

Tax reforms in EU Member States 2013

Tax policy challenges for economic
growth and fiscal sustainability

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

2013 Report

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ABBREVIATIONS

ACE	Allowance for corporate equity
AETR	Average effective tax rate
AEFC	Alternates of the Economic and Financial Committee
AGS	Annual Growth Survey
AW	Average wage
CPB	Central Planning Bureau
CBIT	Comprehensive business income tax
CGE	Computable General Equilibrium
CIT	Corporate income tax
CCCTB	Common Consolidated Corporate Tax Base
DG ECFIN	Directorate-General Economic and Financial Affairs
DG TAXUD	Directorate-General Taxation and Customs Union
EA	Euro area
EC	European Commission
ECB	European Central Bank
ECOFIN	Economic and Financial Affairs (Council)
EEO	European Employment Observatory
EPC	Economic Policy Committee
EPP	Euro Plus Pact
ESA79	European System of Accounts 1979
ESA95	European System of Accounts 1995
EU	European Union
EMU	European Monetary Union
FAT	Financial activity tax
FTT	Financial transaction tax
GDP	Gross domestic product
GHG	Greenhouse gas
GNI	Gross national income
ITR	Implicit tax rate
JRC-IPTS	Institute for Prospective Technological Studies of the European Commission's Joint Research Centre
METR	Marginal effective tax rate
MCPF	Marginal cost of public funds
MTO	Medium-term budgetary objective
MWP	Making work pay
NMS	New Member States
NRP	National Reform Programme
OECD	Organisation for Economic Cooperation and Development
PIT	Personal income tax
pp	percentage points
SCP	Stability and Convergence Programme
SSC	Social contributions
TFP	Total factor productivity
VAT	Value added tax

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EDITORIAL

Reforming the European economy to ensure that it generates sustainable growth and creates jobs remains a key challenge. While substantial consolidation efforts have been accomplished, many Member States continue to have substantial consolidation needs to put their public finances back on a sustainable track while at the same time facing the need to support ailing economic activity and weak employment creation. Tax policy is one important facet of this predicament. Carefully designed, it can help address consolidation needs, stimulate the efficiency, competitiveness and job potential of the EU economy, while promoting social inclusiveness. Given their importance, tax policy issues were comprehensively covered in the 2013 cycle of economic policy coordination, commonly referred to as the 'European Semester'.

The 2013 edition of the report 'Tax reforms in EU Member States' contributes to the tax policy debate in the EU. Compared to previous editions, the report has been streamlined with a stronger focus on the Member State level. The report consists of two parts: (i) an extensive overview of recent tax reforms, and (ii) a discussion of selected tax policy challenges relevant for improving Member States' tax systems in two analytical chapters. The challenges under scrutiny — dealt with in two analytical chapters — have a bearing on growth, employment, fiscal sustainability and may impact macroeconomic stability. Tax policy measures to address them are under the direct control of the Member States' governments.

The chapter on recent tax reforms identifies common trends across countries and offers a typology of reforms consistent with the main messages of the European Semester.

The first analytical chapter focuses on two wide ranging challenges that EU Member States are facing in the area of tax policy in times of slow growth and high fiscal consolidation needs: the potential contribution of taxation to consolidate public finances — in addition to expenditure control — and the growth-friendliness of the tax structure. Beside updating and refining last year's horizontal screening, various checks have been carried out to see how robust the results are.

The second analytical chapter deals with economic challenges that EU Member States are facing with respect to the design of individual taxes and tax compliance. It deepens the analysis of tax expenditure with particular insights on personal income taxation and examines the debt bias in corporate taxation, notably its effects on banks' capital structures. Applying an indicator-based approach, the report then provides an update of the analysis carried out in previous years on broadening the VAT base, on housing taxation, on environmental taxation and on improving tax governance. Finally, the chapter analyses the influence of taxation on income inequality.

The analysis indicates that around half the countries could consider making their tax structure more growth-friendly or using taxation to help fiscal consolidation. Most countries — with very few exceptions — are identified as facing particular challenges to improve the design of their tax systems in at least one of the areas analysed, with wide diversity across Member States in the number of challenges faced. Lastly, tax governance issues are found in more than half the Member States.

We trust that the analysis contained in this year's report will continue to contribute to the tax policy debate in the European Union. In particular, a cross-country consistent highlighting of tax challenges for all EU Member States, based on comparable indicators, may serve as technical background for the identification of the broad tax policy areas deserving specific attention. In line with last years' practice, the exercise is meant to provide an important input, although one in need of further country-specific specification, for the policy advice given in the context of the 'European Semester'.

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SUMMARY AND CONCLUSIONS

The difficult fiscal positions of many Member States led to an overall increase in the tax burden. Given the continued need for fiscal consolidation, many Member States have recently increased taxation across the board, i.e. implemented measures covering direct and indirect taxes as well as social security contributions. This report provides an overview of recent tax reforms carried out in Member States in 2012 and the first half of 2013. It also summarises changes in overall tax revenue and identifies common trends across countries, offering a descriptive typology of reforms consistent with the main messages from the European Semester.

In the period 2012–13, many Member States made changes to personal income tax, often by increasing the statutory rates. Many countries actually increased their top marginal rates, introduced surcharges or increased the tax base. Despite general increases in personal income tax, there was a growing tendency to lower the tax burden on low income earners while increasing it on higher earners, in an attempt to make the taxation system more progressive. In corporate income taxation, most of the reforms focused on narrowing the tax base in response to the protracted impact of the crisis on private sector investment. A few countries also changed their headline corporate tax rates.

Increases seen in indirect taxes often do not seem to have been accompanied by corresponding cuts in labour taxation to reduce the relatively high cost of labour. This represents a ‘relative’ tax shift, i.e. a shift in the tax structure from direct to indirect taxation, with an increase in the overall tax burden. The taxes generally considered to be less detrimental to growth have generally been increased, i.e. consumption taxes, immovable property taxation and environmental taxes. Consumption and, to a much lesser extent, environmental taxes have been increased across the board in a large majority of countries. Several Member States reformed property taxation, with some countries designing the reforms to be progressive by focusing on high-value properties. However, while more than half of the Member States introduced VAT reforms over the past two years, a majority of these increased statutory rates rather than broadening the VAT base. Finally, a majority of Member States took measures to step up the fight against tax fraud and evasion and to improve tax compliance.

The report analyses potential challenges that Member States are currently facing in areas of taxation where policy is expected to have an impact on macroeconomic performance in terms of GDP, employment, fiscal sustainability and may impact macroeconomic stability. The taxation areas under scrutiny also concern the design of national tax policies, which is the responsibility of Member States’ governments. The report first examines wide-ranging macroeconomic challenges related to the sustainability of public finance and the growth-friendliness of the tax structure. This examination is based on a systematic review and screening of available quantitative indicators and is augmented by various robustness checks. While the outcome of screening could be regarded as rather mechanical, it allows consistency across countries and helps to frame the policy discussions. This first attempt to identify relevant tax policy challenges needs to be supplemented by country-specific evidence and analysis.

According to the indicator-based screening, a limited number of Member States could in particular consider using taxation — in addition to expenditure control — to consolidate their public finances and make them more sustainable. These countries are found to face particular consolidation challenges and, at the same time, to have some reasonable room for tax increases.

Around one third of the Member States could in particular consider shifting taxation away from labour to tax bases less detrimental to growth. In these cases, a high tax burden on labour (either in general or on specific labour market groups) coexists with some room for increasing taxes considered to be less detrimental to growth, i.e. consumption taxes, recurrent housing taxes and environmental taxes. The analysis of the need and scope for this tax shift seems to be robust to the use of different benchmarking approaches. It has also been nuanced by taking into account possible mitigating factors: (i) high tax burden on low-wage earners only at 50 % or 67 % of the average wage, (ii) actual labour market performance in countries where labour taxation is high, and (iii) the relative size of the tax bases to which labour taxation could be shifted.

The report clarifies the differences between ‘tax shifting’ and ‘fiscal devaluation’. While the two concepts involve the same type of policy measures, their objective differs. ‘Tax shifting’ here refers to shifting taxation from the most growth-detrimental taxes, such as labour tax and corporate income tax, to revenue sources less harmful to growth. The objective is generally *long-term* gain, in terms of growth and jobs. Fiscal devaluation — currently topical because of the sovereign debt crisis affecting peripheral euro area countries — is a specific type of tax shift. It often takes the form of a decrease in labour taxation, notably employers’ social contributions, financed by an increase in VAT. The objective of fiscal devaluation is to improve impaired competitiveness vis-à-vis trade partners in the *short term* and thereby to accelerate the necessary correction of the current account deficit. Fiscal devaluation, which mimics the effects of a currency devaluation on the terms of trade, would be most efficient for countries with large external imbalances.

The report provides insights from various modelling simulations into the effects of tax shifts and fiscal devaluation (based on QUEST III and an external study by the Dutch Central Planning Bureau, CPB). The model simulations presented in the report point to GDP and employment gains from tax shifts from labour to consumption. If the tax shift occurs in only one country, there are additional gains from increased competitiveness, but only in the short term, which correspond to the ‘terms of trade’ effect associated with ‘fiscal devaluation’. External trade effects differ across simulations but are mostly moderate in size. The analysis of tax shifts is also enriched by exploring several relevant dimensions of policy design, such as targeting the shift to specific types of labour, in particular low-skilled workers, and compensating transfer recipients. Moreover, the distributional impacts of fiscal devaluation are analysed.

The report also examines the challenges related to the design of individual taxes. The areas covered include tax expenditures, the debt bias in corporate and housing taxation, and challenges related to environmental taxation and tax governance.

Tax expenditure may in some cases reduce the efficiency of the tax system and affect tax revenue. For instance, tax expenditure in personal income taxes is far from negligible in some Member States and may merit cost-benefit analysis. Regular reporting of tax expenditure is currently carried out in around two thirds of the Member States. Countries not reporting their tax expenditure regularly could consider releasing the regular information in some form (e.g. national publications, official websites), in compliance with the directive on requirements for budgetary frameworks of the Member States, to show whether there is scope to increase economic efficiency while possibly increasing revenue.

EU Member States share a ‘debt bias’ in corporate taxation, as a large majority of them allow deduction of interest paid, while there is no such deduction for equity costs. The gap between effective marginal tax rates for debt and equity varies between Member States and is particularly high in nearly a fifth of the Member States.

EU Member States collect VAT revenues far below the level that could be collected theoretically if all consumption items were taxed at the standard rate. Widespread use of VAT exemptions and reduced VAT rates and a high gap in tax collection are amongst the main drivers of such a gap, the level of which is also influenced by the structure of the economies. Some Member States have a particularly low level of VAT collection compared with theoretical levels.

Several Member States face the challenge of shifting from transaction to recurrent taxes on immovable property. The coexistence of relatively high transaction taxes on property transfers and relatively low recurrent tax on property suggests scope for this kind of efficiency-enhancing reform. Moreover, the taxation of housing continues to favour the accumulation of debt in many Member States, due to mortgage interest deductibility combined with overly low tax on imputed rents. More than one third of the Member States are considered to face the challenge of a debt-biased housing tax system, albeit to different degrees.

