner at average earnings, ([38]) is considered very high (above LAF minus) in Belgium, the Czech Republic, Germany, France, Italy, Hungary, Austria, Finland and Sweden (see Table 2.6).

To gauge the urgency of reducing labour taxes it is however also necessary to consider labour market outcomes. Of the countries mentioned above, Germany, Austria, Finland and Sweden have a very high employment rate (above LAF plus) that is close to or above the Europe 2020 ([39]) employment target of 75 %. For these countries, the issue of very heavy labour taxation, whilst relevant in the long run, not least given demographic changes — is considered to be less pressing. The results of the screening also hold when considering the tax wedge for other types of household. ([40])

Table 2.6: **Tax burden on labour and overall labour market situation**

Country	Employment rate (2013)	Pro memoria: unemployment rate (2013)	Implicit tax rate on labour (2012)	Tax wedge (100% AW, 2013) *
BE	67.2	8.3	42.8	55.8
BG	63.5	12.7	24.5	33.6
CZ	72.5	6.8	38.8	42.4
DK	75.6	6.6	34.4	38.2
DE	77.1	5.3	37.8	49.3
EE	73.3	8.6	35.0	39.9
IE	65.5	12.9	28.7	26.6
EL	53.2	27.1	38.0	41.6
ES	58.2	25.9	33.5	40.7
FR	69.5	9.5	39.5	48.9
HR	53.9	16.5	29.2	-
IT	59.8	11.9	42.8	47.8
CY	67.1	15.8	28.8	-
LV	69.7	11.9	33.0	44.5
LT	69.9	11.9	31.9	40.9
LU	71.1	5.7	32.9	37.0
HU	63.2	10.1	39.8	49.0
MT	64.9	5.8	23.3	24.5
NL	76.5	6.2	38.5	36.9
AT	75.5	4.7	41.5	49.1
PL	64.9	10.2	33.9	35.6
PT	65.6	16.6	25.4	41.1
RO	63.9	7.3	30.4	44.5
SI	67.2	10.2	35.6	42.3
SK	65.0	13.9	32.3	41.1
FI	73.3	7.5	40.1	43.1
SE	79.8	7.1	38.6	42.9
UK	74.9	6.7	25.2	31.5
EU	70.1	9.7	36.1	43.6
EA	69.0	10.5	38.5	46.5
LAF plus	73.0	7.4	33.9	40.8
LAF minus	67.2	12.1	38.4	46.5

Notes: Employment rate and unemployment rate (20-64 years), tax wedge for a single earner without children, earning 100 % of the average wage for full-time work. * Data for the tax wedge refers to 2012 in the case of Bulgaria, Latvia, Lithuania, Malta and Romania. No data is available for Croatia and no recent data for the tax wedge on labour for Cyprus. Data for the implicit tax rate on labour is based on ESA95 methodology.
Source: Commission services, OECD.

Some labour market groups face particular employment challenges. The participation of these groups in the labour market is considered particularly responsive to changes in after-tax wages. ([41]) This section will focus on two of these

([37]) This section focuses on the main results; a more detailed analysis can be found in Wöhlbier et al. (2014).
([38]) See glossary for an explanation of these two concepts.
([39]) Europe 2020 is the European Union's ten-year growth and jobs strategy that was launched in 2010.
([40]) Looking at the tax wedge at the average wage level for two additional household types, namely one earner couples with two children (where the one earner earns 100 % of the average wage) and two-earner couples with two children (with one earner earning 67 % of the average wage and the other earning 100 % of the average wage), in comparison with the results for the tax wedge on labour for single earners without children (as shown in Table 2.6), in countries where the tax wedge for the latter group is considered to be very high, it is also very high for at least one of the other two types of household. The only exception to this is Hungary, where the family tax credit leads to a quite substantial reduction in the tax wedge for specific groups. Even with this reduction however, the tax wedge for these groups is above the EU average and the implicit tax rate on labour is very high in Hungary. See Annex A2.7 for the relevant data.
([41]) For a discussion of the effects of labour taxation on different groups, see last year's report, which concluded that second earners, single mothers, low-skilled workers and older workers have high labour tax elasticities.

groups: low-skilled workers ([42]) and second earners. ([43])

The screening uses indicators to measure the tax burden on low-skilled workers and the 'traps' ([44]) low-skilled workers face which may deter them from re-entering the labour market after inactivity or unemployment (shown in Table 2.7, for workers who would earn 50 % and 67 % respectively of the average wage). Based on results of screening using the methodology outlined in Annex A.1.3, Belgium, Germany, France, Italy, Latvia, Hungary, the Netherlands, Austria, Romania, Finland and Sweden all have a very high tax burden on low-skilled workers or very high inactivity or unemployment traps, due to a large extent to labour taxation. ([45]) Values of the indicators are given for both the 67 % and 50 % of average wage levels to better reflect measures targeted at specific income levels in some Member States. ([46]) Inactivity and unemployment traps are considered to pose less of a problem in France as the disincentives to work are very high only at the 67 % level, there being special measures in place for those at or close to the minimum wage (*'SMIC'*). In Sweden and Finland, on the other hand, there is a particularly strong disincentive at the 50 % level. The indicators for the Netherlands suggest the tax system only creates high disincentives to return to the labour market, as measured by the inactivity trap, while taxation contributes little to the unemployment trap and the tax wedge is relatively low.

France, Austria and Sweden show very high employment rates for low-skilled workers (aged 25-54) compared with the rest of the EU, which mitigates the very heavy tax on the low skilled. ([47]) In the case of Germany, the employment rate for low-skilled workers was slightly below the LAF plus threshold in 2013 for the age group 25-54. When looking at the employment rate for the 20-64 age group, the employment rate in Germany is, however, at 58.2% in 2013 significantly above the EU average of 51.4%. Moreover, the employment rate has continuously increased over the past five years. This also mitigates the situation of the very heavy tax burden

Nonetheless, even in these countries the employment rate for the low skilled remains lower than for medium- and high-skilled workers.

Similarly to low-skilled workers, second earners are also more responsive to incentives: they sometimes face specific disincentives to re-enter the labour market after inactivity or to increase the hours they work. Such disincentives are to some extent a result of the benefits system, but taxes (including social security contributions) often play an important role. The data in Table 2.8 shows that the tax-related disincentive for second earners to re-enter the labour market after inactivity is very high in Belgium and Germany, and that the disincentive to increasing the number of hours worked — as measured by the low-wage trap — is very high in Belgium, Germany and Italy.

Among countries with a very high disincentive to work for second earners, their labour market situation — taking the female employment rate (from 25-54) as a proxy — is significantly better in Germany than in the EU on average. For Germany, the issue of there being a very high disincentive to (re)enter the labour market or increase the hours worked remains relevant, but is considered to be a lower priority for the purpose of the screening analysis. It is worth noting, however, that the employment rate does not capture the number of hours worked, which is another important indicator of under-utilisation of labour. The average hours worked by women are especially low in Germany

([42]) 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. Low-skilled workers also face difficulties with employability given their supposedly high labour costs (including labour taxes) compared with their productivity.

([43]) Youth unemployment may also be affected by labour taxation, but this is just one of a large number of other equally important factors.

([44]) See the glossary for a definition of these concepts.

([45]) Countries in which low-skilled workers face very high unemployment or inactivity traps due mainly to the social benefits system are not captured by the screening.

([46]) The 50% level is also used as the wage distribution is skewed to the right, meaning that the median wage is below the average wage. Special measures aimed at those on low incomes can, however, lead to rather high low-wage traps around the income levels at which these are phased out.

([47]) Please see the 2011 report for a discussion of which components of the tax burden could be reduced, a question which does of course depend on the specific Member State. In general, a reduction in employers' social security contributions has a direct effect on labour costs, at least in the short term.

Table 2.7: **Labour market situation of low-skilled workers and the tax burden on low-wage earners**

Country	Tax burden on low-wage earners and labour market situation of low-skilled (1)											Pro memoria: Youth labour market performance (2)
	Labour market performance	Disincentives to work										
	Employment rate (low-skilled)	Tax wedge (67% AW) *	Inactivity trap (67% AW)		Unemployment trap (67% AW)		Tax wedge (50% AW) *	Inactivity trap (50% AW)		Unemployment trap (50% AW)		Unemployment rate (youth)
	2013	2013	2012	of which contribution from labour tax	2012	of which contribution from labour tax	2013	2012	of which contribution from labour tax	2012	of which contribution from labour tax	2013
BE	58.9	50.1	67.0	36.4	91.9	36.4	41.9	68.8	27.7	87.7	27.7	23.7
BG	42.8	33.6	35.8	21.6	81.6	21.6	33.6	40.6	21.6	81.6	21.6	28.4
CZ	53.3	39.3	63.4	18.9	80.1	18.9	36.2	67.3	14.7	79.1	14.7	18.9
DK	67.4	36.6	86.8	26.3	89.8	11.8	35.2	102.5	21.3	94.6	8.9	13.0
DE	62.5	45.1	65.9	34.9	73.3	34.9	42.1	72.7	31.1	75.7	31.1	7.9
EE	64.1	38.7	47.5	19.9	64.3	14.3	37.6	55.2	18.2	64.3	14.3	18.7
IE	49.9	21.0	74.9	11.5	74.1	10.7	10.4	87.8	2.8	86.7	1.8	26.8
EL	53.6	36.9	22.6	22.6	51.6	22.6	34.5	20.4	20.4	59.2	20.4	58.3
ES	53.6	37.2	44.4	18.4	82.8	12.8	32.1	46.4	11.6	78.5	8.5	55.5
FR	64.7	45.6	54.9	26.2	77.3	19.5	33.5	58.6	23.1	80.4	20.2	24.8
HR	47.3	-	-	-	-	-	-	-	-	-	-	49.7
IT	58.0	44.7	25.7	25.7	78.7	21.8	41.6	19.4	19.4	79.4	19.4	40.0
CY	64.2	-	-	-	-	-	-	-	-	-	-	38.9
LV	58.3	43.6	58.3	30.1	90.1	30.1	42.8	66.8	29.0	89.0	29.0	23.2
LT	46.2	39.2	45.2	20.3	66.6	20.3	37.4	51.4	18.0	80.1	18.0	21.9
LU	75.5	29.9	69.8	17.3	86.0	6.0	26.0	82.5	12.1	89.5	4.4	17.4
HU	49.0	49.0	51.5	34.5	79.5	19.2	48.1	57.2	34.5	81.0	18.9	27.2
MT	61.4	18.9	56.4	13.0	55.9	13.0	16.0	67.9	9.8	67.3	9.8	13.5
NL	68.7	32.1	81.1	33.2	84.0	9.0	27.8	90.6	26.3	95.9	4.3	11.0
AT	67.8	44.5	66.6	28.0	67.6	28.0	39.8	74.1	22.4	74.1	22.4	9.2
PL	49.8	34.7	50.3	27.4	80.8	21.8	33.9	57.1	26.4	96.6	19.2	27.3
PT	69.2	34.7	36.5	16.6	79.2	16.6	28.1	37.7	11.0	76.0	11.0	37.7
RO	59.9	43.4	36.5	27.6	53.9	27.6	42.2	38.0	26.0	59.2	26.0	23.6
SI	61.0	38.5	62.0	28.7	89.5	9.7	33.4	58.5	22.9	79.5	5.3	21.6
SK	37.5	38.4	29.4	19.3	44.3	19.3	35.7	29.2	15.7	40.7	15.7	33.7
FI	62.8	37.6	70.3	28.1	74.8	16.4	33.9	80.3	26.0	80.3	13.8	19.9
SE	65.3	40.8	69.7	29.0	72.3	11.1	39.2	83.7	27.0	83.7	7.0	23.4
UK	62.6	26.9	64.9	21.2	64.9	21.2	22.2	74.2	17.5	74.2	17.5	20.5
EU	61.1	39.9	56.6	26.9	75.2	22.4	34.8	61.5	22.5	79.2	19.3	24.2
EA	61.3	42.6	54.1	28.1	76.9	23.5	36.8	57.4	23.2	79.1	20.5	25.1
LAF plus	63.2	37.0	50.3	24.5	72.0	19.1	31.8	53.1	19.9	76.2	16.1	18.5
LAF minus	58.9	42.8	63.0	29.3	78.3	25.7	37.8	69.8	25.1	82.2	22.6	29.9

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), tax wedge, inactivity trap and unemployment trap for a single earner with no children earning 67 % and 50 % of the average wage. 'Contribution from labour taxes' to the traps refers to the contribution to the respective trap in percentage points (other contributors are, e.g. withdrawn benefits, social assistance and housing benefits). * Tax wedge data for the indicators measuring the disincentive to work refer to 2012 in the case of Bulgaria, Greece, Latvia, Lithuania, Malta and Romania. No data is available for Croatia and no recent data for Cyprus. (2) Unemployment rate for young workers (15-24 years).
Source: Commission services. OECD.

(see Table 2.8), ([48]) which shows the effect of disincentives to increasing hours worked and working full time.

2.2.3. Potential for increasing taxes on consumption, taxes on recurrent property or environmental taxes

Member States are considered to have scope for shifting 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. ([49])

Of these three, taxes on consumption have by far the broadest tax base. Revenue from taxes on consumption, measured as a percentage of GDP in 2012, were relatively low in Ireland, Spain, Latvia and Slovakia (see Table 2.9). ([50]) The tax burden on consumption, measured as the implicit tax rate on consumption, was also significantly below the EU average in 2012 in Greece, Italy, Cyprus, Lithuania and Portugal. In Belgium, France and Austria, meanwhile, the gap between the tax burden on labour and the tax burden on consumption, as measured by the difference between the implicit tax rates on labour and consumption, was significantly above the EU average. This also indicates potential to consider a shift of taxation away from labour and towards consumption.

Notwithstanding the above, as most of the data used in the screening are available only up to 2012, the sometimes substantial tax reforms implemented in 2013 and the first half of 2014 also need to be taken into account. These are presented in Chapter 1. The projected change in revenue

([48]) The gap between average working hours for men and women in Germany was around ten hours a week in 2013 A related indicator is the proportion of employed women working part-time, which is particularly high in Belgium and Germany.

([49]) For a discussion of the effect of different types of taxes on growth, see European Commission (2011).

([50]) For Ireland, the rather low value is also due to the high proportion of multinational companies in the Irish economy. Using gross national income (GNI) rather than GDP would provide a more favourable picture. Data for Spain only partly reflect the substantial VAT increase implemented in September 2012.

from indirect taxes over the period 2012-14 is used as a proxy for the effect of these changes on revenue from consumption taxes. ([51]) Of the countries found to have potential for increasing taxes on consumption, revenue from indirect taxes is expected to increase by more than 0.5 percentage points of GDP in Ireland, Spain and France. Assuming that these increases are confirmed, and are indeed a result of higher taxes on consumption, they would tend to limit the actual scope for future increases. This highlights the need for further country-specific analysis.

Table 2.8: **Gender-specific labour market situation and tax burden on second earners**

Country	Labour market performance			Disincentives to work			
	Employment rate - female	Pro memoria: Employment rate - male	pro memoria: Average working hours - female	Inactivity trap (67% AW)		Low-wage trap (33%-67% AW)	
				2012	of which contribution from labour tax	2012	of which contribution from labour tax
	2013	2013	2013				
BE	74.0	84.0	33.0	47.2	47.2	58.9	58.9
BG	71.5	75.0	40.4	21.6	21.6	21.6	21.6
CZ	75.5	91.2	38.5	33.3	26.7	39.4	26.5
DK	79.0	85.0	31.4	76.8	27.1	53.3	38.6
DE	78.6	87.9	30.4	46.4	43.4	45.8	45.8
EE	76.1	84.7	37.7	24.8	24.8	24.8	24.8
IE	65.6	76.7	31.4	46.6	16.4	39.6	30.2
EL	51.3	71.5	39.0	9.0	29.0	14.9	34.9
ES	60.4	70.2	34.7	24.1	24.1	24.6	24.6
FR	76.2	85.2	34.3	37.7	25.5	30.3	27.6
HR	64.9	70.2	38.8	-	-	-	-
IT	57.8	79.1	32.7	40.4	31.8	48.5	41.8
CY	71.1	80.4	37.8	-	-	-	-
LV	76.1	79.9	38.1	35.0	35.0	33.3	33.3
LT	79.4	79.8	37.4	41.2	20.3	54.5	26.5
LU	75.5	90.1	33.5	30.9	24.2	30.6	30.6
HU	69.8	81.1	38.6	37.3	34.5	37.6	34.5
MT	57.9	89.6	34.6	27.2	15.0	16.8	16.8
NL	78.3	86.4	24.4	37.4	30.9	35.9	39.9
AT	81.2	88.5	32.5	30.3	30.3	41.1	41.1
PL	71.2	82.7	38.4	43.0	25.0	38.4	28.4
PT	72.2	76.9	37.8	19.5	18.9	25.7	24.6
RO	67.7	81.6	39.4	32.1	28.5	31.9	31.9
SI	79.3	84.3	38.3	44.7	28.7	73.9	35.1
SK	69.6	82.2	39.4	25.2	25.2	31.2	29.9
FI	78.1	83.9	34.8	29.5	28.1	33.5	32.7
SE	82.7	88.0	34.3	24.9	29.0	28.6	34.5
UK	75.2	86.7	31.5	46.6	21.2	32.0	32.0
EU	72.7	83.7	32.7	39.7	30.3	37.7	36.0
EA	71.7	82.9	32.4	38.2	32.6	38.9	37.5
LAF plus	75.9	85.8	34.0	35.7	27.0	33.9	32.7
LAF minus	69.4	81.5	31.5	43.7	33.7	41.5	39.4

Notes: Employment rate for age group 25-54 years. Female working hours refers to the average number of hours a week usually worked by women in employment, in their main job. 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. 'Contribution from labour taxes' refers to the contribution to the respective trap in percentage points (other contributors are, e.g. withdrawn benefits, social assistance and housing benefits). Inactivity includes household work. No data is available for Croatia and no recent data for Cyprus.
Source: Commission services, OECD.

In considering potential increases in taxes on consumption, it is important to examine which specific types of tax (VAT and excise duties on alcohol, tobacco or energy) Member States have particular scope to raise. ([52]) A rise in consumption taxes could increase prices, leading to higher inflation in the short run. Depending on how wages react to higher prices, this may lead to wage increases that, at least partly, counteract the reduction in labour costs resulting from the tax shift (referred to as the 'second round effect'). If wages do not react quickly, a shift from labour to consumption taxes could have the same effect as a currency devaluation.

Table 2.9: **Consumption taxes and indirect taxes**

Country	Consumption taxation				Pro memoria: indirect taxes			
	Pro memoria: Percentage of total taxation	As percentage of GDP	Implicit tax rate	Gap: implicit tax rates on labour and consumption	Percentage of total taxation		As percentage of GDP	
	2012			2012	2014	change 2009-14	2014	change 2012-14
BE	23.7	10.8	21.1	21.7	27.9	-1.0	12.8	-0.1
BG	53.3	14.9	21.5	3.0	52.4	0.3	15.0	-0.1
CZ	33.4	11.7	22.5	16.4	34.6	1.6	12.2	0.0
DK	31.0	14.9	30.9	3.5	33.6	-1.5	16.5	-0.2
DE	27.6	10.8	19.8	18.0	27.7	-1.3	10.9	-0.3
EE	41.9	13.6	26.0	9.0	42.3	1.2	13.6	-0.3
IE	34.8	10.0	21.9	6.8	38.2	-1.7	11.6	0.6
EL	36.3	12.3	16.2	21.8	36.0	-1.0	12.6	0.1
ES	26.5	8.6	14.0	19.6	33.2	4.4	11.1	0.6
FR	24.7	11.1	19.8	19.8	35.1	-1.1	16.1	0.5
HR*	49.1	17.5	29.1	0.1	-	-	18.8	0.5
IT	24.7	10.9	17.7	25.1	34.3	2.7	15.0	0.0
CY	36.8	13.0	17.6	11.2	42.1	-0.6	14.7	-0.1
LV	38.4	10.7	17.4	15.6	43.1	3.8	11.9	0.3
LT	39.8	10.8	17.4	14.5	40.2	2.8	10.8	-0.3
LU	28.1	11.0	28.9	4.0	33.7	1.6	13.1	0.2
HU	40.0	15.7	28.1	11.7	46.6	5.2	18.2	0.0
MT	38.8	13.1	18.7	4.6	39.2	-1.5	13.7	0.3
NL	28.3	11.0	24.5	14.0	29.7	-1.4	12.0	0.6
AT	27.6	11.9	21.3	20.2	33.0	-1.4	14.4	-0.2
PL	36.3	11.8	19.3	14.6	39.1	-1.4	12.6	-0.2
PT	37.4	12.1	18.1	7.4	39.9	-1.3	13.7	0.1
RO	45.1	12.8	20.9	9.5	46.2	6.4	12.7	-0.4
SI	37.9	14.2	23.4	12.3	40.8	3.9	15.5	1.2
SK	33.4	9.5	16.7	15.6	34.9	-1.2	10.3	0.4
FI	32.4	14.3	26.4	13.6	32.8	1.6	15.1	0.6
SE	28.4	12.6	26.5	12.0	42.6	2.8	19.0	0.5
UK	33.8	12.0	19.0	6.2	37.2	4.6	13.5	0.1
EU	28.5	11.2	19.9	16.3	33.8	1.0	13.5	0.1
EA	26.8	10.8	19.3	19.1	32.0	-0.1	13.1	0.1
LAF plus	30.8	11.8	21.2	13.8	35.6	2.0	14.4	0.3
LAF minu	27.0	10.7	18.6	18.7	32.0	-0.1	12.6	0.0

Notes: Data is based on ESA95 methodology. The column 'gap' shows the difference between the implicit tax rate on labour and the implicit tax rate on consumption. Data for indirect taxes is based on the Commission's 2014 spring forecast.
Source: Commission services

A second category of taxes that are less harmful to growth is recurrent taxes on immovable property, although these generate substantially less revenue than consumption taxes. In terms of the revenue they generate, property taxes can be considered to be very low in 19 Member States (see Table 2.10). These countries could increase the revenue from these taxes by around half a percentage point or more by bringing property tax revenue into line with the EU average. ([53])

([51]) The projected change in revenue from indirect taxes is based on the Commission's 2014 spring forecast. Indirect taxes are broader than consumption taxes as, under ESA95, indirect taxes also include revenue from other taxes, in particular a large part of the revenue from property tax, and revenue from a number of smaller environmental taxes, stamp taxes and payroll taxes.

([52]) The increase in taxes on consumption can also include special taxes, such as those on high-fat products, which aim to change consumers' behaviour. The scope for increases in environmental taxes is discussed below.

([53]) Increases in property taxes that were introduced in several countries, including Ireland, Cyprus and Portugal, in 2013 and 2014 are not yet reflected in the data.

The third category of taxes which is considered to be less detrimental to growth is environmental taxation, in particular environmental taxes on consumption. In addition to generating revenue, they can — as discussed in more detail in Chapter 4 — help to achieve environmental targets. There is potential for raising revenue both by reducing tax expenditure in this area, i.e. by withdrawing environmentally harmful subsidies, and by increasing tax rates. Nonetheless, the environmental tax base in general offers relatively limited revenue potential as compared with other taxes, such as VAT.

Table 2.10: **Revenues from recurrent property tax, as a percentage of GDP**

Country	2012
BE	1.3
BG	0.3
CZ	0.2
DK	2.1
DE	0.5
EE	0.3
IE	0.9
EL	1.4
ES	1.2
FR	2.4
HR*	0.0
IT	1.6
CY	0.5
LV	0.8
LT	0.3
LU	0.1
HU	0.4
MT	0.0
NL	0.7
AT	0.2
PL	1.2
PT	0.7
RO	0.6
SI	0.5
SK	0.4
FI	0.7
SE	0.8
UK	3.4
EU	1.5
EA	1.2
LAF plus	1.9
LAF minus	1.1

Notes: Data is based on ESA95 methodology. The data does not include personal income tax on imputed rents, which is applied in a very limited number of countries. This could explain the very low revenue from recurrent taxes on immovable property in some countries (e.g. Luxembourg and the Netherlands).
Source: Commission services.

Based on the criteria set out in Annex A1.3, data on Member States' current revenue from environmental taxes (as a percentage of GDP) and their implicit tax rates on energy (given in Table 2.11) suggest that the following countries have scope to increase the revenue generated by environmental taxes: Belgium, Germany, Spain, France, Latvia, Lithuania, Hungary, Austria, Poland, Portugal, Romania and Slovakia. ([54]) Two indicators are used for this assessment, each with its strengths and weaknesses. Due to the time lag associated with the indicators, as mentioned above, increases in environmental taxes introduced in 2013 and 2014 will not be reflected in the data. ([55])

Table 2.11: **Tax burden on the environment**

Country	Environmental taxes as percentage of GDP, 2012	Implicit tax rates on energy, 2012
BE	2.2	131.5
BG	2.8	107.7
CZ	2.4	139.2
DK	3.9	381.5
DE	2.2	219.9
EE	2.8	148.5
IE	2.5	202.5
EL	2.9	258.6
ES	1.6	157.6
FR	1.8	197.6
HR*	3.2	128.2
IT	3.0	307.5
CY	2.7	192.2
LV	2.4	105.5
LT	1.7	106.8
LU	2.4	231.8
HU	2.5	124.5
MT	3.0	241.6
NL	3.6	227.4
AT	2.4	183.3
PL	2.5	129.1
PT	2.2	173.5
RO	1.9	99.6
SI	3.8	225.6
SK	1.8	104.6
FI	3.1	158.7
SE	2.5	254.8
UK	2.6	274.8
EU	2.4	222.8
EA	2.3	215.8
LAF plus	2.6	246.0
LAF minus	2.2	199.4

Notes: Data is based on ESA95 methodology. No data is available for Croatia. See glossary for the definition of environmental taxes used in this report and an explanation of the implicit tax rate on energy.
Source: Commission services.

([54]) Measuring revenue from environmental (or energy) taxes as a percentage of GDP does not take into account the level of energy consumption in a country (i.e. the energy intensity of the economy) and hence does not measure a 'true' tax burden. Furthermore, an efficient environmental tax could result in low levels of revenue. In the case of the implicit tax rate on energy, it is not the whole base (i.e. the total level of energy consumption) that is actually being taxed: transport is heavily taxed in most countries while energy use for heating and industrial production is taxed at a much lower rate or is exempt. It follows that Member States with a relatively large low-taxed industrial sector and a high share of – low or not taxed – heating, appear to be performing poorly. Moreover, an increase in the use of untaxed renewable energy over time (in accordance with the EU's energy and climate policy) leads to a lower indicator score and hence, apparently, weaker performance.

([55]) Such increases have been implemented in Spain in particular, as detailed in Chapter 1. Moreover, France has votes such increases, which come into effect as from 2015.

Table 2.12: **Overview: tax structure indicators**

Country	High tax burden on labour				Potential for a tax shift				Need and scope for a tax shift
	Overall	Low skilled	Second earners	Need for a tax shift	Consumption	Recurrent housing	Environment	Scope for a tax shift	
BE	X	X	X	X	X		X	X	X
BG						X		(X)	
CZ	X			X		X	X	X	X
DK									
DE	(X)	(X)	(X)	(X)		X	X	X	(X)
EE						X		(X)	
IE					X	X		X	
EL					X			X	
ES					X		X	X	
FR	X	(X)		X	X		X	X	X
HR	-	-	-	-		X		(X)	-
IT	X	X	X	X	X			X	X
CY	-	-	-	-	X	X		X	-
LV		X		X	X	X	X	X	X
LT					X	X	X	X	
LU						X		(X)	
HU	X	X		X		X	X	X	X
MT						X		(X)	
NL		(X)		(X)					
AT	(X)	(X)		(X)		X	X	X	(X)
PL							X	(X)	
PT					X	X	X	X	
RO		X		X		X	X	X	X
SI						X		(X)	
SK					X	X	X	X	
FI	(X)	(X)		(X)		X		(X)	(X)
SE	(X)	(X)		(X)		X		(X)	(X)
UK									

Notes: '(X)' denotes borderline cases. Member States are considered to have scope for a shift if consumption tax indicators are very low or both recurrent taxes on immovable property and environmental taxes are low. Member States are considered to have limited scope for a tax shift if only one of recurrent housing taxes and environmental taxes are low. Croatia and Cyprus are not included in the analysis of the tax burden on labour.
Source: Commission services.

2.2.4. Summary of findings on the need and potential for a tax shift

Based on the results of the screening, Belgium, the Czech Republic, France ([56]), Italy ([57]), Latvia, Hungary ([58]) and Romania and, to a lesser extent, Germany, Austria, Finland and Sweden, appear to have both a very high tax burden on labour (either overall or for specific groups) and scope for increasing taxes less detrimental to growth (see Table 2.12 for a summary). These Member States could, therefore, consider exploring the possibility of shifting the tax burden away from labour. As mentioned earlier, however, the picture presented may not be fully up to date, given the backward-looking character of the indicators. Moreover, in view of the fact that a government can never be certain of the budget-neutrality of tax shifts in advance, and that many EU countries still need to do more to make their budgets sustainable in the medium or long term, careful attention would need to be given to the design of such reforms and also to the timing and sequencing of their implementation.

2.2.5. Comparison of screening results with previous years

Table 2.13 compares the results of this year's screening with those from 2012 and 2013. Despite some refinements having been made to the screening methodology, for the 2013 report in particular, the countries identified as having both a need, albeit limited in some cases, and the scope to shift taxes, have not changed over the three years.

This should not however be interpreted as an indication that no progress has been made by Member States. The comparison only shows whether a Member State has a potential issue to address, either overall or with regard to a specific labour market group. It does not reflect cases in which, for example, a Member State has implemented reforms targeted at one labour market group (e.g. low-skilled workers) but still needs to

([56]) Measures adopted in France in 2012, including the corporate income tax credit for competitiveness ('CICE'), which aims at reducing labour costs, are not reflected in the indicators used for the assessment.
([57]) Measures implemented in Italy in 2014 to reduce the tax wedge on labour are not yet reflected in the indicators used for the assessment.
([58]) Targeted measures in force in Hungary since 2013, which reduced employers' social security contributions for vulnerable groups, are not reflected in the data on the tax burden underlying the assessment.

address issues affecting another group (e.g. second earners). In fact, many Member States have introduced reductions in labour taxes for specific groups, financed by increases in taxes considered less detrimental to growth. In many cases, however, these reforms have been relatively limited in scope and tackle only part of the problem. Moreover, it may take time for the tangible effects of reforms to be reflected in the indicators used. The reforms introduced across Member States have also led to a general improvement in the benchmarks applied in the screening.

Table 2.13: **Comparison of screening results: 2012-14**

Country	Screening results		
	2012	2013	2014
BE	X	X	X
BG			
CZ	X	X	X
DK			
DE	(X)	(X)	(X)
EE			
IE			
EL			
ES			
FR	X	X	X
HR	-	-	-
IT	X	X	X
CY	-	-	-
LV	X	X	X
LT			
LU			
HU	(X)	X	X
MT			
NL			
AT	(X)	(X)	(X)
PL			
PT			
RO	X	X	X
SI			
SK			
FI	(X)	(X)	(X)
SE	(X)	(X)	(X)
UK			

Notes: '(X)' denotes borderline cases. Croatia and Cyprus are not included in the screening.
Source: Commission services.

2.3. TAX SHIFTS — INTERPRETING THE RESULTS OF RECENT MODELLING EXERCISES IN TERMS OF MACROECONOMIC PERFORMANCE AND REDISTRIBUTION OF INCOME

While it is generally accepted that shifting taxation from labour to consumption improves efficiency and leads to higher levels of output and employment (European Commission, 2013d) this type of reform is, nevertheless, discarded due to equity considerations. It is frequently argued that, since VAT as the most important tax on consumption is regressive, a tax shift from labour onto consumption would lead to a redistribution of income from relatively poor to relatively rich households. This view has, however, recently been challenged by academic literature ([59]) arguing that such a reform shifts taxation away from labour onto all other sources of income. Intuitively, a tax shift from labour onto consumption favours households whose primary source of income is labour over households with income from other sources such as capital income, to the extent that this income is used for consumption. Another way of looking at the matter is that a shift from labour to consumption tax imposes a one-time tax on existing wealth.

Tax shift scenarios are simulated in the European Commission's QUEST model. ([60]) The model makes a distinction between several income components, such as labour income, transfers, benefits and income from financial wealth (government bonds) and from real capital. In addition, QUEST distinguishes between two types of households, namely liquidity constrained households which rely entirely on income from labour and transfers and financially unconstrained households which derive income from all the income sources mentioned above, including labour and transfer income. Tracking the consumption of these two groups over time can reveal how the tax shift affects their real (permanent) income. This section will first consider the effects of a tax shift where transfer and benefit recipients are not compensated for the increase in consumption tax, and then of a tax shift where they are compensated. The decision to compensate benefit and transfer recipients or not has strong implications on the outcome of the reform. Compensating benefit and transfer recipients for consumption tax increases helps attenuating consumption losses. Not compensating for consumption tax increases leads to stronger work incentives for households and reduces unemployment.

The theoretical nature of this exercise calls for certain abstractions from reality. One caveat of the model-based exercise is that the approach does not

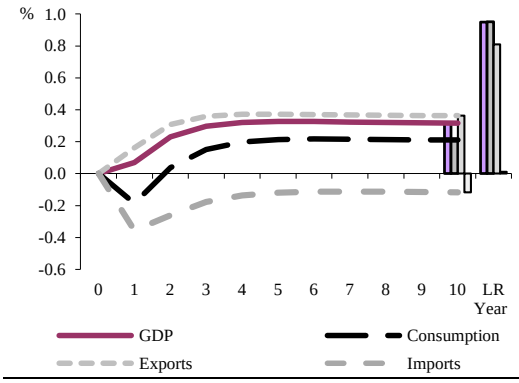
([59]) See e.g. Correia (2010).
([60]) For a description of the QUEST model used, see Annex A1.5. For a comprehensive study of the issues addressed in this section, see Burgert and Roeger (2014). See also last year's report for country-specific effects of tax shifts (European Commission, 2013d).

allow the modelling of a refined wage income distribution and instead models the average income from labour. However, the model distinguishes wage earners, transfer and benefit recipients and capital owners. The abstraction comes at the benefit of a refined modelling of second round effects of the reform for example on economic activity and labour market outcomes.

2.3.1. Tax shift without compensation

Graph 2.5 shows how GDP, consumption, exports and imports respond to the tax shift, which takes the form of an *ex ante* 1 % of GDP reduction in employers' social security contributions financed by a 1 % of GDP increase in consumption taxes. ([61]) GDP is seen to increase in the short to medium run, driven by an improvement in the external position. Exports increase in the short and long run as the reduction in employers' social security contributions improves the country's competitiveness, which lets unit labour costs decline. This domestic competitiveness effect of the tax shift also makes imports relatively more expensive. As a result, imports fall in the short run but gradually recover back to the baseline level. After an immediate drop following the change in taxes, consumption recovers in the second year and is the main factor driving GDP growth in the long run.

Graph 2.5: **Benchmark — GDP and components**



Notes: LR refers to the long-run effects.
Source: Commission services

The reduction in employers' social security contributions reduces unit labour costs and increases demand for labour as wages do not adjust immediately due to wage rigidities. The higher demand for labour leads to higher wages and increased employment in the medium and long run (see the 'LR' bars on Graph 2.6). Net real consumption wages, i.e. wages after income tax (including employees' social security contributions) and corrected for changes in tax on consumption, drop immediately due to the increase in taxes on consumption. In the medium run, they return to just above the original level, due to the significant increase in real after-tax wages (which compensates for the effect of the increase in consumption taxes).

Graph 2.6: **Benchmark — labour market**

Source: Commission services.

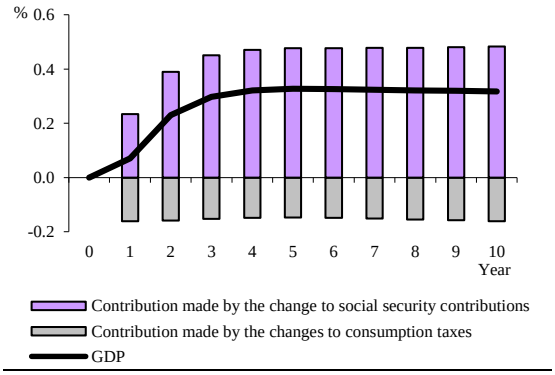
Assuming that all additional revenue generated from the *ex-ante* budget-neutral reform is used to reduce the debt, the effects of the two measures (the reduction in social security contributions and the increase in consumption taxes) can be separated from one another. Graph 2.7 shows the contribution made by each of the two measures to the overall effect on GDP. While the increase in tax on consumption has a negative effect on GDP, the reduction in social security contributions has a positive effect strong enough for the combined effect of the two measures to be positive.

Graph 2.8 shows the change in the different components of income when transfer and benefit recipients are not compensated for the increase in consumption taxes. After-tax real wage income

([61]) In the benchmark simulations, transfer and benefit recipients are not compensated for the increase in the cost of consumption resulting from the increase in taxes on consumption.

increases significantly, by 1.5 % in the medium run and by 3.6 % in the long run. ([62]) Even though

Graph 2.7: **Contribution of tax changes to GDP (percentage deviation from baseline)**



Source: Commission services.