Concerning environmental taxation, one overarching challenge is the need to introduce efficient policy to meet agreed environmental targets. Such policy could preferably include market-based instruments, including, for instance, taxation. Around one third of the Member States seem to face challenges in this area, albeit to a varying degree. A related issue is how to improve on existing environmentally-related taxation, possibly by also removing or reducing some environmentally harmful tax expenditure. Around a third of the Member States have been identified as having potential scope to improve the design of taxation in this respect.

A large majority of Member States face challenges linked to tax governance. Such challenges can be related to the need either (i) to improve tax compliance as a consequence of a large shadow economy and high levels of undeclared work, in particular, or (ii) to improve the functioning of the tax administration, as indicated by high tax collection or compliance costs, a high level of undisputed tax debt, or low use of e-filing and no pre-filing of tax returns. A relatively high number of Member States could consider measures to improve tax compliance and their tax administration.

Finally, the report discusses the role of taxation in income redistribution and concludes that distributional analysis could receive due attention in designing policy reforms. Not all taxes have the same effect on redistribution and direct taxes can play a major role. Policies that call for a shift away from income taxes towards other bases less detrimental to growth are, however, not necessarily in contradiction with the role of income taxes in fighting inequalities. Proper tax design, including compensation measures, can accommodate both equity and efficiency aspects. The efficiency of redistribution rests on a number of soft factors that are mutually reinforcing, entrenched in societal practices and nevertheless need to be addressed. It remains important to look at redistribution in a broad systemic context.

1. INTRODUCTION

Initial mandate and overall purpose

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

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

This report has several purposes. First, it takes stock of tax reforms implemented recently in the EU Member States and examines how reform trends have affected overall tax revenue. Second, it reviews various tax policy challenges, which are presently considered in the policy debate and relevant to future reforms. It looks both at broad macroeconomic issues, such as revenue policy’s possible contribution to consolidation and the scope for shifting taxation away from labour towards revenue sources that are both innovative and less detrimental to growth. It also considers the design of specific taxes, in particular the need to broaden the base of certain taxes and thus reduce harmfully high tax rates or increase needed revenue. The delicate issue of tax expenditure in direct taxation is also covered. It reviews tax

governance issues, including tax compliance and efficiency of tax administration. Third, this year the report tries to provide more modelling results, quantifying the impact on output and employment of some types of reform, mainly a tax shift away from labour. It also examines some key conditions influencing the policy outcomes of tax shifts, such as differentiation by labour skills and compensation for increases in consumption taxes.

The report is a first attempt to identify relevant tax policy challenges using indicator-based screening. While the outcome of screening can be mechanical, it allows cross-country consistency and helps to frame policy discussions. This year, some systematic robustness checks were performed to assess the impact of the quantitative benchmarks used on the screening outcome. Moreover, some qualifiers are systematically taken into account in analysing tax shifts. They relate to actual labour market performance, the incentives to work for very-low-wage-earners (i.e. those earning 50 % of average wages) and an analysis of the least detrimental taxes, toward which a shift is recommended.

The challenges identified in the report correspond to key dimensions of national tax systems, where policy actions are expected to impact on macroeconomic performance, in terms of GDP, employment, fiscal sustainability and possibly macroeconomic stability. The taxation areas under scrutiny are also linked specifically to the design of national tax policies and are under the direct control of the government of Member States. These issues are also explicitly referred to in the Annual Growth Survey (see Box 1.1), since they are relevant to the coordination of national policies. They do not include issues specifically pertinent to the functioning of the single market which require tax cooperation between EU Member States, via legislation or more informal initiatives at EU level (such as tax competition, double taxation, fight against tax havens).

The report also provides analysis for integrated economic surveillance carried out in the context of the European Semester, which is presented in the next section and in Box 1.1. It may feed into or analytically underpin the 2014 European Semester, starting with the formulation of cross-cutting

⁽¹⁾ European Commission (2013a).

issues to be reported on in the 2014 Annual Growth Survey (AGS).

The report is also intended to stimulate a structured, multi-faceted tax dialogue between the Commission and Member States.⁽²⁾ This will foster the exchange of best practice on tax reforms among Member States and spur debates on the role of efficient tax policies for growth, employment and social equity. Lastly, the report aims to contribute to effective communication with civil society on this sensitive topic, which is particularly relevant in times of fiscal consolidation.

Before drawing firm policy conclusions, it is nevertheless necessary to complement this with in-depth country analysis, which is outside the scope of this initial, horizontal examination. This in-depth country analysis is made in the European Semester.

Greater relevance of tax policies under the European Semester

Owing to the current economic context, in which Member States need to speed up consolidation and reduce their heavy debt burden, and at the same time stimulate the efficiency and job potential of the EU economy, taxation is very likely to remain a crucial policy area in the years to come. Many Member States have to design revenue-raising measures in an efficient and fair manner while at the same time supporting weak European economic growth.

To address the current economic challenges, a new framework for integrated economic policy coordination, the European Semester, was set up in the EU in 2011. This process looks at economic policies at Member State level with a view to supporting economic growth, job creation and fiscal sustainability (see Box 1.1 for a more detailed description of the European Semester and related processes). Compared with previous years, even more attention has been given to taxation issues. The European Semester provides guidance on how to take common steps towards more

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

The Country-Specific Recommendations endorsed by the European Council on 28 June 2013, adopted by the ECOFIN Council on 9 July and closing the third European Semester highlight the importance of further tax reforms that give priority to growth-friendly sources of taxation while maintaining or raising total tax revenues to help the consolidation process. Country-Specific Recommendations in the field of taxation have covered almost all of the EU Member States (that is, all but the Member States under financial assistance programmes, which are not included in the exercise).

At country level, the European Semester agenda is complementary to the need for more action at EU level, including tax coordination, especially where cross-border issues are involved. On the one hand, well-coordinated taxation and common initiatives to fight tax fraud and tax evasion will help to improve the efficiency of the EU's internal market, given that some remaining obstacles stem from the uncoordinated tax policies of Member States. On the other hand, tax coordination can also support the implementation of national growth-friendly tax policy strategies, for example where it leads to the elimination of harmful tax practices and strengthens national tax governance and efforts to improve tax compliance.

Structure of the report

The report is designed to follow a standard format for the different issues. In each part, however, the focus will vary depending on the availability of new indicators or new analysis. The report is structured as follows.

Chapter 2 provides an overview of recent tax reforms implemented in Member States in 2012 and the first half of 2013. It also outlines developments in overall tax revenue. The chapter identifies common trends across countries, offering a typology of reforms consistent with the

⁽²⁾ The importance of this dialogue was stressed in Annex IV of the 2012 Annual Growth Survey on 'Growth-friendly tax policies in Member States and better tax coordination in the EU'.

Box 1.1: Importance of taxation in the European Semester

Horizontal recommendation including Annual Growth Survey

The Annual Growth Survey for 2013 ⁽¹⁾ launched the 2013 European Semester of economic governance. It is the basis for a common understanding about the priorities for action at national and EU level for the next twelve months. The Annual Growth Survey should feed into national economic and budgetary decisions putting the EU country-specific recommendations and the commitments made under the Euro Plus Pact (EPP) into practice.

The Annual Growth Survey for 2013 is consistent with last year's AGS in guiding the Member States to continue to implement growth-friendly tax reforms. Regarding taxation, the Commission recommends the following in AGS 2013 (quoted from the Annual Growth Survey 2013):

- *The tax burden on labour should be substantially reduced in countries where it is comparatively high and hampers job creation. To ensure that reforms are revenue-neutral, taxes such as consumption taxes, recurrent property taxes and environmental taxes could be increased.*
- *Additional revenue should be raised preferably by broadening tax bases rather than by increasing tax rates or creating new taxes. Tax exemptions, reduced VAT rates or exemptions on excise duties should be reduced or eliminated. Environmentally harmful subsidies should be phased out.*
- *Tax compliance should be improved through systematic action to reduce the shadow economy, combat tax evasion and ensure greater efficiency of tax administration.*
- *The corporate tax bias towards debt-financing should be reduced.*
- *Real estate and housing taxation should be reformed to prevent the recurrence of financial risks in the housing sector. In particular, aspects of tax schemes which increase the debt bias of households, typically through tax relief for mortgages, should be reviewed.*

Assessment of national reform strategies by the Commission and the Council

The European Semester closes in June each year with the Council's endorsement of the Country-Specific Recommendations (CSRs). Each Member State's national policy strategy is set out in its Stability and Convergence Programme (SCP) and in its National Reform Programme (NRP). The SCP sets out measures to ensure sound public finances, while the NRP sets out the measures planned to boost growth and jobs and address potential macroeconomic imbalances. The Commission also assesses the Euro Plus Pact commitments of the participating Member States to the extent that they are included in the NRPs. It provides a detailed assessment of the implementation by Member States of the CSRs in the country-by-country analysis it presents to the June European Council each year and proposes changes or amendments to CSRs based on that analysis.

⁽¹⁾ European Commission (2012b).

main messages from the European Semester, since the latter has shaped some reforms directly. While the chapter is descriptive, it contains a separate box on the outcome of the 2013 European Semester.

Chapter 3 focuses on two wide-ranging macroeconomic challenges that individual Member States face in the area of taxation in times of slow growth and large consolidation need: making public finances sustainable and making the tax structure growth-friendly. The analysis is based on systematic review and screening of available

quantitative indicators and is augmented this year by various robustness checks. The chapter also briefly highlights the main differences between fiscal devaluation and the broader concept of tax shifting. It also presents complementary insights, from recent model simulations, regarding the effect on output and employment of shifting taxes from labour to consumption and of a fiscal devaluation. The simulations also explore particularly relevant policy dimensions, such as the gains to be made by targeting the shift to specific types of labour and the effect of compensating transfer recipients.

Chapter 4 looks at tax policy challenges in EU Member States relating to the design of individual taxes and tax compliance. The chapter deepens the analysis of several topics, namely tax expenditure reporting, and tax expenditure in the area of personal income taxation, and the debt bias in corporate taxation. In addition, it updates last

year's analysis of VAT, environmental taxes, housing taxes and tax governance. As in Chapter 3, the analysis is based on systematic screening using quantitative indicators available for most EU countries. The chapter also continues last year's non-normative examination of the redistributive effects of taxation.

2. RECENT REFORMS OF TAX SYSTEMS IN THE EU

2.1. INTRODUCTION

This chapter identifies common trends across countries, offering a typology of reforms carried out in 2012 and in the first half of 2013. It also briefly presents the expected development of overall tax revenues. ⁽³⁾ Table 2.2 sets out the main tax reforms for each Member State. ⁽⁴⁾

The analysis covers the main priority areas identified in the 2013 Annual Growth Survey: shifting taxation away from labour, broadening the tax base, fighting tax fraud and evasion and reducing incentives towards indebtedness.