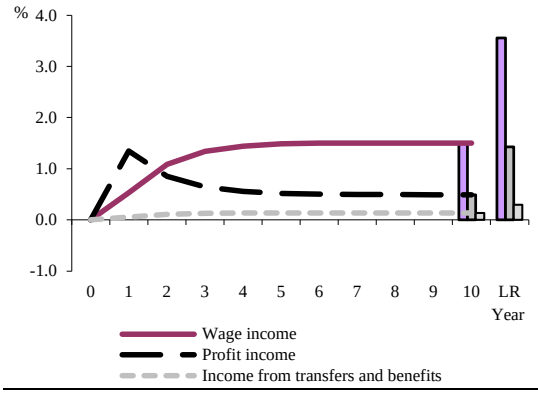
benefits and transfers are not indexed to the consumption tax increase in this scenario, the real value of benefits and transfers increases slightly due to relative price effects. ([63]) Despite the temporary substitution of labour for capital in production (lower labour costs meaning that production becomes relatively more labour-intensive), capital owners still benefit overall from the reform, via the reduction in firms' payroll costs resulting from lower employers' social security contributions. Higher demand for goods (both domestically and from abroad) further increases profits in the short and long run.

In relative terms, wage earners are best off under the reform. Apart from small losses in the initial period relative to capital owners, wage earners gain significantly from the reform, particularly in the long run. In this scenario, where there is no compensation for the increase in taxes on consumption, benefit and transfer earners are relatively worse off than capital owners.

([62]) The large discrepancy between medium- and long-run effects on some variables is explained by the way the budget closure is modelled. Additional budgetary scope resulting from higher growth in the short and medium run is used to reduce debt levels. Only in the long run, i.e. after year ten, are labour taxes adjusted in such a way as to stabilise the government debt-to-GDP ratio.

([63]) Benefits and transfers are linked to changes in wages.

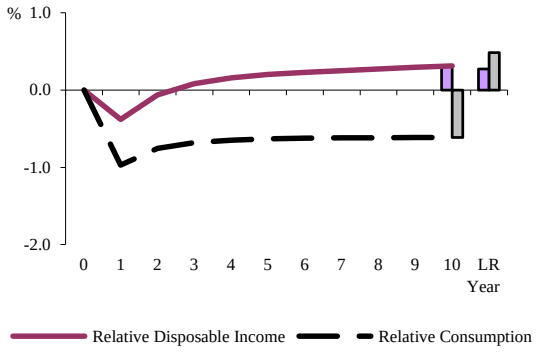
Graph 2.8: **Distributional effects of a tax shift**



Source: Commission services.

In terms of relative disposable income and relative consumption, the tax shift is regressive in the short run but progressive in the long run. Graph 2.9 compares the two types of average household in the model economy — liquidity-constrained households without access to financial markets and non-constrained households that can fully adjust to income shocks thanks to their wealth. Both relative disposable income and relative consumption fall at first, favouring non-constrained (Ricardian) households over those with liquidity constraints.

Graph 2.9: **Distributional effects — ratio of liquidity-constrained to non-constrained households**



Source: Commission services.

After only three years however, relative disposable income starts to favour liquidity-constrained households. For relative consumption, this is the case only in the long run. In the long run, liquidity-constrained households benefit more from the tax shift, both in terms of disposable income and consumption, relative to those without constraints.

As profits increase more strongly than wage income in the short run, the disposable income of non-constrained households initially rises more than income for liquidity constrained households. After three years however, this is reversed (see also Graph 2.8).

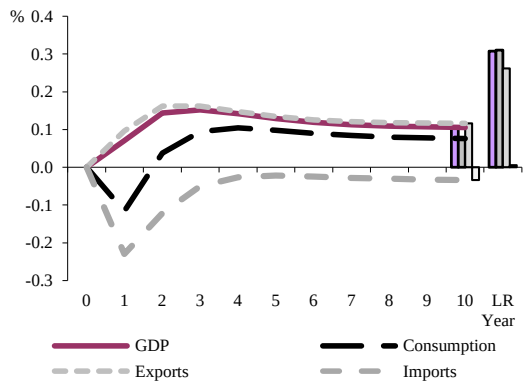
In the medium run, non-constrained households can still enjoy larger increases in consumption than liquidity-constrained households, as they can borrow against higher future income to smooth their consumption. By assumption, liquidity-constrained households do not have this option. Relative consumption by unconstrained households is also higher in the long run.

2.3.2. Tax shift with compensation for benefit and transfer recipients

Looking at a tax shift with compensation, a priori, the growth effect of a compensation of unemployment benefit and transfer recipients for the consumption tax increase is ambiguous: ([64]) On the one hand, indexing benefits should lead to a weaker labour supply effect, and, therefore, growth (as compared to the scenario without compensation), as first round effects of the consumption tax increase lead to higher benefits, which act as the reservation wage. On the other hand, indexation leads to a larger effect on demand, as the disposable income of households receiving transfers and benefits is compensated for the consumption tax increase. In our simulations, the former of these two effects dominates.

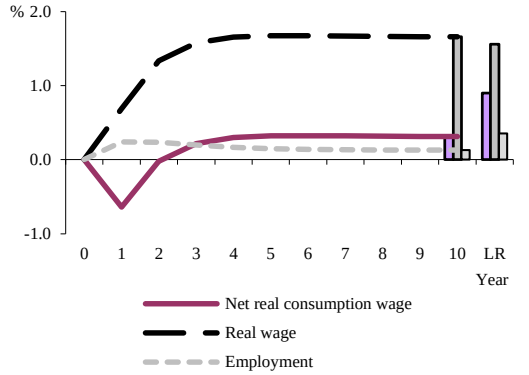
Compensating transfer and benefit recipients does not alter the dynamics of the aggregate variables, but does mute the effect of a tax shift compared with the benchmark scenario without compensation for the increase in consumption taxes (see Graphs 2.10 and 2.11). Even though households' disposable income originating from transfers and benefits is higher (than in the benchmark scenario), the effect of the tax shift on employment is less, as the reservation wage increases making the incentive to work significantly lower. Increases in employment fall from 0.4 % to 0.1 % after ten years when transfer and benefit recipients are compensated. Medium-run effects on GDP also fall from 0.3 % to 0.1 % in this scenario.

Graph 2.10: **Compensation — GDP and its components**



Source: Commission services.

Graph 2.11: **Compensation — labour market**

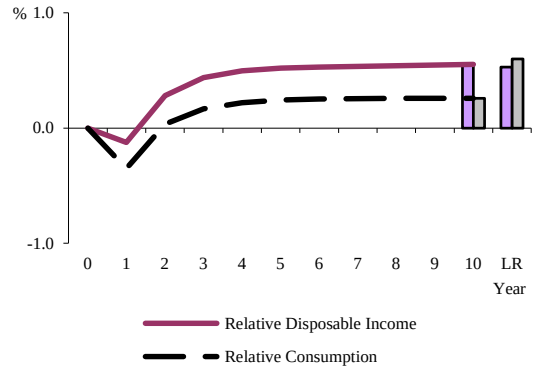


Source: Commission services.

The regressive effect on consumption levels in the short run observed in the previous scenario is more muted if transfer and benefit recipients are compensated for consumption tax increases (see Graph 2.12). Furthermore, compensation leads to an improvement in the relative performance of liquidity-constrained households. Their relative disposable income and consumption rise by 0.5 % and 0.6 % in this scenario, compared to increases of 0.3 % and 0.5 % in the previous scenario, where there is no compensation.

([64]) It is assumed that the total amount of tax revenue shifted from labour to consumption is identical in the compensated and the non-compensated scenarios; *ex ante* budgetary effects resulting from higher expenditure on transfers and unemployment benefits in the compensated scenario are not included.

Graph 2.12: **Compensation – Distributional effects, measured by the ratio of liquidity-constrained to non-constrained households**



Source: Commission services.

Policy conclusions to be drawn from this exercise are that shifting taxation from labour to consumption has a positive effect on GDP and employment in the medium and long run, as discussed in last year's report. A shift in taxation from labour to consumption is a way to divide the tax burden more equally across all sources of income by, e.g., also including capital income and taxing existing wealth. Intuitively, such a tax shift favours a household whose primary source of income is from labour over a household that has income from other sources such as capital income, to the extent that this income is used for consumption. The results of the theoretical simulation exercise show that if benefit and transfer recipients – that do not directly benefit from higher labour income due to the reform – are compensated for increased consumption expenditures, the reform is beneficial to a broad range of economic actors. Compensation, however, implies significantly lower positive effects on GDP and employment in the long run. The effects of this compensation via an increase in the reservation wage are found to dominate those via increased consumption.

3. CHALLENGES RELATED TO BROADENING TAX BASES

Many taxes in the EU have a fairly narrow base, which encourages governments to increase the tax rates to finance a given level of public spending and/or meet fiscal consolidation objectives. In general, a broad tax base combined with low tax rates is preferable as it is less distortive than narrow bases combined with high tax rates. Moreover, narrow tax bases are often symptomatic of complex tax systems with various loopholes, whose effects are difficult to assess.

This chapter takes an in-depth look at the key challenges in broadening tax bases. It covers (i) the efficiency of housing taxation, (ii) the debt bias in corporate taxation, (iii) tax expenditures in direct taxation and (iv) extension of the VAT base.

On the first point, discussion of how to make more and better use of housing taxation, notably by updating the property valuation system and phasing out mortgage deductibility, has recently gained momentum. The analysis of this item is considerably fleshed out compared with previous editions of the report and new indicators have been included. New pieces of evidence from the micro-simulation model EUROMOD and from QUEST are also presented. The debt bias in corporate taxation, the second challenge covered, concerns mostly the tax relief on debt financing. Reducing this bias implies either extending the tax deductibility to other types of financing or broadening the tax base by phasing out the tax deductibility of interest payments. Thirdly, a careful examination of tax expenditures in direct taxation, followed by a phase-out of the least efficient such expenditures, would lead to broader personal and corporate income tax bases and thereby to welcome efficiency gains. Lastly, extending the VAT base, by removing or increasing reduced rates and/or removing non-mandatory exemptions, could allow for lower VAT standard rates or help avoid the need to raise them while ensuring a more simple and efficient system.

3.1. HOUSING TAXATION

Improving the design and structure of housing taxation offers promising avenues not only for raising revenue in a growth-friendly way but also for correcting economic distortions potentially exacerbated by the interplay between existing taxes and exemptions on residential property. As the recent crisis has shown, some of them (such as over-investment in the housing sector, household leverage, etc.) could have a significant bearing on macroeconomic dynamics.

This section examines several aspects of housing taxation. It looks first at the contribution to the budget of recurrent property taxes and of taxes on transfers, and identifies the potential for an internal shift in the current tax arrangements. Secondly, it considers important issues for the efficient design of housing taxation, namely neutral treatment of housing, reduction of the debt bias and monitoring of the redistributive impact of housing taxation. Simulation results based on the QUEST model are presented in a box, illustrating the impact of shifting tax from labour towards housing. Lastly, this section focuses on the impact of taxation on the cost of owner-occupied housing, which is largely influenced by the fiscal treatment of mortgage interest payments. An indicator is presented which captures taxation's contribution to the marginal cost of housing investment.

3.1.1. Taxes on immovable property: size and structure

Taxes on immovable property — housing in particular — take various forms, including recurrent taxes, transaction taxes and taxes on capital gains. Taxes on immovable property generally contribute relatively little to overall tax revenue in the EU Member States. In 2012, revenue amounted to 2.3 % of GDP, with roughly a third coming from taxes on transactions (Graph 3.1).

Fairly low recurrent taxes

Revenue from recurrent property taxes in the EU amounted on average to 1.5 % of GDP in 2012, varying considerably across Member States. While Malta does not levy any recurrent tax on property, in the United Kingdom such revenue accounted for 3.4 % of GDP (see Graph 3.1). ([65])

([65]) The Netherlands and Luxembourg apply personal income tax on imputed rents related to the main dwelling, while some other countries tax imputed rents from secondary housing. As a result, the tax proceeds from imputed rents

Recurrent taxes have been found to be among the taxes least detrimental to growth by both empirical studies and modelling simulations.([66]) As a theoretical exercise, a shift from labour taxes to recurrent taxes on housing has been simulated with the QUEST model (see Box 3.1). Although some features of the housing market, including rental property, might not be fully captured, the results provide insights into the long-term macroeconomic impacts of shifting the tax burden from labour to housing. Such a structural shift would result in a strong increase in consumption for all types of households (including homeowners) and a rise in corporate investment. Overall, the impacts on GDP are positive, but they are tempered by the lower level of housing services generated from the reduced stock of residential capital in the economy.

It would be preferable to increase revenue from recurrent taxes on property by bringing the tax base into line with market values. This is important for the tax to function correctly, particularly its ability to reflect the return on the investment or the rental value and to ensure a more balanced choice between home ownership and renting reflecting the opportunity cost of both options (see Section 3.1.2). More sophisticated value-based assessment systems, such as rental values, can reduce revenue volatility, however they do require well-functioning property markets with evidence of transactions and adequate administrative capacity to operate satisfactorily.

Closely linking the tax base to house prices means that taxpayers could potentially face large variability in their tax liabilities, and this uncertainty would be reflected in the public budget. Conversely, failure to update the tax base regularly risks leading to erosion of the tax base — and thus revenue — over time, while giving further support to rising house prices. All in all, for a value-based property tax it is important to conduct a regular revaluation of property values.

Graph 3.1: **Revenue from property taxation, 2012 (in % of GDP)**

Note: Ordered by revenue 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 personal income tax on imputed rents.
Source: Commission services.

Many Member States have not updated property values for many years.([67]) The information available suggests that at least 10 Member States (Belgium, Germany, Estonia, Greece, France, Italy, Cyprus, Luxembourg, Austria and the United Kingdom) apply rather out-dated property values. A few are reassessing real estate values with a view to bringing them into line with market values, others (e.g. Germany) are planning to do so. In Italy an 'enabling law' on tax matters approved in March 2014 empowers the government to implement a cadastral reform envisaging regular updates of the values. In Greece, while a unified property tax applies from January 2014, there will be a more comprehensive reassessment of the tax base in several steps over the period 2015-17. Portugal revaluated around 5 million properties as part of the reformed property tax regime introduced in 2013. In Cyprus, real estate values were updated in 2013 and, by 2015, the land registry will be extended and based on a marked-to-market valuation system. Romania has also introduced a new assessment framework for property values as part of a substantially reformed recurrent property tax regime. There are also plans for an updated property register in Ireland, where a new local property tax on residential buildings was introduced in 2013. France has launched an updating process of rental values, due to start with an experimental in chosen areas in 2015.

An increase in the rate of the recurrent property tax could be an alternative to reassessing the tax base. However, adjusting the rate without updating the

are recorded as tax on income and not included in recurrent property tax revenue. Moreover, since 2005, the Netherlands has allowed tax deductibility for equity related to owner-occupied housing, which reduces the revenue from the tax on imputed rents. This implies that the positive difference between the imputed return and interest paid ('a notional interest on equity') can be deducted from taxable income.

([66]) See Arnold et al. (2011).

([67]) See European Commission (2012a) for an overview of the situation.

tax base implies that the tax burden does not reflect property values. As housing values typically develop differently depending on the characteristics of individual properties, the tax burden will vary considerably over time in an unintended and unfair way. Distributional concerns are often raised in relation to housing taxation reforms; these could be addressed, for example, by introducing a progressive recurrent property tax, not least to facilitate the implementation of reforms. ([68])

Moving away from transaction taxes

Transaction taxes on properties tend to discourage transactions, which might ultimately make the market thinner and thus hamper the price discovery process. Theoretically, it is always possible to replace a tax on property transactions with a recurrent tax, which would reduce market distortion, including the potentially negative impacts on labour mobility. ([69]) From a budgetary perspective, there is also the risk that transaction taxes will generate a more volatile revenue stream than an equivalent recurrent property tax. On the positive side, a tax on property transactions could theoretically deter speculation, although this relationship remains empirically ambiguous. Likewise, the impacts of taxes on short-term capital gains on house prices and volatility are not clear-cut. ([70]) The timely use of transaction taxes as a policy measure to mitigate price increases in the housing market appears politically difficult. Moreover, other policies are available that can also deal effectively with housing market bubbles, such as macroprudential tools to curb excessive housing credit growth. ([71])

Tax systems that rely heavily on taxes on property transactions offer scope for reform, particularly in the form of a shift towards recurrent property taxes. This would preserve revenue while reducing the distortions caused by transfer taxes.

There are considerable differences between Member States' revenue from transaction taxes on immovable property. Belgium, Spain, France, Italy, Luxembourg and Malta recorded revenue close to or above 1 % of GDP in 2012. However, this includes revenue from other capital and financial transactions. ([72])

Regarding rates, Belgium still applies a tax on real estate transactions of above 10 % (see Table 3.1), even if reductions and exemptions apply, for example for first-time buyers.

Table 3.1: **Tax rates on real estate transactions in EU Member States, 2014**

Tax level	Member State
≥10%	BE
5-9%	DE, FR, ES, LU, HR, IT, MT, PT*, UK*
<5%	AT, EL, IE, NL, SI, FI, CZ, DK, LV, PL, SE, HU
None	EE, SK, BG, LT

Note: * indicates a progressive or multiple rate structure; no rate indicated for Romania. The top rate in the United Kingdom of 7 % applies to properties above GBP 2 million. In Italy some rates may apply to cadastral values rather than transaction values. Moreover, a 2 % rate applies to the main residence of first-time buyers. In Germany the rate is set by the federal states ('Länder') with rates ranging from 3.5 % to 6.5 % and a median rate of 5 %. In Poland a 2 % rate applies to the sale of immovable property, which is VAT exempt. Cyprus has suspended the application of the transfer tax (levied at progressive rates, with a top rate of 8 %) until 2016.
Source: Commission services.

A second set of countries, comprising Spain France, Croatia, Italy, Luxembourg, Portugal and the United Kingdom, currently have rates of 5-9 %, with Portugal and the United Kingdom ([73]) applying progressive rate structures. In Germany rates are set at the State level, with an arithmetic average rate slightly above 5 %. Nearly half of the Member States apply tax rates on real estate

([68]) Property tax reforms are complicated by the fact that some households own high-value properties while having low disposable income (e.g. pensioners) and thereby might face difficulties in finding sufficient liquid assets to pay the property tax due. This problem could be addressed by various policy measures, such as tax deferrals or ceilings.
([69]) See, e.g., Johansson et al. (2008).
([70]) Aggerer *et al.* (2013).
([71]) Crowe et al. (2011), Kuttner and Shim (2013).

([72]) In general, a more detailed disaggregation of data is currently unavailable, with few exceptions. One of those is France, where transfer duties (*droits de mutation à titre onéreux*) amounted to 0.5% of GDP.
([73]) In Portugal, the transaction tax for first residences ranges from 0% to 8%. The United Kingdom tax rate ranges from 1% to 7%, where the latter applies to properties above GBP 2 million and 5% applies to properties above GDP 1 million. In addition, there is a 15% rate for acquisitions by certain non-natural persons since March 2012. In Germany, the rates are set locally, and range between 3.5% and 6.5%. In Italy, the cadastral value, rather than the acquisition price, can be taken as tax base. This implies that the statutory rate overestimates the effective tax burden on the transaction if cadastral values are below market values.

Box 3.1: Shifting the tax burden to housing — First insights from the QUEST model

This box illustrates the macroeconomic impacts of a (revenue-neutral) tax shift to housing implemented alternatively by (1) increasing recurrent property taxes, and (2) abolishing the deductibility of mortgage interest from personal income tax. The purpose of this exercise is to highlight the transmission channels of such reforms on macroeconomic aggregates. The reader should however bear in mind that the exercise is theoretical in nature and assumes an exogenous share of home ownership.

For simulation, the European Commission's core QUEST model is augmented by a housing sector. The model distinguishes between two types of homeowners. Ricardian households are outright homeowners, whereas credit-constrained households can finance their housing stock only by taking up a mortgage. To have a third group of households not affected by the changes to housing taxation, we introduce liquidity-constrained households that do not have any housing wealth. House owners pay a recurrent property tax, levied at a flat rate on the housing stock. The deduction of mortgage interest payments from PIT is modelled as a reduction in the tax base for the personal income tax by a certain share of the interest payments. This implicit subsidy is therefore disbursed only to those households actually holding a mortgage, the credit-constrained households. Following National Accounts practice, rental services generated from the housing stock constitute a value-added to the activity in the economy (imputed rents) and are therefore reflected in GDP. A fall in the housing stock would be reflected in a reduction in GDP.

The simulated reforms are ex-ante budget-neutral. In the short to medium term the government budget balance can deviate from its target at which the debt-to-GDP ratio is stabilised. In the long run, personal income tax rate is adjusted to stabilise the debt ratio.

Tax shift from employers' social security contributions to recurrent property taxes

In this scenario, recurrent property taxes are increased and employers' social security contributions are reduced to ensure ex-ante budgetary neutrality (see Graph 1). In total, revenue of 1% of GDP is shifted from social security contributions to recurrent property taxes. Additional budgetary room due to revenue being shifted to a less distortionary source allows the government balance to increase in the short to medium term. This gap is only closed in the long run by reducing personal income taxes.

Aggregate consumption increases gradually to a long-term level which is 0.7% above baseline. While in the long run consumption by all types of households increases unequivocally, the short to medium-term picture is mixed. Liquidity-constrained households do not have housing wealth and therefore immediately benefit from lower taxes on labour without having to pay higher taxes on housing. Mortgage holders and outright homeowners (Ricardian households) are both affected by the higher tax on their housing wealth. Ricardian households however can easily cushion the negative effect on disposable income by adjusting their savings accordingly. Mortgage holders do not have this possibility, and thus their consumption levels in the short term are below the baseline. In the medium to long term, consumption levels by both types of homeowners rise compared to baseline because the lower tax burden on labour outweighs the increased expenditure effect.

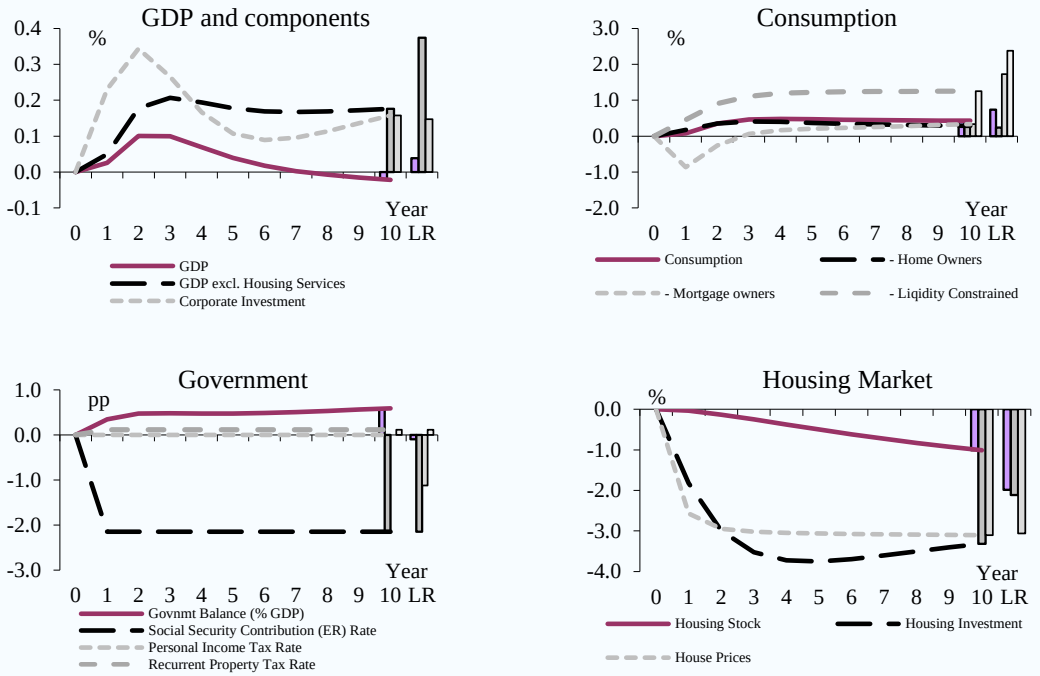
The increased taxation on housing depresses housing investment and therefore leads to a gradual reduction in the housing stock of around 2% below baseline in the long run. Reduced demand for housing also leads to a reduction in house prices and therefore to lower nominal housing wealth. Homeowners substitute housing investment for consumption but also for corporate investment.

The overall effects of the tax shift on GDP are moderate. Two distinct channels are at play here. The tax shift increases competitiveness, leading to net exports making a positive contribution. Consumption and investment increases also have mildly positive effects on GDP. On the other hand, accommodation services decrease owing to the higher taxation on the housing stock and therefore exert negative pressure on GDP. While in the medium term the former effects dominate, in the long run both effects balance each other out and GDP is close to baseline.

(Continued on the next page)

Box (continued)

Graph 1: **Effects of a shift from employers' social security contributions to recurrent property taxes**



Source: European Commission.

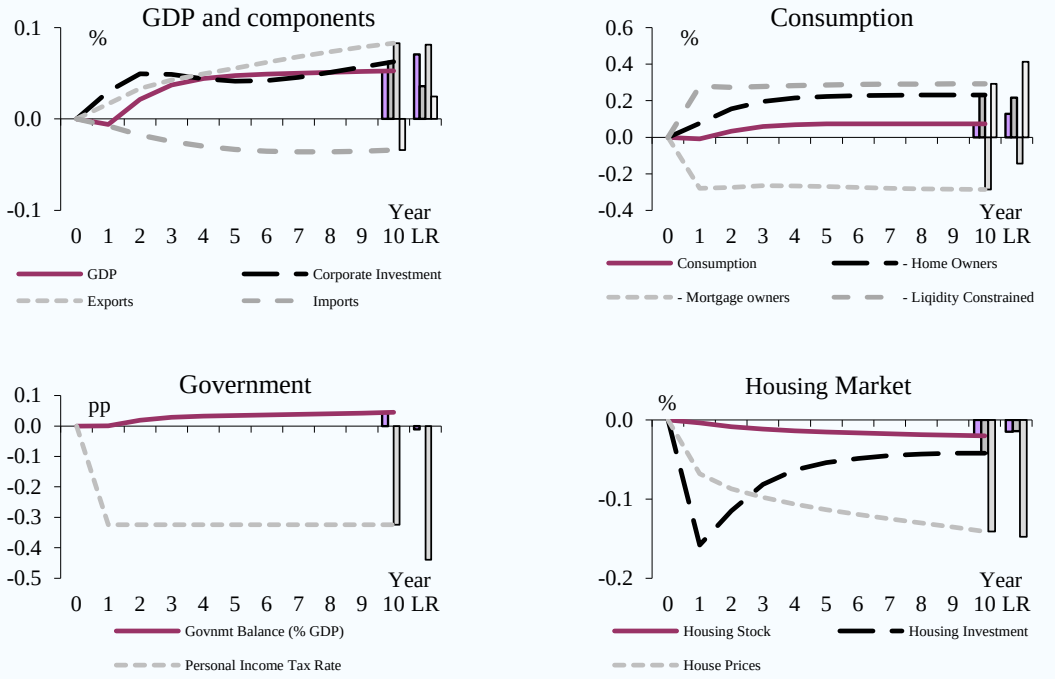
Abolishing the deductibility of mortgage interest payments

An alternative to raising property taxes would be to eliminate the mortgage interest deduction from personal income tax. The following scenario illustrates the macroeconomic effects of this, for a model calibration in which this deduction costs the tax authorities around 0.2% of GDP. In this scenario, getting rid of the mortgage interest deduction can be compensated by a reduction in personal income taxes of 0.3 percentage points such that the reform is (ex-ante) budget-neutral (Graph 2). This reform redistributes revenue from credit-constrained households to the two other types of households, and this is reflected in their post-reform consumption levels. Consumption of credit-constrained households falls significantly due to a higher effective personal income tax rate following elimination of the mortgage subsidy, while consumption by Ricardian and liquidity-constrained households increases owing to the lower personal income tax rate. Effects on the housing market are rather modest. Housing investment — and ultimately the housing stock — decreases because credit-constrained households' incentives to invest in housing decline due to elimination of the subsidy. The effects on GDP, investment and net exports are positive but rather modest compared with the scenario above.

(Continued on the next page)

Box (continued)

Graph 2: **Effects of abolishing the deduction of mortgage interest payments**



Source: European Commission.

transactions of below 5 %. ([74]) Several Member States do not levy any such taxes.

The arguments above suggest that, for a given level of revenue from immovable property taxes, recurrent taxes should be preferred to transaction taxes. Based on two criteria to measure the adequacy of the policy mix — a 5% transaction tax and recurrent property tax revenue-to-GDP not significantly above average — Belgium, Germany, Spain, Croatia, Luxembourg, Malta and Portugal appear to have varying degrees of scope to shift (within housing taxation) from transaction taxes to recurrent property taxes. ([75]) These Member States apply rather high transaction taxes of at least 5 % and have revenue from recurrent property taxes that are not significantly above the EU average. In Italy, revenue gains from bringing the cadastral values closer to market values could be used to reduce the distortionary transaction taxes on real estate.

3.1.2. Design issues in housing tax

The tax rules for immovable property can be seen as mainly related to the taxation of capital. But housing can also be regarded as consumption of a service, leading to a tax design in line with other consumption taxes. Another option is to regard the tax as a fee for local public services. ([76]) This distinction has important consequences for tax design. For instance, taxing housing under the capital asset approach would call for a tax levied on the return on investment. This poses additional

([74]) Also, several reforms have been implemented in this area, as detailed in Chapter 1. For instance, in 2012 Cyprus reduced and partly suspended application of the tax on real estate transactions until the end of 2016. In Italy, the general rate is set at 9% as of January 2014..

([75]) In all cases, moving away from transaction taxes is advisable when those hamper significantly labour mobility.

([76]) The UK Council tax is an example of service tax. For a discussion of the different approaches to property taxation, see Johannesson Linden and Gayer (2012).

issues in terms of the neutrality with which the tax system should ideally treat all investment options.

Neutral tax treatment of housing

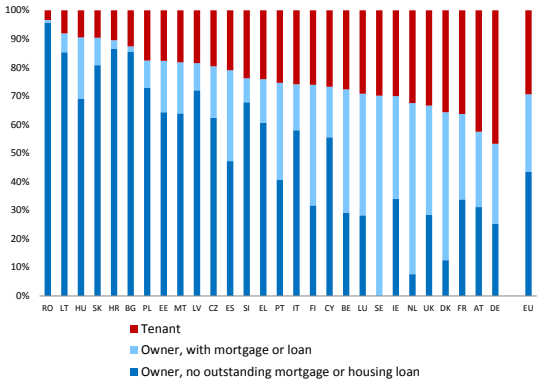
Taxation of capital under optimal tax theory aims at neutral tax treatment of different investments. Thus, treating residential property like other durable goods investment would entail taxing the rental income it generates while allowing deduction of the costs incurred, including maintenance costs and interest payments in the case of debt-financed investment. In this way, only the net return on investment would be subject to taxation. Capital gains from housing transactions would also be taxed to achieve neutrality vis-à-vis the taxation of other assets. In practice, however, neutrality is not achieved, and tax systems tend to be biased in favour of owner-occupied housing.

The home-ownership bias stems from the combined effect of different tax rules. First, imputed rents — the rental income saved by homeowners — are in general not taxed. When tenants are not allowed to deduct rental payments from their income, this exemption breaches the principle of horizontal equity between taxpayers with different tenure status. It also breaches neutrality with respect to landlords, who are taxed on their rental income. A tax on imputed rents could generally be approximated through a recurrent annual tax on the property levied on the owner. ([77]) In both cases, it is important that the value of the tax base is regularly updated.

At the same time, tax systems often provide some forms of relief for mortgage interest payments. A tax on imputed rents and/or a recurrent property tax are essential to balance the tax subsidy provided through interest deductibility. It follows that if taxation is too low, owner-occupied housing is in practice subsidised.

Graph 3.2 shows the proportion of home ownership and rented accommodation in Member States. More than two-thirds of the population own their house. However, ownership levels vary considerably between countries, ranging from close to 100 % in Romania to around 50 % in Germany. Historical and socioeconomic factors explain the differences. Home ownership has also been a policy goal supported by various measures in many countries. Arguably, public support for home ownership may be based on the possible benefits it generates for society, such as increased wealth accumulation, an improved home environment for children or greater community involvement. ([78]) However, it also has several drawbacks. Home ownership tends to reduce labour mobility and thus employment levels. There is a risk of over-investment in residential housing, potentially to the detriment of business capital. Moreover, favourable tax treatment of housing investment might contribute to housing bubbles. Mortgage interest tax relief can also encourage excessive household indebtedness through secured loans. In addition, the final incidence of the tax subsidies is not clear-cut. Empirical studies indicate that lower interest costs are capitalised into higher house prices, implying that the policy may not achieve its aim of lowering costs for homebuyers. ([79])

Graph 3.2: **Home ownership and rental rates, 2012**



Note: Based on Eurostat SILC. EU-SILC covers people living in private households (all persons aged 16 and over within the household are eligible for the operation).
Source: Commission services.

([77]) 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.

([78]) See Andrews and Caldera Sanchez (2011) for an overview of the benefits and costs of home ownership (box 1 in the paper).

([79]) 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).

Table 3.2: **Rules and reforms of mortgage interest tax relief for owner-occupied properties in EU Member States**

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. Under the the political agreeement of December 2011 on the reform of the federal system, interest mortgage deductibility is to be phased out at federal level and this competence transferred to regions as of 2014.
Bulgaria	Yes, but limited to the interest payments on the first BGN 100000 of a mortgage loan. Only applies to young married families below 35 years of age owning one family dwelling.
Czech Republic	Yes, interest on the main residence is deductible up to a limit of CZK 80000 (CZK 300000 before 2014).
Denmark	Yes. The tax deduction on interest has a taxable value of around 33%, which is reduced gradually to 25% between 2012 and 2019.
Germany	No.
Estonia	Yes. There is an overall limit of €1920 on tax deduction for interests, education, donations and gifts. This ceiling was reduced in 2013 from a previous limit of €3196.
Ireland	Yes, for loans taken out between 1st January 2004 and before 31st December 2012. The relief is granted as a tax credit, at rates varying between 30% and 20% (depending on the year the loan was taken out) of the interest on qualifying loans for seven years. Mortgage interest relief is restricted to € 3000 for single people and € 6000 for married/widowed taxpayers. The credit rates and the ceilings are higher for first-time homebuyers. The relief can be claimed up to 2017.
Greece	No. The tax credit was repealed with effect from 1st January 2013.
Spain	Yes, but not for mortgages taken out after 1st January 2013. For qaulifying loans, a 15% tax credit applies, up to a maximum of €9040 of expenses on the house (repair, mortgage etc).
France	No. In 2010, subsidised loan schemes were introduced, targeted at first-time buyers, low-income earners, housing shortage areas and purchases of new housing, to replace the repealed tax relief. Between 2007 and 2010 there wa a tax credit for equal to 20% of interest payments up to € 3750 per year, increased by € 500 per year for each dependent person. The limits were doubled for couples.
Croatia	No.
Italy	Yes. Interest on mortgage loans for building or buying a principal residence is subject to a tax credit equal to 19% up to a maximum interest payment of € 4000 (i.e. a maximum tax credit of €760).
Cyprus	No.
Latvia	No.
Lithuania	No. There is a deduction for interest on a loan taken out before January 1 2009, limited to one dwelling.
Luxemburg	Yes, with a ceiling of €1500 per person in the household. This is reduced to €750 after 12 year of occupancy. No deduction is available on second homes. As of 2013, the maximum deduction is being reduced by 50%, i.e. from € 672 to €336 per taxpayer valid for each member of the household.
Hungary	No.
Malta	No.
Netherlands	Yes. Mortgage interest payments are fully deductible under the personal income tax system. As of 2013, new mortgages need to be paid off in full (at least as an annuity) within a maximum of 30 years to benefit from the relief. Moreover, the top deductible rate will be reduced gradually by 0.5 pp per year over 28 years, i.e. from 52% to 38% .
Austria	No.
Poland	No. (Loans taken out between 1 January 2002 and 31 December 2006 qualify for deductability based on older provisions up to 2027.)
Portugal	Yes, for loans taken out before 31st December 2011. the relief is grnated as a tax credit with 15% rate, with a ceiling of € 296 per year.
Romania	No
Slovenia	No.
Slovakia	No. Subsidised interest rates.
Finland	Yes. Interest is deductible from capital income at 75% (80% in 2013). Beyond that, 30% of the interest mortgage costs exceeding income from capital and 32% for interest related to first homes can be credited against taxes paid on earned income. Deductions credited against earned income are limited to €1400 for a single tax payer and up to €2800 for a married couple, and an additional €400 for each child up to two children.
Sweden	Yes. Mortgage interest is deductible against capital income. If there is a deficit, then there is a 30% tax reduction against labour income up to a limit of SEK 100 000. Beyond this limit, the tax reduction is 21%.
United Kingdom	No.

Source: Commission services, OECD.

When it comes to tax design, in practice introducing taxation of imputed rents may prove difficult from a political economy perspective. Thus, the second-best approach for owner-occupied housing could be: (i) to eliminate tax relief for mortgage interest and (ii) to levy a recurrent tax on the property at a level which takes account of the tax treatment of interest (i.e. the absence of mortgage interest relief), and to tax capital gains (though possibly more favourably than other assets). ([80]) In this way, housing investment could be taxed at a level more in line with other capital assets.