Instead of the classic breakdown by types of taxes, we have divided the reforms in a way that reflects the main messages in the 2013 Commission assessment of the National Reform Programmes that followed the Annual Growth Survey. This division is appropriate partly because a number of the reforms were carried out in response to the Council's recommendations in the European Semester. The presentation of the reforms is mainly descriptive, with a separate overview of the 2012 and 2013 country-specific recommendations (CSRs) in Box 2.1.

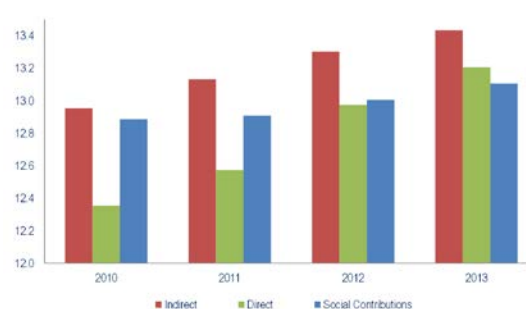
2.2. MAIN TRENDS IN TAXATION

Given the continued need for fiscal consolidation, many Member States have increased the overall tax burden (comprising direct and indirect taxes and social contributions).

Graph 2.1 shows an increasing trend in both direct and indirect taxes as a share of GDP. This can be explained by across-the-board tax increases between 2011 and 2012, as described in the 2012 Tax Reforms Report. Many Member States have made changes to personal income tax (PIT) for

consolidation needs, often by increasing the statutory rates. Also, progressive 'solidarity' contributions (i.e. surcharges) have been introduced for high-income earners in some countries. The trend towards increasing indirect taxes mainly reflects various Member States' measures to increase the standard VAT rate and/or excise duties.

Graph 2.1: Evolution of tax revenues (EU-27, % of GDP)



Note: Data is based on the Commission Spring 2013 Forecast. Data refer to tax revenues to General governments, excluding indirect taxes levied by national governments on behalf of EU institutions.

Source: Commission services, AMECO.

Looking at reforms undertaken in the Member States between 2012 and 2013 (described in more detail in Table 2.2), we generally observe an increase in indirect taxes, but it does not seem to be accompanied by corresponding cuts in labour taxation to reduce the relatively high cost of labour. Only a few Member States have taken measures to decrease PIT, while many countries are still increasing PIT. Besides increasing top marginal rates or introducing new tax brackets, some have increased the tax base (e.g. PIT mortgage interest deductibility has been reduced in some countries or even abolished in a few cases).

Besides an overall upward trend in PIT, there is a growing tendency to increase progressivity by lowering the tax burden on targeted groups such as low income earners while at the same time increasing it on higher income earners.

⁽³⁾ AMECO data based on the Commission's Spring 2013 forecast.

⁽⁴⁾ This chapter draws on Garnier et al. (2013) as well as on information provided by Member States in their National Reform Programme and/or Convergence/Stability Programmes.

Box 2.1: The Country-Specific Recommendations (CSRs) in the area of taxation in the context of the European Semester

This box is the logical follow-up to Box 1.1 in the first chapter, which presented the main principles of the European Semester 2013. It sets out the outcome of the European Semester in terms of the Country-Specific Recommendations (CSRs) in the area of taxation. In its assessment of the tax measures taken by Member States, the Commission generally considered that many of the measures recently implemented were often insufficient to address the problems identified in the previous European Semester and set out in the preceding CSRs adopted in July 2012. The 2013 CSRs as adopted by the Council cover seven dimensions of tax policy:

- **Lowering the tax burden, with a focus on more vulnerable groups.** In its 2013 CSRs, the Commission reiterated its call to reduce the tax burden on labour to favour job creation. Eleven Member States were given recommendations on labour taxation (BE, CZ, DE, FR, IT, LV, HU, NL, AT, RO and SK). Six countries' recommendations (DE, LV, HU, NL, AT and SK) specifically call for a labour tax reduction for selected groups, such as low income earners, second earners and the low skilled. In the case of Romania, the CSR focuses on non-compliance: specifically, undeclared work. For some countries, the reasoning is taken further, i.e. applied to achieving the EU 2020 labour market targets or tackling a potential ageing-related fall in the labour force by means of tax incentives.
- **Shifting labour taxes toward more growth-friendly bases.** In 2012, eleven countries received recommendations referring to shifting taxation away from labour or reducing the labour tax burden on specific groups (BE, CZ, DE, EE, ES, FR, IT, LV, HU, AT and SK). In 2013, all of these countries — except for Estonia and Spain — were given recommendations on shifting taxation away from labour or reducing the labour tax burden on specific groups. The recommendations to some countries (e.g. Latvia) referred to a specific labour market group as a beneficiary of the tax shift. For the majority of Member States recommended to shift taxes away from labour (and capital) in 2012, the Commission's assessment in making the recommendations was that they had not implemented this recommendation forcefully for 2013.
- **Base broadening.** Additional gains in the efficiency and competitiveness — but also equity — of tax systems were partly achieved by broadening the tax bases following last year's recommendations, but this was insufficiently exploited. In 2012, seven countries (DE, ES, FR, IT, HU, SK and SE) were given a recommendation on broadening the tax base, mainly on VAT broadening and VAT efficiency. For the 2013 cycle, the Commission made such recommendations to nine Member States, maintaining six 2012 recommendations (except for SK) and making three more, i.e. to Belgium, the UK and Luxembourg.
- **Addressing corporate debt bias.** This was highlighted in the Annual Growth Survey 2013 as one of the priorities for taxation reforms. In fact, three Member States received an explicit recommendation on the issue in 2012 (ES, FR and MT). Progress on tackling corporate debt bias was judged insufficient for Spain, France and Malta in the 2013 Commission assessment. The recommendations to the three countries were maintained and two new ones were issued for Luxembourg and Sweden.
- **Environmental taxation.** Some Member States took action on environmental taxation, but overall progress remained limited. In 2012, 11 countries were given recommendations referring to this area (BE, CZ, ES, FR, IT, LV, LT, LU, HU, AT and SK). Nine of these have made changes to environmental taxation. However, these appear to be driven by fiscal consolidation. In 2013, most of the CSRs are proposed to be kept and a new recommendation made to Romania. Six recommendations focus on shifting taxes away from labour to 'green' taxes while four focus on increasing 'green' taxes.

(Continued on the next page)

Box (continued)

- **Housing taxation.** Reforms using property taxation to facilitate a tax shift have been limited. Increases in recurrent property taxation have met with political objections in several Member States, but they can be effective and fair ways of raising public revenue. In 2012, 13 countries were issued CSRs related to housing taxation (CZ, DK, ES, FR, IT, LV, LT, HU, NL, AT, SK, SE and UK), aimed at a tax shift towards property taxes and reducing household indebtedness. Except for Denmark, Spain, France and Hungary, all CSRs were maintained in 2013. In addition, Germany was given a new recommendation on this issue. In many of these countries, the 2013 recommendations concern shifting labour (and capital) taxes towards property taxes (CZ, IT, LV and AT). In the case of Lithuania, the issue is a growth-friendly revenue-side consolidation, where property taxes could be relied upon. For the remaining countries, the recommendations are focused on the functioning of the housing market and preventing household indebtedness. They include phasing out mortgage interest deductibility (NL, SE) or increasing property taxation (SE), linking property taxation to property values (SK), broadening the property tax base (DE) and reforming the property tax system (UK).
- **Enhancing tax governance.** In 2012, ten Member States received CSRs referring to the need to improve tax governance. In the majority of the cases, the recommendations referred specifically to the need to improve tax compliance. In three cases (BG, CZ and SK), they covered both tax compliance and tax administration. In one case (HU), they referred to tax administration only. Improving tax governance requires sustained efforts over time. The extent of the challenge — in particular in a time of high economic uncertainty — leaves scope for more action. In its 2013 assessment, the Commission pointed to the need to improve tax governance for 13 countries (BE, BG, CZ, ES, IT, LV, LT, HU, MT, PL, SL, SK and RO), building upon the last year's recommendations. Among the 2013 recommendations referring to tax governance, the CSRs for Belgium refer to the need to improve tax compliance by closing existing loopholes; Hungary has been asked to fully implement and step up the measures it has announced to improve tax compliance and reduce the cost of tax compliance; Latvia has been recommended to maintain efforts to improve tax compliance and combat the shadow economy and Malta to ensure that measures taken to increase tax compliance and fight tax evasion produce results ⁽¹⁾.

Finally, the Commission implicitly referred to the need to consider tax incentives to boost innovation and entrepreneurship in its general guidance in the 2013 European Semester. The 2013 Annual Growth Survey underlines that some framework conditions need to be in place at national level to stimulate growth and competitiveness. This includes a favourable environment for driving innovation, new technologies and higher levels of public and private R&D investment. The conclusions of the 2013 European Semester underline the need to develop more support measures such as tax incentives and strategic use of public procurement to boost innovation among European companies.

⁽¹⁾ Examples taken from the Commission's proposals for CSRs of 29 May 2013.

For corporate income taxation (CIT), most of the reforms focused on narrowing the tax base in response to the protracted impact of the crisis on private sector investment. A few countries also decreased their headline corporate tax rates.

Almost half Member States undertook reform of property taxation, with some countries designing the reforms to be progressive by focusing on higher-end properties.

Consumption taxes and, to a much lesser extent, environmental taxes — both considered less detrimental to growth — have been increased in a large majority of countries. However, while half of the Member States introduced VAT reforms, a majority of these actually reflect increases in statutory rates rather than a broadening of the VAT base, for example by narrowing the application of some inefficient reduced rates.

Finally, a majority of Member States took extra measures to fight tax fraud and evasion and to improve tax compliance. However, the extent of the challenge leaves ample scope for further action.

Table 2.1: Tax changes adopted in 2012 and first half of 2013

		Statutory rates	Base or special regimes
Personal Income Tax	Increase	BG(9), EL, FR, CY, LU, PT, SI, SK, FI(1)	BE, CZ(2), EE, IE, EL, ES, FR, LU, NL, AT, PL, FI, UK, PT
	Decrease	LV, MT	BE, DK, DE, IT, HU, MT, NL, AT, SI, FI, SE, UK
Corporate Income Tax	Increase	EL, CY, LU, PT, SK, HU	EL, ES, LU, AT, FI, PT, BE, FR
	Decrease	DK, EE, SI(3), FI(4), SE, UK(3)	IE, EL, ES, FR(5), HR, IT(5), LT, LU, HU, NL, RO, SI, FI, SE, UK, CZ
Social Security Contribution	Increase	CY(4), HU(8), NL, AT	CZ, EE, IE, AT, SK
	Decrease	EE, HR	BE, HU, PT
Value Added Tax	Increase	CZ, ES, FR(7), HR, IT(6), CY, NL, SI, FI	BE, ES, LV, LU, PL, PT
	Decrease	EL, HR, LV	LT, LU, SE
Excise duties	Energy products and electricity	Increase	BG, EE, EL, ES, HR, IT, CY, LT, LU, HU, MT, PL, PT
		Decrease	BG, CZ, ES, LV, AT
	Tobacco, alcohol and sugar etc.	Increase	EE, IE, EL, ES, HR, CY, LT, LU, HU, MT, NL, AT, PL, PT, RO, SI, UK
		Decrease	DK
Environmental taxation (excl. Excise duties on energy)	Increase	DK, IE, ES, HU, IT, HR, MT, NL, RO, SK, UK	IT, LU, HR, NL, UK
	Decrease	AT, MT, DK	
Taxation of Property	Increase	CZ, IE, IT, CY, FI, SI, UK	LV, LT, RO, SI, PT
	Decrease	EE, PT, SE	

Note: the table encompasses tax changes implemented in 2012 and the first half of 2013 including temporary changes. Introduction of new measures are listed here as an increase in statutory rate. Changes in tax brackets (thresholds) are considered as base changes. An increase in VAT reduced rates is classified as a 'statutory rate' increase while measures extending the application of the standard VAT rate are treated as a base broadening. Note that increase in excise duties may be simply due to an indexation of the amounts. (1) Temporary measure. (2) Temporary, not affecting the reforms to be introduced in 2015 which will reduce the overall taxation of labour. (3) On-going, gradual decrease in CIT rate. (4) Reform will apply as from 1 January 2014. (5) Measure to reduce labour tax burden. (6) As from July 2013 an increase of 1 percentage point of the standard rate (up to 22 %) is foreseen. (7) As from 2014. (8) As from August 2013, new 6 % health care contribution on interest income. (9) The PIT increase only affects interest income. Detailed information on the tax reforms is provided in Table 2.2.

Source: Commission services.

2.3. LABOUR TAXATION AND TAX SHIFTING

In the context of the crisis and, especially, high unemployment, the distortive impact of high labour taxation appears particularly problematic both from the point of view of working and hiring incentives and that of fairness. The latter aspect has gained in importance, influencing the reform agendas in several Member States.

In general, recommendations regarding labour taxation take two forms (which can be complementary): a general decrease in overall labour taxation and a targeted reduction in the tax burden for the most vulnerable groups in the labour market.

Only a few Member States have taken measures to decrease PIT rates (e.g. LV and MT), while many countries are still increasing PIT. For example, some countries have increased their top marginal rates (e.g. LU and PT), applied a crisis surcharge (e.g. CZ and CY) or introduced new tax brackets (FR and SK). Additional changes were also made by broadening the tax base (e.g. EE, EL, FR, LU, NL and PL). Some countries have increased social contributions either through a rate increase or/and base broadening (CY, CZ, EE, IE, NL, AT and SK). Broadening the contribution base may help stabilise the system (especially in the context of ageing societies).

As the crisis gets longer and deeper, there seems to be a growing recognition that revenue-raising tax reforms need to be carried out, if possible, not at the expense of the poor and aimed towards groups that are the most responsive to tax changes. Many reforms are designed to incorporate social concerns and limit the impacts on low income earners. Generally, a common feature of the measures taken is their limited scope and their targeting of specific groups, which reflects the limited fiscal room for far-reaching labour tax reforms. These measures take various forms:

First, nine Members States (BE, DK, FR, HU, IT, NL, PT, FI and SE) have made efforts to relieve the tax burden on targeted groups with high labour supply elasticities and/or at elevated risk of poverty. These typically include low income earners in general, but also older workers (BE, HU, PT and SE), the low skilled (BE and HU), the young (BE, IT and HU), women (HU and IT), single parents (DK) and those employed in disadvantaged geographical areas (IT and HU). Given the focus of the majority of such measures on low earners, the measures could, to a certain extent, compensate for the regressive effects of increases in consumption taxes (VAT and excise duties).

Second, eleven countries (CZ, EL, FR, CY, LU, NL, AT, PT, FI, SI and SK) focused increases in PIT on higher earners, which could also indicate a trend toward steeper progressivity and greater fairness of the taxation system.

Third, some Member States, such as Belgium, France, Hungary and Italy, introduced measures to increase the taxation of individuals' capital income, rather than labour income. These measures were motivated by social equity concerns. ⁽⁵⁾

Of the targeted tax reduction measures, some target the unemployed by offering tax breaks for new recruits. ⁽⁶⁾ While this choice appears to be cost-efficient by not offering tax breaks to those already working, there is a risk that while recruiting new entrants, employers might lay off other employees, thereby reducing the net employment effect. Even when the stated goal of such a measure is to create new jobs, this might be administratively difficult to enforce.

The targeted measures in most cases concentrate on the employers' tax burden and not directly on the employee / household taxation. Belgium and Hungary reduced employers' social contributions while France and Italy introduced or extended an employment-related deduction from corporate taxes. In the long run, employer- and employee-side measures are equivalent. ⁽⁷⁾ However, it is likely that due to lags in wage setting, employer-side measures are better suited to contribute to an 'internal devaluation' by reducing the tax cost of labour in the short term.

Another common characteristic of these changes is that they do not take the form of a rate cut (except in HU); instead, the tax or social contribution bases are narrowed due to extended allowances or tax credits (CZ, DK, FR, IT, LV, FI and SE).

⁽⁵⁾ Note at the same time that in Hungary, the tax burden for better earners has decreased overall due to the narrowing of the PIT base.

⁽⁶⁾ E.g. the Portuguese Decree-Ruling No 97/2013, of 4 March 2013 allowed employers to be reimbursed up to 100% of SSC paid for hiring workers older than 45.

⁽⁷⁾ Assuming that wages are flexible in the long run, the economic incidence of the tax is independent of the legal incidence. For a discussion, including possible deviations see Földessy (2013).

2.4. TAX BASE BROADENING

In many Member States, there is scope for broadening the base of certain taxes, thus increasing revenue collection, reducing tax rates and simplifying 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 risk being inefficient tools to achieve their social, environmental or economic objectives. This is particularly the case with some VAT exemptions and reduced rates, where studies ⁽⁸⁾ illustrate the welfare gains that could be achieved from base-broadening measures. Extensive use of tax expenditure in PIT and CIT may also introduce differentiated tax treatment between tax payers. In some cases, such tax breaks can make the system more complex and increase compliance and administrative costs. In addition, such tax expenditure may involve State aid within the meaning of art. 107 TFEU.⁽⁹⁾ Overall, broadening the tax base and simplifying the tax system may not only generate more revenue, but also make paying taxes easier for citizens and businesses, and tax collection simpler and transparent for administrations.

Countries broadening the tax base tend to focus on measures that simplify the VAT system. The trend is less clear for PIT and CIT. In many instances, broadening the tax base might have been a more effective strategy than raising the (statutory) tax rates as some Member States have done.

2.4.1. Value added tax

Some Member States (e.g. BE, ES, LV, LU, PT and PL) have recently broadened their VAT bases by extending the application of the standard VAT rate. For example, in Spain the standard rate of 21 % now applies to sectors or categories of services that were previously subject to reduced VAT rates (e.g. artistic performances, cinemas,

⁽⁸⁾ Mirrlees et al. (2011).

⁽⁹⁾ Article 107(1) TFEU states that any aid granted by a Member State or through state resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, in so far as it affects trade between Member States, be incompatible with the Internal Market'.

and theatres). In contrast, Sweden reduced the VAT rate for restaurants and catering services in 2012, on job creation grounds. The government has commissioned an in-depth analysis of the effects of the reform, which will be presented in early 2016. Such studies are welcome as a way of assessing the effectiveness of reduced VAT rates in meeting specific policy objectives.

2.4.2. Personal and corporate income tax

Some countries have increased their PIT bases (e.g. BE, CZ, EL, ES, FR, LU, AT and PL) and others their CIT bases (EL, ES, FR, LU, AT, PT and FI). France made efforts to reduce tax expenditure: several tax benefits, such as the family quotient and the exemption for overtime wages, have been reduced or abolished to lower the budget deficit. Moreover, French PIT allowances have been reduced to EUR 10 000 per household over the fiscal year. Greece passed a comprehensive income tax reform in January 2013 that broadens the tax base by reducing special tax regimes and tax expenditures.

Most of the reforms of corporate taxation focused on tax-base-narrowing measures. This is a general trend driven by concerns about declining company competitiveness. The Member States that did broaden their corporate tax base mostly focused on limiting interest deductibility to reduce the debt bias (see below) and on restricting loss relief. In Spain, there are new ceilings on depreciation, and limits on offsetting losses by large companies. Austria limited the deduction of losses made by foreign subsidiaries.

2.4.3. Addressing debt bias in corporate taxation

A large majority of corporate tax systems favour financing by debt versus equity, by allowing the deduction of interest costs, while there is no similar treatment for equity returns. The result is a corporate tax bias towards debt-financing. Favourable treatment of debt may create major risks as it gives companies an incentive to take on debt. It may also erode the tax base through international profit shifting and the use of hybrid instruments. Generally, the discrepancy in tax treatment can be remedied by removing or

restricting interest deductibility (e.g. CBIT) and/or introducing an allowance for corporate equity (ACE) which equalises the treatment of debt-equity by offering a tax deduction for normal return on equity (see Section 4.1.2).

Several reforms were undertaken in 2012 and 2013 to address the debt bias in corporate taxation.⁽¹⁰⁾ These measures mostly tended to restrict the level of deductible interest. France and Portugal restricted the deduction of interest payments above a threshold of EUR 3 million. In France, the limit is 85 % (75 % from 2014) of interest paid, while in Portugal it is 70 % of profit obtained before depreciation, net financing expenses and taxes from 2013, falling to 30% in 2017. Spain and the Netherlands revoked their thin capitalisation rules and introduced new rules on the non-deductibility of certain interest expenses (a so-called earning-stripping rule). Spain, Sweden and Finland limited the scope of deductibility of interest expenses on intra-group loans. In contrast, Hungary introduced a cash-flow tax for small companies, which in practice allows immediate expensing of all financing costs.

2.5. COMPETITIVENESS AND ENVIRONMENTAL CONCERNS

2.5.1. Competitiveness

Concerns about decreasing competitiveness led many Member States to introduce tax changes aimed at softening the impact of the crisis, in particular on small companies, and at stimulating private sector investment. Several Member States therefore introduced changes to the tax base to incentivise investment and entrepreneurial activity, including more generous incentives for R&D and innovation, for start-ups and small businesses. Such targeted tax incentives should be designed with care to reduce deadweight losses and promote cost-effectiveness. This is also an area which would benefit from exchanges of good practice and benchmarking to improve the effectiveness of tax schemes. Overall, a few Member States have also reduced their headline tax rate on corporations, while some announced planned tax cuts for the future.

⁽¹⁰⁾ Note that Italy introduced an ACE in 2011.