Reducing the debt bias in housing taxation

Tax relief for mortgage interest payments, and in some cases even of capital (re)payments, is in place in several Member States. By lowering the after-tax cost of debt, these tax benefits can incentivise debt creation. ([81]) The generosity of the relief and, consequently, its revenue cost vary across Member States. In 2012 this was around 0.1 % of GDP in France and Italy, close to 0.2 % in Finland, 0.3 % in Spain and 0.7 % in Belgium. ([82])

Many Member States are now in the process of reducing the debt bias in their housing tax system by cutting back the generosity of the tax relief

([80]) Many countries reduce, exempt or defer the tax on 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.

([81]) Coupled with the tax relief for debt finance under the corporate income tax system, this may lead to high debt levels for the whole private sector, which is relevant for the macro-economic imbalances procedure. See European Commission (2013e).

([82]) See Verbist et al. (2014).

granted to mortgage interest payments (see Table 3.2 for details). At present, only Bulgaria, Italy and Sweden are not undertaking reforms in this area. However, Bulgaria already strictly limits deductibility both in monetary terms and as regards eligibility (young families), while Italy has increased the recurrent property tax. By contrast, Sweden has a tax system with generous interest deductibility provisions, which seems likely to have contributed to high household indebtedness and high house prices. ([83]) Thus, there could be a need to initiate reforms that start reducing the incentives in the tax system to take on debt or increasing the recurrent property tax.

Box 3.1, in its second section, presents simulations with the QUEST model on the macroeconomic impacts of removing mortgage interest deduction. In the stylised modelling framework, the reform is assumed to be (ex-ante) revenue-neutral since personal income taxes are adjusted downwards. The reform alleviates the tax burden on households without mortgage debt whereas credit-constrained households face a heavier tax burden following the abolition of the tax subsidy. The effects on the housing stock are rather modest in size, as are the GDP impacts, but they are positive.

Watching the redistributive consequences

Property taxes and mortgage interest tax relief may have non-negligible redistributive effects since they affect specific categories of households, i.e. homeowners and/or owners with a mortgage, and may depend directly on the liability to personal income tax. Tables 3.3 and 3.4 show the distribution of recurrent property taxes and mortgage interest tax reliefs across income quintiles in selected Member States for the year 2012, based on the EUROMOD model. ([84])

The results presented in Table 3.3 suggest that recurrent property taxes have a relatively neutral impact across income categories in Germany and Finland, in addition to being relatively low. ([85]) In France, the effect of such taxes tends to be progressive up to middle-range incomes and regressive afterwards for richer households compared to the middle quintiles. In the other countries considered, particularly Spain and the United Kingdom, property taxes appear to be generally regressive. These tax liabilities represent 3.3 % and 6.6 % of the gross disposable income of the poorest quintile in Spain and in the United Kingdom. By contrast, households in the top income quintile in these two countries spend roughly 1 % of their gross disposable income on property taxes.

Table 3.3: **Recurrent property taxes in % of household gross disposable income by income quintile in selected countries, 2012**

	quintile 1	quintile 2	quintile 3	quintile 4	quintile 5	Total
France	1.8	2.3	2.8	2.5	2.2	2.3
Spain	3.3	2.4	1.7	1.2	0.9	1.6
UK	6.6	3.1	2.6	1.8	1.0	2.9
Germany	0.3	0.3	0.3	0.3	0.3	0.3
Finland	0.3	0.2	0.2	0.2	0.2	0.2
Italy	1.0	0.6	0.4	0.4	0.3	0.8
Belgium	1.2	0.9	0.6	0.5	0.4	0.8

Source: Joint Research Centre of the European Commission, based on the EUROMOD model.

Table 3.4 provides similar evidence for mortgage interest tax relief. ([86]) This tax benefit appears regressive in Belgium and Spain. In Belgium, the deduction amounts to more than 2 % of net disposable income for the top two quintiles. In Spain, the impacts of the tax credit on disposable income also differ significantly between the richest quintile (0.92 %) and the poorest ones (0.05 %). In France, Finland and Italy these policies also seem to have regressive effects, although their overall size appears relatively low compared with household disposable income.

Assessing the distributional consequences of tax exemption for imputed rents is not straightforward,

([83]) European Commission (2013f).

([84]) EUROMOD is a EU-wide tax-benefit microsimulation model (https://www.iser.essex.ac.uk/euromod). The countries have been selected on the basis of a recent study by the European Commission (Joint Research Centre-JRC). See Verbist *et al.* (2014). The relative tax treatment of tenants is not covered by the study.

([85]) An alternative way to measure the distributional impact of housing taxes would be to account for the imputed rent related to housing ownership, which is not considered in the measurement of income in the tables. Considering imputed rent would allow embedding the consumption of housing services in the level of income in order to reflect the consumption opportunities offered through housing wealth. Modelling work on this is on-going at the European Commission (JRC-IPTS). For further analysis of housing wealth and housing taxes in the EU, see Verbist et al. (2014).

([86]) In the case of France, the results refer to the stock of mortgages receiving the tax credit in place until 2010. The relief was abolished then with a grandfathering clause. Consequently, the cost should decrease from EUR 1.9 billion in 2012 to EUR 1.2 billion in 2014

Table 3.4: **Mortgage interest tax relief in % of household net disposable income by income quintile in selected countries, 2012**

	quintile 1	quintile 2	quintile 3	quintile 4	quintile 5	Total
Belgium	0.2	0.8	1.7	2.3	2.0	1.3
Finland	0.1	0.2	0.4	0.4	0.4	0.3
France	0.0	0.1	0.1	0.3	0.3	0.2
Italy	0.1	0.2	0.2	0.3	0.2	0.2
Spain	0.0	0.2	0.6	0.9	0.9	0.5

Source: European Commission, Joint Research Centre, based on the EUROMOD model.

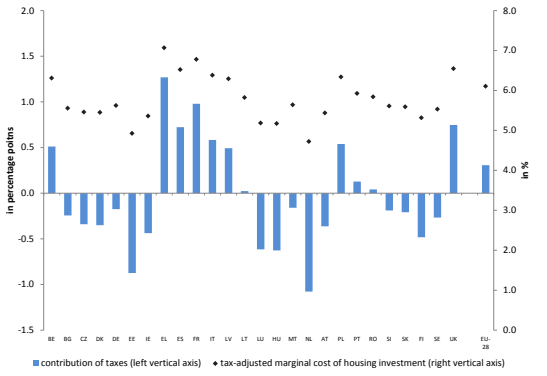
as the tax base itself is by definition not observable and thus needs to be estimated. Simulations based on EUROMOD show that exempting these rents adds to income inequality in Germany, Spain, Austria and the United Kingdom: people at the top of the income distribution benefit more, as a proportion of their disposable income, than those with low incomes. The opposite is true for Belgium, France, Italy and Finland, however. Overall, taxing (net) imputed rents under the progressive personal income tax scale has very uneven impacts across countries which depend on the number and income level of homeowners and the structure of the tax system. On aggregate, the static revenue gain would represent between 5 % of total tax revenue in France and 24 % in Finland. ([87])

3.1.3. Measuring the impact of taxation on the cost of owner-occupied housing

An indicator of the marginal cost of investing one additional euro in owner-occupied housing can be built ([88]) based on the established literature which treats home ownership as an investment decision in the neoclassical framework ([89]). The indicator can be supplemented with parameters capturing tax provisions which are applicable at different instances connected to owning housing. Although theoretically sound, practical implementation requires some methodological assumptions and raises several measurement issues (see Box 3.2 and Annex 1.4 on the methodology). Thus, while it should not be considered representative of the actual cost of capital for housing investment in each country, the indicator may provide a useful tool for readily comparing the marginal tax burden on owner-occupied housing across countries. Country specificities, particularly when it comes to financial variables, would need to be taken into account before drawing final policy conclusions. ([90])

Graph 3.3 illustrates the level of the tax-adjusted cost associated with an additional euro invested in housing capital (in %), calculated under the assumptions detailed in Annex 1.4. This is shown alongside the contribution of taxes, obtained as the difference between the tax-adjusted cost and the same marginal cost calculated setting all the tax parameters to zero. ([91])

Graph 3.3: **Marginal cost of investing in housing**



Notes: Tax-adjusted marginal cost expressed in percentage of an additional euro invested in owner-occupied housing (right scale). The bars (left scale) depict the contribution of taxes, obtained as the difference between the tax-adjusted marginal cost (as described in Box 3.2 and Annex 1.4) and the marginal cost calculated with all tax rates set to zero (equal to 5.8 %).
Source: Commission services.

([87]) In Germany the gain would be around 9 % of revenue, in Austria 10 %, in Italy 13 %, in Belgium 15 %, in Spain 18 % and in the United Kingdom 22 %.
([88]) This section draws on Fatica (2014).
([89]) Poterba (1984).
([90]) The indicator is not calculated for Croatia and Cyprus since there is no information on personal income tax parameters under the OECD Tax and Benefits project. The tax rules accounted for are those in place in January 2014.
([91]) This latter may be thought of as a fixed benchmark where only the economic variables, by assumption set identically across countries, are at play. As such, it allows only an evaluation of the implicit extra cost/subsidy generated by the tax system, but does not address the issue of neutrality of the tax system with respect to alternative housing tenure arrangements. The fact that, in this framework, the tax-adjusted cost might in fact be lower than the cost without taxes follows directly from the plurality of tax provisions which are relevant in the home ownership decision. Some tax parameters add to the cost of ownership (property taxes, capital gains taxes, transfer taxes), whereas deductions and other reliefs (for instance for mortgage interest payments) alleviate the burden on housing investment. Likewise, a higher tax on alternative (financial) investments dampens the tax-adjusted marginal cost as it decreases the after-tax opportunity cost of holding equity in housing capital.

Box 3.2: An indicator for the tax burden on owner-occupied housing: conceptual framework

We use the user cost of capital approach which treats home ownership like an investment decision and accordingly applies the framework of the neoclassical investment theory, as in the seminal work of Poterba (1984). The approach derives an equilibrium relationship between the imputed rental income accruing to homeowners and the cost associated with homeownership, which in turn identifies the marginal cost of purchasing additional housing services. Although its theoretical underpinnings hinge upon several assumptions, the approach is nonetheless attractive as it allows one to capture basically all the main features relevant for the housing purchase decisions, including taxes. As such, it has been extensively used for the US to measure tax expenditures associated with generous treatment of home ownership like the tax exemption of imputed rents and the deductibility of mortgage interest payments (Poterba, 1992; Poterba and Sinai, 2008a, 2008b).

As a starting point for the analysis, it is useful to consider the hypothetical case where homeownership be treated as a business, and thus the associated economic profits taxed. The net-of-tax income could be expressed as:

$$(1-t)[R-\{i+t_p+\beta+m+\delta-\pi\}P_H] \quad (1)$$

R: imputed rental income from housing capital
P_H : price of a unit of housing capital
t: income tax rate
i: owner's interest, or foregone equity cost.
t_p : recurrent property tax rate
β : risk premium associated with the housing investment
δ : economic depreciation rate
m: maintenance costs (assumed not tax-deductible)
π : nominal asset revaluation term (capital gain)
In equilibrium, the net income from homeownership must be zero. This allows the derivation of the user cost of capital as the ratio R/P_H, or:

$$R/P_H \equiv c = \{i+t_p+\beta+m+\delta-\pi\} \quad (2)$$

Keeping in mind that the equilibrium relationship is valid with unchanged tax rules, the expression for the cost of capital (2) can be modified to account for the different tax provisions potentially applicable to homeownership. In particular, some taxes fall on ownership in a recurrent fashion. They can be designed as taxes on the flow of services from ownership (taxation of imputed rents), or on (a proxy of the value of) the stock, such as the recurrent property tax. Furthermore, a tax relief might be offered to the cost of financing housing by debt. In addition, taxes might be levied upon acquisition or disposal of immovable property, when they normally take the form of transfer (or registration) taxes and capital gains taxes, respectively.

Accounting for these taxes, while assuming – consistent with common practice – that imputed rents are not taxed ([1]), leads to the following general formulation for the cost of capital:

$$c = \{i(1-t_M\phi)\lambda + t_p + \beta(1-t_y) + m + \delta - \pi(1-t_{capgain}) + (1-\lambda)i(1-t_y)\}(1+t_{trans}) \quad (3)$$

([1]) Taxation of imputed rents is place in Luxembourg and the Netherlands, and accordingly accounted for.

(Continued on the next page)

Box (continued)

The new elements in (3) are explained in turn. First, (3) assumes that, in the presence of a transfer tax, the actual disbursement for a housing unit of price P_H is $P_H(1+t_{trans})$, where t_{trans} is the statutory transfer tax rate. ([2]) Moreover, when a capital gains tax is applied, the after-tax asset revaluation term becomes $\pi(1-t_{capgain})$, with $t_{capgains}$ the tax rate on the capital gains. An important component of the generalised cost of capital relates to the financing of the house purchase. ([3]) In particular, the requirement of a down payment is incorporated via λ, the loan-to-value ratio. In the presence of a tax relief for mortgage interest payments, the after-tax nominal cost of debt becomes $i(1-t_M\phi)$, where t_M is the rate at which the relief is granted, and the ϕ is the fraction of interest benefitting for the tax subsidy. In the case of a deduction granted via the PIT system, t_M represents the marginal tax rate for the taxpayer. In the case of a tax credit reducing the individual tax liability proportionally to the interest paid, t_M is the same across all taxpayers. The possibility of a cap to the amount of subsidised interest payments is introduced through the parameter ϕ, which ranges between 0 (no tax relief) to 1 (full tax relief). The fraction of the house that is equity-financed, $(1-\lambda)$, foregoes earned interest at the unit yield of *i*, which is taxed, not necessarily under the PIT schedule, at the rate t_y. Likewise, the fact that housing and alternative assets are not in the same risk class is reflected in the pre-tax risk premium term β, for which the relevant tax rate is again t_y.

Implementation of the baseline equation in (3) requires making a number of assumptions on the economic and tax parameters. Those are illustrated in Annex 1. Here, it suffices to mention that, in order to single out the cross-country differences in tax provisions, the user cost is calculated for a stylised individual and economic parameters are set identical across Member States.

([2]) This formulation clearly assumes no capitalisation of taxes into the property price.
([3]) For the sake of simplicity, this formulation assumes away a premium for the default and refinancing options in the interest rates charged on the mortgages.

Some clear indications emerge by looking at the country-specific figures. First of all, the order of magnitude of the tax-adjusted cost is roughly consistent with available evidence from the US based on microdata. ([92]) The Netherlands, Estonia, Hungary, Luxembourg and, to a lesser extent, Finland, Ireland and Austria are the countries where the marginal cost of housing investment is relatively low (in the bottom quartile of the distribution). By contrast, the upper quartile comprises Belgium, Poland, Italy, Spain, the United Kingdom, France and Greece. The value of the cost when all tax parameters are set to zero is around 5.8 %. The magnitude of the deviations from this no-tax benchmark varies significantly across countries, hovering at around one-fifth of the benchmark at the extreme points of the distribution. The average tax subsidy relative to the no-tax value is around 0.4 pp., while the increase in the cost due to the tax code averages slightly above half a percentage point (see Graph 3.3).

Next, the contribution to the tax-adjusted marginal cost of the different tax provisions is singled out. The measure is obtained as the difference between the marginal cost calculated with the specific tax rule in place and the cost calculated in the hypothetical case that the tax provision no longer applies, with all the other tax parameters remaining constant at their current level.

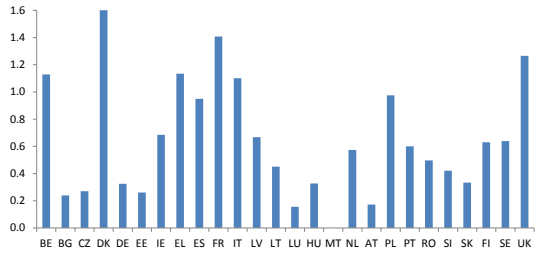
Recurrent housing taxes raise the marginal cost by 0.7 pp. on average. In line with relative revenue from recurrent property taxes, the increases are particularly marked in Denmark, France, the United Kingdom, Greece, Italy and Belgium (Graph 3.4). By contrast, the contribution of taxes on the housing stock is lowest in Malta, Luxembourg, Austria, Bulgaria, Estonia and the Czech Republic.

([92]) Poterba (1992); Poterba and Sinai (2008a; 2008b).

The impacts of the tax relief for mortgage interest payments are shown in Graph 3.5. The marginal cost of housing investment decreases by 0.6 pp. on average for the countries currently offering this tax benefit on new mortgage contracts. The Netherlands is clearly an outlier, with a recorded subsidy of almost 1.4 pp. By contrast, at the low end of the spectrum, Luxembourg's tax subsidy accounts for only 0.1 pp. of the tax-adjusted marginal cost of the investment.

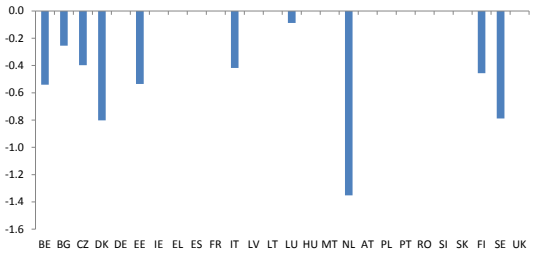
The effects of transfer taxes are shown in Graph 3.6. The average contribution of these levies, calculated for the countries where housing transactions are taxed, is slightly above 0.2 pp. Comparing this with contributions from other tax rules may be partly misleading in terms of drawing conclusions on the potential (dis)incentive effect of the different tax instruments, as the taxed occurrence is not the same. Clearly, transfer taxes are applied one-off upon acquisition of the property, and thus naturally differ from taxes and reliefs pertaining to the ownership of the property. As discussed in Section 3.1.1, transfer taxes may be particularly distortive. The country-specific results show that the upper range comprises France, Portugal, Spain, Italy and Belgium, reflecting the high level of statutory rates. Small increases in the marginal cost of investment, of below 0.1 pp., are recorded in Ireland, the United Kingdom, the Netherlands and Denmark. ([93])

Graph 3.4: **Contribution of recurrent property taxes to the marginal cost of housing investment (in percentage points)**



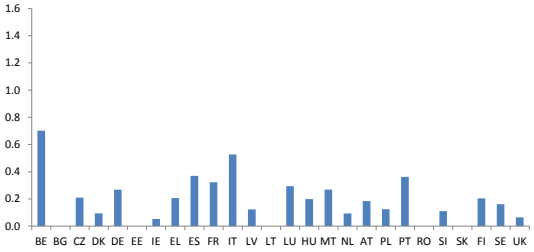
Source: European Commission.

Graph 3.5: **Contribution of mortgage interest tax relief to the marginal cost of housing investment (in percentage points)**



Source: Commission services.

Graph 3.6: **Contribution of transfer taxes to the marginal cost of housing investment (in percentage points)**



Source: Commission services.

Lastly, the contribution of capital gains taxes is worth mentioning, at least for the countries that do not limit the applicability of such taxes on the basis of, for instance, the duration of occupancy and the value of the house. In fact, only Greece and Sweden fall into this category. The contribution of the capital gains tax is in the range of 0.4-0.6 pp. for these two countries.

3.2. DEBT BIAS IN CORPORATE TAXATION

Corporate income tax (CIT) systems generally allow for the deductibility of interest payments, but the return on equity is not deductible. At corporate level, this asymmetry favours debt over equity as a means of funding investments. From an economic point of view, this debt bias is considered a problem because it may generate several distortions. ([94]) Most notably, it may lead to excessive leverage in the corporate sector, with a disproportionately high level of bankruptcy costs

([93]) The fact that transaction taxes enter the indicator multiplicatively implies that the sum of the contributions of individual taxes does not equal the overall impact of taxation as depicted in Graph 3.3.

([94]) For a recent discussion of the debt bias problem, see Fatica *et al*. (2013). See also Auerbach *et al*. (2010), Griffith *et al*. (2010) and the earlier issues of this report.

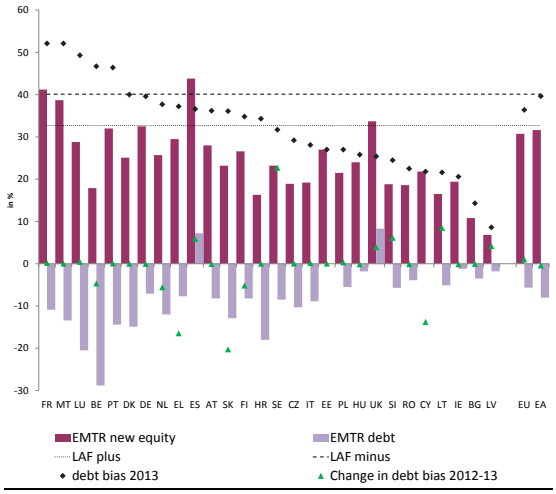
and greater volatility of the business cycle. The financial crisis has vividly shown how damaging the effects of excessive leverage can be. The debt bias may also fuel international tax avoidance. The fundamental distinction between debt and equity embedded in most tax systems is considered one of the main characteristics that create opportunities for profit shifting. Profit shifting can be achieved through increases of debt funding in high-tax rate jurisdictions and equity funding in low-tax ones, and by exploiting mismatches between countries in the tax-law definitions of debt and equity, especially those related to 'hybrid securities', sharing features of both debt and equity. Recently, the profit-shifting dimension of the debt-equity distinction has gained attention both at the global level — with the OECD's Base Erosion and Profit Shifting (BEPS) Action Plan of July 2013 ([95]) — and EU level, with the adoption of the amended Parent-Subsidiary Directive in July 2014 to address mismatches between jurisdictions, related in particular to hybrid loan arrangements. These developments may potentially have far-reaching consequences for the design of corporate tax systems.

The empirical evidence available supports the view that the asymmetrical tax treatment of debt and equity affects companies' financial and profit-shifting choices. ([96])

3.2.1. Some country measures of the debt bias

Graph 3.7 shows the debt bias for Member States in 2013, measured as the difference between the effective marginal tax rates (EMTR) for new equity- and debt-funded investments. ([97]) ([98]) This indicator is mostly driven by the statutory tax rate ('tax rate effect'): the higher the statutory tax rate, the larger the debt bias. This is not surprising since the advantage of tax deductibility increases with the statutory tax rate. Hence, Member States with a high statutory tax rate have a specific challenge in terms of debt bias. The debt bias indicator is also affected by the rules governing the deductibility of the cost of finance that apply across the board ('tax base effect'). For instance, the indicator takes into account the allowance for corporate equity (ACE) regimes in Belgium and Italy. Importantly, it does not consider thin-capitalisation rules and the limits to the deductibility of interest costs linked to a company's profitability.

Graph 3.7: **EMTR in % on equity- and debt-funded new corporate investments, 2013**



Source: ZEW (2014).

With the above features in mind, France, Malta, Luxembourg and Portugal are the countries with the greatest differences ([99]) ([100]). Note that the

([95]) The Action Plan contains actions explicitly dealing with hybrids (Action 2) and base erosion via interest deductions (Action 4) (OECD, 2013a: 33-45; OECD, 2013b).

([96]) For recent surveys of the empirical literature on the effects of debt bias on financial choices, see Feld *et al*. (2013) and de Mooij (2011). For the effects of the asymmetrical tax treatment of debt and equity on multinational choices, see Huizinga *et al*. (2008).

([97]) The EMTRs are 'tax-inclusive' since the difference between the gross-of-tax rate of return and the post-tax rate of return is expressed as a proportion of the former. Note that in the literature a 'tax-exclusive' EMTR measure is sometimes also used where the post-tax rate of return appears at the denominator (see for instance Devereux et al. 2002: 467).

([98]) Considering retained earnings does not change the results significantly, except for Estonia where retained earnings are not taxed.

([99]) As of the financial year closed on and after 31 December 2012, France has introduced a general limitation to the deduction of interest expenses. As of 2014, deductibility is limited to 75 % of net interest above the threshold of EUR 3 million (see Section 1.4.3). Although the measure reduces in theory the debt bias, it seems mostly targeted to large companies. Therefore, vulnerabilities related to over-relying on debt financing are likely to remain.

([100]) Note that Malta has a full imputation system under which dividends paid by a Maltese company to resident and non-resident shareholders carry a tax credit for the corporate tax on profits from which the dividends are distributed. In general, this system should make companies indifferent when it comes to choosing between debt and equity financing. However, this is less obvious for large international companies, as the extent to which

indicator for Belgium is driven by the fact that the nominal interest rate is assumed to be equal for all countries. This is done to allow for comparability between countries. However, the system in Belgium foresees that the notional ACE rate is based on the interest rate of a ten year public bond, determined annually ([101]). If this rate were used as the interest rate in the model, the debt bias indicator for Belgium would be equal to zero, as one would expect for an ACE system ([102]). For this reason, with respect to the previous issues of this report, Belgium is not signalled among the countries facing a particular challenge for the level of the debt bias.

Graph 3.7 also shows the change in the debt bias from 2012. There is a wider gap in Slovakia, Greece and Cyprus and a narrower gap in Sweden, all due essentially to changes of the CIT rate.

3.2.2. Addressing the debt bias: limiting interest deductibility vs extending deductibility to equity costs

The debt bias can be addressed either by limiting the deductibility of interest costs or by extending deductibility to equity costs.

Limiting the deductibility of interest costs: comprehensive business income tax (CBIT)

Limiting the deductibility of interest costs has some advantages. First, reducing (or removing) the scope of interest deductibility both broadens the tax base and generates new revenue at unchanged tax rates. This feature may be attractive in times of budgetary constraint. It may be relevant in particular for countries that have a substantial need for fiscal consolidation but suffer from a relatively high level of other forms of taxation, especially on labour. Moreover, abolishing the deduction of interest costs altogether, as in the comprehensive business income tax (CBIT), fully abolishes the debt bias, as debt and equity costs are treated in the same way for tax purposes. It therefore also limits profit-shifting opportunities through debt-shifting.

A disadvantage of CBIT is the increase in the cost of capital for debt-funded investments, which is detrimental to investment. This disadvantage would be mitigated if the reform were financed by reducing the CIT rate. As a rule, the design of this type of reform is of the utmost importance as it requires a delicate transition phase to deal with pre-existing debt. In particular, it would need careful consideration in the banking sector, where it may lead to under-taxation since for symmetry reasons interest received would have to be exempted.([103]) ([104])

Extending the deductibility to equity costs: allowance for corporate equity (ACE)

An alternative that would result in symmetrical tax treatment between debt and equity at the corporate level is the allowance for corporate equity (ACE). The ACE is a source-based corporate tax system that combines the deductibility of interest costs with that of a notional return on equity. Although dependent on the way the notional interest rate is set, this tax reform has in principle many attractive features that it shares with some forms of cash flow taxation: by taxing only economic rents and leaving the normal return on capital untaxed, it makes the CIT neutral with respect not only to the financial choices (loan versus equity) but also to marginal investment choices. Thanks to this, an ACE system could promote investment. In some versions, an ACE system also offsets distortions associated with temporary misalignments between tax and accounting books. ([105]) From a theoretical point of view, these features make the ACE the preferred option of many scholars. ([106]) As with CBIT, however, the precise design of this type of reform greatly influences its effectiveness.

The ACE also has some potential drawbacks. It does not diminish the distortions to mutually exclusive alternative choices ("discrete choices"), such as profit-shifting and location decisions. In this respect, addressing these distortions would require a much more radical reconsideration of the

shareholders' tax treatment is taken into account is not clear and thus debatable.

([101]) The ACE rate was set to 3% (3.5% for SMEs) for tax year 2013 and to 2.742% (3.242% for SMEs) for tax year 2014.

([102]) For more details on the potential model adjustments for Belgium, see ZEW (2014), pp. B-23 to B-25.

([103]) See de Mooij and Devereux (2011).

([104]) A variant of CBIT where only net interest costs are non-deductible was recently proposed in Sweden (see Swedish Committee on Corporate Taxation, 2014).

([105]) See Boadway and Bruce (1984).

([106]) See e.g. the Mirrlees Review and the references therein (Mirrlees et al., 2010: chapters. 9-10). See Radulescu and Stimmelmayr (2007) and de Mooij and Devereux (2011) for critical assessments of the ACE vs CBIT debate.

international tax system in the direction of a destination-based CIT. ([107]) Another major problem — probably the most relevant for the practical viability of the ACE — is that it narrows the tax base, generating a revenue shortfall at unchanged rates. If this were recouped by increasing the CIT rate, the distortions to the discrete choices above would be exacerbated. This last consideration means that it is preferable to fund an ACE reform without increasing the CIT rate. ([108])

The ACE reform has already passed the implementation test in several countries. ([109]) In some cases — Austria, Croatia, and Italy at the beginning of 2000s' — it was repealed as part of other comprehensive reforms featuring, notably, a cut in the statutory tax rate. At present an ACE-type system is in force in Belgium, Italy and Portugal. ([110]) The experiences of Belgium and Italy are briefly reviewed in the following section. ([111]) The focus is on the capacity of ACE reform to bring about an effective rebalancing of firms' financial structures, and on the two most common — and somehow related — concerns about its actual viability: the shrinking corporate tax base, with consequent revenue losses, and the specific tax avoidance incentives that it may generate.

3.2.3. The importance of tax design: a comparison of the Belgian and Italian ACEs

The Belgian experience

Belgium introduced an ACE-type corporate tax system in 2006 with the aims of reducing the debt bias and providing an attractive tax system for multinationals.

Under the ACE, a corporation is granted a deduction against the CIT base equal to the product between a given notional rate — based on the indices of 10-year public bonds ([112]) — and the (adjusted) stock of equity, the ACE base. ([113]) No new investment in tangible or intangible assets is required. ([114]) The ACE base is calculated by making several adjustments to the accounting equity. Particularly important are the deductions for shares in other companies aimed at avoiding a cascading of ACE benefits through chains of equity injections out of the same initial equity funds. ([115])

Belgium's ACE has been effective in reducing the gap in the tax treatment of debt and equity. ([116]) Econometric evidence shows that the lower debt bias has promoted more balanced financial structures. ([117]) The strong growth in foreign direct investment after ACE was brought in indicates that the reform is also likely to have been successful in improving Belgium's attractiveness to multinationals. ([118])

However, these positive effects have come at a cost in terms of budgetary revenue foregone. Since the reform's launch, the budgetary impact of ACE has increased substantially, from EUR 1.8 billion in 2006 to EUR 6.2 billion in 2011 (corresponding to 0.6 % and 1.7 % of GDP, respectively). ([119]) For 2009, foregone revenue due to ACE represents over 50 % of the income from CIT.

However, the direct budgetary cost of ACE should not be overstated. Account also needs to be taken of the ACE's indirect positive effects: corporate tax revenue is affected by the debt-equity substitution effects and the consequent lower

([107]) See Devereux (2012).
([108]) The full neutrality properties of the ACE are not uncontested (see for instance Koethenbuerger and Stimmelmayr, 2009, and Keuschnigg and Ribi, 2012).
([109]) See Klemm (2007) and Massimi and Petroni (2012).
([110]) In Portugal, a notional deduction of 5 % is granted to SMEs for cash contributions on incorporation or for equity capital increases. The allowance is permitted for four years and the tax benefit cannot be greater than EUR 200 000 over a three-year period. An ACE-type system is also in force in Liechtenstein. Latvia applied an ACE-type system from 2009 to 2013.
([111]) For a deeper analysis see Zangari (2014), on which this section draws.
([112]) In each year the ACE rate cannot exceed the rate applied in the previous year by more than one percentage point, and in no case can it be higher than 3 % (6.5 % until 2011). The ACE rate is increased by 0.5 % for SMEs.
([113]) Until 2012 the part of the deduction that remained unrealised could be carried forward for up to seven years.
([114]) With effect from 2013, under some conditions linked to the ACE deduction, the payment of dividends may trigger an additional tax payment under the so-called 'Fairness Tax' or FaTa.
([115]) Other corrections are undertaken for own shares and for assets not necessary for the company's activity (for instance, luxury cars).
([116]) See ZEW (2014).
([117]) See Princen (2012) and Panier *et al*. (2013).
([118]) See Banque Nationale de Belgique (2008: 16-22).
([119]) Chambre des représentants de Belgique (2010, 2011, 2012).

deduction of interest costs, while other tax revenue is affected by the economic expansion triggered by ACE reform.

On the other hand, anecdotal evidence suggests that the direct budgetary cost may have been increased by tax planning activities. The reference to the entire stock of equity has created strong incentives to artificially restructure companies' activities in order to optimise use of ACE, even with no changes in investment and/or external financing choices. ([120]) This has been helped by the lack of an anti-avoidance framework specifically targeting transactions between related parties. This conclusion is supported by empirical evidence which shows that: (a) large companies have been the main beneficiaries of ACE, since these companies are arguably more active in using tax optimisation techniques; (b) subsidiaries seem to have responded more aggressively to the introduction of ACE; ([121]) and (c) aggregate investment seems not to have reacted to the cut in the cost of capital brought about by ACE. ([122]) The results of audits by tax authorities over the years have confirmed the use of several ACE-related tax planning strategies. ([123])

Although some of the most common tax avoidance schemes have been made more difficult over time by changes in the rules, and especially by administrative regulations, it is likely that the ACE system in Belgium remains prone to tax planning.

The Italian experience

Italy introduced the ACE system at the end of 2011 to promote firms' capitalisation and boost growth. It is noteworthy that the new regime applies not only to corporations, but also to businesses taxed under personal income tax. The following analysis focuses on corporations.

ACE for corporations is a deduction against the CIT base calculated by applying a notional interest rate — based on the average returns on Treasury bonds ([124]) — to a net equity base, the ACE base. ([125]) There are no conditions regarding the type of investment. The ACE base is defined as the net positive variation of equity as from the end of 2010. ([126]) Limits to the ACE base stem from several specific anti-abuse provisions aimed at preventing a 'cascading' of ACE benefits within groups of companies subject to the same unitary control and to abuses through sales of assets to transform 'old equity' into 'new equity' that would attract the ACE allowance.

The ACE-type reform has strengthened the design of capital and business taxation, bringing the Italian system closer to a dual income tax (DIT) system where earnings are taxed at progressive rates while capital income is taxed at a flat rate below the highest rate of the personal income tax rate structure. ([127]) In this respect, it is crucial to apply ACE to all businesses. Most importantly, the ACE reform has lessened the tax discrimination between debt and equity: in 2012 the debt bias in Italy was below the EU average. ([128]) In assessing the budgetary implications of the reform, a distinction needs to be made between the short and long term. The short-term gross impact depends — among other things — on the rollout of the reform and the economy's cyclical situation. At present, data is available only for the 2011 tax year and not surprisingly it shows a revenue loss substantially lower than initially forecast. Over time, 'new equity' will replace 'old equity' and the direct budgetary cost is likely to increase. ([129]) How long it will take to arrive at the final regime depends on many factors and it is difficult to speculate. In any case, it is important to highlight that — given the incremental nature of the regime — revenue losses are associated with new investments and better

([120]) See the discussion in Valenduc (2009: 41-50).
([121]) Panier et al. (2013).
([122]) Princen (2012) and Valenduc (2011).
([123]) Sénat de Belgique (2011a, 2011b).
([124]) The ACE rate can be increased by up to three percentage points as a compensation for greater risk. The ACE rate was initially set at 3% for the first three years of the new regime. The 2014 financial stability law increased the ACE notional rate to 4%, 4.5% and 4.75% for 2014, 2015 and 2016, respectively.
([125]) The unused ACE allowance can be carried forward indefinitely. As from 2014 the taxpayer can opt to transform the unused ACE into a tax credit that can be set off in five years in equal parts against the IRAP tax bill.
([126]) From 2014, for companies going public the qualifying equity will be multiplied by 1.4 for three years starting from the year when the company is admitted to a regulated market.
([127]) See Arachi and Santoro (2012) and IMF (2012).
([128]) European Commission (2013a: 62).
([129]) See de Mooij (2011) and de Mooij and Devereux (2011) for some measures of the ACE long-term revenue cost in Italy.

growth prospects and therefore with increased (corporate and other) tax revenue.

A comparison between the two regimes

The two major differences between the Belgium and Italian ACEs are the definition of the ACE base and the anti-avoidance framework.

While in Belgium the ACE allowance is granted to the full stock of equity, in Italy companies are entitled to deduct a notional return only for equity added to the stock of equity after the reform. Although the two systems provide basically the same incentives for investment and address the debt bias in the same way, they are different in at least two aspects. First, the full equity system in Belgium entails windfall gains for the capital already installed. In this sense, it is less efficient than the incremental ACE applied in Italy. Secondly, and more importantly, the two systems have a very different impact on the public budget over the short and medium term. Since in the long run all equity will benefit from the ACE, the latter difference is mostly a transitional issue. However, one should not understate the advantage of incremental ACE in achieving a better balance between the costs and benefits of the reform: incremental ACE can be more easily implemented since it does not entail high revenue losses in the short run; moreover, it gets gradually stronger over time as its benefits unfold, thus strengthening the design of the CIT.

The anti-avoidance frameworks have an important similarity: in both the Belgian and Italian systems a general anti-avoidance provision plays the role of firewall of last resort for cases of ACE abuses not covered by specific rules, or not even thought of by the legislator. One can argue that this common feature tends to make the two systems more equal than they may appear at first sight. However, it is important to highlight that the protection of a general anti-avoidance rule cannot be considered as effective as that of a set of specific, well-targeted anti-avoidance rules. This is the case not least because specific rules have to apply *ex ante*, while a general anti-avoidance rule has only *a chance* of being applied *ex post*.