Corporate tax rates

There has been a general downward trend in top CIT rates in the EU over the last decade. The top rates were forcefully cut from the mid-nineties, from an average of 35.3 % to 23.5 % at present. ⁽¹¹⁾ The crisis halted this trend, as a series of surcharges were introduced in several countries. The result is a stabilisation of the EU-average top corporate tax rate in 2012 and 2013, with even a slight increase in the euro area average. As of 2013, three countries have decreased their headline rates, two have increased them, and four countries will further decrease their headline corporate rates over the 2014–16 period. In 2013, Sweden reduced its statutory rate from 26.3 % to 22 %, Slovenia from 18 % to 17 % and the UK from 24 % to 23 %. The UK will continue to lower the corporate tax rate to 20 % by April 2015, while Finland will lower it from 24.5 % to 20 % in 2014. In Denmark, the corporate tax rate is being cut from 25 % to 22 % as of 2016 as part of a new growth plan. Estonia will cut its corporate tax rate by 1 point (from 21 % to 20 %) in 2015. On the other hand, Slovakia increased its top rate from 19 % to 23 %, as did Cyprus, from 10 % to 12.5 %, in 2013.

Corporate income is not only taxed through CIT, but, in some Member States, also through surcharges or additional taxes levied on tax bases that are similar to CIT. In Luxembourg, corporate income is subject to CIT and a surcharge for the employment fund and municipal business tax. The employment fund surcharge has been increased from 5 % to 7 %. Moreover, Hungary increased sector-specific taxes by introducing new surtaxes on the utilities sectors and in Portugal the 5 % surcharge has been extended to profits above EUR 7.5 million.

Incentives for research and innovation

The 2013 Annual Growth Survey underlines that some framework conditions need to be in place at national level to stimulate growth and competitiveness. This includes a favourable environment for driving innovation and new technologies and raising levels of public and private R&D investment.

A large majority of Member States apply tax incentives to stimulate private research and development investment. This type of incentive has seen increasing interest since the onset of the crisis. The major trend in recent years was to simplify R&D schemes and widen them e.g. to cover innovation activities. This continued over the period under consideration. More than a third of Member States modified their R&D tax incentives in 2012/13. Most of these made existing schemes more generous (CZ, IE, EL, NL and RO) or changed the eligibility criteria (CZ, FR and HU). For example, starting from 1 January 2013, a French R&D tax credit for small and medium-sized enterprises covers innovation activities beyond R&D. These are closer to market activities related to prototyping and piloting innovative products and services. This measure aims at stimulating innovation in French SMEs by helping them to bring research results to the market. From February 2013, Romania increased the existing tax deduction for R&D expenditure from 120 % to 150 % of qualifying costs. However, the strict eligibility conditions attached to the present R&D tax incentives mean they are little used by companies. ⁽¹²⁾ The Czech Republic proposed enhancing its R&D tax incentives by increasing the deduction for qualifying R&D activities and extending its scope to R&D services provided by certain third parties. If approved by Parliament, the measure could enter into force from 2014. Poland has announced plans to allow taxpayers to transfer 1 % of CIT to research entities.

Many changes in R&D schemes had the objective of improving companies' cash flow position. In April 2013, the UK introduced a new 10 % credit for large company R&D investment that is payable to companies with no corporation tax liability (a payable credit already exists for R&D investment by SMEs). Ireland doubled the amount of qualifying expenditure for calculating the R&D tax credit on a full volume basis (without reference to the 2003 base year). This measure is said to benefit SMEs in particular. Denmark quintupled the maximum cash payment for research and development costs.

It is important to evaluate such tax incentives regularly to ensure that they are cost-effective and achieve their intended objectives. An expert group

⁽¹¹⁾ European Commission (2013a).

⁽¹²⁾ Gheorgiu (2012).

commissioned by the European Commission issued specific guidance in 2009 for conducting such evaluations. ⁽¹³⁾ In 2013, Ireland launched a review of its R&D tax credit and invited interested parties to send in written submissions. ⁽¹⁴⁾ The review is expected to assess the impact of the scheme on private R&D investments of both large and small companies, and to assess its additionality and deadweight losses. It will also consider whether the design of the scheme is optimal and internationally competitive.

Incentives for entrepreneurship

Several Member States introduced tax measures aimed at incentivising entrepreneurial activity and investment in small unquoted companies. Some Member States introduced or expanded their existing tax incentives for start-ups and entrepreneurs (e.g. BE, IE, ES, IT and HU). Italy introduced a set of regulatory and tax-related measures aimed at facilitating the emergence and growth of innovative start-ups. R&D-intensive start-ups will be subject to favourable tax treatment and individual and corporate investors will receive tax incentives to provide equity to such start-ups. In Spain, new corporate start-ups will be subject to a 15 % tax rate on their annual profits under EUR 300 000, and 20 % on the excess as of the first and second year in which profits arise. Individual entrepreneurs will also be able to deduct 20 % of their positive net income. In 2013, Hungary introduced two optional tax schemes for small businesses: a lump sum tax for micro-businesses (KATA) and a flat-rate tax for small businesses (KIVA). In Luxembourg, a new minimum CIT rate applies to small companies. Supporting entrepreneurship requires a well-functioning and stable business tax environment. The benefits of introducing reduced corporate tax rates for specific firms need to be weighed against the potentially increased costs in terms of tax compliance and possible disincentives to grow.

Other corporate tax base changes

Most of the reforms in corporate taxation focused on narrowing the tax base. In addition to the measures mentioned earlier in the text, some

Member States introduced more generous investment allowances for companies. As of 2013, for two years, the UK is increasing its annual investment allowance from GBP 25 000 to GBP 250 000 for qualifying investments in plant and machinery. This measure follows earlier cuts in the allowance.

Portugal introduced an extraordinary tax credit for investment carried out in the second half of 2013, according to which, amounts invested up to €5 million can benefit from a 20% deduction to the corporate income tax (up to a limit of 70% of the company's tax liability).

Some Member States modified their business tax base, in order to limit the tax burden on labour. France introduced a corporate tax credit that will equal 6 % of the payroll (4 % in 2013) up to 2.5 times the minimum wage, financed by a cut in public spending and an increase in VAT and environmental taxes. Italy increased tax deductions for employers on the labour component of the regional tax on productive activities (IRAP) (see section 2.3). Higher deductions are offered for hiring women and young professionals and for firms located in 'disadvantaged' regions.

2.5.2. Environmental/health taxation

In many Member States, there is scope for better accommodating environmental concerns in the taxation system. This relates both to the level of taxation and to the structure and design of environmental taxation. Tax expenditure with a negative environmental impact also needs to be addressed, e.g. reduced VAT on energy and the subsidies embedded in company car tax regimes. At the same time, there is scope for increasing health-related taxes in many Member States. Health- and environment-related excises duties not only contribute to consolidation needs but also offer additional benefits as they are presumed to induce changes in behaviour.

Between 2012 and 2013, the main measures taken were increases in excise duty on diesel and other forms of energy, and reforms of car taxation.

More than a third of EU-27 Member States increased excise duties on diesel fuel and other energy products between 2012 and the first half of 2013. This was the case for example in Spain,

⁽¹³⁾ European Commission, (2009a).

⁽¹⁴⁾ <http://www.finance.gov.ie/documents/publications/financebill2013/invitesub.pdf>.

Greece and Cyprus. Lithuania and Bulgaria increased taxes on diesel after the transitional periods following EU accession expired, to comply with the minimum EU rates.

Some Member States also introduced new national taxes related to energy. Spain has introduced a tax on the production of radioactive waste resulting from the generation of nuclear energy. Hungary and Italy apply a surcharge on corporate income tax for companies operating in the energy and public utility sectors. However, these measures do not provide direct incentives to reduce energy consumption and may have distortionary effects, e.g. on investment in the sector.

Some Member States have taken measures to improve the design of car taxation. The Netherlands reinforced the 'green' component of the car taxation system. In 2013, the upper CO₂ limit for exemption from vehicle tax was further reduced and tax on vehicles with higher CO₂ emissions increased. This favourable tax treatment has led to a large increase in sales of emission-efficient cars. In Slovakia, car registration fees for new cars have been changed to reflect engine power.

Finally, almost half of the Member States have increased excise duties on tobacco, alcohol and sugar.

2.6. HOUSING TAXATION

Majority of Member States introduced changes in housing taxation. Measures discussed in this part concern (1) deductibility of interest from PIT, which affects household indebtedness and (2) recurrent taxes on immovable property and taxes on property transactions.

Housing taxation includes incentives to take on private debt to buy property by allowing the deduction of mortgage interest from PIT. This may – depending on the taxation of imputed rents – 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 currently remains in the adjustment phase, with deleveraging efforts. Therefore, major changes in housing taxation focused on addressing the debt bias by

reducing the deductibility of mortgage interest. Spain opted for total removal of interest deductibility for new mortgages (from 2013) ⁽¹⁵⁾, while the Netherlands, Finland and Estonia have taken measures to reduce it gradually. In the Netherlands, interest deductibility on owner-occupied dwellings will only be available for new contracts if the principal is fully repaid within 30-years. In Finland, the deductible part of interest for owners will be reduced to 70 % (it is currently 80 %) by 2015. In Estonia, the ceiling on income tax deductibility was reduced by around 40 % as of 2012.

Some Member States are shifting the tax burden towards taxes on immovable property, which are considered to be among the least detrimental to growth. Lithuania and Latvia broadened their property tax base and the new rates are to be fixed by local authorities within a pre-defined range. Moreover, measures in some Member States are aimed at making property taxation more progressive by focusing on higher-end properties to cushion the potential social impact. In June 2012, Slovenia introduced a tax on higher-value immovable properties (properties for commercial and business use are exempted). Properties valued over EUR 1 million are subject to the 0.5 % rate (1 % over EUR 2 million). This tax was further amended in January 2013 to decrease the threshold to EUR 500 000 and introduce lower rates for residential property. In Ireland, a new local property tax will be introduced from July 2013 (the rate applied to residential properties will be 0.18 %, up to the value of EUR 1 million, and 0.25 % on the balance). In the United Kingdom, a new tax was introduced with effect from April 2013 to tax properties with a taxable value over GBP 2 million owned by certain non-natural persons (i.e. companies, partnerships with a company member and collective investment schemes) annually. In Latvia, the law provides for a possible reduction in property taxation for families with three or more children from 2013. In many countries property values for taxation are out of date. However, only a few Member States (EL and RO) have announced a revaluation of cadastral values. In Romania, cadastral values might

⁽¹⁵⁾ In Belgium, deductibility will be abolished at federal level probably from 2014 or 2015 and transferred to the regions as part of the partial regionalisation of PIT under the sixth reform of the State. So far, none of the three regions have clearly indicated their intentions.

increase by around 16 % as the local authorities may opt for a revaluation from 2013. Greek authorities may present a project for reform by mid-2013. Portugal has recently completed a major initiative involving the revaluation of 4.9 million properties to underpin the new property tax regime. Progressivity is strengthened by safeguard clauses preventing too high a tax increase in a year for low-income taxpayers and by a surcharge on high-value properties.

An alternative to updating property values is to increase property tax rates, as done in Cyprus as of 1 January 2013. However, adjusting tax rates without updating property values means the tax burden is not in line with the current property value. ⁽¹⁶⁾ Estonia reduced property taxation by abolishing the land tax for small and medium-sized residential properties as of 1 January 2013. In Italy, municipal real estate tax (IMU) payments on owner-occupied dwellings, applied since 2012, have been suspended until further reforms of property taxation are approved.

Recurrent property taxation (on immovable property) is generally considered more efficient than taxing property transactions because of the frictions in the market the latter creates. Gearing the system towards more recurrent taxes could help improve overall tax design. However, Finland and the Czech Republic increased property transfer taxes. The new rates are respectively 2 % and 4 %. In the UK, properties valued over GBP 2 million acquired by individuals and non-natural persons have been subject to higher transaction tax rates (7 % and 15 % respectively) since March 2012. The decrease in transaction tax in the Netherlands by 4 pps was made permanent from 2013.

2.7. TAX COMPLIANCE AND TAX ADMINISTRATION

The fight against tax fraud and evasion is picking up across the EU. The rationale for the political momentum behind the fight against tax fraud, tax evasion and aggressive tax planning is increasing tax fairness and efficiency.

In the last year, renewed attention has been paid to the need to improve the efficiency of tax

collection. ⁽¹⁷⁾ Efficient tax authorities aim to reduce the tax compliance gap while at the same time keeping to a minimum the administrative costs of collecting taxes and compliance costs for taxpayers. While all tax administrations strive for greater efficiency, some Member States are considered to have a particular need and scope for improving their tax administrations.

The issues of tax non-compliance and poor quality tax administration are interlinked and can be summed up as ‘improving tax governance’: for instance, to reduce tax evasion a country might step up controls, which may in turn increase the administrative burden of paying taxes. On the other hand, simplifying the tax code and helping taxpayers to fulfil their obligations can have positive effects on tax compliance. There is a consensus that an efficient tax administration policy needs to include both ‘stick’ and ‘carrot’ measures, but finding an appropriate balance can prove difficult. Priorities differ across Member States, reflecting differences in tax systems, administrative capacity (including e-government and IT resources), and type and extent of tax non-compliance.

A majority of Member States took measures to improve tax governance over the period 2012-13. These included both measures to facilitate voluntary compliance and enforcement policies. The mix varied. Member States tailor actions on the circumstances they are facing. For instance, Austria took measures to increase tax compliance in VAT and group tax regimes. In Belgium penalties for tax fraud were strengthened and tax authorities were given more access to information. Bulgaria increased the use of third-party information, introducing additional e-services and expanding communication channels with the National Revenue Agency’s (NRA) information centre.

The Czech Republic continued work on reviewing the organisation of its tax authority, moving towards an integrated revenue agency, and enhanced its risk management capacity by introducing the concept of an ‘unreliable VAT taxpayer’. Croatia introduced fiscal cash registries as from January 2013. Cyprus reinforced information obligations for certain categories of

⁽¹⁶⁾ European Commission (2012a).

⁽¹⁷⁾ The ECOFIN Council Conclusions of 13 November 2012.

taxpayers. Estonia took measures to gain better control of low enforcement areas by amending its VAT law. Finland continued implementation of its multiannual action plan against the shadow economy. France increased the investigative powers of fiscal authorities, increasing penalties and controls, as part of its 2013 action plan against tax fraud. Germany adopted measures aimed at promoting voluntary compliance via simplification. Denmark has started to publish tax lists to create transparency about companies' corporate tax payments and their contribution to the financing of the public sector.

As part of its adjustment programme, Greece also took steps to streamline tax legislation and modernise its tax administration. Hungary improved monitoring of the use of cash, increased penalties and increased controls, especially against VAT fraud. Ireland introduced compliance measures as part of its Finance Bill 2013. Italy reinforced the traceability of transactions and expanded the use of third-party information and reporting. Latvia enhanced the audit function of the State Revenue Service, strengthened legislation to counter fraudulent tax behaviour and pressed ahead with the implementation of the Plan of Measures for Combating Grey Economy and Ensuring Fair Competition. Lithuania enhanced its compliance strategy and increased the assistance provided to taxpayers while also boosting controls.

Malta signed the Council of Europe–OECD Mutual Assistance Treaty in October 2012 and increased information exchange. The Netherlands launched an Action Plan on Sham Constructions to counter the shadow economy. Poland expanded e-services for taxpayers and acted against tax avoidance. Portugal approved a growth strategy for 2013–20 in April 2013 which includes tax simplification measures. Moreover, the country has reformed its VAT invoicing system by implementing mandatory invoicing and electronic transfers of invoice data for all business sectors and transactions. This reform was complemented by a tax incentive for final consumers to request invoices for services delivered by restaurants, hairdressers and vehicle repair shops. Romania took some action to improve voluntary compliance and tax collection. Slovakia focused its risk management process on VAT fraud and took measures to fight evasion by requiring electronic payment above a certain threshold. Slovenia acted against the informal economy and to improve tax morale. Spain set up a dedicated structure for tackling international tax fraud (the Office of International Taxation) and took additional legislative measures to address non-compliance, in particular social security fraud and illegal employment, with amendments to the criminal code. The UK took steps to counter offshore tax evasion, tax avoidance and aggressive tax planning.

Table 2.2: Overview of tax reforms in Member States

Austria

Personal income tax increase: The April 2012 stability law contains several revenue raising measures. These are: a temporary progressive solidarity contribution for high incomes (from approximately EUR 186 000) on the usually flat-taxed holiday and Christmas bonuses (from 1 January 2013), and a reduction in the state premium for property saving and (third pillar) pension saving (from April 2012). To mimic PIT changes, tax-free earnings (*Gewinnfreibetrag*) have also been reduced. The 2013 budget focused on closing existing PIT loopholes.

PIT decrease: Tax deductions for commuters were increased, adding EUR 140 million in costs to the 2013 budget.

VAT increase: From September 2012, input VAT deductions and refunds on premises have been restricted. The 2013 budget focused on closing existing VAT loopholes.

Corporate income tax increase: From 2013, deductions from group taxes for losses made in foreign subsidiaries are restricted.

Excise duties increase: Excise duties on tobacco were increased significantly in three steps, the latest in January 2012. As from 1 January 2013, mineral oil tax reimbursement for agriculture and public transport was abolished.

Excise duties/environmental taxes decrease: The flight tax introduced in 2011 was reduced in 2013 for competitiveness reasons.

Social security contribution increase: From May 2012, social contribution rates for farmers and the self-employed were increased and there was an additional extraordinary increase in the ceiling for SSCs in 2013. Unemployment contributions will be levied on formerly exempt older workers (from the age of 59).

Property tax increase: The constitutional court struck down parts of the law on property transaction tax (on donations and inheritance), which must be put right by 2014.

Other tax increases: Employers terminating an employment contract will be subject to a process fee. An additional stability surcharge on banks was introduced from 2012. In 2012 an optional advance tax payment on certain company pensions was offered. In line with the stability law, realised capital gains stemming from rezoning land are taxed as of 1 April 2012 and the 10-year period after which gains made from real estate sales are tax exempt has been abolished. The 2012 bilateral tax agreement with Switzerland on untaxed interest and dividends paid to Austrian citizens, as part of a tax amnesty for self-reporting of undeclared assets held in Switzerland, is estimated to yield EUR 1 billion in 2013. In January 2013, a similar tax agreement was concluded with Liechtenstein and resulting revenues are expected from 2014 onwards.

Belgium

PIT changes: Tax expenditure cuts in PIT include the abolition of federal subsidies for environment-friendly cars (except electric cars) and energy saving investments, which will only partly be replaced by regional subsidies. As from 2013, withholding tax on all passive income is limited to 25% (except for exempt saving accounts and government bonds issued at the end of 2011, for which the rate is 15%) and the principle of final withholding tax has been restored.

CIT changes: A new provision to prevent abuse of notional interest deduction has been enacted. Shares that already qualify for the participation exemption will no longer qualify for the notional interest deduction. This measure does not cover intra-group loans.

VAT changes: In 2012, there were some targeted VAT increases (from the reduced rate to the standard rate for items such digital TV); the regime for notaries and bailiffs changed from exemption without right of deduction to taxation with right of deduction.

Excise duties changes: --

Social security contribution changes: Existing reductions in employers' social security contributions for the first three hires are being increased. The so-called 'work bonus' for the low paid has been boosted by increasing the existing social security reduction and the existing tax credit for the low paid, resulting in an additional monthly net salary increase of between EUR 68 and EUR 202 (for workers earning between the minimum wage and a gross monthly wage of 1800). Conditional and targeted reductions in social security contributions payable on the wages of specific categories of personnel in the health care sector were also planned.

Other changes: --

Bulgaria

PIT changes: In 2013, personal income tax rates were unchanged. As of 1 January 2013, interest income from individuals' term deposits in banks, which had been exempt from taxation, was made subject to a 10% withholding tax if received from a resident bank or levied by self-assessment if received from abroad.

CIT changes: Corporate income tax rates were unchanged.

VAT changes: --

Excise duties changes: Excise duties on kerosene and gas oil used as motor fuel have been increased. In June 2012, an excise rate was introduced for natural gas used by businesses for heating. From December 2012, tax rates for some heavy fuels used for heating purposes were raised.

Other changes: --

Croatia

PIT changes: --

CIT changes: From 2013, entrepreneurs can deduct reinvested earnings from their tax liability.

VAT changes: The standard rate has been 25% since March 2012. From 1 January 2013, a reduced rate of 5% applies to certain goods and services (bread and milk, books, certain medicines, orthopaedic aids, scientific magazines and public showings of films). A rate of 10% applies to food preparation services and food and drinks serving in hotels and restaurants.

Excise duties changes: Special taxes on passenger cars were introduced and excise duties for new and second-hand cars equalised. Excise duties on energy, electricity and tobacco products were increased.

Environmental taxes: Vehicle Registration Tax and motor tax rates increased for all vehicles.

SSC changes: From May 2012, the rate for compulsory health insurance contributions was lowered from 15 to 13%.

(Continued on the next page)

Table (continued)

Cyprus

PIT changes: From 2012 to 2016 inclusive, a special contribution to boost public finances is being levied on gross wages, at rates of 2.5 % for income between EUR 2 501 and EUR 3 500, 3 % in the EUR 3 501 to EUR 4 500 tax bracket and 3.5 % above that. As of 2014, the rates will be: EUR 0 – 1 500: 0 %; EUR 1 501 – 2 500: 2.5 %; EUR 2 501 – 3 500: 3.0 %; and > EUR 3 501 —: 3.5 %.

In addition, the tax rate on interest income (the 'special defence contribution') increased to 30 % from May 2013. A lottery tax of 20 % on gains distributed to betting winners by the Greek Organisation of Football Prognostics S.A. (OPAP) and the National Lottery for winnings of EUR 5 000 or more tax was introduced.

CIT changes: From 2013, Cyprus increased the statutory rate of CIT to 12.5 %. In addition, all exceptions on paying the annual levy of EUR 350 on registered companies (applied since 2011) have been abolished.

VAT changes: The main VAT rate increased by 1 percentage point to 18 % in 2013 and will increase to 19 % as from 2014. The reduced VAT rate will increase from 8 % to 9 % the same year.