In Belgium, the specific anti-abuse provisions do not target transactions between related parties. This leaves room for tax structures aimed at optimising the ACE's benefits, as in the cases of intra-group loans, transfers of equity stakes and the creation of subsidiaries. In Italy, by contrast, the anti-avoidance framework is built precisely around transactions between related parties. Specific provisions target foreign companies since they can be involved in avoidance schemes as vehicles to re-direct back to Italy contributions that have already benefited from the ACE. Although the Italian ACE system is probably not completely immune from tax planning, the presence of several specific anti-avoidance provisions targeting within-group flows of funds makes it arguably more robust against tax avoidance.

Overall, a comparison between the two regimes indicates that the Italian system — with its incremental character and a more comprehensive anti-avoidance framework — is a more viable option for ACE reform aimed at addressing the debt bias in the corporate sector while safeguarding the tax base for both domestic and international transactions.

Some of the profit-shifting incentives in the ACE systems mentioned above reflect the 'international dimension' of the debt bias problem and of its solutions in terms of tax design. This dimension is discussed in more general terms in the following section.

3.2.4. The 'international dimension' of the debt bias: internal vs external debt and anti-avoidance measures

Multinationals face a complex choice in determining their overall leverage and the allocation of their debt to the parent company and subsidiaries across all countries in which they operate. In an international setting, the tax costs of debt and equity finance depend on the combined tax systems of the home and host countries of the multinational firm. ([130]) The financial structure of a multinational is therefore expected to reflect the tax systems of all the countries it operates in.

International debt-shifting aimed at minimising the overall tax burden can be achieved by optimising external and internal debt. ([131]) With external debt-shifting, multinationals load more debt, borrowed

([130]) See Huizinga *et al.* (2008) and Barrios *et al.* (2012).
([131]) For a discussion see Ruf and Schindler (2012).

from external banks, into affiliates located in high-tax jurisdictions; they also tend to reduce external debt in other jurisdictions to keep the overall risk of bankruptcy under control. Through internal debt-shifting (i.e. debt-shifting between related parties), multinationals deduct interest costs in high-tax countries and earn interest income in low-tax ones.

To limit the revenue losses associated with international debt-shifting, over time countries have been introducing limits on the deductibility of interest costs. These limits take the form either of thin-capitalisation rules, restricting the deductibility of interest above a certain total (or internal) debt level, or of earning-stripping rules which link the deductibility of interest costs to a measure of the company's profitability. Within the EU, as Table 3.5 shows, thin-capitalisation rules are far more common. However, in recent years many countries have introduced earning-stripping rules.

Recent empirical research has shed light on the effectiveness of thin-capitalisation rules by exploiting the differences in these provisions from country to country and over time. ([132]) This literature has also provided evidence of the impact of these rules on the overall leverage of subsidiaries and multinational groups. This has made it possible to clarify the interaction between the internal and external debt dimensions of the optimal financial structure, and therefore the interaction between the bankruptcy/volatility and international profit-shifting plans of the debt bias issue. This is crucial for the tax design of effective anti-avoidance rules targeting debt-related tax planning structures.

Thin-capitalisation regimes differ widely between countries. Regarding restrictions on the deductibility of interests, the main distinction is between rules limiting total and internal debt. Rules also differ in the discretion that tax authorities have in applying the restrictions. The application can be automatic: interest deductibility is restricted if a subsidiary's debt ratio exceeds a certain threshold (so-called safe harbour); alternatively, a country can use discretion by comparing actual leverage to leverage on an arm's length basis. Finally, rules differ in the tax treatment of interest that is applicable if full interest deductibility is denied. In some cases, non-deductible interest can be re-classified as dividends, triggering non-resident dividend withholding taxes.

Table 3.5: **ACE, CBIT, thin-capitalisation and earnings-stripping rules in the EU Member States, 2014**

Country	Some form of ACE/CBIT	Thin capitalization rules	Earnings-stripping rules
BE	x	x	
BG			x
CZ		x	
DK		x	
DE			x
EE			
IE			
EL		x	
ES			x
FR	(x)	x	x
HR		x	
IT	x		x
CY			
LV		x	
LT		x	
LU			
HU		x	
MT			
NL			
AT			
PL		x	
PT	x		x
RO		x	
SI			x
SK			
FI			x
SE			
UK		x	

Source: Commission services.

Blouin *et al.* (2013) analyse the impact of thin-capitalisation rules on the leverage of the foreign affiliates of US multinationals over the period 1982-2004. They find that 'thin-cap' rules affect both the internal and total leverage of foreign affiliates. The responsiveness of internal leverage is quite strong, indicating that multinationals can easily adjust internal leverage on the basis of tax considerations. This also suggests that thin-cap rules are effective against debt-based tax planning activities. Interestingly, restrictions on internal leverage also affect affiliates' total leverage. ([133]) Remarkably, if the application of the restrictions is automatic, the effect on total debt is about twice as great. If the application is instead discretionary (i.e. comparable to leverage on an arm's length

([132]) See Buettner *et al.* (2012) and Blouin *et al.* (2014). There is also some recent evidence for Germany about the impact of earning stripping rules pointing to their effectiveness in limiting indebtedness (see Buslei and Simmler, 2012 and Dreßler and Scheuering, 2012).

([133]) These results are also found by Buettner et al. (2012) for foreign subsidiaries of German multinationals. See also Wanser (2008).

basis), the effect on total debt of restrictions on internal debt disappears. At the consolidated level, thin-capitalisation rules are associated with lower interest expenses and a lower value of the company. The overall consolidated leverage of the group is not responsive to restrictions on interest deductibility. This might suggest that the multinational engages in debt-shifting from countries with thin-cap rules towards countries without these rules so as to keep its overall leverage constant.

3.2.5. Financial sector, debt bias and bank levies

In the wake of the financial crisis, the debt bias embedded in traditional corporate tax systems has also received attention in debates on the excessive leverage of the financial sector. Recent empirical literature suggests there are tax effects on banks' financial structures as well. ([134]) However, the empirical relationship between the debt bias in the banking sector and financial stability appears less clear. De Mooij *et al.* (2013) find significant effects of the debt bias on the capital structures of banks and on the probability of banking crises. Horvath (2013) also finds evidence of an impact from debt bias on financial choices, but his results do not show any significant effect on banks' readiness to take risks. This may be due to changes in asset risk portfolios brought about by the corporate income tax. The expected benefits from eliminating the debt bias in the financial sector may, therefore, not be particularly large in terms of financial stability because banks may substitute leverage risk with asset risk, especially when capital regulation is more stringent.

A recent paper by Devereux *et al.* (2013) investigates the effect of the bank levies applied after the financial crisis in many countries, often with the goal of improving financial stability. In principle, these taxes reduce the debt bias in the financial sector by increasing the cost of debt funding. The authors find that bank levies were indeed effective in reducing leverage in the banking sector. ([135]) However, the response of asset risk to the new taxes implies that the overall risk for many banks did not go down, especially for the largest banks and for those closest to the regulatory minima. These results are to some extent in line with Horvath's (2013).

3.2.6. The different aspects of the debt bias problem and the challenges for tax design

To conclude, the corporate debt bias is a major issue for at least three aspects of corporate tax systems. The first aspect is domestic. It concerns the potentially 'excessive' leverage caused by the favourable tax treatment of debt embedded in traditional tax systems, and the distortions at the margin that the debt bias entails for investment choices. The second aspect is international and concerns the tax-avoidance opportunities that the distinction between debt and equity generates for profit-shifting between jurisdictions, and the consequent budgetary challenges this problem poses. Lastly, there is the 'financial stability' aspect, related to the relationship between the debt bias in the financial sector and systemic risk.

Given all these different aspects, there is unlikely to be a 'one-size-fits-all' solution to the debt bias problem. Within the EU, Member States have so far been concerned mainly about the international aspect — having in place thin-capitalisation rules or implementing earning-stripping rules — and, more recently, the financial stability aspect of applying bank levies. By contrast, the 'domestic/excessive leverage' aspect has not been addressed. This means in practice that the goal of curbing potential excessive leverage in the non-financial sector is not being pursued. The potential growth effect stemming from a more efficient tax system for businesses, such as ACE or cash-flow taxation, is also being foregone.

This comparison between the ACE systems of Belgium and Italy, and the recent empirical research into the effect of debt bias on financial

([134]) See Keen and de Mooij (2012), Weishi et al. (2012), Heckemeyer and de Mooij (2013) and Hemmelgarn and Teichman (2014).

([135]) Simulation evidence about the effects of bank levies and of taxes on the value added generated in the banking sector is provided in Cannas et al. (2014). The authors analyse the correlation between taxes on the financial sector and the contribution of individual banks to systemic risk. They find that bank levies and financial activities taxes on the financial sector are useful instruments to charge financial institutions according to their individual contributions to risk. The results are mainly driven by the correlation between the tax bills and banks' size.

stability quoted above, show the crucial importance of design for improving a tax reform's chances of success.

3.3. ECONOMIC ASPECTS OF SELECTED TAX EXPENDITURES IN DIRECT TAXATION

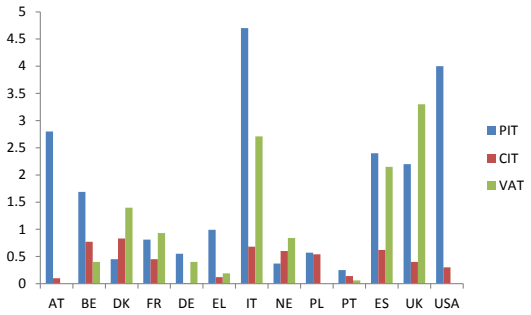
In these times of fiscal consolidation, the issue of tax expenditures and their economic efficiency, combined with equity aspects, ranks high on the taxation policy agenda. Tax expenditures amount to a not inconsiderable share of GDP in many EU Member States. Furthermore, the economic downturn has led some Member States to introduce or extend tax expenditures to encourage investment and business activity. While some well-designed expenditures can enhance positive spillovers and welfare, it is important to ensure that they do not cause economic distortions and that they are the most cost-efficient means of achieving economic and social policy goals. Moreover, some Member States have reduced their scope in order to raise further revenue and thereby consolidate their public finances. Member States therefore need to review and assess their tax expenditures regularly.

Previous 'Tax reforms in EU Member States' reports gave insights into the use of tax expenditure across the EU and examined specific issues in the personal and corporate income system. The focus of this year's report is a cross-cutting evaluation of tax expenditure in selected areas of direct taxation. It highlights potential risks and challenges that Member States may face and that are important to bear in mind when assessing or considering policies. ([136])

3.3.1. The challenges of assessing tax expenditures

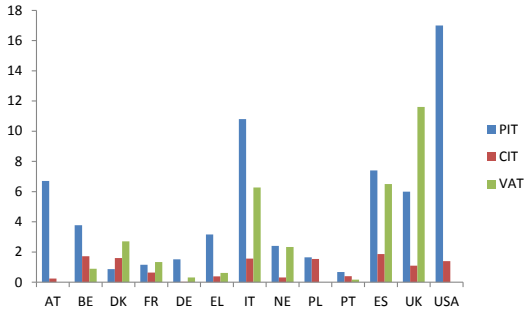
Tax expenditure is widely used to promote public policies. The data available attributes a significant portion of many Member States' GDP to tax expenditure, with expenditure on personal income taxation making up the lion's share (Graphs 3.8 and 3.9 show tax expenditure as a percentage of GDP and of total tax revenue, respectively). ([137]) This is not surprising given that tax expenditure in direct taxation is extensively used by governments as instruments of income redistribution as well as to encourage investment, employment and growth.

Graph 3.8: **Tax expenditures as % of GDP in selected EU MS and the US**



Note: Reporting years vary from 2005 (Belgium) to 2009 (Spain). For Austria there is no data on VAT tax expenditures, and the US does not apply VAT. All sample countries estimate the value of tax expenditures in terms of revenue foregone. The data used (OECD Revenue Statistics) are not comparable with National Accounts data according to ESA 95.
Source: OECD (2010a).

Graph 3.9: **Tax expenditures as % of total tax revenues in selected EU MS and the US**



Note: Reporting years vary from 2005 (Belgium) to 2009 (Spain). For Austria there is no data on VAT tax expenditures, and the US does not apply VAT. All sample countries estimate the value of tax expenditures in terms of revenue foregone. The data used (OECD Revenue Statistics) are not comparable with National Accounts data according to ESA 95.
Source: OECD (2010a).

([136]) This evaluation is based mainly on recent work by DG ECFIN, see Kalyva et al. (2014), and proceedings of the DG ECFIN 2013 workshop ''The use of tax expenditures in times of fiscal consolidation', see Bauger (2014).

([137]) In general there is limited data available to allow comparisons of the use of tax expenditures in EU Member States. Member States apply numerous tax expenditures in personal and corporate income taxation. Country comparisons are extremely difficult due to different definitional, classification and benchmark approaches. Comparisons may therefore reflect differences in practices used rather than identify differences in tax policies. Member States with higher overall tax burdens also tend to (automatically) have higher tax expenditures than low-tax countries.

Tax expenditure appears to have increased over the past decade, but more recently there has been a decline due to fiscal consolidation needs.

While formally defined as a *reduction in tax revenue in the National Accounts*, tax expenditure is often economically equivalent to public expenditure. It could be considered 'hidden subsidies' when it benefits specific taxpayers. Recently, the trend towards greater transparency in fiscal policy and the growing use of cost-benefit analysis of tax expenditure has led to increased interest in these types of expenditure. ([138])

The economic relevance of tax expenditures can be assessed against a limited number of specific criteria. A first group of criteria covers various facets of *microeconomic efficiency*. Tax expenditures may cause severe microeconomic distortions and encourage rent-seeking behaviour. The second group of criteria reflects *the capacity to meet economic or social objectives*, defined by the government, with the best instruments, which are not necessarily tax expenditures. The last group of criteria relates to the impact on the efficient functioning of fiscal policy, which would include keeping the tax system simple and stable and ensuring transparency and accountability. A thorough assessment of tax expenditure includes an evaluation of their impact on these three dimensions.

To identify policy options, it is advisable to conduct a case-by-case analysis with the focus on specific groups of tax expenditure associated with specific economic issues ('*bottom up' or thematic approach*). ([139]) This evaluation will help limit the use of tax expenditure to justified cases, e.g. where there are considerable market failures and obvious administrative advantages over comparable spending programmes can be identified. The remainder of this section deals with tax expenditure in selected areas of personal and corporate income taxation. Some initial policy conclusions for these areas are summarised in Table 3.7. These conclusions should be treated with caution because the actual effects of specific policies depend on the particular context in which they are applied in Member States.

([138]) In the context of the transposition of the Directive on requirements for budgetary frameworks (2011/85/EU), Member States are required (since 1 January 2014) to provide information on tax expenditures and their impact on revenue. Article 14(2) of the Directive states that: *'Member States shall publish detailed information on the impact of tax expenditures on revenues'*.

([139]) Similar calls have been made by the IMF and OECD; see IMF (2011) and OECD (2010a).

3.3.2. Tax expenditures in personal income taxation

'Making Work Pay' tax expenditures

'Making Work Pay' tax expenditure is intended to have a positive impact on labour supply ([140]) as well as to adjust net income distribution. It can be put in place to meet social or strategic objectives. The advantages over unemployment benefits or minimum wages include the capacity to offset the risk of 'benefit dependence' (unemployment and inactivity traps) and avoid an increase in labour costs. On the other hand, drawbacks have been found in the complexity of their design as well as in the lack of a real-time effect due to the annual account basis for declaring income taxes (OECD, 2010). That said, the design of Making Work Pay tax expenditure measures should take account of their interaction with other factors such as social contributions, benefits, whether there is a minimum wage, the features of the labour market demand side and the possible choices — in terms of hours worked — of those already employed. Other elements to consider are the budgetary implications, error-proneness and scope for fraud created by the system.

As shown in Barrios et al. (2014), it is crucial that the budgetary costs of Making Work Pay tax expenditure be assessed in a dynamic perspective. In other words, not accounting for individual behavioural reactions may lead to overestimating the revenue gain of cutting back these tax reliefs. The authors use micro-simulation results from five EU Member States with differently designed tax reliefs to explicitly model the interaction between the specific tax incentive and other relevant provisions of the tax-benefit system. They show that feedback effects in terms of behavioural reactions — at both the extensive margin (participation) and the intensive margin (hours worked) — have significant implications for the estimated budgetary impacts from hypothetical tax reforms. In particular, the results suggest that at least one quarter of the extra tax revenue collected

([140]) Both number of employed and number of hours worked.

through a marginal reduction in work-related tax incentives is cancelled out after factoring in labour supply responses, especially through lower participation in the labour market by people most at risk of exclusion. In some instances the erosion of revenue gains may become substantial, particularly for policies heavily targeted at the lowest earners.

Pension-related tax expenditures

Population ageing poses a considerable challenge to public pay-as-you-go (PAYG) pension systems. In response, several countries have created tax incentives for private pension savings. Generous tax treatment of pension savings in private funds may have considerable impacts on government revenues and redistribution. One motivation for pension-related tax expenditures is to increase overall savings. A high level of private pension payments seems to be driven more by (quasi-) mandatory schemes and less by tax expenditures; however, the total revenue cost even of smaller tax expenditure for private pensions can be considerable for countries with broad coverage of private pensions. Generous tax expenditures can be costly and inefficient when used to increase low levels of private savings. Last but not least, consideration needs to be given to whether the taxation of pension savings is too generous compared with other investment options and thereby creates undesirable distortions, as well as whether the distributional features are efficient and equitable. An important aspect is whether and how tax incentives are an efficient and appropriate measure to correct for short-sightedness by people who do not save enough (Chetty *et al.*, 2013).

Tax expenditures for the self-employed

Self-employment is increasingly commonplace in the EU. Traditionally, tax expenditures for self-employment are provided to foster entrepreneurship. Entrepreneurship yields high social returns. However, without any good instruments to identify entrepreneurship among small businesses and the self-employed *ex ante*, it is difficult to implement targeted tax incentives. Rather, it should be ensured that tax incentives do not lead to a discriminatory regime that encourages firms to outsource their employees, resulting in the substitution of wage-employees by 'bogus self-employed'. ([141]) Some employers may prefer this type of status since 'bogus self-employed' people can be discharged without warning, are not entitled to holiday or sick pay, have reduced benefit rights and are also denied access to employment tribunals. Lastly, since self-employed people are much more likely to evade taxes than employees, discriminating between different forms of employment is questionable from the point of view of efficiency ([142]).

Tax expenditures for education

Investment in education and training is a key ingredient for economic growth through its impact on a country's human capital stock (e.g. OECD, 2012). Tax systems can play an important role in enabling, complementing or, indeed, hindering education policies. They directly influence the expected returns on skills development and may influence the supply of, and demand for, skills in the labour market.

Although there are differences between EU Member States in their tax treatment of education and training, the importance of tax expenditures in reducing education and training costs is recognised. However, since they are often not specific and well-targeted, Member States' tax expenditure on human capital formation is often criticised for favouring large companies, the highly skilled and groups which already enjoy privileged access to education and training. Compared with targeted spending programmes they often appear too broad and insufficiently targeted (Cedefop, 2009). Moreover, in some cases tax expenditures for training may cause distortions compared with other investments: for example, company expenditure on education can generally be deducted from earnings as a cost of doing business, while company expenditure on equipment is only depreciated over its lifespan. It is therefore preferable that tax expenditure on education is weighed against other policy options so that the final mix can best meet the economic or social objectives targeted.

([141]) By 'bogus self-employed' we mean workers who are physically and functionally part of the business although they have self-employed status.
([142]) See European Commission (2012).

Housing-related tax expenditures

As discussed in Section 3.1, the favourable tax treatment of home ownership within the personal income tax framework is based on the assumption that it may generate positive externalities for society. It can be a vehicle for wealth accumulation as the owner takes a long-term view of their consumption, such as saving for the future. However, it is often difficult to distinguish the positive impact of home ownership clearly as the relationships might be casual or suffer from endogeneity bias([143]). In addition, subsidising home-ownership through tax relief is not without risks in terms of loss of economic efficiency through misallocation of resources and a bias toward debt. Tax subsidies through the deductibility of mortgage interest payments also favour household debt accumulation, particularly in housing price booms. This has potentially adverse effects on bank solvency or liquidity in cyclical troughs and consequent risks of credit constraints for firms and households.

Tax subsidies through the deductibility of mortgage interest payments also risk being a regressive policy and detrimental to social equity First, no clear relationship has been found between the degree of tax relief and the aggregate home ownership rate in a comparison of OECD countries. Second, as the tax subsidy normally takes the form of a deduction against earned income, and not of a tax credit, it is worth more for high earners. This is consistent with the finding that home-ownership inequality, defined as the ratio of the home ownership ratio in the top income quartile to the ratio in the second quartile, appears to be higher in countries with generous tax subsidies (Andrews *et al.*, 2011).

As set out in Section 3.1, there are alternative reforms to meet the objectives of housing-related tax expenditure. To achieve neutral treatment of different forms of capital returns, tax on imputed rents could be increased and brought into line with tax on other capital income. As a second-best solution, the option of deducting mortgage interest from income taxation could be phased out, leaving the imputed return on equity invested in owner-occupied housing untaxed. Social objectives can generally be better attained by providing direct subsidies (subject- rather than object-related subsidies) to the relevant households. ([144])

Overall, reforms in housing taxation would need to be assessed to see whether remaining tax expenditure still create a bias towards debt in the tax system or the systems can be regarded as sufficiently neutral in their treatment of different forms of investments.

3.3.3. Tax expenditures in corporate income taxation

Individual governments usually introduce special tax regimes to address territorial imbalances. These measures are not necessarily efficient from a general economic perspective. In fact, a large body of literature on tax competition has emphasised that governments tend to underestimate the revenue losses of lowering taxes (Buettner, 2014). Moreover, such measures distort investment decisions, leading to inefficient allocation of resources. In addition, special tax regimes may often breach state aid rules or the criteria of the EU Code of Conduct for Business Taxation ([145]). The measures tend to be ring-fenced, lack policy transparency and depart from internationally accepted principles. They are also not compatible with the sound functioning of the single market. As a consequence governments often try to attract foreign businesses with more general business tax incentives. These might, however, open up further profit-shifting opportunities for multinationals and result in an upward spiral of revenue losses.

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

([143]) Factors that are supposed to affect homeownership depend themselves on the homeownership.

([144]) In terms of speed and scope, as owner-occupied housing is many households' largest investment and gross mortgage payment can be a large share of current income, reforms have to be implemented with caution. The introduction from one year to the next of tax on imputed rents or the full abolition of mortgage interest deduction in one year can have a big impact on households' liquidity, as they cannot immediately adapt their housing to the new situation. Reforms should therefore be phased in carefully.

([145]) Conclusions of the ECOFIN Council 98/C 2/01, 1.12.1997 and European Commission, Brussels (29-02-2000) -SN 4901/99.

This is meant to encourage critically needed entrepreneurial business development and influence companies' decision to locate and conduct their activities within an economically-depressed area. Specific sectors of activity are sometimes also granted a favourable tax regime, which affects the general tax rate that those sectors are in principle subject to. Strong evidence of real market failures or spillover effects should be required before a specific intervention measure is considered. In addition, such a tax expenditure policy may reduce differences between efficient and non-efficient companies, which would consequently affect their investment decisions. Compared with other spending programmes, often included in special investment laws, using the tax system to correct these possible distortions does not seem the best solution.

R&D tax incentives

It is widely accepted that investment in research and innovation plays a key role in enhancing economic growth and social welfare. The *Europe 2020* strategy for smart, sustainable and inclusive growth sets the target of investing 3 % of GDP in R&D (both private and public). Due to market failures such as appropriability problems, the business sector tends to underinvest in research and innovation, below the socially optimal level. A clear majority of Member States uses tax expenditure to promote R&D. In particular, policymakers have shown growing interest in giving tax incentives for R&D, especially during the later phase of the crisis. Half of the Member States adjusted their R&D tax incentives in 2013-14 alone (see Chapter 2).

Expenditure-based R&D tax incentives can leverage additional business R&D investment, but they come at a cost to the public budget and they need to be designed carefully to generate maximum impact. Given their widespread use and increasing importance in the innovation policy mix, countries should ensure that their use is cost-effective. Some Member States, including the Netherlands, France and the United Kingdom, carry out regular assessments. More countries would benefit from comprehensive evaluation and revision of their schemes, in particular if private R&D spending seems unresponsive to such tax breaks. ([146])

The interaction of R&D tax incentives with other policies, in terms of complementarity and/or substitutability, needs to be taken into account. In this respect, from an economic point of view the use of targeted instruments might be advocated to promote R&D in small and young firms, which have greater potential to create jobs than mature companies but are likely to be financially constrained. Direct subsidies can be targeted at specific categories of firms/projects and assigned on a competitive basis, rather than in an automatic way like reliefs embedded in the tax system. Precisely for this reason, however, they might be more costly to administer than tax incentives, all other things being equal. Likewise, targeted grants provided on a competitive basis enable authorities to select projects with high social returns. The drawback of such targeted schemes is again the higher administrative and compliance costs than in a system of general tax reliefs. Also, while the award of the grant is uncertain and comes with a time lag, R&D tax incentives provide scope for more stability and predictability. All in all, cost-benefit analyses would most likely suggest that a mix of instruments should be used to support R&D (Andrews *et al.*, 2013). The relative importance of tax incentives would depend on not only the specific policy goals pursued but also the underlying economic environment. While tax incentives which target R&D expenses can successfully encourage innovation by lowering the marginal cost of investment, other schemes focusing on mobile income rather than real economic activities might provide opportunities for an increase in harmful tax competition. Some Member States have recently introduced 'patent boxes' which target income from intellectual property (for an overview of 'Patent Box' regimes' in EU see Evers *et al.*, 2014). Such schemes could have negative effects on tax revenue (Griffith et al., 2014) and distort the geographical location of patents rather than increasing the underlying research and innovation activities (Dischinger and

([146]) This is also an area which would benefit from exchanges of good practice and benchmarking to improve the effectiveness of tax schemes. Accordingly, the European Commission organised two meetings with Member State representatives in 2014 to share experience and good practices in the area of R&D tax incentives.

Table 3.6: **Evaluation of tax expenditures in some major areas**

	Arguments in favour	Points to watch	Reasons to remove tax expenditures
General arguments applying to all tax expenditures	• Internalising externalities • Possible distributional effects • Minimising distortions generated by taxation • May complement non-tax policy solutions	• Revenue effects • Possible implications of creating a complex tax design • Administrative and compliance costs • Rent-seeking behaviour • Lack of transparency of tax measures	• Potential revenue shortfall • Too expensive • Design too complex • Scope for fraud • Alternative measures more efficient
Making Work Pay	• Capacity for offsetting benefit 'dependence' (unemployment and inactivity traps) • Avoid increasing labour costs	• Behaviour-induced revenue effects • Lack of real-time effect • Interaction with other factors (e.g. social contributions, benefits, features of the labour market demand side, etc.)	• Susceptibility to error
For self-employed people	• Foster entrepreneurship	• Target entrepreneurship facing a higher degree of uncertainty	• Circumvention of labour market and social security protection laws by companies • Contribute factor to phenomenon of 'bogus self-employed'
Pension-related	• May be necessary to smooth income over the person's lifetime and prevent old-age poverty • Encourage saving in general, improving long-term growth • Can be necessary to encourage private pension savings to compensate for reduced public pension benefits	• Possible unjustifiable tax advantages over other forms of savings and risk of tax avoidance • Risk of substituting other forms of equivalent saving, resulting in high revenue costs without sufficiently increasing the overall pension savings rate • Risk of substantially supporting high earners	• Considerable windfall losses (substitution of comparable savings) • Unintended redistributive outcomes (in particular, advantages for high earners from deductions due to higher tax rates; greater take-up at higher income levels)
For education	• Increase quality of opportunity • Encourage skills development • Promote lifelong and adult learning	• Possibility of creating perverse redistribution consequences favouring highly educated/high-income individuals and large businesses • Possible negative impact on tax measures for higher education if tax incentives are not considered supplementary measures • Must be particularly clear about the types of activities and the individuals supported to avoid distortions and uncertainties	• Possible deadweight effects, especially on large businesses and highly qualified individuals

(Continued on the next page)

Table (continued)

Housing-related	• Positive externalities (e.g. create wealth, encourage saving) • Encourage housing investment • Could stabilise housing market • Encourage home ownership • Social reasons	• Misallocation of resources, resulting in higher house prices • Effects on banks' solvency and liquidity • Regressive policy	• Contribute to housing prices boom • High debt bias in housing taxation
For SMEs and special economic zones	• Address possible market imperfections (e.g. the financing of SMEs, the absence of large economies of scale, a lack of resources, etc.) • Influence companies' decision to locate in an economically depressed area • Encourage investment in specific economic sectors	• Cause distortions (e.g. preferential tax treatment discourages companies from growing) • Special tax rules for SMEs may conflict with each other (e.g. tax equity vs system simplicity; improving revenue collection vs giving SMEs incentives to grow; encouraging vs discouraging SMEs to grow)	• Eligible activities are not limited to economic sectors requiring genuine economic activity • Rules for profit determination deviate from internationally accepted principles (e.g. within a multinational group of companies) • Incompatible with the smooth functioning of the single market
For R&D	• Positive impact on R&D expenditure and other innovative activities	• Possible re-labelling of other 'standard' expenditure as R&D outlays • May result in increased wages if the supply of highly skilled workers is rigid • Interaction of tax incentives with other policies, in terms of complementarity and/or substitutability • As a general scheme, it might not adequately target the most productive projects • Possibility of aggressive tax planning and use of cross-border strategies by multinationals (e.g. profit-shifting and tax base erosion in the case of intellectual property income)	• High administrative and compliance costs • Overlap with other public support measures

Source: Commission services and Kalyva et al. (2014).

Riedel, 2011). This aspect is being examined by the Code of Conduct on Business Taxation and the OECD BEPS project. Moreover, Commission services are currently gathering information on patent boxes in several Member States under EU state aid rules.([147]) In summary, it is essential to evaluate and monitor such incentives, together with the other public support measures potentially available.

([147]) See http://europa.eu/rapid/press-release_IP-14-309_en.htm

3.4. BROADENING THE VAT BASE

As discussed in previous editions of the report, VAT efficiency could be increased by making the tax more broadly based, with few exemptions and limited use of reduced rates. VAT revenue falls short of the amounts that would accrue if all private consumption ([148]) were taxed at the

([148]) Note that, although this is a reasonable approximation, the definition of 'private consumption' used in the denominator of the relevant index is that used in the national accounts, which is not fully equivalent to the VAT base. Some VAT-taxed construction work is classified in the national accounts as investment and some private

standard rate and revenue collected effectively. To give an idea of the revenue loss, the left-hand column of Table 3.7 shows actual VAT revenue as a share of the theoretical revenue if all consumption were taxed at the standard rate, the so-called VAT revenue ratio (VRR). This share gives a (good) first indication of the impact of exemptions and reduced rates.

Table 3.7: **VAT indicators**

Country	VAT revenue ratio (in %)	Average household VAT rate/standard rate	VAT "compliance" gap
	2012	2011	2009-2011
BE	48.2	0.49	15.7
BG	65.1	0.71	13.3
CZ	56.6	0.58	27.3
DK	59.0	0.62	9.3
DE	55.1	0.50	11.7
EE	70.1	0.68	15.3
IE	45.6	0.44	12.0
EL	36.7	0.42	35.0
ES	41.6	0.44	23.7
FR	47.4	0.53	19.3
HR	72.8	-	-
IT	38.8	0.50	27.7
CY	66.2	-	-
LV	45.0	0.56	40.0
LT	49.8	0.72	37.3
LU	112.1	0.52	14.0
HU	52.7	0.60	28.0
MT	59.6	0.51	7.7
NL	54.6	0.44	7.0
AT	60.6	0.57	10.7
PL	44.2	0.44	14.0
PT	48.8	0.44	17.3
RO	50.6	0.60	48.3
SI	58.9	0.59	10.3
SK	44.0	0.69	37.0
FI	55.1	0.50	13.0
SE	56.2	0.49	1.7
UK	45.5	0.45	13.0
EU-28	48.8	0.49	17.2
EA-18	48.7	0.50	18.1
LAF plus	51.8	0.51	14.0
LAF minus	45.8	0.47	20.4

Note: The VAT revenue ratio consists of actual VAT revenue 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 significant impact. The indicator is analogous to the 'C-efficiency' and 'VAT revenue ratio' computed by the OECD, see OECD (2011b). The high value for Luxembourg is explained by the importance of the VAT collected on the sales to non-residents. The middle column is the ratio of the average theoretical household VAT rate, as calculated in CPB/CASE (2013), and the standard rate applied in the Member State in 2011. The numerator is calculated as the VAT Total Theoretical Tax Liability (VTTL) on household consumption: the corresponding value of the VAT rate is applied to each good in the consumption basket. 2009-2011refers to the arithmetic average of the three years.
Source: Commission services, CPB/CASE (2013).

However, the VAT revenue ratio is also affected by the share of tax evasion or tax non-compliance ('collection gap/collection efficiency'), which also reduces the ratio. ([149]) This point is discussed further in the Section 4.2.1 on measuring the compliance gap. Moreover, as discussed in last year's report, the VAT revenue ratio indicator could be affected negatively by the economic crisis and the economic cycle in general, even though VAT is a proportional tax. ([150]) ([151])

To get a better understanding of whether a low VAT revenue ratio is due to a policy gap, an additional indicator is used, namely the ratio of the average household VAT rate to the standard rate. This indicator, as published in CPB/CASE (2013) with data for 2011, can provide an indication of the scope and impact of applying VAT reduced rates and VAT exemptions (see Table 3.7). It measures how the theoretical average VAT rate compares with the standard rate. A low ratio indicates a large 'policy gap', induced by the existence of numerous exemptions and reduced rates in the VAT code.

The VAT 'compliance' gap, which is discussed in more detail in Chapter 4, is used as an additional indicator.

A two-step screening is applied, looking first at the overall efficiency of VAT collection (the VAT revenue ratio) and then considering the indicator of the 'policy' gap (ratio of the average household VAT rate to the standard rate). First, Ireland, Greece, Spain, Italy, Latvia, Poland, Slovakia and the United Kingdom have a VAT revenue ratio (based on 2012 data) significantly below the EU average. This indicates in particular that, to increase efficiency, these Member States could improve either the structure of their VAT system

consumption items are exempt from VAT, e.g. spending on financial services and on the majority of public services. Private consumption also includes imputed rents on owner-occupied housing. The importance of these items depends on the structure of the economies.

([149]) The ratio is also affected by the structure of consumption in Member States. Countries with lower purchasing power tend to consume relatively more basic goods and services, which are often subject to reduced VAT rates (e.g. foodstuffs).

([150]) Recessions, for example, lead to a shift in consumption patterns towards primary goods, lower construction activity, revenue from which is included in VAT revenue, and rising bankruptcies.

([151]) Note also that this indicator can be biased for some countries — such as Luxembourg — because of cross-border shopping (e.g. due to differences in VAT rates etc.). Moreover, the indicator can also be influenced by the size of the exempted sectors in final consumption and by the proportional difference between the standard and reduced or super-reduced VAT rates. A full assessment undertaken as part of the European Semester includes additional information, such as the categories to which the standard rate is not applied.

or tax compliance (or both). Second, of these countries, Latvia and Slovakia have a very high ratio of the second indicator applied, which is an indication that the low VAT revenue ratio is not due to a 'policy gap'. This is confirmed by the high VAT 'compliance' gap in these two countries, as shown in Table 3.7, which also indicates that the low VAT revenue ratio is not driven mainly by a policy gap.

In contrast, Ireland, Greece, Spain, Italy, Poland and the United Kingdom also display a low value for the second indicator, which is indicative of a high 'policy' gap. Based on this two-step screening, these countries are therefore considered to have particular room to improve their VAT structure by limiting the use of reduced rates and non-compulsory exemptions. Some of these Member States have undertaken VAT reforms recently (e.g. aiming at broadening the tax base, restructuring VAT rates etc.) as described in Chapter 1. It remains to be seen how these reforms will affect the indicators.

4. SPECIFIC CHALLENGES RELATED TO THE DESIGN OF INDIVIDUAL TAXES AND TAX GOVERNANCE

This chapter examines a number of specific challenges currently faced by tax systems, namely in the areas of environmentally related taxes and tax governance, and as relates to the relationship between taxation and income inequality.

The first section focuses on environmentally related taxation, an area which has attracted increasing attention in recent years, particularly as a result of the need to shift taxes away from labour onto sources that are less detrimental to growth, as discussed in Chapter 2, and also in view of its potential role in meeting environmental objectives. This section considers the need for additional measures in order to achieve greenhouse gas emissions targets, and assesses specific challenges related to the design of environmental taxes.

The second section analyses the issue of tax compliance and tax governance. It discusses the measurement of the tax gap and considers possible strategies for improving both tax compliance and the efficiency of tax administrations.

The third section briefly discusses the issue of the relationship between taxation and income inequality, providing an update on last year's analysis.

The chapter concludes with a general overview of current challenges in the area of tax policy, summarising the main findings from Chapters 2, 3 and 4.

4.1. ENVIRONMENTALLY-RELATED TAXATION

As discussed in Chapter 2, the tax burden on labour can be alleviated by generating additional revenue from environment related taxes. Of these, taxes on energy and transport currently generate the most revenue (1.8 % and 0.5 %, respectively, of GDP in the EU in 2012) ([152]), while taxes on pollution and resources make only a negligible contribution (0.1 % of GDP in 2012). The minimal use made of pollution taxes suggests that the majority of Member States tend to use other policy tools — such as regulation — to manage waste, noise pollution and emissions to air and water. There could however be some potential for raising extra revenue in this area.

Environmentally related taxes are not only a means for generating revenue, they can also be used as part of a market-based strategy for implementing environmental policy. They offer a way of internalising the external costs that production and consumption of goods and services have on the environment. Putting a cost on negative externalities, such as water pollution, waste generation or carbon emissions, encourages efficient use of resources and improves the functioning of the market. Environmentally related taxes can therefore be used to reduce greenhouse gas emissions, thus helping countries to meet internationally agreed emissions targets, and to stimulate innovation. The economic cost of environment related taxes, and their effectiveness in encouraging environmentally friendly practices, are, however, very much dependent on their design. Particular attention must therefore be given to this aspect.

This section first examines the need to increase environmentally related taxes, in order to meet greenhouse gas emissions targets, before considering the design of environmentally related taxes, and how this can improve their cost efficiency.

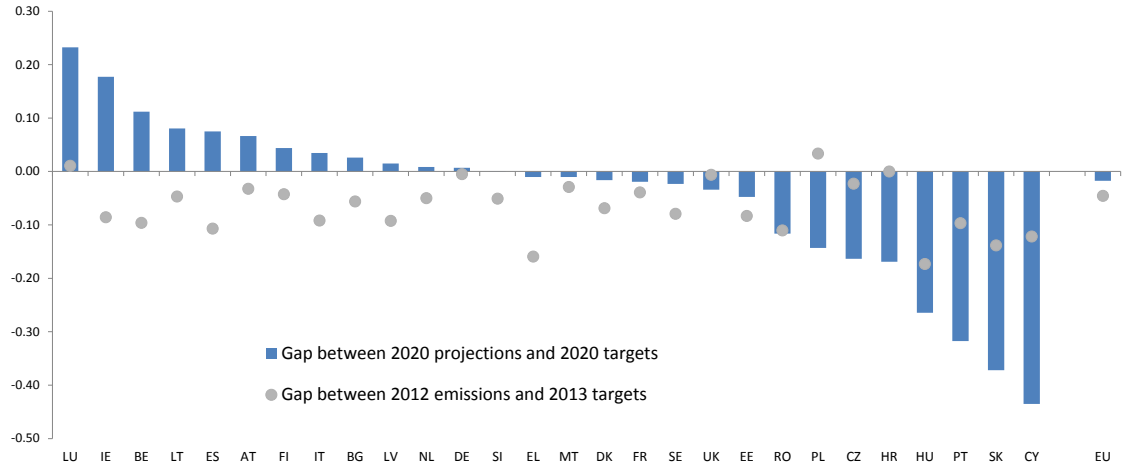
4.1.1. Need for additional measures to achieve greenhouse gas emissions targets

Under the EU climate and energy package ([153]) adopted in 2009, Member States agreed on an overall EU-wide emissions target of reducing greenhouse gas emissions by 20 % by 2020, as compared with 1990 levels. Further to this, targets

([152]) Energy taxes include taxes on energy products used for both transport and stationary purposes. In 2012, transport fuel taxes amounted to 1.4% of GDP in the EU. Transport taxes mainly include taxes related to the ownership and use of motor vehicles.

([153]) The climate and energy package is a set of binding legislation which aims to ensure that the European Union will meet its climate and energy targets for 2020. It comprises four pieces of complementary legislation formally adopted on 23 April 2009: the Directive revising the Emissions Trading Scheme, the Effort Sharing Decision, the Renewable Energy Directive and the Directive on the geological storage of carbon dioxide.

Graph 4.1: **Projected gap between performance and targets under the Effort Sharing Decision, in 2013 and 2020: over-delivery (-) and shortfall (+) as a percentage of 2005 greenhouse gas emissions**



Notes: EU represents progress towards the overall target set for the EU as a whole
Source: European Environment Agency's 2013 report.

and policies have been adopted for individual sectors: in the energy supply and industry sectors the necessary reductions in emissions are to be achieved via the EU Emissions Trading System (ETS); in other sectors, including road transport, buildings, agriculture and waste, national emissions targets have been set under the Effort Sharing Decision. ([154]) In the latter sectors, taxation of fossil fuels is an important market-based policy tool for achieving emissions targets. Fuel taxes internalise the environmental cost of carbon dioxide emissions, and thus also stimulate innovation and encourage companies to develop alternative, more fuel-efficient processes.

Overall, the EU is projected to reach its target of reducing greenhouse gas emissions by 20 % by 2020 for sectors not covered by the emissions trading scheme (see Graph 4.1). At country level, however, the latest available projections show that several Member States will need to introduce additional measures if they are to reduce their emissions to within the agreed limits by 2020. ([155]) Particular effort will be needed on the part of Belgium, Ireland, Spain, Italy, Lithuania, Luxembourg, Austria and Finland, as these countries are currently expected to miss their 2020 targets by a gap of more than 3 %. Performance relative to the 2013 emissions targets shows that Poland will also need to adjust its greenhouse gas emissions policy in order to remain on track for meeting its target. Further use of environmental taxation could be considered, alongside other policy tools, in order to ensure that these targets are met.

4.1.2. Improving the design of environmentally related taxes

Environmentally related taxes should ideally raise the marginal cost of a decision to such a level that it includes the environmental damage it causes. By changing relative prices, taxes can influence production and consumption decisions and can reduce the damage caused to the environment. Moreover, by internalising external costs, environmentally related taxes provide ongoing financial incentives to select the most efficient technologies, and thus encourage innovation. By increasing the cost of production inputs, they may, however, also have a detrimental effect on the competitiveness of small and medium-sized enterprises in particular. ([156]) These harmful effects

([154]) Decision No 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020 (OJ L 140, 5.6.2009, p. 136).

([155]) See European Environment Agency (2013) for further details.

([156]) The few existing *ex post* evaluations of the effect of environmentally related taxes on competitiveness do not however confirm there being any harmful effect. See in particular the analysis of the climate change levy in the United Kingdom by Martin *et al.* (2011), of the Canadian

are likely to be more severe where tax increases are applied unilaterally, i.e. independently of neighbouring countries. Member States may, therefore, benefit from further coordinating environmental tax policy at EU level, as suggested for instance in the Commission proposal for a revised Energy Taxation Directive. ([157]) Moreover, taxes on heating fuels are sometimes deemed to be regressive and to aggravate the risk of poverty, due to the effect they have on household purchasing power. ([158])

Environmentally related taxes need to be carefully designed in order to guarantee a stable level of revenue and to achieve the desired outcome without causing distortions to the market. An effective design may also help to minimise the potentially harmful effects of environmental taxes in terms of competitiveness and income redistribution. ([159]) Possible ways of improving the design of environmental taxes, and thus also generating additional revenue, include: (i) improving the structure of excise duties on fossil fuels such that the rates applied better reflect their carbon and energy content; (ii) indexing environmentally related taxes to inflation; and (iii) restructuring vehicle taxation. Moreover, the damaging effect of the tax system on the environment could be reduced, and the system as a whole made more effective, by phasing out environmentally harmful subsidies, currently provided by other categories of tax, such as income tax and VAT.

Structure and level of excise duties on fossil fuels

Under the current EU Energy Taxation Directive ([160]) regulating the taxation of energy products, minimum tax levels are often expressed in terms of volume or weight and are not consistently tied to the energy content of the fuels. The carbon content and the amount of energy provided vary across energy products, and so, therefore, do their environmental effects. In order to better internalise this environmental burden and to provide proportional incentives for energy efficiency improvements, excise duties should reflect both the carbon intensity and the energy content of the fuel. The proposal for a revised Energy Taxation Directive suggests taxing energy products according to their energy content per litre/kilogramme and their carbon content, thus making the Directive more consistent with the greenhouse gas emissions targets.

Furthermore, the current EU Energy Taxation Directive differentiates between energy uses when setting minimum rates, according to whether the energy is being used for transport, heating or some special industrial and commercial purposes. With regard to transport, Graph 4.2 shows the tax rates set by Member States for the two most commonly used propellants, diesel and petrol. While some Member States apply the minimum tax levels for diesel and petrol other Member States tax propellants more heavily, also to internalise the external cost of road transport. Although the tax level is important, the analysis focusses on the diesel to petrol ratio. A litre of diesel is still taxed at a lower rate than a litre of petrol in all Member States and in all Member States the energy from diesel is taxed less than the energy from petrol, despite the higher detrimental effect on the environment and the higher carbon content of diesel compared to petrol. The difference in the respective tax rates is particularly large in Greece, the Netherlands and Portugal. Graph 4.3 shows that this difference is also reflected in consumption, as, in all countries except Greece and Cyprus, diesel consumption is higher than petrol consumption for transport purposes. With regard to total consumption, Bulgaria,

carbon tax by Rivers and Schaufele (2014) or the work of Barrios *et al.* (2014) showing that strategies favouring tax increases on energy consumption and lowering taxes on labour can entail competitiveness gains for EU businesses.

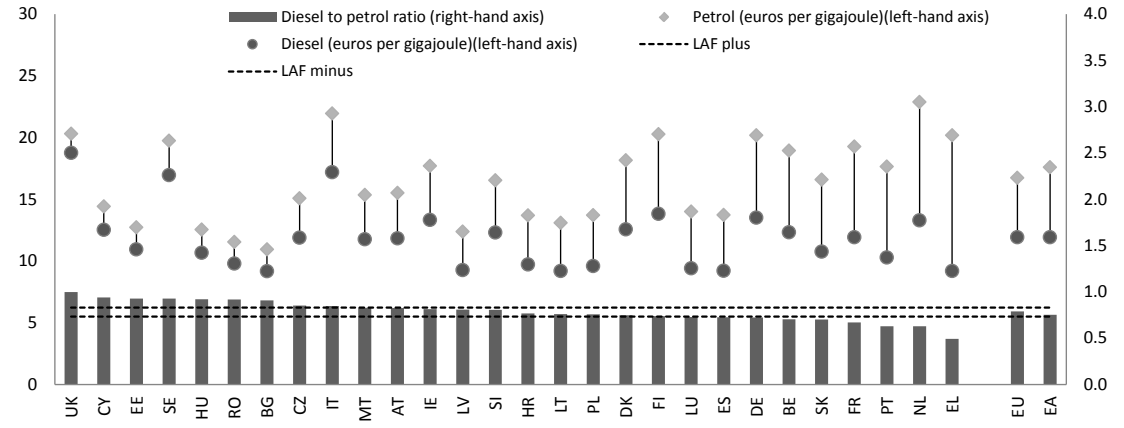
([157]) Proposal for a revision of the EU Energy Tax Directive, COM(2011) 169, which is currently the subject of on-going legislative work at the Council of the European Union.

([158]) See European Commission (2012a) for an extensive discussion of the effects of environmental taxation on income distribution.

([159]) Implementing environmental taxes in a predictable and progressive way allows businesses to adapt. Moreover, longer-lasting measures increase the credibility of environmental taxation and are more successful in creating the desired environmental incentives. Given the limited potential for achieving improvements in energy efficiency in the short term, and the greater responsiveness to incentives in the medium and long term, only permanent tax increases are likely to bring about changes in behaviour. See European Commission (2012f: ch. 3).

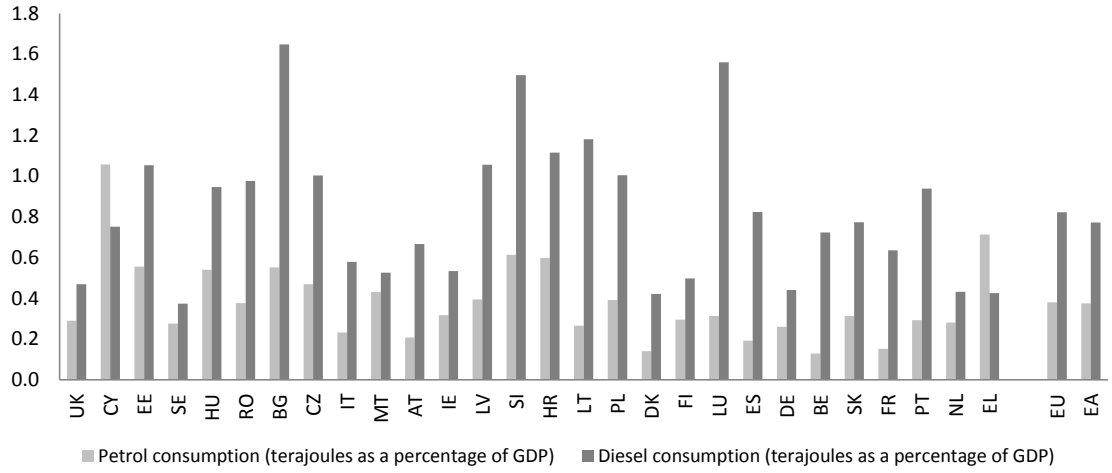
([160]) Council Directive 2003/96/EC of 23 October 1997 restructuring the Community framework for the taxation of energy products and electricity (OJ L 283, 31.10.2003, p. 51).

Graph 4.2: **Marginal tax rates on petrol and diesel when used as propellants, 2014 (euros per gigajoule)**



Source: Commission services and Eurostat.

Graph 4.3: **Consumption of petrol and diesel as propellants, 2012 (terajoules as a percentage of GDP)**



Source: Commission services and Eurostat.

Luxembourg and Slovenia stand out as heavy consumers of transport fuel. Alongside other factors (geographic location, vehicle taxation etc.), this may be due to the relative level of their fuel taxes. In order to encourage fuel efficiency, it is important to tax transport fuels in a consistent and neutral way, both in terms of carbon and energy content.

Substantial differences in tax rates on fuels are also found in areas other than transport. These, similarly, do not reflect the carbon or energy content of the fuels. For heating use, coal benefits from favourable tax treatment in many Member States, despite its high carbon per unit of energy as compared with other energy products.

Moreover, several countries also exempt household consumption of heating fuels and electricity from taxes. The lower tax rates applied to fuels used in some industrial and commercial purposes can be explained by concerns over international competitiveness. A large part of the most energy intensive industrial sectors are not covered by the harmonised energy taxation rules but by the EU Emissions Trading System. In the

case of electricity production the taxation of production inputs is considered to be particularly distortive. From an environmental point of view, it is nevertheless important to ensure that energy tax rates are made more consistent across energy products and that the tax system does not unduly favour fossil fuels. ([161])

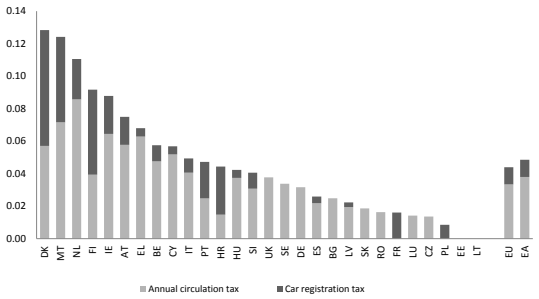
Indexation of environmental taxes

Indexing excise duties to inflation would help to maintain both the influence that these taxes exert on consumer behaviour and the level of revenue they bring in per unit of GDP. An appropriate index to use would be a core inflation index that excludes prices of energy and unprocessed food. ([162]) Despite the potential usefulness of such a system of indexation, both in terms of achieving environmental aims and providing fiscal revenue, relatively few Member States (Denmark, Cyprus, the Netherlands, Portugal, Romania and Sweden) currently index environmental taxes using a consumer price index. The absence of indexation is less of a challenge when regular tax increases preserve the revenue capacity of environmental taxes.

Vehicle taxation

Vehicle taxation is the second largest environmental tax, in terms of the revenue it generates (0.5 % of GDP in 2012, see Graph 4.4). Vehicle taxation includes registration tax (levied on the purchase of a car) and circulation tax (levied annually on car ownership). Registration of a car is subject to a tax in 19 Member States, and 24 apply road taxes on passenger cars. From an environmental point of view, vehicle taxes are often used to complement fuel taxes in their purpose of encouraging fuel efficiency. They are increasingly designed in such a way that the rate of tax paid is dependent on the car's carbon dioxide emissions. As some studies ([163]) suggest that retail prices, rather than future fuel costs, guide the consumer when purchasing a car, governments often make the registration tax dependent on carbon dioxide emissions. There are currently ten Member States where the registration tax is dependent on carbon dioxide emissions and ten where emissions are taken into account in the rate of road tax payable. As registration taxes differ from one country to another, however, they do present a problem in respect of double taxation, and create an administrative burden for car owners moving abroad. Moreover, where registration taxes are dependent on emissions, each country will set additional technical specifications as part of determining the level of the tax, and complying with these various specifications would increase production costs for the car industry. Car registration taxes can therefore be considered to create an obstacle to the functioning of the single market, when Member States should be trying to reduce such obstacles ([164]). The revenue foregone by lowering car registration taxes could be compensated for by increasing circulation tax,

Graph 4.4: **Revenue from vehicle taxation, 2012 (as a percentage of GDP)**



Source: 2013 national tax lists, Eurostat.

([161]) Italy made changes to its laws in March 2014, adjusting excise duties on energy products in accordance with the principles set out in the proposal for a revised Energy Taxation Directive. The measures will not however become effective until the revised Energy Taxation Directive is adopted, in order not to harm the competitiveness of Italian firms vis-à-vis other European firms.

([162]) Indexation is relevant to all excise duties levied on the quantity of the product (i.e. not in proportion to value). Using an index of core inflation that excludes prices of energy and unprocessed food would reduce the effect of volatility from these commodity markets and prevent the energy taxes themselves from feeding into the index that is then to be used for indexation of the taxes (i.e. thus exacerbating changes in price).

([163]) 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).

([164]) In 2005 the Commission proposed to harmonise passenger car taxation rules: elimination of registration taxes and introduction of rules for the calculation of circulation taxes, on the basis of the car's emissions of carbon dioxide. See COM(2005) 261 final of 5 July 2005.

which poses fewer problems in terms of double taxation as the tax is in general charged annually and refunded in cases of deregistration.

Phasing out environmentally harmful subsidies

Tax expenditures designed to benefit specific income groups or sectors can sometimes have a detrimental effect on the environment and can hinder energy, climate and environmental policies. Moreover, they are often not well targeted and fail to efficiently reach the social policy objectives they pursue. A large number of Member States are therefore unintentionally encouraging polluting activities or behaviour through the tax system, even though the policy objectives these tax expenditures are intended to help meet could be achieved in a less environmentally harmful way. Phasing out environmentally harmful subsidies could increase revenue contribute to climate policy objectives and improve the effectiveness of environmental taxation. Revenue is currently being foregone by, for example, granting favourable VAT treatment or subsidising the private use of company cars.

The EU VAT Directive ([165]) explicitly allows Member States to apply reduced rates on natural gas, electricity and district heating. Several Member States make use of this provision and charge reduced VAT rates on some or all of these energy products (Belgium ([166]), Ireland, Greece, France, Italy, Latvia, Lithuania, Luxembourg, Hungary, Malta and the United Kingdom). In addition, Member States are allowed to maintain the reduced VAT rates that were already applied to energy products before the creation of single market in 1992. Belgium, Ireland, Luxembourg, Portugal and the United Kingdom make use of this provision to grant favourable tax treatment to fuel oil and solid fuels. Consideration should however be given to ways of limiting the application of these reduced rates, as they may significantly distort energy consumption and the choice of energy source. Moreover, the underlying policy goals could often be achieved in a more efficient way using other policy tools.

Work-related travelling costs are related to income-generating activities, as a result of which they are, in general, tax deductible and reimbursed by the employer. They could, therefore, be considered as a form of remuneration that is taxed at a lower rate as compared with other forms. It is also common for employers in some Member States to provide employees with a company car as part of their remuneration package. When personal income tax rules do not differentiate between the use of a company car for business and private purposes, road travel is being implicitly subsidised, with undesirable environmental consequences. This may also be the case for the deductibility of VAT charged on the purchase of company cars. A small number of Member States (Belgium, Estonia, Ireland ([167]) and Latvia) allow partial deduction of VAT charged on the purchase of company cars intended for private use by employees. The rules of company car schemes also tend to encourage car ownership and often affect the choice of model and driving habits. Moreover, company car schemes risk counteracting the effect of incentives to reduce fuel consumption provided by energy and vehicle taxation. Assessments by Copenhagen Economics (2009) and OECD (2012c) of the budgetary and environmental cost of company car schemes find the subsidy (measured as the percentage gap in the imputed tax base) to be particularly high in Belgium, the Czech Republic, Germany, Greece, Italy, Hungary, Portugal and Slovakia. Reviewing the tax treatment of company cars would generate additional revenue and contribute to more efficient use of road travel.

Tax expenditures used to support practices or behaviour considered beneficial to the environment, such as income tax deductions for energy-saving renovations or the application of reduced VAT rates for energy-efficient products, can create market distortions. Producers and consumers are steered towards specific products or services, creating a risk that better performing alternatives are neglected. Moreover, as is the case for most other forms of tax expenditure, they apply to all taxpayers and therefore also benefit high-income earners. Similarly to in the previous

([165]) Council Directive (2006/112/EC) of 28 November 2006 on the common system of value added tax (OJ L 347 11.12.2006, p. 1).

([166]) As of April 2014, Belgium also applies the 6% reduced rate to electricity for households.

([167]) From 1 January 2009, a provision was introduced in Ireland to allow 20% VAT deductibility on a restricted category of cars and if the car is continually used for at least 60% business use, for a minimum of 2 years.

Table 4.1: **Summary of challenges in the area of environmentally related taxation**

Country	Additional measures to achieve national greenhouse gas emissions target	Scope to improve environmental tax design					
		Summary	Ratio of diesel to petrol	No indexation of evironmental taxes	Reduced VAT on energy	Low taxation of company cars	Scope for vehicle taxation based on carbon dioxide emissions
BE	X	X	X	X	X	X	
BG				X		-	X
CZ		X		X		X	X
DK							
DE		X	X	X		X	
EE				X			X
IE	X			X	X	-	
EL		X	X	X	X	X	
ES	X		X	X			
FR		X	X	X	X		
HR	-		-	X	-	-	-
IT	X	X		X	X	X	
CY						-	
LV				X	X	-	
LT	X			X		-	X
LU	X	X	X	X	X		
HU				X		X	
MT				X	X	-	
NL			X				
AT	X			X			
PL	(X)			X			X
PT		X	X		X	X	
RO							
SI				X			
SK		X	X	X		X	X
FI	X		X	X			
SE							
UK				X	X		

Source: Commission services.

examples, policy objectives could be achieved in a more efficient way than through the tax system.

4.1.3. Summary of issues in the area of environmentally related taxation

The issues discussed in this section can be divided into two main areas: (i) the need to make more use of taxation to achieve environmental objectives; and (ii) issues relating to the design of environmentally related taxes.

With respect to the former, there are a number of Member States which could consider making more extensive use of tax policy as part of their strategies for reducing greenhouse gas emissions, in order to meet the targets set for sectors not covered by the emissions trading scheme. These are Belgium, Ireland, Spain, Italy, Lithuania, Luxembourg, Austria and Finland.

With respect to the latter, various measures could be taken at national level to improve the design of environmentally related taxation. These include: (a) adjusting the structure of tax rates on fossil fuels so as to make rates dependent on the carbon and energy content of the fuels; (b) indexing environmental taxes; (c) phasing out reduced VAT rates on energy; (d) reducing tax subsidies for company cars; and (e) making vehicle taxation dependent on carbon dioxide emissions. Individual Member States are considered to be performing poorly in this area if weaknesses are identified in three out of the five above areas. On this basis, nine Member States have particular scope for improving the design of their environmentally related taxes: Belgium, the Czech Republic, Germany, Greece, France, Italy, Luxembourg, Portugal and Slovakia. Table 4.1 provides an overview of the challenges faced by Member States in the area of environmentally related taxation.

4.2. TAX GOVERNANCE

The main aim of tax authorities is to collect the full amount of taxes and duties that are payable by law. For a variety of reasons, ranging from deliberate fraud to accidental error, the amount of tax actually paid in a given year does not match the theoretical revenue. The difference between the amount of tax owed to the government and the revenue actually received is often referred to as the 'compliance gap'.

When discussing the compliance gap, it is important to differentiate between tax evasion and

tax avoidance. The OECD's glossary of tax terms defines tax evasion as 'illegal arrangements where liability to tax is hidden or ignored'. Tax evasion constitutes non-compliance with the law and is a component of the compliance gap. In contrast, the OECD defines tax avoidance as 'the arrangement of a taxpayer's affairs that is intended to reduce his liability and that, although the arrangement could be strictly legal, it is usually in contradiction with the intent of the law it purports to follow'. Tax avoidance thus consists in taking advantage of the technicalities of the tax system or of mismatches between two or more tax systems specifically so as to reduce tax liabilities. As such, the individual or business concerned is complying with tax law and the tax saving they make (i.e. the revenue which the government misses out on as a result) is not part of the tax compliance gap. In practice, it is not always easy to distinguish between tax evasion and tax avoidance, one reason for this being that the law is open to interpretation. Addressing tax evasion and tax avoidance is currently a priority for the EU. The 2014 Annual Growth Survey recommended that 'tax compliance should ... be improved through fighting tax fraud and tax evasion, coordinated action to tackle aggressive tax planning and tax havens, by ensuring greater efficiency of tax administration and simplifying tax compliance procedures.' In December 2012, the European Commission adopted an action plan setting out over thirty measures to combat tax fraud and tax evasion. ([168]) It can also be noted in this context that the fourth Capital Requirements Directive requires, as part of a strengthened governance framework in response to the financial crisis, public disclosure of taxes paid on a "country-by-country" basis by all institutions falling under its scope. ([169])

([168]) European Commission (2012b).

([169]) See Recital 52 and Article 89 of Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC (OJ 2013 L 176, p. 338, and corrigendum at OJ 2013 L 208, p. 73). This specific requirement applies from January 2015 onwards, subject to a general assessment by the Commission as regards potential negative economic consequences of the public disclosure of such information.

4.2.1. Measuring the tax compliance gap

As discussed in detail in previous years' reports, the size of the tax compliance gap and its causes are difficult to estimate, and even more difficult to compare across Member States. The estimates of the value of the non-observed economy by national statistical institutes provide an initial indication of the scale of the problem ([170]) but even these data are not always easily available. The estimates are generally produced for the purpose of calculating the country's gross national income, but many Member States do not make them public. Publicly available data on the non-observed economy remains scarce and covers only a few years, as shown in the Table 4.2.

While the value of the non-observed economy is only a rough proxy of the compliance gap, the latter seems difficult to measure specifically. This would require the use of more sophisticated indicators than those currently available. The OECD Tax Administration report in 2013 (OECD 2013c) surveyed the 27 EU Member States on that issue and concluded that only ten made periodic estimates of the national tax compliance gap, of which six made these estimates public. Since the publication of this report, other Member States have started measuring the gap: Finland recently published estimates of the gap for 2013 ([171]); Italy published estimates of the gap for VAT and for the regional production tax in September 2013 ([172]) and is planning to introduce a system for annual monitoring of the gap for various taxes in 2014 ([173]); Poland also intends to produce an annual report on the gap ([174]); Romania's Fiscal Council has started publishing regular estimates of

([170]) Eurostat's glossary defines the non-observed economy as all productive activities that may not be captured in the basic data sources used for compiling national accounts. The following activities are included: underground, informal (including those undertaken by households for their own final use), illegal, and other activities omitted due to deficiencies in the basic data collection programme.

([171]) http://www.vero.fi/fi-FI/Tietoa_Verohallinnosta/Tiedotteet/Uutisia/Verohallinnon_vuosi_2013_yli_50_miljardi%2832505%29.

([172]) http://www.dt.tesoro.it/export/sites/sitodt/modules/documenti_it/analisi_progammazione/documenti_programmatici/Rapporto_evasione.pdf.

([173]) Monitoring is being carried out pursuant to the enabling law for tax reform (law 23 of 11 March 2014).

([174]) The Polish Minister of Finance announced tax reforms for 2014-17, as reported by the International Bureau of Fiscal Documentation's news service on 17 April 2014.

the gap for different taxes ([175]); and Slovakia has started to report systematically on the effectiveness of VAT collection. ([176])

Table 4.2: **Value of the non-observed economy, reference years as specified (as a percentage of GDP)**

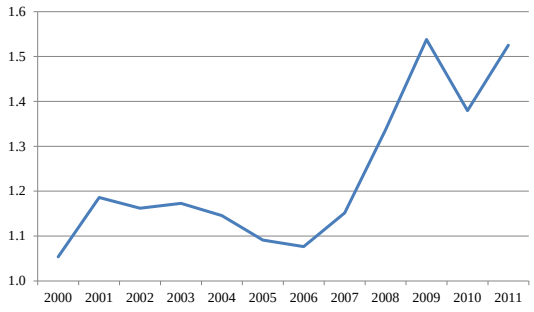
Country	Non-observed economy adjustments (% of GDP, reference year)
BE	4.6 (2009)
BG	13.4 (2011)
CZ	8.1 (2009)
DK	NA
DE	NA
EE	9.6 (2002)
IE	4 (1998)
EL	NA
ES	11.2 (2000)
FR	6.7 (2008)
HR	10.1 (2002)
IT	17.5 (2008)
CY	NA
LV	13.6 (2000)
LT	18.9 (2002)
LU	NA
HU	10.9 (2009)
MT	NA
NL	2.3 (2007)
AT	7.5 (2008)
PL	15.4 (2009)
PT	NA
RO	21.5 (2010)
SI	10.2 (2007)
SK	15.6 (2009)
FI	NA
SE	3.0 (2009)
UK	2.3 (2005)

Notes: Italy and Latvia: upper estimates given Bulgaria: estimate of the total size of the shadow economy Romania: estimate of the gross value added of the non-observed economy Please refer to the original sources of information for additional notes and clarifications on the data.
Source: For Belgium, the Czech Republic, France, Italy, Hungary, the Netherlands, Austria, Poland, Slovenia, Slovakia, Sweden and the United Kingdom: OECD (2012b). For Estonia, Ireland, Spain, Croatia, Latvia and Lithuania: UN (2008), as reported in OECD (2012b). For Bulgaria: national statistical institute. For Romania: national statistical institute, quoted in the annual report of the Romanian Fiscal Council (2012).

Nonetheless, available indicators, despite their many caveats and providing they are applied consistently across Member States and over time, do still provide a basis for identifying trends in the tax compliance gap.

A study carried out in 2013 by the Centre for Social and Economic Research and the Netherlands Bureau for Economic Policy Analysis (CPB/CASE, 2013) analysed trends in the VAT compliance gap. Graph 4.5 shows their calculation of the VAT compliance gap – the difference between the theoretical tax liability according to the tax law and the actual revenue collected – in the EU as a percentage of GDP over the period 2000-11. It should be noted that the gap as measured includes not only fraud and errors in calculating or paying tax but also, for example, delayed payments, changes in refund patterns and aggressive but legal tax avoidance activities. The estimates should therefore be interpreted with caution. Econometric estimates by the authors of the study suggest that VAT compliance falls when rates are increased, at least in countries with weaker tax enforcement. In addition, VAT compliance appears to fall during recessions. The study estimates that the total VAT compliance gap for the 26 EU countries included amounted to approximately EUR 193 billion or about 1.5 % of GDP in the EU in 2011, the latest year for which data is available.

Graph 4.5: **VAT compliance gap in the EU, 2000-11 (as a percentage of GDP)**



Notes: Data for Cyprus was not available due to a major review of its national accounts being carried out at the time of the study. Croatia was not included in the study.
Source: CPB/CASE (2013).

CPB/CASE (2013) calculated the VAT compliance gap for individual Member States as well. Graph 4.6 shows an average of the gap for each Member State over the period 2009-11. The same caveats mentioned above apply. ([177]) This

([175]) http://www.fiscalcouncil.ro/annualreport2012.pdf.
([176]) For the latest report please see: http://ec.europa.eu/europe2020/pdf/csr2014/statindic2014_slovakia_sk.pdf.

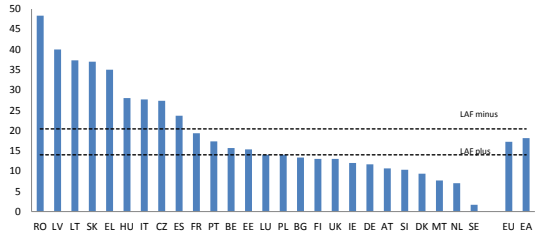
([177]) The CPB/CASE study provides estimates of the VAT compliance gap for the period 2000-11. Some of the results found by this study differ significantly from previous estimates given by Reckon (2009) for the period 2000-06. The differences are mainly due to the choice of data, differences in methodology (specifically that the CPB/CASE study computed VAT tax liabilities from the gross fixed capital formation) and greater use in the CPB/CASE study compared to that conducted by Reckon of estimates from direct communications. The main reasons for the resulting differences for individual Member

study was not available for last year's report but the countries it identifies as having most scope to improve their performance in this area overlap for a large part with the Member States identified then, although there are some differences.

Last year's report identified particular scope for improving tax compliance in Bulgaria, Greece, Spain, Italy, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Portugal, Romania and Slovenia. Some of the indicators that underpinned that assessment have however not been updated for several years and these results should therefore be interpreted with caution.

In this context, the following screening has been applied, which balances the use of relevant but potentially out-dated indicators with more recent indicators, albeit more narrow in scope. Member States are considered to have a particular need to improve tax compliance if they were identified last year and have a high VAT compliance gap supported by both the CPB/CASE indicator and a low VAT revenue ratio (see Table 3.6 in Chapter 3). This is the case for Greece, Spain, Italy, Latvia, Lithuania and Romania. While borderline cases are also considered, they are indicated with a bracketed 'X' in Table 4.4. A Member State is considered as a borderline case in two scenarios. First, if it was not identified in the screening last year but is found to have a very high

Graph 4.6: **VAT compliance gap as a percentage of theoretical VAT liability**



Notes: Data for Cyprus was not available due to a major review of its national accounts being carried out at the time of the study. Croatia was not included in the study.
Source: CPB/CASE (2013).

VAT compliance gap according to the two VAT indicators. In practice, this applies only for Slovakia. Second, if it was identified last year but has a VAT compliance gap at or near the EU average based on the two indicators. This is the case for Bulgaria, Poland and Portugal. It should be noted that this screening may not capture all countries with particular scope for improving compliance. They may only be identified with country-specific evidence, of often qualitative nature.

States are given in table A.8.2., p. 108 of the CPB/CASE study.

4.2.2. Reducing the tax compliance gap by improving tax administration

Notwithstanding the difficulty of estimating the exact size of the tax compliance gap, there is a clear consensus that it constitutes a significant problem in several Member States. Poor tax compliance can be the result of a range of different factors and circumstances. Improving current levels of compliance therefore requires policy action addressing the issues from all sides, and at various levels — national, European and international. It is important to tailor solutions to country-specific circumstances.

Balancing preventive and corrective measures

There are a number of reasons for the tax compliance gap, including: a lack of understanding of tax obligations, often reflecting the complexity of the tax system; the high cost of declaring income; an unwillingness to declare income (e.g. due to tax fatigue or widespread practices of non-compliance, creating an unfair situation for those who do comply); an unwillingness to pay taxes or to pay taxes on time; and the ease of committing fraud or underreporting earned income. ([178]) ([179])

([178]) See Jensen and Wöhlbier (2012).
([179]) Non-compliance results from a complex range of causes, the study of which belong to different disciplines. Recent research on behavioural economics can therefore make an important contribution to policymaking. Weber, Fooken and Herrmann (2014) gives a summary of recent work in this area. One particularly powerful and budget-friendly instrument for testing policies designed to improve compliance is the use of randomised field experiments. These experiments allow applying a specific policy change to a representative sample and comparing the reaction to that of the rest of the sample. As part of the Fiscalis 2020 programme, the Commission has set up a platform where national tax administrations can exchange knowledge and experience relating to randomised field experiments.

Box 4.1: Tax compliance, social norms and quality of institutions

Both empirical evidence and results of surveys suggest that there is a relationship between tax compliance, social norms, and the quality of institutions that are responsible for the collection of taxes and the provision of public goods.

Social norms are rules that govern the behaviour of individuals on the basis of their need or wish to conform to society. Social norms relating to tax compliance are created by the collective behaviour of taxpayers, itself comprising interactions between individual taxpayers. When examined in isolation, social norms can cause a given society to become more or less tax compliant, depending on the general level of tax evasion that exists. Favourable social norms promote compliance among taxpayers whereas unfavourable norms encourage non-compliance. The quality of institutions responsible for tax collection and the provision of public goods can serve to improve compliance and thus increase revenue by limiting the opportunities for tax evasion. The more effective a tax authority is, the more compliant are taxpayers. At the same time, efficient management and distribution of public goods and services will make individuals more inclined to comply, as they can justify the payment of taxes.

The connection between bottom-up and top-down influences — social norms and institutions, respectively — can create a positive feedback loop based on a relationship of trust between taxpayers and the tax authorities. A higher level of compliance leads to better provision of public goods or lower taxes, and better provision of public goods, in turn, has a positive effect on compliance.