Excise duties changes: From 6 December 2012, the excise duty rate for cigarettes is calculated at 34 % of the higher retail selling price plus EUR 1.10 per package of 20 cigarettes (previously it was calculated at 40 % on the higher retail selling price plus EUR 0.80 per package of 20 cigarettes). In addition, the excise duty rate for the fine cut tobacco for rolling cigarettes and other smoking tobacco was increased from EUR 60 per kilogram to EUR 150 per kilogram. The excise duty rate for ethyl alcohol was increased from EUR 598.01 to EUR 956.82 per 100 litres of anhydrous ethyl alcohol and that for beer from EUR 4.78 to EUR 6.00 per 100 litres per degree of alcohol of final product. On 1 January 2013 the excise duty rate for petrol and gasoil used as motor fuel was increased from EUR 359 per 1 000 litres to EUR 429 per 1 000 litres and from EUR 330 per 1 000 litres to EUR 400 per 1 000 litres respectively. As from 2014, excise duties on energy, i.e. on oil products, will increase by EUR 0.05 by increasing the tax rate on motor fuels (petrol and gasoil).

Social security contribution changes: As from 2014, the contributions of salaried employees and employers to the GSIS will increase by an additional 1 percentage point of pensionable earnings, i.e. 0.5 of a percentage point from employees and 0.5 of a percentage point from employers and 1 percentage point in the case of self-employed persons.

Other changes: The bank levy on deposits raised by banks and credit institutions in Cyprus will increase from 0.095 % to 0.11 % in 2013. An increase in the rate of Immovable Property Tax, which is part of the preliminary agreement between Cyprus and its international lenders, has been voted by the Parliament in May 2013.

Czech Republic

PIT changes: --

CIT changes: --

VAT changes: In 2013, the VAT rate was increased again by one percentage point (until 2015 only). The basic VAT rate is thus currently set at 21 %, while the reduced rate was increased to 15 % in 2013. Unification of the VAT rates at 17.5 % is planned for 2016. Changes to the VAT rates are to cover the drop in revenues from social insurance in relation to the introduction of the second pension pillar.

SSC changes: Since the introduction of the flat rate, social security contributions have been fully taxable. From 1 January 2013, social security contribution rates vary depending on whether the taxpayer has opted for the new voluntary pension saving scheme. For employees who do not opt for the voluntary pension saving scheme, the total rate for social and health insurance is 11.0 % (6.5 % for contributions to pension insurance and 4.5 % for compulsory health insurance). For employees who opt for the voluntary pension saving scheme, the total rate of social and health insurance is 13.0 % (statutory pension insurance of 3.5 %, voluntary pension saving of 5 % and compulsory health insurance of 4.5 %). The total rate for employers' contributions is 34 %; it will be replaced by a payroll tax of 32.4 % as of 2015. For the self-employed, the overall social security rates are 45 % and 47 % respectively depending on whether they opted for the new voluntary pension saving scheme or not. However, the contribution base for the self-employed is set at 50 % of their income tax base. In 2013, a separate ceiling set at four times the average annual salary, i.e. CZK 1 242 432 (EUR 49 083) applies to social security contributions. For the 2013–15 tax years, the ceiling on health insurance contributions (six times the average annual salary) has been abolished. From 2015, both employees and the self-employed will pay health insurance contributions at a rate of 6.5 % of the contribution base. In addition, the health insurance contribution base for the self-employed will be 100 % of their income tax base.

Excise duties changes: --

Other changes: From 2013, the real estate transfer tax rate increased to 4 % of the price of the property. From 2015 the inheritance and gift tax rates will be replaced by flat 9.5 % and 19 % rates respectively and movable personal belongings and financial means will be exempt up to CZK 50 000 (EUR 1 975). The Czech authorities say that a single collection point for income taxes is expected to be established in 2015.

Denmark

PIT changes: Denmark has made cuts in personal income taxation as part of the two most recent tax reforms in order to stimulate labour supply in the medium- to long-term. The first tax reform, the so-called Spring Package 2.0, was adopted in 2009 and the second was adopted in 2012. The 2012 tax reform is being phased in between 2013 and 2023. The tax reform includes raising the threshold for the top income tax rate gradually by DKK 57 900 (EUR 7 771) to DKK 467 000 (EUR 62 680) when fully implemented in 2022. The employment allowance will also rise steadily, by 5.05 percentage points, to 10.65 % in 2022, as will the maximum allowance, by DKK 16 200 (EUR 2 174), to DKK 34 100 (EUR 4 577). An extra employment allowance will be introduced for single parents in 2014, which will gradually increase to 6.25 % with a maximum of DKK 20 000 (EUR 2 684) in 2019. The tax cuts were only partly financed through the tax system e.g. by indexing certain excise duties. The main part was financed through cuts in public expenditure e.g. on defence and by lowering the annual adjustments of social transfers.

CIT changes: On 27 June 2013, the parliament adopted a 'Growth Package' including a gradual reduction in the corporate tax rate by 1 percentage point per year from 25 % to 22 %, over the period 2014–16.

VAT changes: -

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Table (continued)

SSC changes: --

Excise duties changes: As part of the 2013 “Growth Package” the excise duty on beer is decreased 15 per cent by mid-2013 just as the excise duty on soft drinks gradually be abolished from that time.

Other changes: As part of the 2013 Budget the pay roll tax for lotteries, health benefits, labour unions, newspapers was raised with 1.04 percentage point, and to offset the decrease in the corporate tax rate in the 2013 “Growth Package” a gradual increase in the pay roll tax for the financial sector of 4.4 per cent points in 2021 was included. As part of the 2013 “Growth package” energy taxes are lowered for companies – including decreases in companies’ use of fuel and electricity for processes, decreases on energy used for processes was brought forward, abolition of the energy saving tax of electricity for industry according to the law of CO₂-duty, and a decrease in the duty on electricity to the industry.

Estonia

PIT increases: Estonia is lowering the ceiling for total personal income tax deductibility from EUR 3960 to EUR 1920 (0.03 % of GDP, impact in 2013).

CIT: --

SSC increase: The statutory minimum monthly salary was increased from EUR 290 to EUR 320 and the minimum hourly salary from EUR 1.80 to EUR 1.90, with effect from 1 January 2013. This increased the tax burden on sole proprietors who pay SSC on at least the amount equal to one minimum monthly salary up to an amount capped at 15 minimum monthly salaries.

SSC decrease: With effect from 1 January 2013, unemployment insurance contribution rates were reduced from 2.8 % to 2 % for employees and from 1.4 % to 1 % for employers.

Excise duties increases: Tax on beer, other fermented alcoholic products, wine, intermediate products and ethyl alcohol was increased by 5 %. The rate of excise duty on oil shale used for heating purposes is EUR 0.30 per gigajoule of the upper calorific value of oil shale. Tax rates were increased by 6 % on cigarettes and by approximately 10 % other tobacco products. These changes came into force on 1 January 2013.

Property tax decrease: The land tax on residential land was abolished for plots up to 1500 m² in densely populated areas and up to 2 ha in rural areas (-0.1 % of GDP).

Finland

PIT changes: Income tax rates effectively increased, as the tax brackets will not be adjusted for inflation in 2013. Taxation of people on low incomes has been eased, however, by increasing the earned income allowance and the basic allowance in municipal income taxation. In addition, a new temporary top income tax bracket was added to the state income tax scale for 2013–15.

CIT changes: In 2014, certain new restrictions to deductibility of interest on intra-group loans will enter into force. In 2013, the government introduced several types of relief from corporate and capital income taxation to stimulate investments. The package comprises new tax relief for investment in R&D, an incentive to invest in start-ups and small enterprises and accelerated depreciation on investment in new industrial capital and buildings. The whole temporary stimulus package of tax incentives was intended to be applicable from 2013 to 2015. However, in connection to the recent government proposal to decrease the corporate income tax rate from 24.5 % to 20 % at the beginning of 2014, it was proposed that the R&D tax incentive and accelerated depreciation for new investments would expire already at the end of 2014. The tax incentive for investment in start-up and small enterprises will expire at the end of 2015, as originally proposed.

VAT changes: The current three VAT rates rose by 1 percentage point.

Excise duties changes: --

Social security contribution changes: --

Other changes: Taxation of large pensions and inheritance property transfer taxation was tightened in 2013. A temporary bank levy has been introduced.

France

PIT changes: The 2013 Finance Laws have created a new income tax bracket of 45 % and frozen the tax brackets. From 2013, dividends and interest will be taxed according to a progressive scale. From 2013, capital gains will be taxed according to the progressive scale, after tax deductions depending on the length of the holding period. The overall amount of tax incentives (*niches fiscales*) that a taxpayer may obtain during a fiscal year for individual income tax purposes has been further capped at household level (*foyer fiscal*) to EUR 10000 (2011: EUR 18000 plus 4 % of the net taxable income). Many tax credits were abolished or reduced as part of a government plan to reduce the budget deficit, e.g. the family quotient and the overtime wage exemption.

CIT changes: The main initiative in corporate taxation is the introduction of a tax credit (*credit impôt pour la compétitivité et l’emploi*). From 2014, it will rise to 6 % (from 4 % in 2013) of the payroll for employees with wages below 2.5 times the minimum monthly wage. Funds for this measure will be made available through a cut in public spending and an increase in VAT and environmental taxes. The business deduction of loan interest above EUR 3 000 000 was limited to 85 % of net interest charges for 2012 and 2013 fiscal years. From 2014, this deduction will be reduced to 75 %.

VAT changes: The standard and reduced VAT rates are to be increased from 19.6 % and 7 % (renovation of private dwellings, transport services, hotel accommodation, restaurant services, television, cinemas, theme parks etc.) to 20 % and 10 % by January 2014. The reduced rate applied to foodstuffs, equipment for the disabled, books, concerts, theatres and some shows (5.5 %) will be decreased by half a percentage point to 5 %.

Excise duties changes: Excises on beer were increased as of 2013.

Social security contribution changes: --

Other changes: France has introduced a financial transaction tax effective since August 2012. It applies to acquisitions of equity securities (0.1 %), to high frequency trading (0.01 % of the value of orders cancelled or amended) and to acquisitions of Credit Default Swaps on EU sovereign debt (0.01 % of the notional amount of the CDS).

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Table (continued)

Germany

PIT changes: The burden on labour was further reduced with an increase in the basic PIT allowance in February 2013. The change comes into force retroactively, raising the allowance as of 1 January 2013 from EUR 8 004 to EUR 8 130 and from EUR 8 130 to EUR 8 354 as of 1 January 2014. Moreover, German authorities announced an evaluation of family and marriage benefits in 2013.

CIT changes: Dividends from shareholdings that amount to less than 10 % (at the beginning of the calendar year) and accrued after 28 February 2013 are no longer exempt. Simplifications in the system of group taxation were also implemented in February 2013.

VAT changes: --

Excise duties changes: --

Social security contribution changes: As of 2013, social contributions (SSC) for pension insurance fell from 19.6 % to 18.9 %. In addition, the contribution to insurance for disability and old age (*Pflegeversicherung*) is increased from 1.95 % to 2.05 % with effect from 1 January 2013.