Tax compliance

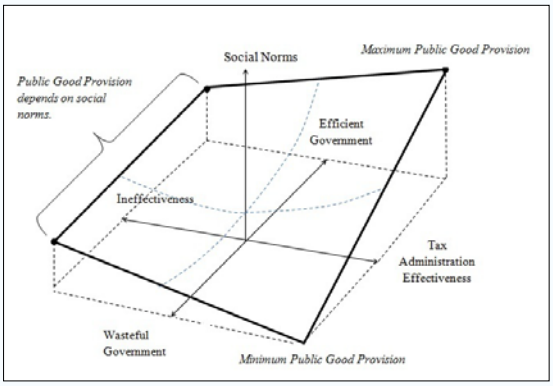
The relationship between tax compliance, social norms and the quality of institutions can be more easily visualised in a diagram. The x-axis measures the effectiveness of the tax administration in collecting revenue. The y-axis measures the efficiency of institutions in providing public goods, on a scale ranging from a high level of efficiency to wastefulness. The z-axis measures the strength of social norms — the extent to which an individual's decision to comply is influenced by others around them. In any given country, the three components together determine the level of provision of public goods, i.e. the total quantity and quality of public goods produced.

The most efficient provision of public goods is achieved when a government is efficient and the tax administration is effective. If the tax administration is perfectly effective, social norms are irrelevant in determining tax compliance as effective tax collection practices would entirely eliminate tax evasion. Furthermore, on the assumption that the government is efficient, compliance by taxpayers would necessarily result in an improved provision of public goods. The more ineffective a tax authority is however (i.e. the further towards the other end of the scale), the greater the importance of social norms in influencing tax compliance and hence tax revenue, and thus in determining the general level of provision of public goods. In the area of the graph representing ineffectiveness (i.e. towards the end of the tax administration effectiveness axis labelled 'ineffectiveness'), social norms determine tax compliance, and thus the total level of revenue available to spend on public goods.

The level of compliance will typically be higher if the government is effective in providing public goods. Perfectly efficient and effective management of public goods will result in the maximum level of provision of public goods even if the tax administration is not at its maximum effectiveness, as taxpayers can see the value of their tax contributions, and will therefore pay taxes willingly. On the other hand, if taxpayers feel that their contributions are not being spent effectively by the government, social norms of tax evasion may develop. This situation is represented by the 'wasteful government' area of the diagram.

(Continued on the next page)

Box (continued)



Improving tax compliance

This relationship allows us to draw three main conclusions in relation to tax policy:

- A government that has an effective tax administration can increase its revenue. The way in which this revenue is spent is a separate issue however. If the tax administration is effective in performing audits but at the same time the government is wasteful in its spending, then the benefits arising from tax administration effectiveness are lost, as the collected taxes are wasted instead of being used to improve services for individuals and businesses. This type of government behaviour will not make taxpayers willing or inclined to pay taxes, as they will be able to see that their contributions are not being used to improve their own and society's welfare.

- Making tax compliance the social norm could prove an effective policy tool for tax administrations with limited resources. Selecting carefully which firms to audit, providing tax education and improving the quality of provision of public goods in specific local, regional or occupational groups may improve state finances by creating a pressure to conform and thus establishing patterns of behaviour among groups in society.

- A government will only be able to make use of social norms as an additional policy tool alongside compliance enforcement measures such as audits if it is seen to be acting in the interest of its taxpayers. This is because social norms can be a double-edged sword: if the government does not act efficiently, and for the benefit of society, social norms of tax evasion may prevail over social norms of tax compliance. The belief that the government is genuinely acting in their best interest will however make individuals more willing to comply, thus strengthening social norms of tax compliance and the willingness of individuals to truthfully declare taxable income.

Developing a relationship of trust between a government and its taxpayers is necessary in order to maximise the provision of public goods. Wasteful expenditure must be limited and public administration constantly improved. Under these conditions, the effectiveness of the tax authorities and the strengthening of social norms of tax compliance will result in more efficient provision of public goods and, consequently, in increased welfare for society.

Box 4.1 summarises the results of a paper by Nicolaides (2014), which analyses the relationship between the formation of social norms and the general quality of government. Perceptions of governments' performance can influence people's willingness to contribute to the public good via taxation.

Well-designed tax policies should address all of the issues mentioned above, so as to ensure a fair, effective and efficient tax system. Preventive measures should aim to promote voluntary compliance by making it easier and less costly to pay the full amount of taxes due on time. One important aspect of this is the provision of information. An advantage of preventive measures is that they may be more cost-efficient, as they apply to larger groups of taxpayers while corrective measures address small groups or single taxpayers, and thus tend to be resource-intensive.

Corrective measures are nevertheless necessary, and should be applied in any situation in which taxes are not, or are not expected to be, paid in full and/or on time. They can take the form of verification (e.g. of tax returns), audits of business accounts and legal penalties. The effectiveness of the courts in dealing with tax disputes and the legal certainty of the interpretation of tax laws also play a role in ensuring an efficient and effective tax collection process.

For many of these factors however, data comparing the performance of Member States is not available. ([180]) VAT collection and assessment is a notable exception. In February 2014, the Commission published a comprehensive report comparing Member States' performance in VAT collection against common benchmarks. ([181]) The report was based on data gathered via a survey of Member States' tax authorities. As well as analysing their current performance, the report made recommendations to Member States as to how to improve their tax administration and reduce VAT compliance gaps. ([182])

([180]) In view of this, the European Commission and others (including Germany, the Netherlands and the United Kingdom) are supporting the development of the tax administration diagnostic assessment tool (TADAT), which is designed to provide an indicator-based assessment of the relative strengths and weaknesses of each country's tax administration.

([181]) European Commission (2014b).

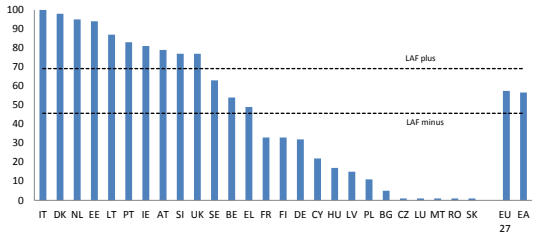
([182]) For example, Bulgaria, Denmark, Germany, Ireland, Greece, Cyprus, Lithuania, Portugal, Romania and Slovakia were recommended to implement a post-registration monitoring programme for businesses considered 'high risk' in terms of VAT non-compliance. Please refer to European Commission (2014b) for the full list of recommendations.

Using electronic services and pre-filled returns

The 2013 Tax Reforms Report highlighted the value of electronic services in the context of fulfilling tax obligations. Such services can make it much easier for individuals and businesses to comply with their tax obligations and can reduce the administrative burden (see also the paragraph on the costs of collecting and paying taxes).

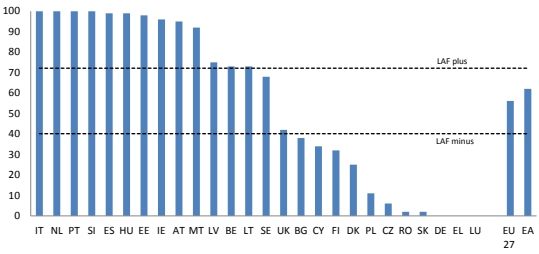
As shown in Graphs 4.7, 4.8 and 4.9, based on 2011 data, the use of electronic filing varies significantly between Member States and between the main tax categories: personal income tax, corporate income tax and VAT. Although further progress has been made in the interim period, it remains the case that several Member States could make more use of electronic filing, especially for personal income taxes.

Graph 4.7: **Use of electronic filing, 2011: personal income tax**



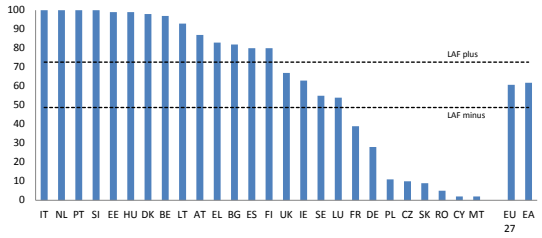
Notes: Data for Romania and Slovenia is for 2009. No data is available for Croatia.
Source: OECD (2013c).

Graph 4.8: **Use of electronic filing, 2011: corporate income tax**



Notes: Data for Germany is for 2009. No data is available for Croatia.
Source: OECD (2013c).

Graph 4.9: **Use of electronic filing, 2011: VAT**



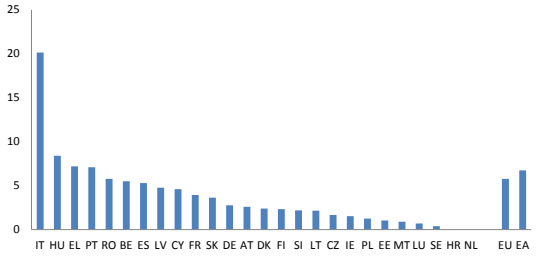
Note: No data is available for Croatia.
Source: OECD (2013c).

An important recent development is that some tax administrations have started providing taxpayers with pre-filled tax returns. This makes paying taxes easier for taxpayers and leaves less room for accidental or intentional 'error'. OECD (2013c) reported that twelve EU Member States (Denmark, Estonia, Ireland, Spain, France, Italy, Lithuania, Malta, Portugal, Slovenia and Sweden) provided fully or substantially (above 50 %) filled-out returns for personal income taxes in 2011. Other Member States have also introduced such schemes. For other taxes, the use of pre-filled forms is much more limited.

Corrective measures including verification

While preventive measures aim to encourage taxpayers to submit correct tax returns, on time, ensuring compliance also requires use of corrective measures, including verification. The OECD glossary of tax terms defines verification activities as 'all of the activities typically undertaken by revenue bodies to check whether taxpayers have properly reported their tax liabilities in the returns filed by them'. Across Member States, such activities vary significantly in their nature, scope and scale. Graph 4.10 provides an indication of the scale of verification activities carried out by Member States. It shows the proportion of net revenue that was subject to verification, on average, over the three years 2009-11. As mentioned in OECD (2013c), which compiled the data, the reported level of verification varies significantly between countries but there is insufficient data to develop a fuller understanding of the reasons for these variations. Possible factors include the use of assessment versus self-assessment procedures, the scope of automated programmes for checking third-party information, and national auditing policies.

Graph 4.10: **Value of assessments as a percentage of net revenue, 2009-11**

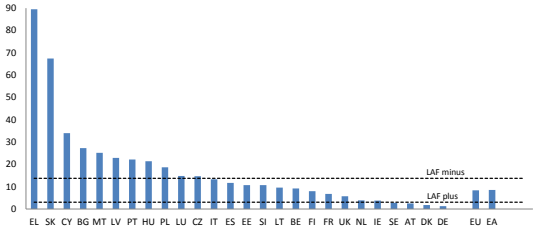


Notes: No data is available for Croatia and the Netherlands. The data for Denmark, Malta and the United Kingdom is the average for 2010-11.
Source: OECD (2013c) and Commission services calculations.

In some cases, the proportion of net collected revenue that is verified varies widely over the three years studied. In Belgium, for example, the percentage rose from 1.2 % in 2009 to 8.1 % in 2011, in Cyprus from 1.3 % in 2009 to 6.3 % in 2011, and in Italy from 13.4 % in 2008 to 23.1 % in 2011. In Slovakia meanwhile, the ratio fell from 9.6 % in 2009 to 0.4 % in 2011. As the OECD points out, such changes may be explained by a country attaching more or less importance to verification activities in one year compared to another, but could also be due to different interpretations of the term 'verification activities'.

Considering the process of tax collection for an individual case, the next stage following the verification of the amount of tax due would be the recovery of unpaid taxes. It is therefore essential that Member States have in place effective systems for the collection of tax debts. Graph 4.11 presents

Graph 4.11: **Undisputed tax debt as a percentage of net revenue, 2011**



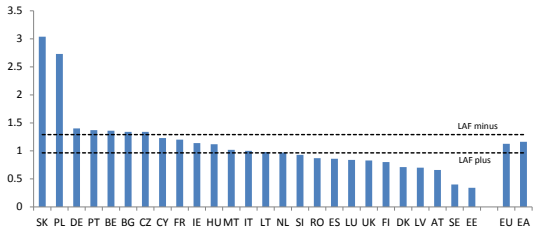
Notes: Data for Greece is for 2010. No data is available for Croatia and Romania. Data for Italy is the ratio of the net tax debt for 2011, as reported in the Italian Court of Auditors 2013 report (p. 21), to the overall amount of tax revenue (which includes social security contributions) for 2011.
Source: OECD (2013c), except for Italy, for which data is from the Italian Court of Auditors 2013 report and authors' calculations.

data on Member States' debt collection performance in 2011. Based on this data, debt collection — as measured by the level of undisputed tax debt as a proportion of net revenue — would appear to be a particularly pressing issue for Greece and Slovakia, and, to a lesser extent also for Bulgaria, the Czech Republic, Cyprus, Latvia, Luxembourg, Hungary, Malta, Poland and Portugal, which are all above LAF minus.

Cost of collecting and paying taxes

The data collected by the OECD show the average cost of tax collection in the EU to be EUR 1.1 per 100 units of revenue in 2011. ([183]) Based on this data, tax authorities in Poland and Slovakia in particular, and, to a much lesser extent in Belgium, Bulgaria, the Czech Republic, Germany and Portugal, stand out as having relatively high costs of revenue collection, i.e. above LAF-minus (see Graph 4.12).

Graph 4.12: **Cost of tax collection, 2011 (per 100 units of net revenue)**

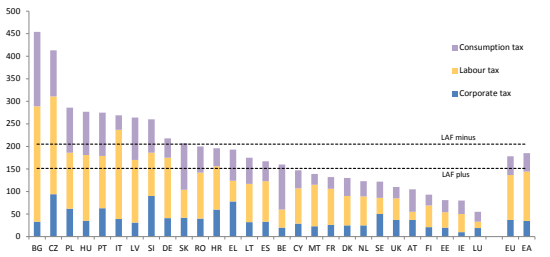


Notes: No data is available for Greece and Croatia. Data for Germany was revised by the OECD. Several factors affect the comparability of the indicator across countries, in particular the inclusion or otherwise of revenue from social security contributions and excise duties in the total. Note that social security contributions are excluded from the calculation for Belgium, the Czech Republic, Germany, Spain, France, Cyprus, Luxembourg, Austria, Poland, Portugal and Slovakia. Excise duties are excluded for Bulgaria, the Czech Republic, Germany, France, Poland, Portugal, Slovenia, Slovakia and Finland. Values for Italy do not take into account the cost of tax-related work carried out by the police agency responsible for border control and for investigating fraud, Guardia di Finanza, or the state tax collection agency, Equitalia. Values for Sweden do not include the cost of debt collection. Values for Spain include customs duties.
Source: OECD (2013c).

In addition to the costs of collecting taxes, there are also the costs related to paying taxes to be considered, often referred to as tax compliance costs. Compliance costs mostly relate to time spent rather than direct costs, such as those associated with bookkeeping and requiring space to store documents and postage costs. Compliance costs can discourage the creation of new businesses, hinder the formalisation of informal activities, increase non-compliance and damage businesses' international competitiveness. ( )

There are a number of different methods for measuring tax compliance costs. ([184]) A widely used indicator of tax compliance costs for small and medium-sized enterprises is the 'paying taxes' indicator, produced annually by PricewaterhouseCoopers, the World Bank and the International Finance Corporation. ([185]) The indicator measures the time required to prepare, file and pay (or withhold) corporate income tax, VAT or sales tax, and labour taxes (including payroll taxes and social security contributions) for a case study medium-sized company, active on the domestic market in 2012. Tax compliance costs, as measured by this indicator, were particularly high in Bulgaria and the Czech Republic and also relatively high in eight other Member States (above LAF minus, see Graph 4.13).

Graph 4.13: **Administrative burden (hours) created by the tax system for a medium-sized company, 2012**



Source: PricewaterhouseCoopers, the World Bank and the International Finance Corporation (2013).

4.2.3. Overall results for quality of tax governance

Five criteria are used in determining whether a Member State has a particular need to and scope

([183]) The trend in the cost-of-collection ratio is influenced by a number of factors, thus limiting its effectiveness: changes in tax rates over time, macroeconomic changes, abnormal expenditure by tax administrations and changes in the scope of taxes across Member States.

([184]) For an overview, see Ramboll Management Consulting, the Evaluation Partnership, European Economic Research (2013).

([185]) Comparisons based on this indicator are subject to limitations because, for example, the case study company is not a representative company and regional variations across a country are not taken into account.

for making tax collection more efficient and effective. The following characteristics are considered to indicate a weakness in tax collection: (i) the extent of e-filing is significantly below the EU average (below LAF-minus); (ii) relatively little use is made of pre-filled tax returns; (iii) undisputed tax debt as a proportion of net revenue is significantly above the EU average; (iv) the administrative cost to net revenue ratio is significantly above the EU average; and (v) the administrative burden placed on medium-sized companies by the tax system is significantly above the EU average. It should be noted that Member States have undertaken reforms since some of these indicators were compiled.

Table 4.3 presents an overview of these five indicators. A Member State is identified as needing to improve overall in this area if it is flagged as performing poorly in at least four of the five areas or in the last three columns: undisputed tax debt, cost of revenue collection and burden of paying taxes. This is the case for Bulgaria, the Czech Republic, Germany, Poland, Portugal and Slovakia. It should be noted that this screening may not capture all countries with particular scope for improving the tax administration. They may only be identified with country-specific evidence, of often qualitative nature.

Table 4.3: **Overview of tax administration assessment**

Country	Use of e-filing	No pre-filling	Undisputed tax debt	Cost of revenue collection	Cost of paying taxes	Overall challenge
BE				X		
DE	X	X		X	X	X
EE						
IE						
EL	X	X	X	-		
ES						
FR						
IT		X			X	
CY	X	X	X			
LV		X	X		X	
LU	X	X	X			
MT	X		X			
NL						
AT						
PT			X	X	X	X
SI					X	
SK	X	X	X	X	X	X
FI	X					
BG	X	X	X	X	X	X
CZ	X	X	X	X	X	X
DK						
HR	-	-	-	-		-
LT						
HU		X	X		X	
PL	X	X	X	X	X	X
RO	X		-			
SE						
UK		X				

Source: Commission services.

4.3. INCOME INEQUALITY AND TAXATION

Achieving efficiency and equity has always been an important consideration when analysing and improving tax systems. As a result of the European Semester, and, more generally, the political discussions provoked by the financial and economic crisis, greater attention has been focused on the notions of fairness and redistribution through the tax system. The lessening of tensions in sovereign debt markets in the euro area and the progress made towards fiscal consolidation in several EU Member States have reawakened policymakers' interest in issues related to the distribution of wealth and income. This shift in focus is taking place at a time when more data are becoming available on the social consequences of the economic and financial crisis. At the same time, concerns within society about social equality and justice are growing. In early 2014, a Eurobarometer survey found that nearly half of respondents, 49 %, considered social equality and solidarity a top priority in terms of tackling major global challenges, six percentage points more than two years earlier (see TNS Opinion & Social, 2014). The renewed debate on inequality is now at the forefront of international organisations such as IMF and OECD. The view that more equal societies perform better in terms of a wide range of economic and social outcomes has gained prominence through recent academic literature. Moreover, inequality can have detrimental effects on the overall functioning of societies, weighting on the overall growth of the economy.

This section examines the effects of the crisis on income distribution after taxes and benefits in the wake of the crisis in EU Member States. In particular, it discusses changes in income inequality as measured by the Gini coefficient, the role of tax-benefit systems in mitigating market inequality and the change in incomes (after taxes and benefits) within different parts of the income distribution. It also presents a survey of empirical studies exploring the relationship between macroeconomic shocks and income distribution and attempts to explain the increasing perception within society of growing inequality, seemingly at odds with the fact that income disparity in the EU has remained fairly stable. Box 4.2 provides a short descriptive overview of the renewed debate seen recently on wealth-related taxes and

Box 4.2: Wealth-related taxes: the current debate and existing legal provisions

This box provides a short descriptive overview of the renewed debate seen recently on wealth taxes, and reviews legal provisions currently in place in the EU for the taxation of wealth, on the basis of results from a recent study.

Renewed debate on wealth-related taxes

Taxation of wealth has not, in general, received great attention and raises relatively small amounts of revenue: equivalent to just above 2% of total EU GDP on average over the last decade (and just above 5% of total tax revenue over the same period). Most wealth taxes that had previously been in place were removed or scaled down by EU Member States between 1995 and 2007. The recent debate on tax reform has, however, seen increased discussion around the possibility of levying taxes on assets. Given the need for macroeconomic adjustment, a number of Member States (most notably Spain) have recently introduced, reintroduced or increased wealth taxes on a temporary basis, as a way of reducing large budget deficits. The debate within academic circles and amongst policy experts around the taxation of wealth was also fuelled by the publication of Piketty's (2014) analysis of long-run returns on capital and the concentration of wealth. The focus of Piketty's work is the reduction of inequality rather than improvements in economic efficiency: the taxation of wealth could be used to address the increasing concentration of wealth.[1]

Nonetheless, the taxation of wealth is a very complex issue and wealth-related taxes can take a number of different forms: taxation on wealth transfers (e.g. taxes on inheritance, parental gifts and other gifts), taxation of capital gains, immovable property taxation (e.g. taxes on housing) and recurrent taxes on net wealth (e.g. assets minus liabilities, where assets include financial assets). The International Monetary Fund Fiscal Monitor survey published in October 2013 reviewed a range of discussions on the various forms of wealth taxation, including the idea of a one-off capital levy.

On the one hand, a tax on high levels of wealth could be an effective way of supplementing capital income taxes, given the globalised nature of today's economy, as capital income taxes are easily evadable and often raised at low effective rates. Moreover, a very low tax rate on net wealth (which constitutes a large tax base) could limit the distortionary effect: in practice, such a low rate would have the advantage of only, or mainly, taxing the accumulated economic rent (i.e. capital returns in excess of normal returns) rather than the normal return on capital.

On the other hand, the IMF (2013) highlighted the well-known, significant downside risks associated with wealth taxation. The revenue potential — which is in principle sizeable, being based on wealth stocks — would remain subject to large uncertainty, related, in particular, to the valuation of immovable property. It is also often argued that the expected behavioural effect would be to discourage capital accumulation, especially if the rate of the wealth tax is high, and it is thus in effect taxing also the normal return on capital . Moreover, the various tax reliefs and exemptions that have historically been used with wealth taxes created loopholes and allowed tax avoidance, while at the same time making the tax very complex and costly to declare for the individuals concerned, and also complex and costly to manage by the tax administration. Furthermore, financial wealth is 'mobile', a fact which, in the past, served to fuel tax competition, eventually leading to base erosions. Past experience of one-off wealth taxation, especially in the twentieth century, suggests that it may be difficult to apply effectively. Frequent delays in the introduction of planned taxes led to capital flight and large-scale use of avoidance strategies, which ultimately prevented the objective of debt reduction from being achieved. Moreover, according to the International Monetary Fund,

[1] Piketty argues that the rate of return on capital has historically been higher than the real rate of economic growth, which inevitably results in ever higher levels of wealth concentration, unless corrected. To address this issue, as a point of orientation for a long-term endeavour of international policy cooperation, Piketty proposes a global, comprehensive, and progressive approach to capital taxation, with taxes of one per cent being levied on wealth above EUR 1 million. Piketty's research has sparked off a growing debate on income and capital dynamics in market economies, and his data sources and arguments have been subject to intense scrutiny.

(Continued on the next page)

Box (continued)

the tax rate that would be needed to reduce public debt as a percentage of GDP to pre-crisis levels in the former EU-15 (the first 15 Member States) would be very high.

Some experts argue that different forms of wealth should be taxed at different rates, according to their degree of mobility, which would imply, for example, setting a higher rate of tax for immovable property than for financial assets. As mentioned in Chapter 2, the OECD's (2010b) analysis of growth-friendly taxation emphasises that recurrent taxes on property affect economic behaviour to a lesser degree than other taxes, and also benefit from the fact that they are less easily evadable. One of the recommendations made by the European Commission to Member States in the European Semester was to make further use of recurrent taxes on property, for the purpose of consolidation or as part of a tax shift away from labour. This is justified by their less distortionary nature, as compared with direct taxation, and especially as compared with taxation on labour, in particular on low-skilled workers. Some argue that inheritance taxes could potentially also be increased, alongside recurrent property taxes (Piketty and Saez, 2012 and IMF, 2013). This tax is not currently used at all in some countries and is at a very low level in others. It could limit the intergenerational transmission of inequality. The evidence on the distortionary effects of such taxes remains mixed, however (Boadway, Chamberlain, and Emmerson, 2010).

Overview of taxes on wealth and transfers of wealth currently in use in the EU

The European Commission Directorate-General for Taxation and Customs Union commissioned Ernst & Young to carry out a review of taxes on wealth and transfers of wealth currently in place across EU Member States. The study provides information on the types of taxes being used and on the revenue raised from these taxes. Taxes on assets and asset transfers are split into three categories: inheritance and gift, real estate and land, and net wealth or other assets. The main findings relating to the extent of usage of these three types of tax were as follows:

- Inheritance is taxed in 18 Member States, and gifts are in 16. The design of these taxes often acknowledges the principle of solidarity between generations. Although the tax base is broad and rates can be high, spouses and children are largely exempt from the tax. Typically, the tax is charged on the beneficiary and not on the donor, and is based on the fair market value of the gift or inheritance. Inheritance taxes are typically progressive (in 14 Member States) and close relatives can benefit from up to total exemption; gift taxes are less often progressive (this being the case in nine Member States). Most regimes provide for special treatment of business asset transfers.

- Taxes on real estate and land are in place in nearly all EU Member States. Malta is the only Member State not to tax the possession of real estate, while only Estonia, Lithuania, Slovenia, Slovakia and Romania do not levy taxes on real estate transfers.

- Recurrent taxes on the ownership of assets are used in about a third of Member States: seven Member States have a recurrent tax on vehicles, principally as part of environmental policy; Italy levies a tax on bank accounts and financial assets; Spain and France make use of taxes on net wealth; and in the Netherlands, the income tax regime provides for wealth taxation.

Overall, the contribution of wealth taxes to government revenue has been limited. Of the taxes on wealth currently in place, those levied on real estate and land have been the most useful in terms of generating revenue: in the countries applying such taxes, taxes on the transfer and/or ownership of real estate have been found to raise around 2.59% of total government revenue, equivalent to around 0.89 % of GDP on average. Inheritance and gift taxes have generated around 0.39 % of total revenue, around 0.16% of GDP. The revenue that can be earned from these taxes is limited, due to the relatively low rates applied when assets pass to close relatives. Finally, taxes on the possession of net wealth have on average contributed about 0.36% to total revenue (0.15% of GDP). This relatively low figure reflects the narrow base: in the countries applying such a tax, individuals often benefit from large tax-free allowances and business assets are fully exempt.

summarises the legal provisions currently in place in the EU in the area of wealth taxation.

4.3.1. Income inequality over the period 2008-12: the overall effect of tax-benefit systems

No major changes in after-tax income inequality in the EU...

During the crisis years, only a slight change was seen in the average net income inequality for the EU as a whole, thanks to the ability of tax-benefit systems to cushion increases in market inequality. Graph 4.14 shows changes between 2008, the last year in which the majority of Member States still recorded positive growth, and 2012, the latest year

for which figures are available for most countries. It uses Gini indices of inequality for market income and net income (i.e. after payment or receipt of taxes, pensions and other benefits, respectively), and also shows the difference between the two (i.e. the effect of tax and benefits on income distribution). On average, net income inequality decreased slightly across the EU, with a larger decrease seen in the new Member States and a slight overall increase in the euro area.

... but large country differences

The most significant increases in net income inequality, those of two percentage points or more, were seen in Denmark, Spain and Cyprus, whereas Bulgaria, the Netherlands and Romania recorded decreases of net inequality of two percentage points or more, from very different initial levels.

There was no clear pattern in the change in net income inequality in the three countries undergoing macro-financial adjustment programmes in 2012 — Ireland, Greece and Portugal — but the largest increase, in Greece, was below one percentage point, and net income inequality even fell in Portugal, by more than one percentage point.

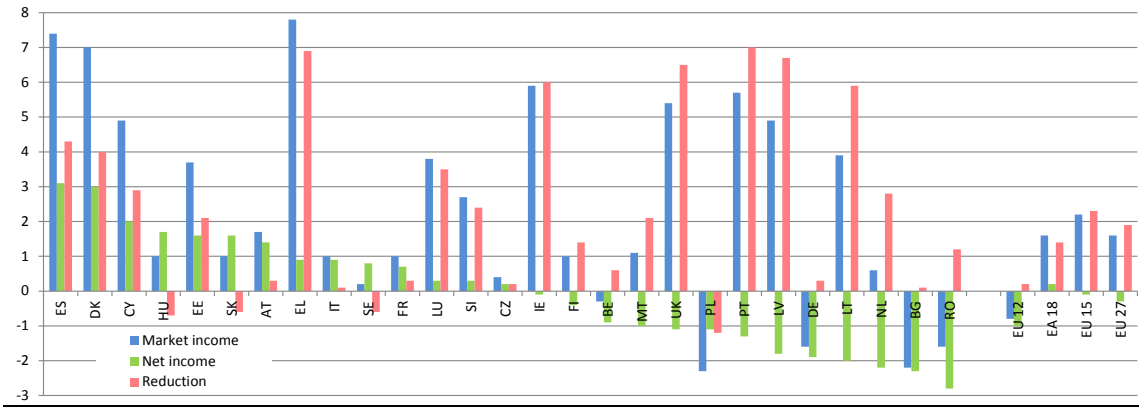
The overall role of tax-benefit systems in reducing income inequality

Although some countries saw particularly large increases in market income inequality during the crisis, on average, the change was moderate. Increases in market income inequality were, to a large extent, moderated by tax-benefit systems.

Between 2008 and 2012, in the EU-27, market income inequality among households increased by 1.6 percentage points on average. At the same time, however, the reduction of income inequality by redistribution of income through taxes and benefits improved by 1.9 percentage points. All Member States, with the exception of Hungary, Poland, Slovakia and Sweden, achieved a greater reduction in income inequality, as measured by the change in the difference between the market and net Gini indices, in 2012 than in 2008. Improvements in the reduction of income inequality were largest in some countries among the hardest hit by the crisis, notably Greece, Latvia and the United Kingdom, illustrating the important role played by the tax system and public expenditure in mitigating the social effects of the economic downturn. At the same time, increases in household income inequality before taxation and redistribution were highest in the countries particularly exposed to the crisis, namely Ireland, Greece, Spain and Portugal (between around 5.5 and 8 percentage points), and in Denmark (7 percentage points). Overall, these figures show that EU Member States' tax-benefit systems were able to protect the most vulnerable parts of society from the harmful effects of market forces during the crisis years (until 2012) and thus to preserve social cohesion. It is interesting to note that there is strong negative correlation between the Gini coefficient of inequality in net household income for 2008 and its change between 2008 and 2012 (of -0.52), whereas there is no correlation between the Gini coefficient of inequality in households' market income and its change, over the same period.

In the crisis years until 2012, there appears to have been no general trend in the change in disparity of market income across countries, but countries have become more similar in terms of their ability to reduce income disparities.

Graph 4.14: **Absolute change in Gini index of market income inequality, net income inequality, and the reduction of income inequality through taxes and benefits, 2008-12**



Notes: Gini indices are provided by Eurostat for equivalised household income, based on microdata from the EU Survey on Income and Living Conditions. Data for Ireland refer to the difference between 2008 and 2011. No data is available for Croatia. 'EU 12' refers to the EU Member States that acceded the EU in 2004 and 2007.
Source: Eurostat (European Commission).

4.3.2. Poorest households most severely exposed

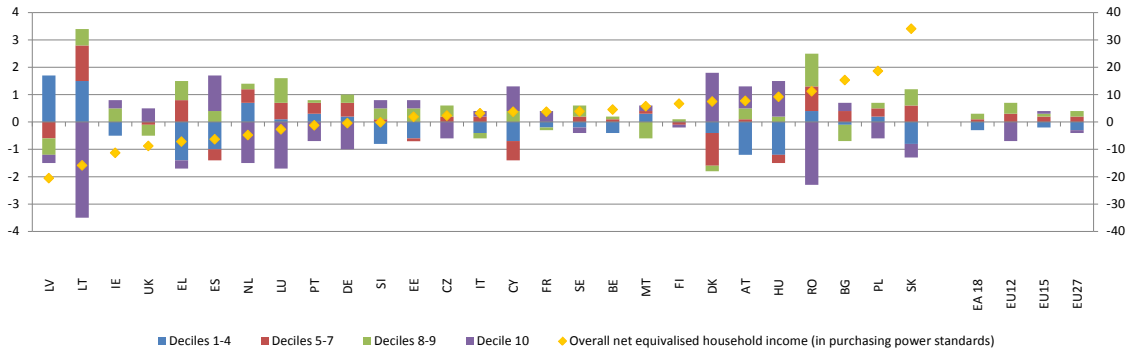
The deterioration in the relative position of low-income households after taxes and benefits

While Member States tax-benefit systems were able to prevent inequality in net income increasing overall, as described above, more detailed statistics on the relative position of households with different levels of income after taxes and benefits provide a more nuanced picture. By aggregating data over the entire income distribution, Gini coefficients hide important information on the relative position of sub-populations. Graph 4.15 shows the change between 2008 and 2011, which is the latest year for which data are available (with the exception of Ireland, where the second year refers to 2010) in the proportion of households in the bottom 40 % of the net income distribution (D 1-4), the next 30 % (D 5-7), 20 %, (D 8-9) and the top decile (D 10) (on the scale on the left-hand axis) in EU Member States.

The data show there to be large differences between Member States in the way the distribution of after-tax household income changed during the crisis. In the EU as a whole, it can be seen that a smaller proportion of total income was received by the 40 % of households at the bottom of the income distribution. The 10 % of households with the highest income levels also lost out minimally while the proportion of total after-tax income earned by households in the fifth to ninth deciles increased. In Greece, Spain, Hungary and Austria, however, the reduction in the proportion of income earned by households in the bottom 40 % of the income distribution was more significant, at one percentage point or more. In Hungary, Austria and Slovakia, the top decile of earners saw their income increase as a proportion of the total. At the other extreme, Germany, Latvia, Luxembourg, the Netherlands and Romania saw the proportion of income earned by the top decile fall by one percentage point or more (up to 3.5 percentage points in Latvia), with the remaining 90 % of households thus benefiting from an increased proportion of total income. Denmark stood out from the other Member States, as the relatively large increase seen in the proportion of income earned by the top 10 % of earners was mainly at the expense of those in the fifth to seventh deciles. ([186])

([186]) The change in income of households in different income deciles will not necessarily reflect the changes in income experienced by individual households, in so far as households may experience upward or downward mobility *across* income deciles in the period surveyed (i.e. the members of any particular decile grouping are not necessarily the same at the beginning and the end of the period, thus the changes which that part of this distribution has experienced may not mirror the changes that the households have undergone). A detailed presentation of households' transitions between the categories is beyond the scope of this report. It should however be highlighted that household mobility across income deciles decreased between 2008 and 2012 overall across EU Member States.

Graph 4.15: **Change in the distribution of total net income across sections of the income distribution (left-hand axis); change in overall net equivalised household income measured in terms of purchasing power (right-hand axis) in percentage points respectively, 2008-11**



Notes: see above.
Source: Eurostat (European Commission).

The changes described above are determined by many other factors, such as the premium paid for certain in-demand skills, the distribution of assets, factor returns, labour legislation, the elasticity of labour supply and demand for specific types of skilled labour, as well as tax-benefit systems. In view of this, it is important to understand the way in which taxation and public spending interact with the other factors affecting changes in income within different parts of the income distribution. ([187])

A bleaker picture in some countries: increases in absolute and relative poverty despite redistribution of income

Although the changes in income distribution detailed above are in most cases not large, they are nonetheless the cause of hardship for potentially large numbers of households in several countries. The yellow markers on Graph 4.15 show the overall change in equivalised net household income between 2008 and 2011 (2010 for Ireland), measured in terms of purchasing power (on the scale on the right-hand axis).

In these three years, households in eleven EU Member States — those between Latvia and Slovenia (inclusive) on the graph — experienced on average, a decline in their standard of living as measured by real household income.

Further to this, Graph 4.16 shows that, in Ireland, Greece, Spain and Slovenia — countries having experienced an overall decline in net household purchasing power between 2008 and 2011 — lower-income households were particularly severely affected. On the other hand, in Romania — one of several new EU Member States, where there were increases in overall household purchasing power — it was low-income households that particularly benefited.

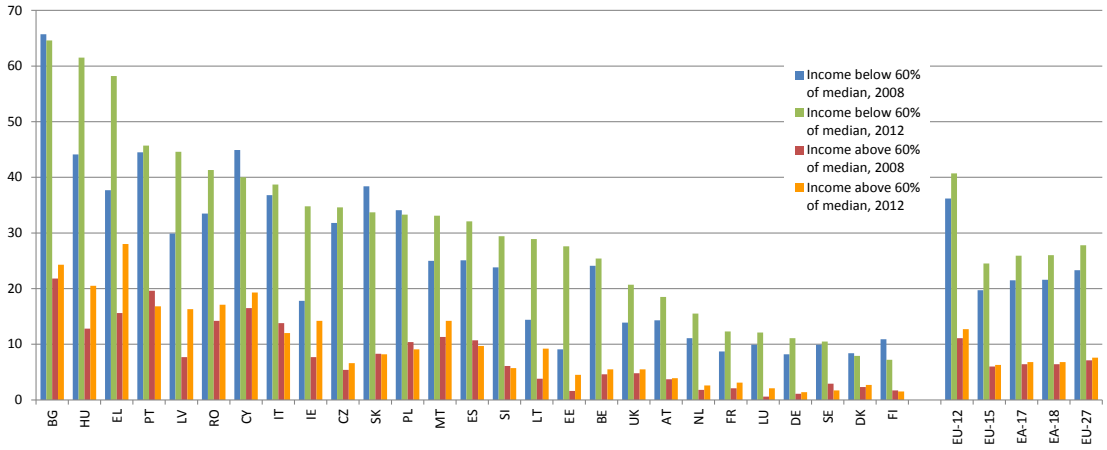
4.3.3. Conclusion: fairly stable overall income distribution masking hardship faced by the least well-off

Overall, the data show that inequality of income after taxes and benefits changed relatively little in EU Member States during the economic crisis. Income distributions even became more compressed (i.e. inequalities lessened) in a number of EU Member States. At least until 2012, tax-benefit systems were able to contain a considerable part of the increase in market inequality in most EU Member States.

This picture of overall relative stability does however conceal considerable differences between Member States with regard to changes in after-tax income for households in different parts of the income distribution. In a number of Member States, as overall income growth turned negative,

([187]) On the side of benefits, unemployment benefits and social assistance obviously have an impact on poverty and income inequality. Only few EU Member States provide households with income and benefits that are sufficient to lift them close to, or above, the 60% median income threshold for poverty.

Graph 4.16: **Proportion of households with income below and above 60 % of median income struggling to make ends meet, 2008 and 2012**



Notes: see above.
Source: Eurostat (European Commission).

less well-off households experienced a sharper decline in net household income than those in the upper deciles of the distribution. Under these conditions, the incidence of economic hardship among EU households increased considerably, notably but not exclusively among lower-income households.

The recent years have seen rising concerns of society about growing socio-economic inequality. Box 4.3 gives an overview of empirical studies exploring the relationship between macroeconomic shocks, fiscal consolidation and income distribution, and considers the way in which societies' concerns might have been fuelled by economic hardship.

4.4. OVERVIEW OF TAX POLICY CHALLENGES

This final paragraph provides an overview of the potential challenges that Member States face in the various areas covered in this report. As highlighted throughout the report, the mechanical screening that leads to the identification of these challenges needs to be interpreted together with in-depth country analysis before any firm policy conclusions can be made. The European Commission and Member States work together, notably via the European Semester, to gain a better understanding go beyond the indicators of the current situation, pinpoint identify challenges and consider solutions. This report underlines the important contribution that carefully designed tax systems can make to ensuring the sustainability of public finances, preventing imbalances, creating jobs and generating sustainable growth, while putting forward policy options to consider. Chapter 2 examined macroeconomic challenges related to the sustainability of public finance and the growth-friendliness of the tax structure; Chapter 3 discussed a range of challenges related to broadening tax bases; and Chapter 4 examined a number of specific challenges related to the design of tax systems, namely in the areas of environmental taxation, tax governance and as relates to the role of taxation in reducing income inequality. Table 4.4 provides an overview of the specific areas in which individual Member States may face challenges, which they could consider exploring further and addressing through relevant policy measures where necessary.

The indicator-based assessment presented in Chapter 2 shows three Member States (Ireland, Portugal and the United Kingdom) to be experiencing particular consolidation challenges while at the same time they have particular 'tax space', i.e. reasonable scope for increasing taxes. In view of this, they could consider using taxation— alongside expenditure control — to consolidate their public finances and make them more sustainable. Chapter 2 also concludes that none of the Member States with a particularly high

Box 4.3: income distribution and inequality in times of crisis and fiscal consolidation

Concern within society that levels of inequality have increased in recent years has been echoed by the growing focus on income distribution in academic publications and in debates around policy. Given the level of fiscal tightening that governments have had to carry out since the crisis, these concerns are understandable. What is less clear however, are the specific developments or experiences that led to a general perception of growing inequality. The distribution of income, an important aspect of social equality, is determined by the interaction of a wide range of factors including government policy, with public spending and taxation being of particular importance. Recently published research on the effects of fiscal policies on income inequality introduced during and after the crisis allows some tentative conclusions to be drawn as to the possible causes of the heightened sensitivity within society to social equality and justice.

Some insights from empirical analysis

Recent research on the effects of policies on income inequality adopted during and since the crisis has not produced conclusive findings. Atkinson and Morelli's (2011) study of the effect of economic crises on income inequality in 25 countries over a period of 100 years did not allow the authors to identify robust trends in the effect of macroeconomic shocks on income inequality. They did, however, find tentative evidence to suggest that financial crises, rather than collapses in consumption or in GDP, tend to result in increasing inequality. While Atkinson and Morelli (2011) looked at the effect of crises, Ball et al. (2013) studied the distributional effects of fiscal consolidation. Their overall findings, based on a sample of 17 OECD countries, analysed over a period of approximately twenty years from the eighties to the first decade of the twenty-first century, show fiscal consolidation to have damaging effects in terms of income inequality, notably causing the labour share to fall and long-term unemployment to rise. These effects are found to be more strongly associated with expenditure-based consolidation and are less often seen where measures adopted relate to revenue. This last observation is confirmed by Woo et al. (2013), on the basis of their analysis of a considerably broader sample of 153 emerging and advanced economies over the same period. They also emphasise the importance of the labour market channel in terms of how policies adopted during periods of fiscal consolidation actually bring about an increase in income inequality. Avram et al. (2014) carried out a comprehensive analysis of the distributional effects of policies, including tax reform, adopted by the governments of nine EU countries as part of fiscal consolidation. They examined the effects of the following types of reforms: reductions or freezes of benefits, pensions and public sector pay; increases in personal income tax and social security contributions; broadening of tax bases; changes to property taxation; and increases in the standard VAT rate. Their findings show that overall, the effects of fiscal consolidation and austerity measures on income distribution have been highly country specific. Overall, the measures introduced in Greece, Spain, Italy, Latvia, Romania and the United Kingdom were progressive (i.e. acted to reduce income inequality by charging higher earners more); measures in Estonia were regressive in nature (i.e. benefited higher earners); and the measures introduced in Lithuania and Portugal benefited households in the middle of the income distribution relative to others (i.e. forming an inverted U-shape graph). In general, Avram et al. (2013) find that the progressive effect of austerity measures (i.e. the relative benefit to lower earners) is due to a large extent to measures affecting civil servants. They also highlight that those at the bottom of the income distribution have suffered considerable reductions in income, even in countries where progressive measures have been adopted, notably in Greece, where those in the bottom decile suffered losses of household income of 10 %.

Explaining the current concern over inequality: looking beyond income distribution

At least until 2012, tax-benefit systems in most EU Member States were able to offset the increase in market inequality, such that inequality of income after taxes and benefits changed comparatively little during the crisis years. Income distribution even became more compressed in a number of countries. Nonetheless, information on income does not alone provide a full and accurate picture of the well-being of households at

(Continued on the next page)

Box (continued)

different points on the income distribution. The aggregate data and the available empirical evidence do not allow a clear conclusion to be made as to the overall effect of the economic crisis and of fiscal consolidation on income inequality. ([1]) These sources do not provide strong support for the theory that income inequality has in recent years become a more pressing concern in many EU Member States. The effect of the crisis on the well-being of households at different points of the income distribution can be better understood when additional information is taken into account, in particular on household expenditure (including indirect taxation), public expenditure on in-kind benefits, and household net worth.

The degree of economic strain experienced by households — particularly but not exclusively those in the lower part of the income distribution — has increased considerably in most EU Member States. Graph 4.16 shows the proportion of households with income above and below 60 % of the median that experienced great difficulty in making ends meet between 2008 and 2012. The proportion of households with income below 60 % of the median that struggle to make ends meet — those falling into the 'at risk of poverty' category as defined in the Europe 2020 framework — has increased by 4.5 percentage points in the EU as a whole. In some countries, the increase in the economic strain on these households was considerably greater: in Ireland, Greece, Estonia, Hungary, Latvia, and Lithuania, this proportion rose by between 15 and 20 percentage points. All of these countries except Estonia also saw a considerable increase in the proportion of better-off households under economic strain, with changes of between 5 and 12 percentage points over the period 2008-12. Overall, more than one in five households (all income groups included) were struggling to make ends meet in Bulgaria, Greece, Cyprus, Hungary, Latvia, Portugal and Romania in 2012. In Ireland, Spain, Italy and Malta, this was the case for over 15 % of households. ([2]) There are a number of factors which might explain why economic strain is experienced more acutely by lower-income households. These households have less access to credit and cannot therefore adjust as easily if their income falls temporarily relative to their current consumption. In addition, the better off among lower-income households will have committed to fixed amounts of savings, notably via mortgage repayments, which increase as a proportion of income if income falls. During the crisis, this will certainly have contributed to economic strain among households with higher incomes as well.

([1]) See also Duiella and Turrini (2014).
([2]) The number of households experiencing some but not 'great' difficulty in making ends meet also increased overall between 2008 and 2012.

tax burden on labour currently has scope to reduce it in an uncompensated way. The indicator-based screening shows, however, that for more than a third of Member States, while the tax burden on labour is relatively high (either in general or for specific labour market groups), there is some room for increasing those taxes considered to be less detrimental to growth, e.g. consumption taxes, recurrent housing taxes and environmental taxes. These Member States could consider shifting taxation away from labour onto tax bases less detrimental to growth. In order not to endanger fiscal sustainability, the need to lower high labour taxes could in many countries be accommodated by a revenue-neutral shift towards less detrimental tax bases or, alternatively, by a reduction in public expenditure (which would also lead to a lower overall tax burden while not deteriorating the fiscal balance).

Chapter 3 considers the situation of a number of Member States that have relatively high transaction taxes on property transfers and relatively low recurrent taxes on property, suggesting that there is scope to improve efficiency by shifting taxes. This appears to be the case in Belgium and Croatia in particular, but a shift in taxes could also be considered in Germany, Spain, Italy, Luxembourg, Malta and Portugal. Moreover, the chapter concludes that taxation of housing continues to favour the accumulation of debt in many Member States, due to the combined effect of mortgage interest deductibility and unnecessarily low tax on imputed rents. Nine Member States are considered to have a debt-biased housing tax system, albeit to different degrees.

Chapter 3 also confirms that corporate taxation in the EU is still characterised by a debt bias, with a

Table 4.4: **Overview of tax policy challenges in Member States**

Country	Contribution of tax increases to consolidation	Need and scope for tax shift	Debt bias in corporate taxation	Increasing VAT efficiency	Housing taxation		Environmental taxation		Tax governance	
					Structural shift	Debt bias	GHG target	Design	Tax compliance	Tax administration
Belgium		X			X	X	X	X		
Bulgaria									(X)	X
Czech Republic		X				X		X		X
Denmark						X				
Germany		(X)			(X)			X		X
Estonia						X				
Ireland	X			X			X			
Greece*	-			X				X	X	
Spain				X	(X)		X		X	
France		X	X					X		
Croatia	-	-			X				-	-
Italy		X		X	(X)	X	X	X	X	
Cyprus*	-	-							X	
Latvia		X							X	
Lithuania							X		X	
Luxembourg			X		(X)	X	X	X		
Hungary		X							X	
Malta			(X)		X					
The Netherlands						X				
Austria		(X)					X			
Poland				X			(X)		(X)	X
Portugal	X		X		(X)			X	(X)	X
Romania		X							X	
Slovenia										
Slovakia								X	(X)	X
Finland		(X)				X	X			
Sweden		(X)				X				
United Kingdom	X			X						

Notes: '(X)' indicates a borderline case. Only limited information is available for Croatia. * Member States under an economic adjustment programme are excluded from the analysis in the first column. The screening results in the other columns are given on a purely illustrative basis for these countries. Programme countries follow their own surveillance process as part of the financial assistance programme. They generally face a very distinct set of economic challenges, which makes comparison with non-programme countries difficult.
Source: Commission services.

large majority of Member States allowing the deduction of interest paid on loans, while offering no equivalent deduction for equity returns. France, Malta, ([188]) Luxembourg, and Portugal are among the countries with the highest gap between effective marginal tax rates for debt financing and equity financing.

Chapter 3 highlights that EU Member States are currently collecting VAT revenue at a level far below that which could be collected were all goods and services concerned to be taxed at the standard rate. Widespread use of VAT exemptions and reduced VAT rates are among the main causes of this gap. Ireland, Greece, Spain, Italy, Poland and the United Kingdom are considered to have particular scope to improve their VAT structure.

Chapter 4 discusses the need to introduce efficient policy measures to meet environmental targets, and the role of taxation as part of this. The chapter identifies a challenge in this area for around a third of Member States. The related issue of how to improve existing environmentally related taxation, possibly by removing or reducing some environmentally harmful tax expenditure, is also considered. A third of Member States have been identified as having particular scope to improve the design of their environmental taxation.

Chapter 4 also revisits the area of tax governance, in which a large majority of Member States are considered to be facing challenges, and could therefore consider taking further action. The two main aims in this area are: (i) improving tax compliance in the light of high levels of undeclared or informal work or a high VAT compliance gap; and (ii) improving the functioning of the tax administration. A need for improvement in the latter area is often indicated by high tax collection or compliance costs, a high level of undisputed tax debt, or low use of e-filing and no pre-filling of tax returns.

([188]) Malta is considered a borderline case as it has a full imputation system that is not reflected in the indicator, but whose effects are also not clear for large companies.

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GLOSSARY

Allowance for corporate equity (ACE) A corporate tax system where interest payments and the return on equity can both be deducted from the corporate income tax base (taxable profits). It equalises the tax treatment of debt and equity finance at the corporate level.

Comprehensive business income tax (CBIT) A type of corporate tax system where interest payments and return on equity can both not be deducted from corporate profits, and are thus fully taxed at the normal corporate income tax rate. It equalises the tax treatment of debt and equity finance at the corporate level.

Direct taxes Taxes levied on income, wealth and capital, whether personal or corporate.

Discretionary fiscal policy Changes in the government's fiscal activities (e.g. in taxation or spending), the effect of which is to cause a change in the budget balance, specifically in the components of the budget balance that are under government control. The effect of discretionary fiscal policy is usually measured as the residual of the change in the balance after the exclusion of the budgetary effect of *automatic stabilisers*. See also *fiscal stance*.

Economic Policy Committee (EPC) A group made up of representatives of the Member States and contributes to the work of the Economic and Monetary Affairs Council as regards the coordination of Member State and Community economic policies. The EPC also provides the Commission and the Council with advice in this area, focusing particularly on structural reforms.

Effective tax rate The ratio of broad categories of tax revenue (labour income, capital income and consumption) to their respective tax bases.

Environmental taxes Taxes on energy, transport, pollution and resources (excluding VAT, as this is 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 on related transport services, e.g. duties on charter or scheduled flights. **Pollution taxes** include taxes on measured or estimated emissions to air (except taxes on carbon dioxide emissions) and water, on the management of waste, and on noise. **Resource taxes** include any taxes linked to the extraction or use of a natural resource (e.g. taxes on the extraction of gas and oil and licence fees paid for hunting and fishing). ([189])

ESA95 / ESA2010 The European system of national and regional accounts. The national accounts data for EU and EFTA countries used in this report follows the ESA95 standard. Data for other countries used in this report follows the system of national accounts (SNNA93 and SNA08). As of 1 September 2010, ESA95 is replace by ESA2010. The use of a single system across the EU allows national public finance data to be compared and analysed more easily.

European Semester The European Semester is the first phase of the EU's annual cycle of economic policy guidance and surveillance. Each European Semester, the European Commission analyses the budgetary and structural reform policies of every Member State, provides recommendations, and monitors their implementation. In the second phase of the annual cycle, known as the National Semester, Member States implement the policies they have agreed.

Fiscal consolidation An improvement in the budget balance achieved by implementing *discretionary fiscal policy*.

Fiscal stance A measure of the effect of *discretionary fiscal policy*. For the purpose of this report, it is defined as the change in the primary structural budget balance relative to the preceding period. When the change is positive (negative) the fiscal stance is said to be expansionary (restrictive).

General government This term, where used in the context of EU budgetary surveillance under the *Stability and Growth Pact*, should be understood to include national, regional and local government and social security funds. Public enterprises are excluded, as are transfers to and from the EU budget.

([189]) This definition is based on 'Environmental taxes — a statistical guideline' (European Commission 2001). National classifications may deviate from the guidelines.

Implicit tax rates A general measure of the effective average tax burden on different types of economic income or activity, i.e. on labour, consumption and capital but also energy. It is calculated as the ratio of the revenue from the type of tax in question to its (maximum possible) base.

Implicit tax rate on consumption The ratio of revenue from all consumption taxes to households' final consumption expenditure.

Implicit tax rate on labour The ratio of the sum of all direct and indirect taxes and social contributions levied on employment income to total compensation of employee, as given in the national accounts.

Implicit tax rate on capital The ratio of taxes on capital to aggregate capital and savings income. Taxes on capital include taxes levied on the income earned by households and corporations on savings and investments and taxes related to stocks of capital resulting from savings and investments made in previous periods. The total income from capital and savings is an approximation of the worldwide capital and business income of residents for domestic tax purposes.

Implicit tax rate on energy The ratio of total revenue from energy taxes to final energy consumption.

Imputed rent The estimated rent that households that own the residence where they live would pay were they renting that exact same accommodation.

Inactivity trap The inactivity trap – or the implicit tax on returning to work for inactive persons – measures the part of additional gross wage that is taxed away in the case where an inactive person (not entitled to receive unemployment benefits but eligible for income-tested social assistance) takes up a job. In other words, this indicator measures the financial incentives to move from inactivity and social assistance to employment.

Indirect taxation Taxes that are levied at the production stage, and not on the income or property resulting from economic production processes. The main examples of indirect taxation are VAT, excise duties, import levies, and energy and other environmental taxes.

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 because 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 tax and social security contributions.

Medium-term objective a defined, country-specific budgetary position, determined so as to provide a safety margin and thus minimise the risk of breaching the 3 % of GDP deficit threshold and to ensure the long-term sustainability of public finances. Usually close to budget balance.

One-off and temporary measures Measures adopted by the government that have a transitory budgetary effect and do 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 to cushion the effects of the economic cycle. See also *tax smoothing*.

QUEST The macroeconomic model developed by the European Commission Directorate-General for Economic and Financial.

Recently acceded Member States The countries that became members of the EU in May 2004, i.e. Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia, plus Romania and Bulgaria which joined in January 2007 and Croatia which joined in July 2013.**Social security contributions** Mandatory contributions paid by employers and employees

into a social insurance scheme set up to cover pensions, healthcare and other welfare provisions.

Stability and Growth The Stability and Growth Pact (SGP) is a rule-based framework for the surveillance of national fiscal policies in the European Union. It was established to safeguard sound public finances, based on the principle that economic policies are a matter of shared concern for all Member States.

Stability programme A document setting out Medium-term budgetary strategies presented by euro area Member States.

Statutory tax rate on corporate income Corporate income is not only taxed through corporate income tax, but, in some Member States, also by means of surcharges or even additional taxes levied on tax bases that are similar, but often not identical, to the tax bases used for corporate income tax. In order to take these additional taxes into account when making comparisons between Member States, the simple corporate income tax rate is adjusted for comparison purposes. If several rates of corporate income tax exist, only the 'basic' (non-targeted) top rate is presented; surcharges and averages of other additional taxes (e.g. 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 within the tax system due to the existence of special tax concessions — such as exclusions, exemptions, allowances, credits, preferential rates or tax deferrals — that results in reduced tax liability for certain subsets of taxpayers.

Tax gap The difference between the amount of tax owed to the government and the revenue actually received.

Tax smoothing The idea that tax rates should be kept stable in order to minimise the distortionary effects of taxation, while relying on automatic stabilisers to smooth the economic cycle. Tax smoothing would in practice entail the use of neutral *discretionary fiscal policy*. See also *cyclical component of fiscal policy*.

Tax wedge on labour The difference between the wage costs to the employer of a worker and the amount of net income that the worker receives. The difference arises as a result of taxes, including personal income tax and compulsory social security contributions.

Unemployment trap The unemployment trap - or the implicit tax on returning to work for unemployed persons - measures the part of the additional gross wage that is taxed away in the form of increased taxes and withdrawn benefits such as unemployment benefits, social assistance, housing benefits when a person returns to work from unemployment. The 'trap' indicates that the change in disposable income is small and, conversely, the work-disincentive effect of tax and benefit systems is large.

VAT revenue ratio The ratio of the actual VAT revenue collected to 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 a 'pure' VAT regime (i.e. where all consumption is taxed at a uniform rate), the closer its VAT revenue ratio is to 1. A low ratio can indicate that the tax base has been reduced by extensive exemptions or reduced rates (a 'policy gap') or that taxes due to be paid are not being collected, as a result of fraud, for example (a 'collection gap').

VAT collection gap The difference between actual VAT revenue collected by the government and the theoretical net VAT liability for the economy as a whole, under the country's current VAT system. The theoretical net liability is estimated by identifying the categories of expenditure that give rise to irrecoverable VAT and applying the appropriate VAT rates to the respective estimated amounts of expenditure in the different categories.

ANNEX 1
Methodology

A1.1. BENCHMARKING APPROACH TO IDENTIFYING MEMBER STATES THAT FACE A CHALLENGE IN A PARTICULAR AREA OF TAX POLICY

The reference point for benchmarking used in the 'horizontal' screening is the GDP-weighted average for the EU-28. A Member State is considered to have performed poorly in a particular area if the value of the indicator under consideration is significantly lower, after normalisation, than the EU average. Conversely, a high value of the indicator corresponds to good performance. The normalisation process — not displayed in the tables — is an important step in calculating the two critical points for describing performance: the 'LAF plus' and 'LAF minus' thresholds, indicating, respectively, good and poor performance. The 'direction' of performance therefore needs to be determined: does a high original value of the indicator represent poor or good performance? Determining the 'direction' of performance is a delicate normative exercise. Each indicator may relate to several different aspects of tax policy, and the way it is interpreted therefore depends on its purpose.

Technically, being 'significantly worse' than the average means that the indicator is at least 0.4 standard deviations below the weighted EU average (after normalisation). This approach captures the bottom third of the total distribution under the normality assumption (i.e. the worst performers). This method for comparing Member States' performance is set out in the Lisbon methodology 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 report to describe the position of a value for an indicator on the normalised distribution. If a high value for a normally distributed indicator represents good (poor) performance, the values above (below) 'LAF plus' capture the top one third of performers. The values below (above) 'LAF minus' capture the worst one third. The values between 'LAF plus' and 'LAF minus' capture the middle third, which is not significantly different from the EU average.

A more sophisticated approach is needed if several indicators are used to assess whether a Member State faces a challenge in a particular policy area. The general principle followed is that a country faces a challenge if at least one of the indicators is significantly below the average. The rules on the required minimum level for the other indicator(s) vary according to the particular policy area in question. A more detailed explanation is provided in Parts A1.2 and A1.3 of this annex.

While this mechanical screening exercise is applied consistently across countries, it does not take account of country specificities. This means that Member States assessed to be performing better than 'LAF minus' in a specific policy area could still need to take further action in that area. Furthermore, countries not displaying a particular tax challenge may still require subtle policy adjustments. An in-depth analysis should always be carried out before any firm conclusions can be drawn as to appropriate policies in a particular area. Such detailed country-specific scrutiny lies outside the scope of this report. Nevertheless, measurement of Member States' performance against the 'LAF plus' value might provide a useful point of reference, albeit an approximate one, for identifying countries with good practices.

ANNEX 1
Methodology

A1.2. PRINCIPLES OF SCREENING FOR IDENTIFYING A POTENTIAL NEED AND SCOPE FOR TAX-BASED CONSOLIDATION

Quantitative screening on the basis of selected indicators is used to identify Member States that could consider using taxation — in addition to expenditure control — to consolidate their public finances and steer them onto a more sustainable path. This type of screening should identify whether there is both a strong need for consolidation and the availability of 'tax space'.

As explained in A1.1 (above), the terms 'very high' and 'very low' where used to describe the results of the screening are equivalent to 'significantly above the average' and 'significantly below the average' and relate to the relevant LAF threshold. 'LAF minus' represents relatively poor performance, while 'LAF plus' indicates relatively good performance.

The following screening criteria are considered.

Fiscal sustainability problems

1) Fiscal sustainability is considered a problem if:

The indicator of the fiscal sustainability gap in the medium term, S1, is high (above 2.5).

S1 is one of the most frequently used sustainability indicators. It is used as part of the Commission's multidimensional approach to assessing the scale and the scope of fiscal sustainability challenges, and is presented in detail in the 2012 *Fiscal Sustainability Report* published by the European Commission (Directorate-General for Economic and Financial Affairs) ([190]).

The S1 indicator ('debt compliance risk') captures the medium-term fiscal challenges, identifying: 1. fiscal gaps related to the excess of projected age-related and non-age-related expenditure — notably on pensions, healthcare and long-term care — over projected revenue, and 2. any gap associated with the steady adjustment of the structural primary balance over the years to 2020 being undertaken in order to bring the debt-to-GDP ratio down to 60 % of GDP by 2030.

([190]) See European Commission (2012i).

Specifically, the S1 indicator has one component relating to the gap between the current (or initial) structural primary balance and the debt-stabilising primary surplus needed to ensure sustainability. A second component represents the cost of ageing, with the change in age-related spending given in the 2012 Ageing Report being used as an estimate. This component corresponds to the additional adjustment to the primary balance required to account for these future expenses that will be incurred in the years up to 2030. A further component depends directly on the debt requirement set at the end of the time period (60 % of GDP in 2030). For countries with a public debt above 60 % of GDP initially, the required adjustment to reach the target debt by 2030, as reflected in this component, will increase the indicator. For countries with a current debt below 60 %, however, this component will be negative, irrespective of pressures on the budget stemming from long-term trends, and will reduce the overall value of the fiscal gap.

Availability of tax space

2) There is 'overall tax space' currently available (relatively low tax-to-GDP ratio, i.e. below 'LAF plus').

AND — as qualifying criteria

- *EITHER*: 2(a) There is scope for increasing the least distortionary taxes (namely consumption taxes, environmental taxes and recurrent property taxes; see part A1.3 for details).

- *OR*: 2(b) The tax burden has not increased substantially in recent years. This is considered to be the case if there has been neither a marked increase in the cyclically adjusted tax-to-GDP ratio over the period 2009-14, nor a high level of discretionary revenue measures introduced over the period 2010-14 (defined, in both cases, as the relevant indicator representing the increase being below 'LAF minus'). The distance between the structural deficit and the value set by the medium-term 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 need for consolidation.

A country is considered not to have experienced a marked rise in its tax burden if the change in the

tax-to-GDP ratio has been very high but the distance to the MTO is above the EU average.

A low current tax-to-GDP ratio in conjunction with a high fiscal sustainability gap does not necessarily indicate a need to change the tax code by increasing tax rates or broadening tax bases. It may also be possible to generate higher tax revenue by improving tax compliance and fighting tax evasion, without changing tax rules. Similarly, tax increases implemented in the recent past may not lead to equivalent increases in the tax-to-GDP ratio due to potentially higher levels of tax evasion and Laffer curve effects (the negative effect of higher taxes on output and employment leading to a reduction in the tax base).

A1.3. PRINCIPLES OF SCREENING FOR IDENTIFYING A POTENTIAL NEED, AND SCOPE, FOR A TAX SHIFT

Quantitative screening is used to identify Member States that could consider shifting taxation away from labour. Such screening should identify whether there is both a need for a reduction in labour taxation and the availability of tax space within specific categories of tax.

As explained in A1.1, the terms 'very high' and 'very low' where used to describe the results of the screening are equivalent to 'significantly above the average' and 'significantly below the average' and relate to the relevant LAF threshold. 'LAF minus' represents poor performance while 'LAF plus' indicates good performance.

The screening assesses the following areas.

Need to reduce labour taxation

Labour taxation is considered problematically high if:

EITHER: **1(a) The overall tax burden on labour is very high.** This is considered to be the case if either the implicit tax rate on labour or the tax wedge at average earnings are significantly above the average (i.e. above 'LAF minus'), with the other of these two indicators not being significantly below average (i.e. not below 'LAF plus').

OR: **1(b) The tax burden on specific labour market groups is very high** (low-wage earners or second earners). The assessment is based on a number of indicators relating to the tax wedge and 'traps'.

The tax burden on low-wage earners is considered very high if:

(i) the tax wedge on low-wage earners is very high;

OR

(ii) either the inactivity trap or the unemployment trap is very high (above 'LAF minus'), with labour taxes making a very high contribution to the disincentive effect.

This analysis is carried out by looking at the indicators at 50 % and 67 % of the average wage respectively (for a single earner with no children) so that targeted measures (usually directed at those on the lowest incomes) can be taken into account. A country is considered to face a more limited challenge if the indicators are above the critical LAF threshold at one of the two income levels only.

The tax burden on second earners is considered very high if:

(i) the inactivity trap is very high, with labour taxes making a very high contribution to the disincentive effect;

OR

(ii) the low-wage trap is very high, with labour taxes making a very high contribution to the disincentive effect.

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

Scope for increasing the least distortionary taxes

Increasing taxes does not necessarily mean introducing higher tax rates. Increased revenue could also be generated by broadening tax bases, while at the same time taking steps to improve tax compliance in the short to medium term.

EITHER: **2(a) There is scope for increasing consumption taxes.** This is considered to be the case if:

(i) taxes on consumption are significantly below the EU average as a percentage of GDP,

OR

(ii) the implicit tax rate on consumption is significantly below the EU average,

OR

(iii) the gap between the implicit tax rate on labour and the implicit tax rate on consumption is very high and the implicit tax rate on consumption is not very high.

OR: **2(b) There is scope for increasing recurrent taxes on housing.** This is considered to be the case if revenue from recurrent tax on housing is very low (significantly below average) as a percentage of GDP.

OR: **2(c) There is scope for increasing environmental taxation.** This is considered to be the case if either revenue from environmental taxes as a percentage of GDP or the implicit tax rate on energy is significantly below average, with the other of these two indicators not being significantly above average.

The scope for tax increases is considered limited if there is only scope for increasing either recurrent housing taxes or environmental taxes, as both of these taxes generate relatively limited revenue as compared with taxes on consumption.

Summary of mitigating factors

As explained above, several mitigating factors are used in the screening, the presence of a mitigating factor being represented by a '(X)' in the screening tables. These are:

(i) a very high tax burden at only one of the 50 % or the 67 % of the average wage levels, when considering the tax burden on the low skilled;

(ii) a very high employment level (above 'LAF plus') in conjunction with a high tax burden on labour; and

(ii) the relative size of the tax base to which labour taxes could be shifted.

A1.4. AN INDICATOR FOR THE TAX BURDEN ON OWNER-OCCUPIED HOUSING: FURTHER METHODOLOGICAL ISSUES

Practical implementation of the baseline equation (3) presented in box 3.2 requires a number of assumptions to be made relating to the economic and tax parameters. Each of these are discussed here in turn.

To isolate the effects of the different individual tax rules, economic parameters (the economic depreciation rate, maintenance costs, interest rates, the risk premium, and the loan-to-value ratio for mortgages) are assumed to be identical across countries. ([191])

The theory underlying the indicator of the tax burden on owner-occupied housing is based on a model for marginal investment. While with a flat tax, such as the tax levied on corporate income, a unitary investment can easily be assumed, when the tax schedule is non-linear, as is the case for personal income tax in most EU Member States, additional assumptions are required when it comes to the practical implementation. The progressivity of the personal income tax system has the effect of changing the incentive for homeownership along the income distribution, meaning that the levels of some variables, such as income, are also relevant for the analysis. Moreover, different tax provisions might be applicable depending on family and individual characteristics of the taxpayers.

Capturing all of these various aspects in the indicators requires the use of microdata. To ensure that the analysis is nonetheless simple and intuitive, the same approach is adopted as is used for the OECD's 'taxing wages' indicator. We therefore consider a stylised individual with certain characteristics, namely a single taxpayer without children, earning 167 % of the average wage in the manufacturing sector. The choice of the income level is consistent with the observation that individuals in the upper part of the income distribution are more likely to be homeowners rather than tenants occupying rented housing. Correspondingly, the level of the investment is adjusted to reflect the individual's ability to pay, such that the house price is assumed to be four times annual gross earnings. ([192])

For the reasons discussed above, the indicator should not be considered as representative of the actual cost of capital for housing investment in each country, but purely illustrative of the cost that a hypothetical taxpayer at that income level would face for the assumed housing investment, under the financing conditions.

Tax rules

Tax rules for owner-occupied housing vary widely across EU Member States. In some cases, assumptions have been made in order to be able to 'translate' the statutory tax provisions into parameters that can be inputted in equation (3) in box 3.2.

Mortgage interest tax relief: this can be granted in the form of either a deduction (that is, a reduction of the tax base) or a credit (imputed directly on the tax liability). Further to the most recent reforms implemented in the EU, tax relief on mortgage interest is generally capped. ([193]) If the cap is already expressed as a fraction, it can be accounted for in the equation simply by imputing its value to the parameter ϕ. If the limit is specified in terms of a nominal amount of interest payments (on an annual basis), as it is often the case, we have imputed the annual interest payments that would be paid on a mortgage paid back in fixed monthly instalments over 20 years. ([194]) We use the interest

([191]) In particular, the economic depreciation rate is set at 1%, maintenance costs are set at 2%, the interest rate is assumed to be equal to the average EU long term rate (represented by 10-year government bond), the risk premium is set at 2%, and the loan-to-value ratio for mortgages is set at 75%, the average of the values reported in Calza et al. (2013). The asset revaluation term is assumed to be equal to CPI inflation.

([192]) This assumption is based on observed house prices in some Member States. It should be noted that the general price level does not affect the calculated marginal cost of capital. Exceptions to this are the calculation of taxes on imputed rents in Luxembourg, and the applicable rates of the transfer tax in countries where this has a progressive rate structure.

([193]) A number of Member States have recently implemented reforms whereby tax relief is no longer offered on new mortgage contracts, but the rules applying to existing mortgages remain unchanged. In these cases, the calculations are based on the new tax conditions, thus reflecting the underlying assumption that the cost of capital refers to a new housing investment.

([194]) The average duration of the loan is taken from Calza et al. (2013).

payments from the first year, these being the highest to be paid over the mortgage lifetime.

Recurrent property taxes: as is standard practice in the investment literature, recurrent taxes on fixed stocks are introduced in the cost of capital as effective rates rather than statutory rates. The effective rate is calculated from the ratio of revenue from recurrent taxes on immovable property to the value of the stock of dwellings owned by households. ([195]) The effective rate is calculated for 2012, due to the time lag affecting the availability of standardised revenue statistics. As a result, the most recent tax reforms in the area of recurrent property taxation may not be captured.

Taxation of imputed rents: across the EU, imputed rents are generally not taxed, with the only exceptions being Luxembourg and the Netherlands. Taxation of imputed rents in these two countries is based on a pre-defined value for the rental income. The tax paid is therefore not the amount which would be assumed by equation (3) in box 3.2, on the basis of the current house price. This is taken into account when making the necessary corrections to the formula.

Capital gains tax: taxation on the gain realised upon selling housing units is often subject to specific conditions, mainly linked to the duration of the occupancy. On the assumption that these conditions are seldom met, we base the calculation, whenever relevant, on the most favourable tax treatment (that is, a tax exemption).

([195]) Both series are taken from Eurostat. For Member States not reporting the stock of dwellings owned by households, we have imputed the weighted average value calculated for the countries for which data was available. The Member States which do not report the stock of dwellings are Belgium, Bulgaria, Ireland, Greece, Spain, Malta, Portugal and Romania.

A1.5. THE QUEST MODEL

The QUEST model is the global macroeconomic model developed by the European Commission Directorate-General for Economic and Financial Affairs for macroeconomic policy analysis and research. It belongs to the class of New-Keynesian Dynamic Stochastic General Equilibrium (DSGE) models that now serve as the foundation for macroeconomic policy analysis in international institutions and central banks. DSGE models are based on full microeconomic foundations, i.e. model equations are equilibrium conditions that are explicitly derived under assumptions of optimising behaviour and include fully consistent stock-flow dynamics.

The model used in this exercise is a three-region extension of the estimated DSGE model for the euro area.([196]) In each of the regions it distinguishes between households, a production sector, a central bank and a fiscal authority. Two types of households consume and provide labour services to the production sector: one with full access to financial markets, which, therefore, has perfect insurance against adverse income shocks, the other with no financial market access and, therefore, unable to smooth consumption over time. The production sector produces tradable and non-tradable intermediate and final goods. The fiscal authority buys goods from the production sector, provides infrastructure investment and pays social benefits and transfers. Government expenditure is financed by taxes on firms and households. The central bank follows an interest rate rule constrained by the zero floor on the nominal interest rate. The model is calibrated to match essential properties of national accounts data and bilateral trade linkages for the regions. In particular, the domestic model economy considered is a member of a currency union (and therefore does not have its own central bank) and is of the approximate size relative to the rest of the currency union as is Portugal relative to the euro area. Trade links between the domestic economy and the rest of the currency union are also similar to those between Portugal and the euro area. Households hold domestic and foreign assets, the level of foreign assets being influenced by exchange rate movements.

The exercise conducted for this report focuses on *ex ante* budgetary-neutral scenarios. Revenue of one per cent of GDP is shifted from employers' social security contributions onto consumption taxes. The statutory tax rates are adjusted accordingly. In the short to medium run, the government budget balance can deviate from its target due to second round effects. In the long run, the personal income tax rate is adjusted to hold the debt-to-GDP ratio constant.

In the benchmark scenario, transfer and benefit recipients are not compensated for the increase in consumption costs resulting from the increase in taxes on consumption. Results of an alternative simulation, where both benefits and transfers are indexed to the consumption tax rate, are also presented.

([196]) See Ratto et al. (2009). For further information on and uses of the QUEST model see http://ec.europa.eu/economy_finance/research/macroeconomic_models_en.htm.

ANNEX 2
Statistical data

Table A2.1: **Total taxes (including social contributions) and tax structures, % of GDP, 2000-2012, EU-28**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Structure by type of tax													
Indirect taxes	13.7	13.4	13.4	13.3	13.3	13.4	13.5	13.4	13.1	12.9	13.2	13.4	13.6
VAT	7.0	6.9	6.8	6.8	6.8	6.9	7.0	7.0	6.9	6.7	7.0	7.1	7.1
Excise duties and consumption taxes	3.0	2.9	3.0	3.0	2.9	2.8	2.7	2.6	2.6	2.7	2.7	2.7	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	1.5	1.4
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	2.1	2.3
Direct taxes	14.0	13.6	13.0	12.8	12.8	13.1	13.6	13.8	13.7	12.7	12.6	12.8	13.2
Personal income	9.8	9.6	9.4	9.1	8.9	9.0	9.2	9.3	9.4	9.3	9.1	9.1	9.4
Corporate income	3.1	2.9	2.6	2.4	2.7	2.9	3.3	3.3	3.0	2.2	2.4	2.5	2.5
Other	1.1	1.1	1.1	1.3	1.2	1.2	1.1	1.2	1.3	1.2	1.2	1.2	1.2
Social contributions	12.7	12.6	12.5	12.7	12.5	12.4	12.3	12.2	12.5	12.8	12.6	12.7	12.7
Employers´	7.2	7.2	7.2	7.3	7.2	7.1	7.1	7.1	7.2	7.4	7.3	7.3	7.3
Employees´	4.1	4.0	3.9	3.9	3.9	3.8	3.8	3.7	3.8	3.8	3.8	3.9	3.9
Self- and non-employed	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.4	1.5	1.6	1.6	1.5	1.5
Total taxes (including SSC)	**40.3**	**39.4**	**38.8**	**38.8**	**38.6**	**38.9**	**39.4**	**39.3**	**39.2**	**38.3**	**38.3**	**38.8**	**39.4**
Structure by economic function													
Consumption	11.4	11.2	11.2	11.1	11.1	11.1	11.1	11.0	10.8	10.7	11.1	11.2	11.2
Labour	20.1	19.9	19.7	19.7	19.4	19.3	19.2	19.1	19.5	19.9	19.7	19.8	20.1
Employed	18.3	18.2	18.0	18.0	17.6	17.6	17.5	17.5	17.8	18.1	17.8	17.9	18.2
Paid by employers	7.7	7.7	7.7	7.9	7.8	7.7	7.7	7.6	7.8	8.0	7.9	7.9	8.0
Paid by employees	10.6	10.5	10.2	10.1	9.9	9.8	9.8	9.8	10.0	10.0	9.9	10.0	10.2
Non-employed	1.7	1.7	1.7	1.8	1.8	1.7	1.7	1.6	1.7	1.9	1.9	1.9	1.9
Capital	8.9	8.4	8.0	8.0	8.2	8.5	9.2	9.3	8.9	7.8	7.7	7.9	8.2
Capital and business income	6.2	5.8	5.4	5.3	5.5	5.8	6.3	6.4	6.1	5.1	5.2	5.3	5.4
Income of corporations	3.2	2.9	2.6	2.6	2.8	3.0	3.4	3.4	3.1	2.3	2.4	2.6	2.6
Income of households	0.8	0.7	0.7	0.7	0.7	0.8	0.9	1.0	0.9	0.9	0.8	0.8	0.9
Income of self-employed (incl. SSC)	2.1	2.1	2.0	2.1	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0
Stocks of capital / wealth	2.7	2.6	2.7	2.6	2.7	2.8	2.9	2.8	2.8	2.7	2.5	2.6	2.8

Note: GDP-weighted EU-28 averages. Methodology and country details can be found in European Commission (2014c). Eurostat online data codes: gov_a_tax_ag and gov_a_tax_str.
Source: Commission services.

Table A2.2: **Total taxes (including social contributions) and tax structure, % of GDP, 2000-2012, EA-18**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
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	13.0	13.3
VAT	7.0	6.8	6.7	6.6	6.6	6.8	6.8	6.9	6.8	6.6	6.9	6.9	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	2.4	2.4
Other taxes on products (incl. import duties)	1.7	1.6	1.7	1.7	1.8	1.9	2.0	1.9	1.7	1.6	1.6	1.6	1.6
Other taxes on production	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.2	2.1	2.1	2.4
Direct taxes	13.0	12.6	12.1	12.0	11.9	12.0	12.6	12.9	12.7	12.0	11.8	12.2	12.7
Personal income	9.1	8.9	8.7	8.5	8.3	8.4	8.5	8.7	8.9	8.9	8.7	8.8	9.2
Corporate income	3.0	2.8	2.5	2.4	2.6	2.8	3.2	3.3	2.9	2.0	2.2	2.4	2.4
Other	0.9	0.9	0.9	1.1	1.0	0.9	0.9	0.9	0.9	1.0	0.9	1.0	1.0
Social contributions	14.5	14.3	14.3	14.5	14.3	14.2	14.1	13.9	14.1	14.5	14.4	14.4	14.6
Employers´	8.2	8.1	8.2	8.2	8.1	8.1	8.0	8.0	8.1	8.3	8.2	8.2	8.3
Employees´	4.6	4.5	4.4	4.4	4.3	4.3	4.2	4.1	4.2	4.3	4.3	4.3	4.4
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	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**	**39.1**	**39.0**	**39.5**	**40.4**
Structure by economic function													
Consumption	11.2	10.9	10.8	10.8	10.8	10.8	10.8	10.8	10.5	10.5	10.7	10.8	10.8
Labour	21.2	21.0	20.9	20.9	20.5	20.4	20.3	20.2	20.7	21.1	20.9	21.0	21.5
Employed	19.2	19.1	18.9	18.9	18.5	18.4	18.3	18.3	18.7	19.0	18.8	18.9	19.3
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	8.9	9.0
Paid by employees	10.4	10.3	10.2	10.0	9.7	9.7	9.7	9.7	10.0	10.1	9.9	10.0	10.4
Non-employed	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.1	2.1	2.2	2.2
Capital	8.7	8.2	7.8	7.9	8.0	8.3	8.9	9.2	8.5	7.6	7.5	7.8	8.2
Capital and business income	6.2	5.8	5.4	5.5	5.5	5.7	6.3	6.5	6.1	5.1	5.1	5.3	5.5
Income of corporations	3.1	2.9	2.6	2.6	2.7	2.9	3.3	3.4	3.0	2.1	2.3	2.5	2.5
Income of households	0.7	0.6	0.6	0.6	0.6	0.6	0.8	0.8	0.8	0.7	0.7	0.7	0.8
Income of self-employed (incl. SSC)	2.4	2.3	2.2	2.3	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2
Stocks of capital / wealth	2.4	2.4	2.4	2.4	2.5	2.6	2.6	2.6	2.4	2.5	2.4	2.5	2.6

Note: GDP-weighted EA-18 averages. Methodology and country details can be found in European Commission (2014c). Eurostat online data codes: gov_a_tax_ag and gov_a_tax_str.
Source: Commission services.

Table A2.3: **Development of implicit tax rates, in %**

	Implicit tax rate on labour			Implicit tax rate on consumption			Implicit tax rate on capital		
	1995	2005	2012	1995	2005	2012	1995	2005	2012
BE	43.6	43.6	42.8	20.4	22.3	21.1	25.5	32.6	35.5
BG	29.9	33.2	24.5	17.3	21.8	21.5	:	:	:
CZ	41.4	41.3	38.8	20.9	21.1	22.5	22.4	20.4	18.0
DK	40.2	37.1	34.4	30.5	33.9	30.9	29.9	49.9	:
DE	38.8	37.5	37.8	18.5	18.4	19.8	21.7	20.4	22.2
EE	38.6	33.8	35.0	21.2	22.0	26.0	14.7	8.0	8.1
IE	:	25.4	28.7	24.4	26.0	21.9	:	19.2	13.0
EL	:	33.3	38.0	:	15.5	16.2	:	:	:
ES	:	32.4	33.5	14.2	16.7	14.0	:	35.5	25.3
FR	40.5	39.3	39.5	21.7	20.3	19.8	32.8	40.5	46.9
HR	:	29.6	29.2	:	30.0	29.1	:	:	:
IT	37.8	41.2	42.8	18.1	17.4	17.7	26.3	27.3	37.0
CY	22.1	24.4	28.8	13.0	19.7	17.6	18.0	27.1	26.0
LV	39.2	33.2	33.0	19.5	19.9	17.4	19.8	10.6	9.9
LT	34.5	34.9	31.9	17.7	16.5	17.4	12.7	11.1	9.8
LU	29.3	29.9	32.9	21.0	26.3	28.9	:	:	:
HU	42.3	38.4	39.8	29.5	26.1	28.1	15.3	17.6	21.4
MT	18.8	22.5	23.3	15.2	19.1	18.7	:	:	:
NL	34.5	32.3	38.5	22.6	24.4	24.5	22.7	17.9	13.7
AT	38.5	40.8	41.5	20.6	21.7	21.3	26.8	24.2	25.0
PL	36.8	33.8	33.9	20.7	19.8	19.3	20.9	20.4	19.0
PT	22.3	22.4	25.4	18.2	19.7	18.1	21.2	29.3	29.5
RO	31.6	28.1	30.4	:	17.9	20.9	:	:	:
SI	38.5	37.6	35.6	24.4	23.5	23.4	13.4	23.2	19.6
SK	38.5	32.9	32.3	25.9	21.5	16.7	35.8	18.8	16.7
FI	44.2	41.6	40.1	27.6	27.6	26.4	31.1	28.8	29.9
SE	46.8	43.6	38.6	27.9	27.3	26.5	19.8	33.3	30.6
UK	25.8	25.9	25.2	19.3	17.9	19.0	32.3	37.2	35.7
EU average									
GDP-weighted	37.1	35.4	36.1	20.0	19.7	19.9	:	:	:
arithmetic	35.6	33.9	34.2	21.2	21.9	21.6	:	:	:
EA average									
GDP-weighted	38.7	37.3	38.5	19.4	19.4	19.3	:	:	:
arithmetic	35.0	33.6	35.0	20.4	21.2	20.5	:	:	:

Note: EU average for EU 28 in 2005 and 2012, for EU 27 in 1995. Methodology and country details can be found in European Commission (2014c). Eurostat online data code: gov_a_tax_itr.
Source: Commission services

Table A2.4: **Top statutory tax rates in personal and corporate income taxation, in %**

	Top personal income tax rate						Adjusted top corporate income tax rate					
	1995	2000	2005	2010	2013	2014	1995	2000	2005	2010	2013	2014
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	22.0	22.0	41.0	31.0	26.0	19.0	19.0	19.0
DK	65.7	62.9	62.3	55.4	55.6	55.6	34.0	32.0	28.0	25.0	25.0	24.5
DE	57.0	53.8	44.3	47.5	47.5	47.5	56.8	51.6	38.7	30.2	30.2	30.2
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	47.0	48.0	48.0	40.0	24.0	12.5	12.5	12.5	12.5
EL	45.0	45.0	40.0	49.0	46.0	46.0	40.0	40.0	32.0	24.0	26.0	26.0
ES	56.0	48.0	45.0	43.0	52.0	52.0	35.0	35.0	35.0	30.0	30.0	30.0
FR	59.1	59.0	53.5	45.8	(50.3)	(50.3)	36.7	37.8	35.0	34.4	36.1	38.0
HR	42.9	41.3	53.1	50.2	47.2	47.2	25.0	35.0	20.0	20.0	20.0	20.0
IT	51.0	45.9	44.1	45.2	47.3	47.9	52.2	41.3	37.3	31.4	31.4	31.0
CY	40.0	40.0	30.0	30.0	35.0	35.0	25.0	29.0	10.0	10.0	12.5	12.5
LV	25.0	25.0	25.0	26.0	24.0	24.0	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	43.6	43.6	40.9	37.5	30.4	28.6	29.2	29.2
HU	44.0	44.0	38.0	40.6	16.0	16.0	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	56.5	56.5	39.6	35.2	27.5	29.0	31.5	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	50.0	50.0	25.0	25.0	25.0	20.0	17.0	17.0
SK	42.0	42.0	19.0	19.0	25.0	25.0	40.0	29.0	19.0	19.0	23.0	22.0
FI	62.2	54.0	51.0	49.0	51.1	51.5	25.0	29.0	26.0	26.0	24.5	24.5
SE	61.3	51.5	56.6	56.6	56.7	56.9	28.0	28.0	28.0	26.3	22.0	22.0
UK	40.0	40.0	40.0	50.0	45.0	45.0	33.0	30.0	30.0	28.0	23.0	21.0
EU arithmetic	47.2	44.6	40.4	38.6	39.4	39.4	35.0	32.0	25.3	23.2	23.2	23.1
EA arithmetic	47.7	45.9	41.0	41.1	43.8	43.8	36.2	33.9	27.4	25.0	25.5	25.5

Source: European Commission

Notes:

Personal income tax:
The indicator reported in the table is the 'top statutory personal income tax rate' which does not differentiate by source of income and therefore as well, surcharges and deduction specific to income source are not taken into account. The 'top marginal tax rate from employment income', which is also sometimes used, can differ from the 'top statutory personal income tax rate' with respect to (1) source of income: any personal income vs. earnings income and to (2) statutory vs. marginal tax rate. The marginal tax rate calculation (increase in tax revenue for a unit increase in gross earnings) is only possible for the latter type of indicator. The existence of differences between the two indicators relate directly to the design and complexity of the tax system. General surcharges are included even when not part of PIT or not legally a tax (see country notes below). Local and regional taxes are normally added (see country notes below). The reader is referred to the 'Taxes in Europe Database' and to Part II of this report for detailed information about the specificities of each country PIT, and in particular for the level of income from which the top statutory income rate applies. Rates given in the table are (top) rates applicable during the fiscal year considered that is the year when incomes are received.
BE: including crisis tax (1993–2002) and (average) local surcharges.
BG: (not included in the table) the net income of sole proprietors is taxed separately (15 % final flat tax).
CZ: including a 7 % solidarity surcharge added to the flat tax rate of 15% since 2013. The surcharge applies to the employment business and professional income above four times the average wage.
DK: including labour market contributions and average local taxes, but excl. church tax.
DE: including solidarity surcharge of 5.5 %.
IE: including the 'universal social charge' of up to 7 %.
EL: including solidarity contribution for years 2011–14 (rate ranges from 1 % to 4 % with the top 4 % rate applicable on net annual income exceeding EUR 100 000).
ES: including a temporary (2012–14) supplementary surcharge. Regional government can use their own tax schedule.
FR: Several contributions are added to PIT; but while the PIT applies to individualised global net personal income, the contributions may vary depending on the income source. The value in the table reflects the top statutory rate for earnings: it includes the top PIT rate (45 %), the general social welfare contribution (CSG, applicable rate: 7.5 % of which 5.1 % are deductible) and the welfare debt repayment levy (CRDS, rate: 0.5 %). For other property income, in addition to CSG (applicable rate: 8.2 % of which 5.1 % are deductible) and CRDS, additional social and solidarity levies (4.5 % + 0.3 % and 2 %) apply, leading to a top all-in rate around 55 %. Note that the figure for 2014 is calculated assuming no legislative change during the course of the year.
HR: including surtax for Zagreb and average crisis tax (2009–11).
IT: including regional and municipal surcharge (values given for Rome) and 3 % solidarity contribution (deductible from the tax base).
CY: not including the special contribution on gross wages (2012–16), of up to 3.5 %.
LU: including solidarity surcharge for Unemployment Fund (since 2002) and crisis contribution for 2011.
HU: including solidarity tax (2007–09). In 2010–12 rates include the effect of a base increasing component which was applicable in 2010 and 2011 to total earnings, and in 2012 to the part of monthly earnings above HUF 202 000 (EUR 653), roughly the average wage, leading to a two-rate system: 16 % and 20.3 %. In 2013 the base increasing component was phased out and the 16 % tax rate applies to all income.
PT: including a surcharge of 3.5 % levied on all aggregated categories of income (applicable since 2013), and an additional solidarity surcharge (top rate 5 % since 2013). (not included: the special rate of 60 % that applied to 'unjustified increases' in personal income (above EUR 100 000)).
FI: including general government taxes plus (average of) municipality taxes.
SE: including general government taxes plus (average of) municipality taxes.
UK: Rates given are rate for the fiscal year starting in April. An additional higher rate of 50 % was introduced for income exceeding GBP 150 000 from fiscal year 2010–11, cut to 45 % as of 2013.

Notes to Table A2.4 – continued

Corporate income tax:
Only the 'basic' (non-targeted) top rate is presented here; some countries apply small profits rates or special rates, e.g., in case the investment is financed through issuing new equity, or alternative rates for different sectors. Such targeted tax rates can be substantially lower than the effective top rate. Existing surcharges and local taxes are included (see country notes below).
BE: (a) A 3 % 'crisis' surcharge is applicable since 1993; (b) since 1/1/2006 Belgium applies a system of notional interest deduciton (ACE) which reduces the 'effective tax rate' by several percentage points, depending on the difference between the rate of return and the rate of the notional interest deduction.
CY: In 2003 and 2004 the rate includes the additional 5 % surcharge on companies with income exceeding € 1.7 million. In 2013, under the macro-financial adjustment programme and prior to the first disbursement of assistance, the corporate income tax rate was increased to 12.5 % (with effect on 01.01.2013).
FR: 33.33%; 34.43% including 3.3% additional social surcharge for large companies;36.1% (2012-2013) and 38.0% (2014-2015) including the temporary surcharge (contribution exceptionnelle) for very large companies (turnover above EUR 250 million). Companies can benefit from a tax credit equal to 6 % (since 2014) of the payroll for (most) employees. The local business tax (contribution économique territoriale) is not included (capped to 3 % of value added).
DE: The rate includes the solidarity surcharge of 5.5 % and the Berlin rate for the trade tax ('Gewerbesteuer' - 14.35%; in 2012 average trade tax rate for former federal territory was 13.825 % and 12.985 % for new Länder). From 1995 to 2000 the rates for Germany refer only to retained profits. For distributed profits lower rates applied. Until 2007 the trade tax was an allowable expense for the purpose of calculating the income on which corporation tax is payable. As from 2008 enterprises are subject to an overall tax burden of around 30 %.
EL: The rate includes a special contribution introduced in 2009 (2008 income) on companies with net income above € 5 million. The contribution is levied at progressive rates, with the marginal rate reaching 10%. In 2010 (2009 income) the contribution applies to income above € 100 000, top rate being 10 % (income above € 5 million).
HU: Including the local business tax of maximum 2 % that applies on the gross operating profit (turnover minus costs) and which is deductible from the CIT. In the typical case of a local tax of 2%, the total tax paid is 19*(1-2%) + 2 = 20.62. For energy providers and other utilities, a cca. 50% CIT rate applies. An 'Innovation tax' of 0.3 % is also due on the same base as the local business tax while micro and small enterprises are exempted from paying (not included in the calculation).
IE: 25 % for non-trading income, gains and profits from mining petroleum and land dealing activities. Until 2003, Ireland applied a 10 % CIT rate to qualifying manufacturing and services companies.
IT: As from 1998 the rates for Italy include IRAP (rate 3.5% as of 2014), a local tax levied on a tax base broader than corporate income. The rate may vary up to 0.92 percentage point depending on location. "Robin tax" on financial institutions is not included. From 2012, an ACE is in force, reducing the effective tax rate (see also previous note on Belgium).
LT: A 'social tax' (applied as a surcharge) has been introduced in 2006 and 2007 (at 4 % and 3 % respectively). As from 2010, companies with up to ten employees and taxable income not exceeding LTL 500 000 (approx. EUR 144 810), benefit from a reduced tax rate of 5 % . As from 2012, the threshold has been increased to LTL 1 000 000 (about EUR 289 603).
Luxembourg: Basic local tax (municipal business tax) is 3 % to be multiplied by a municipal factor ranging from 2 to 3.5. The rate in the table is for Luxembourg City.
MT: The rate shown does not take into account the corporate tax refund system
PT: As from 2007 the rate for Portugal includes the maximum 1.5 % rate of a municipal surcharge. As from 1.1.2014 the State tax is 3 % on taxable profits between EUR 1.5 and 7.5 million, 5 % on taxable profits between EUR 7.5 and 35 million and 7 % on profits exceeding EUR 35 million.
SK: the standard CIT rate has been reduced to 22% on the 01.01.2014, together with the introduction of a minimum (lump sum) tax, whose value vary with turnover (EUR 480 for not VAT registered companies, EUR 960 if small VAT registered companies and EUR 2880 if annual turnover above EUR 500 000)
UK: Rates given are rate for the tax year starting in April. The main rate of corporation tax has been cut from 28 % (2010) to 21 % (2014) and the government has announced a further cut by April 2015.

Table A2.5: **Energy tax revenues in relation to final energy consumption**

	Nominal				Real (2000 deflator)				
	2000	2005	2011	2012		2000	2005	2011	2012
BE	96.0	121.7	130.8	131.5	BE	96.0	110.7	104.3	102.4
BG	38.3	59.9	106.1	107.7	BG	38.3	49.0	66.8	65.5
CZ	53.3	95.9	145.7	139.2	CZ	53.3	73.3	83.1	79.1
DK	298.9	313.9	387.8	381.5	DK	298.9	289.8	316.4	303.6
DE	191.1	212.6	230.4	219.9	DE	191.1	197.4	197.3	185.3
EE	31.3	74.8	137.8	148.5	EE	31.3	62.4	87.6	91.1
IE	138.5	166.9	205.6	202.5	IE	138.5	141.4	175.5	172.1
EL	116.6	114.9	228.7	258.6	EL	116.6	100.4	166.1	186.1
ES	137.4	140.5	157.2	157.6	ES	137.4	119.3	116.7	114.2
FR	165.7	170.1	199.4	197.6	FR	165.7	155.8	166.0	161.6
HR	:	129.8	130.3	128.2	HR	:	108.9	90.9	87.4
IT	245.3	233.0	266.9	307.5	IT	245.3	204.9	208.3	233.4
CY	43.0	144.7	186.4	192.2	CY	43.0	126.6	140.3	141.3
LV	48.1	72.4	101.0	105.5	LV	48.1	71.8	70.4	70.4
LT	57.6	79.2	105.5	106.8	LT	57.6	72.2	71.0	69.6
LU	166.8	192.3	221.3	231.8	LU	166.8	173.9	175.9	181.3
HU	76.9	103.9	120.6	124.5	HU	76.9	75.1	74.8	75.4
MT	132.1	158.9	238.3	241.6	MT	132.1	153.7	201.2	200.4
NL	153.1	195.0	237.0	227.4	NL	153.1	171.8	192.1	180.2
AT	138.9	154.5	182.1	183.3	AT	138.9	141.8	147.7	145.0
PL	58.6	95.1	124.7	129.1	PL	58.6	84.3	95.0	96.4
PT	110.0	164.3	174.3	173.5	PT	110.0	142.4	136.7	134.1
RO	57.6	59.3	98.7	99.6	RO	57.6	47.7	66.0	68.1
SI	110.2	138.5	205.0	225.6	SI	110.2	125.4	159.1	172.2
SK	39.7	71.0	103.4	104.6	SK	39.7	50.4	48.6	47.5
FI	106.6	115.6	156.3	158.7	FI	106.6	109.8	129.5	127.6
SE	179.3	211.2	242.4	254.8	SE	179.3	216.1	216.6	216.9
UK	247.8	236.1	258.4	274.8	UK	247.8	245.9	285.2	276.3
EU averages					EU averages				
GDP-weighted	186.3	192.0	216.8	222.8	GDP-weighted	186.3	179.0	186.3	185.2
base-weighted	169.2	179.3	206.6	211.9	base-weighted	169.2	165.8	175.0	173.7
EA averages					EA averages				
GDP-weighted	175.9	185.4	212.3	215.8	GDP-weighted	175.9	167.0	172.6	171.7
base-weighted	169.6	181.2	209.0	212.6	base-weighted	169.6	163.2	169.5	168.7

Note: Nominal: EUR per tonne of oil equivalent; Real: per tonne of equivalent, deflated with cumulative % change in final demand deflator (2000 = 100). Methodology and country details can be found in European Commission (2014c). Eurostat online data code: gov_a_tax_itr.
Source: Commission services.

Table A2.6: **The composition of tax wedge in 2013, single average income worker**

Country	Income tax plus employees' and employers' social security contributions (as % of labour costs, 2013)				Annual change 2013/12 (in percentage points)			
	Tax wedge	Income tax	Employee SSC	Employer SSC	Tax wedge	Income tax	Employee SSC	Employer SSC
BE	55.8	22.0	10.8	23.0	-0.2	-0.1	0.0	-0.2
BG*	33.6	7.4	10.9	15.3	0.0	0.0	0.0	0.0
CZ	42.4	8.8	8.2	25.4	0.0	0.0	0.0	0.0
DK	38.2	35.8	2.7	-0.3	-0.3	-0.3	0.0	-0.3
DE	49.3	16.0	17.1	16.2	-0.3	0.1	-0.2	-0.2
EE	39.9	13.0	1.5	25.4	-0.5	0.3	-0.6	-0.2
IE	26.6	13.3	3.6	9.7	0.7	0.0	0.7	0.0
EL	41.6	7.1	12.9	21.5	-1.4	-0.8	0.1	-0.7
ES	40.7	12.8	4.9	23.0	0.0	0.0	0.0	0.0
FR	48.9	10.4	9.8	28.7	-1.2	0.4	0.3	-1.9
HR**	:	:	:	:	:	:	:	:
IT	47.8	16.3	7.2	24.3	0.1	0.1	0.0	0.0
CY**	:	:	:	:	:	:	:	:
LV*	44.5	16.2	8.9	19.4	0.1	0.1	0.0	0.0
LT*	40.9	10.3	6.9	23.7	0.2	0.2	0.0	0.0
LU	37.0	15.1	11.0	11.0	1.1	1.1	0.0	0.0
HU	49.0	12.5	14.4	22.2	-0.4	-0.4	0.0	0.0
MT*	24.5	11.3	6.6	6.6	1.2	0.8	0.2	0.2
NL	36.9	14.3	14.2	8.4	-1.8	-0.9	0.5	-1.3
AT	49.1	12.6	14.0	22.6	0.3	0.3	0.0	0.0
PL	35.6	5.9	15.3	14.4	0.1	0.1	0.0	0.0
PT	41.1	13.1	8.9	19.2	3.5	3.5	0.0	0.0
RO*	44.5	9.7	12.9	21.9	-0.3	0.1	0.1	-0.5
SI	42.3	9.4	19.0	13.9	-0.2	-0.2	0.0	0.0
SK	41.1	7.1	10.2	23.8	1.5	-0.2	-0.3	2.0
FI	43.1	18.4	6.2	18.6	0.6	0.6	0.0	0.0
SE	42.9	13.7	5.3	23.9	0.1	0.1	0.0	0.0
UK	31.5	13.3	8.5	9.8	-0.8	-0.7	-0.1	-0.1
EU weighted average	43.6	14.1	10.6	18.9	-0.4	0.0	0.0	-0.4
EA weighted average	46.5	14.2	11.3	21.0	-0.4	0.1	0.1	-0.6

Note: 100% of average wage; **Data for non-OECD-EU countries (BG, LV, LT, MT and RO) are only available for 2012. For these countries, changes in tax wedge refer to 2011 - 2012. ** No data is available for HR and no recent data for CY.
Source: Commission services, OECD.

Table A2.7: **Tax wedge – different household types**

Country	Household type		
	Single (100%), no children	One earner couple (100%), two children	Two eaner couple (100%, 67%, two children
BE	55.8	41.0	48.7
BG	33.6	25.7	28.9
CZ	42.4	20.5	33.9
DK	38.2	27.6	33.8
DE	49.3	33.8	42.1
EE	39.9	32.3	36.3
IE	26.6	6.8	19.2
EL	41.6	44.5	42.5
ES	40.7	34.8	37.6
FR	48.9	41.6	44.2
HR	:	:	:
IT	47.8	38.2	42.9
CY	:	:	:
LV	44.5	34.0	39.5
LT	40.9	35.4	39.2
LU	37.0	14.3	24.3
HU	49.0	34.1	40.1
MT	24.5	15.8	19.1
NL	36.9	30.8	30.5
AT	49.1	38.4	41.6
PL	35.6	29.8	32.5
PT	41.1	29.8	36.7
RO	44.5	40.6	41.6
SI	42.3	23.1	34.3
SK	41.1	27.6	35.2
FI	43.1	38.1	37.9
SE	42.9	37.7	38.9
UK	31.5	27.0	27.0
EU	43.6	34.3	38.3
EA	46.5	36.1	40.9
LAF plus	40.8	31.8	35.7
LAF minus	46.5	36.8	41.0

Note: **Data for non-OECD-EU countries (BG, LV, LT, MT and RO) are only available for 2012. ** No data is available for HR and no recent data for CY.
Source: Commission services, OECD

Table A2.8: **Standard and reduced VAT rates in the EU**

Country	VAT rate	2000		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014	
BE	Standard	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	
BG	Standard	20		20		20		20		20		20		20		20		20		20		20	
	Reduced	-		-		-		7		7		7		7		9		9		9		9	
CZ	Standard	22		19		19		19		19		19		20		20		20		21		21	
	Reduced	5		5		5		5		9		9		10		10		14		15		15	
DK	Standard	25		25		25		25		25		25		25		25		25		25		25	
	Reduced	-		-		-		-		-		-		-		-		-		-		-	
DE	Standard	16		16		16		19		19		19		19		19		19		19		19	
	Reduced	7		7		7		7		7		7		7		7		7		7		7	
EE	Standard	18		18		18		18		18		20		20		20		20		20		20	
	Reduced	5		5		5		5		5		9		9		9		9		9		9	
IE	Standard	21		21		21		21		21		21.5		21		21		23		23		23	
	Reduced	12.5	(4.2)	13.5	(4.8)	13.5	(4.8)	13.5	(4.8)	13.5	(4.8)	13.5	(4.8)	13.5	(4.8)	9/13.5	(4.8)	9/13.5	(4.8)	9/13.5	(4.8)	9/13.5	(4.8)
EL	Standard	18		19		19		19		19		19		23		23		23		23		23	
	Reduced	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		6.5/13		6.5/13	
ES	Standard	16		16		16		16		16		16		18		18		18		21		21	
	Reduced	7	(4)	7	(4)	7	(4)	7	(4)	7	(4)	7	(4)	8	(4)	8	(4)	8	(4)	10	(4)	10	(4)
FR	Standard	19.6		19.6		19.6		19.6		19.6		19.6		19.6		19.6		19.6		19.6		20.0	
	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)	5.5/7	(2.1)	5.5/7	(2.1)	5.5/10	(2.1)
HR	Standard	22		22		22		22		22		22		23		23		25		25		25	
	Reduced		(0)		(0)	10	(0)	10	(0)	10	(0)	10	(0)	10	(0)	10	(0)	10	(0)	5/10		5/13	
IT	Standard	20		20		20		20		20		20		20		20		21		21		22	
	Reduced	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		15		15		15		15		15		15		15		17		18		19	
	Reduced	5		5		5/8		5/8		5/8		5/8		5/8		5/8		5/8		5/8		5/9	
LV	Standard	18		18		18		18		18		21		21		22		22		21		21	
	Reduced	-		5		5		5		5		10		10		12		12		12		12	
LT	Standard	18		18		18		18		18		19		21		21		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	
LU	Standard	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)
HU	Standard	25		25		20		20		20		25		25		25		27		27		27	
	Reduced	12	(0)	5/15		5/15		5		5		5/18		5/18		5/18		5/18		5/18		5/18	
MT	Standard	15		18		18		18		18		18		18		18		18		18		18	
	Reduced	5		5		5		5		5		5		5		5/7		5/7		5/7		5/7	
NL	Standard	17.5		19		19		19		19		19.0		19		19		19		21		21	
	Reduced	6		6		6		6		6		6		6		6		6		6		6	
AT	Standard	20		20		20		20		20		20		20		20		20		20		20	
	Reduced	10		10		10		10		10		10		10		10		10		10		10	
PL	Standard	22		22		22		22		22		22		22		23		23		23		23	
	Reduced	7		7	(3)	7	(3)	7	(3)	7	(3)	7	(3)	7	(3)	5/8		5/8		5/8		5/8	
PT	Standard	17		21		21		21		20		20		21		23		23		23		23	
	Reduced	5/12		5/12		5/12		5/12		5/12		5/12		6/13		6/13		6/13		6/13		6/13	
RO	Standard	19		19		19		19		19		19		24		24		24		24		24	
	Reduced	-		9		9		9		9		5/9		5/9		5/9		5/9		5/9		5/9	
SI	Standard	19		20		20		20		20		20		20		20		20		22		22	
	Reduced	8		8.5		8.5		8.5		8.5		8.5		8.5		8.5		8.5		9.5		9.5	
SK	Standard	23		19		19		19		19		19.0		19		20		20		20		20	
	Reduced	10		-		10		10		10		10		6/10		10		10		10		10	
FI	Standard	22		22		22		22		22		22		23		23		23		24		24	
	Reduced	8/17		8/17		8/17		8/17		8/17		8/17		9/13		9/13		9/13		10/14		10/14	
SE	Standard	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	
UK	Standard	17.5		17.5		17.5		17.5		17.5		15		17.5		20.0		20.0		20.0		20.0	
	Reduced	5		5		5		5		5		5		5		5		5		5		5	
EU arithmetic	Standard	19.3		19.6		19.5		19.6		19.5		19.9		20.5		20.8		21.1		21.5		21.5	

Note: Rates given in the table are rates applicable (for more than 6 month in the year considered, or) on the 1st July of that year. Super-reduced rates (below 5%) are shown in brackets. Note that 'Parking rates' are not included in this table, as they are "historic rates" below 15% negotiated by member states, and an exception to the EU directive (only 5 member states retain them). BG: Reduced rate increased to 9 % on 1.04.2011. Czech Rep.: Standard rate decreased to 19 % on 1.05.2004. DK: In respect of Article 81, Denmark reduces the taxable amount to 20% to which the 25% rate is applied, resulting in an effective rate of 5% for imports of both works of art and antiques. The same applies in respect of supplies by creators. ES: Standard rate increased to 20 % on 1.07.2009. EL: All rates were increased on 01.04.2005. A further general increase occurred on 15/03/2010 (to 5/10 % and 21%, followed the same year by the increase to 5.5/11 and 23 %, which occurred on July 1st. Standard rate increased to 20 % on 1.07.2009. ES: The 2010 increase (reduced rate to 8% and standard rate to 18%) occurred on 1st July. Both rates were further increased on 01.09.2012 (to 10% and 21%). FR: Before 01.04.2000, standard rate was equal to 20.6 %. HR: Standard rate increased to 23 % on 01.08.2009. A further increase - to 25 % - took place on 01.03.2012. IE: The (super-) reduced rate was 4% before 01.03.2000. Standard rate increased to 21 % on 01.03.2002. Standard rate further increased to 21.5 % on 01.12.2008. An additional reduced rate of 9 % was introduced on 01.07.2011. IT: Standard rate increased to 21 % on 17.09.2011. A further increase - to 22 % - took place on 01.10.2013. CY: The reduced rate of 5 % was introduced on 01.07.2000 together with the increase of the standard rate from 8 % to 10 %. Standard rate increased to 13% on 01.07.2002. The second reduced rate of 8% was introduced on 01.08.2005. Standard rate increased to 17 % on 01.03.2012, and further increased to 18 % on 14.01.2013. On 13.01.2014 the second reduced rate increased to 9 % and the standard rate increased to 19 %. LV: Reduced rate decreased to 5 % on 01.05.2004. Standard rate decreased to 21 % on 01.07.2012. LT: Reduced rate (5 %) introduced on 01.05.2000. Standard rate increased to 19 % on 01.01.2009 and further increased to 21 % on 01.09.2009. HU: The second reduced rate (15 %) was abolished on 01.09.2006. Reintroduced on 01.07.2009 at 18 % together with the increased of the standard rate to 25 %. NL: Standard rate increased to 21 % on 1.10.2012. PL: The (super-)reduced rate of 3 % was introduced on 04.09.2000. PT: Standard rate increased to 19 % on 05.06.2002. Standard rate further increased to 21 % on 01.07.2005. Standard rate decreased to 20 % on 01.07.2008. All rates increased by 1 % on 01/07/2010. RO: The second reduced rate (5 %) introduced on 01.12.2008. Standard rate increased to 24 % on 01.07.2010. SI: Reduced rate increased to 9.5 % and standard rate increased to 22 % on 1.07.2013. SK: The second reduced rate (6 %) introduced on 01.05.2010. Abolished on 01.01.2011 together with the standard rate increase to 20 %. FI: Second reduced rate decreased to 12 % on 1.10.2009. Second reduced rate subsequently increased to 13 % on 01.07.2010 together with the increase of the first reduced rate to 9 % and the increase of the standard rate to 23 %. UK: Standard rate increased to 20 % on 04.01.2011.

Source: Commission services (European Commission, 2014c)

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KC-AR-14-006-EN-N

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