Other changes: --

Greece

Personal income tax change: In January 2013, as part of a comprehensive tax reform to be completed by July 2013, the old PIT system with eight tax brackets (rates: 10 %–45 %), which treated all PIT categories the same (employees, pensioners, self-employed, rental income), was replaced. The new system has three tax brackets with tax rates from 22 % to 42 % (applicable above EUR 42 000) for employment income consisting of salaries and pensions. On top of the headline rate, a solidarity contribution is applied. Bonuses paid to executives of credit institutions above certain thresholds are taxed at higher rates, up to 90 %. The withholding tax rate on board of directors' members' fees was increased from 35 % to 40 %. Income earned by professionals and entrepreneurs is taxed at 26 % up to EUR 50 000 and at 33 % for the excess. Real estate rental income and income from securities is subject to 10 % tax up to EUR 12 000 and 33 % on the excess. The latest amendments replace the tax-free bracket with a system of tax deductions. Specifically, for income up to EUR 21 000, the tax deduction is EUR 2 100 if the taxpayer submits receipts for goods and services for at least 25 % of declared income. If the tax due is less than this, the tax deduction is reduced to the amount of the tax liability. For income above EUR 21 000, the tax deduction is reduced by EUR 100 for each EUR 1 000 of income. The new Law 4110/2013 abolished significant tax reliefs e.g. on the principal home rental rate, educational expenses, mortgage interest and life or medical insurance premiums and those types of relief still granted are subject to specific conditions. The same Law reintroduces a 20 % tax on capital gains. The income tax rate on interest from saving accounts was increased from 10 % to 15 %.

Corporate income tax decrease: The extra contribution charged on large profitable corporations (at progressive rates, since 2010, of 4, 6, 8 and 10 %), which had been previously extended until 2014, was not extended by the law of January 2013. Under Law 4110/2013, the withholding tax rate on dividend distributions and profit capitalisations acquired in 2013 and approved as of 1 January 2014 onwards will be reduced from 25 to 10 % and the 10 % tax exhausts any further liability.

Corporate income tax increase: A 25 % withholding tax is levied as from 2012 on profits distributed by corporations, limited liability companies and cooperatives; for 2011, the withholding tax rate was 21 %. The Law of January 2013 raised the CIT rate to 26 % for income earned as of 1 January 2013 after this had been reduced to 20 % in March 2011. It also aligned the tax regime for corporations with that for partnerships, civil societies, civil partnerships and joint ventures that keep double-entry accounts. Partnerships and other entities which maintain single-entry books are now taxed at a 26 % tax rate for income up to EUR 50 000 and 33 % for the excess (similarly to the self-employed). The entrepreneurial fee is abolished. The special tax regime for banking and insurance companies was abolished and their profits are now taxed according to the general provisions. New transfer pricing provisions have been introduced with the new law applying to all intercompany transactions.

VAT change: Excise duties on cigarettes, alcohol and fuel have been increased repeatedly. In 2013, the flat VAT tax refund rate applied to farmers subject to special scheme under the provisions of Article 41(1) of Law 2859/2000 was reduced from 11 % to 6 %. For all professional leases of immovable property, the option to join VAT is granted from 1 January 2013.

Social security contribution changes: The monthly SSC ceiling for employees who started working before 1/1/1993 was increased from EUR 2432.25 to EUR 5543.55 and was equalised with those who started working thereafter.

Other taxes: The government's comprehensive tax reform to be completed by July 2013 aimed at simplifying the tax system, enhancing its growth-friendliness and improving voluntary tax compliance. The reform package includes simplifying the main tax codes and the VAT and property tax rate structures, eliminating a number of tax exemptions and preferential regimes under corporate income tax and VAT, and more uniform treatment of individual capital income.

Hungary

PIT changes: In 2011, the progressive PIT system was replaced by a 16 % single rate system. However, an ordinary tax credit for low to average incomes was still applied in 2011, and in both 2011 and 2012 a tax-base-increasing component (super-grossing) was in force. From 2013, Hungary has a truly flat rate of PIT with the 16 % rate. The only major feature which deflects PIT from this single rate is a family tax allowance, introduced in 2011, which is especially generous towards families with at least three children; this is fully exploitable by higher earners.

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Table (continued)

CIT changes: As of January 2013, in addition to the EVA (simplified enterprise tax) small businesses will be able choose from two more optional tax schemes: the KATA and KIVA.

- Under the KATA (small taxpayers' itemised lump sum tax) scheme, microbusinesses will pay a fixed HUF 50 000 (EUR 179) per month (half of this if the taxpayer is employed part-time) in place of the main taxes on profits and payroll.

- The KIVA (small business tax) will be an option for businesses with 25 or less employees and annual revenue of below HUF 500 million (EUR 1.79 million). Under this scheme, the business will pay a flat 16 % on its cash-flow based profits and payroll.

Moreover, under the 'Job Protection Act' the Hungarian authorities reduced social security contribution rates as of 2013 for targeted groups, including the low skilled, the young and the old people.

VAT changes: --

SSC changes: As of 2012, the employers' contribution rate is 28.5 %, consisting of a vocational training contribution (1.5 %), a pension contribution, a health insurance contribution and contribution to the unemployment fund. The latter three amount to 27 % and were collectively renamed 'social contribution tax' in 2012. Employees' contributions are composed of a 10 % pension contribution, a 7 % health care contribution and a 1.5 % unemployment fund contribution. The base of the pension contribution was capped at HUF 7.94 million (EUR 28 400) yearly until 2012 but this cap was removed in 2013. Under the 'Job Protection Act', in force as of 2013, the social contribution tax and vocational training contribution up to a gross wage of HUF 100 000/month is halved or fully removed for targeted labour groups: below 25 years; above 55 years; 'elementary occupations' (requiring basic skills); former long-term unemployed, women returning from maternity leave and career starters. From August 2013, a 6 % health-care contribution is planned to be applied to interest income (effectively increasing the tax rate from 16 % to 22 %).

Excise duties changes: Between 2009 and 2013, excise duties on tobacco, alcohol and fuel were increased in several steps.

Other changes: In 2013, a financial transaction duty was introduced on all cash and bank transfer transactions at a rate of 0.2 % (for cash withdrawal, 0.3 %), subject to a cap of HUF 6000 (EUR 20). In August 2013, the rate was increased to 0.3 % (for cash withdrawal, 0.6 %) and the cap was abolished in the case of cash withdrawal. In the insurance sector, a consumption-type tax amounting to 10 % of non-life insurance premiums (for car insurance, 15 %) was introduced in 2013. The taxpayer is the insurer. Since July 2012, a telecommunications tax of HUF 2 (EUR 0.0068) per minute of phone call and per text message (SMS) applies, which is planned to be increased to HUF 3 for companies as of August 2013. Additionally, from 2013, pipelines and other utility networks are subject to an extra tax. The government rules out the introduction of a centrally administered value-based property tax. In 2013, the two-step acquisition duty on real estate will be replaced by a uniform duty set at 4 %. As of August 2013, the mining tax is planned to be increased by one third.

Ireland

PIT changes: With the Finance Act 2013, modest rate increases were applied to capital gains, capital acquisitions and interest earned on savings and investment products. Personal taxes on labour increased via social insurance measures to eliminate employee weekly allowances, increase the minimum annual contribution for self-assessed individuals and extend the scope of the charge.

CIT changes: No changes were made to the 12.5 % corporation tax rate. Start-up corporation tax credits under the ten-point tax reform plan for SMEs were extended introduced with the new budget to ensure that unused credits generate in the first 3 years of trading can be carried forward indefinitely.

VAT changes: --

SSC changes: From 1 January 2013 self-employed contributors with annual self-employed income over EUR 5,000 pay PRSI at a rate of 4 %, subject to a minimum payment. The minimum payment for self-employed contributors was increased from EUR 253 to EUR 500 per annum..

Excise duties changes: Excise duties on alcohol and cigarettes increased.

Environmental taxes: Vehicle Registration Tax and motor tax rates increased for all vehicles.

Other changes: The 2013 budget introduced new measures to support small businesses. These include an increase in the VAT cash receipts basis accounting threshold to help cash flow, the extension of the Foreign Earnings Deduction for work related travel abroad and the extension of the Employment and Investment Incentive Scheme to 2020 to help companies access funding. From July 2013, a new Local Property Tax (LPT) will be introduced to replace existing charges on housing. The Finance Act includes business incentives such as enhanced capital allowances in the aviation sector and the introduction of a taxation regime for Real Estate Investment Trusts, to encourage investment in the property market.

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Table (continued)

Italy

PIT changes: As from 2013, the Stability Law has significantly increased dependent children deductions (+19% for children over 3 years old, +36% for those up to 3 years old and +82% for children with disabilities). With the Stability Law 2012, the government has also extended to 2013 tax rebates on productivity-related wage expenses, on the basis of specific contracts aimed at increasing productivity signed either at company or local level.

CIT changes: Effective from 2013, tax deductions for employers on the labour component of the IRAP tax base are increasing from EUR 4600 to EUR 7500. If employers hire women or people under 35 years old, the deduction is higher and up to EUR 13 500; the deduction further increase for firms located in 'disadvantaged' regions (southern Italy). Small enterprises and self-employed entrepreneurs can call on a fund worth EUR 0.54 bn and EUR 0.25 bn, respectively, for IRAP tax exemptions. A 'Robin Hood' surcharge on CIT of 10.5% applies to companies operating in the energy sector until 2013.

VAT changes: As from July 2013, the standard rate was expected to increase by 1 percentage point. In June 2013, the increase in the standard VAT rate from 21 to 22% planned for July was postponed to October. The government announced it was willing to cancel this increase on a permanent basis, subject to availability of budget resources.

Excise duties changes: As from 1 January 2013, excise duties on transport fuels increased.

Other changes: As from March 2013, the 'Tobin tax' on financial transactions applies to shares and derivatives of shares. Two rates of 0.1 and 0.2% are applied to shares, on the net value of the whole transaction, depending on whether the securities are traded on regulated (transparent) markets or 'over the counter' without any control by supervisory authorities. For 2013 only, the two rates will be 0.12 and 0.22% respectively. For derivatives, fixed sums are due based on notional amount classes.

Latvia

Personal income tax decrease: A three-year strategy to reduce personal income tax from 25% to 20% has been adopted. The first step of lowering PIT to 24% entered into force on 1 January 2013. The PIT exemption for dependants will be increased from LVL 70 (EUR 100) to LVL 80 (EUR 115) from 1 July 2013.

VAT increase: Use of 'reverse VAT' was expanded by applying it to construction activities from 1 January 2012 and to scrap metal supplies from 1 October 2011. Since 1 July 2011 the list of medical equipments that qualify for the reduced VAT rate was narrowed down.

VAT decrease: With effect from 1 July 2012, the standard VAT rate was lowered from 22% to 21%.

Excise duties increase: From February 2012, the excise tax base was widened to include certain lubricating oil groups.

Property tax increase: In 2012, the real estate tax base was broadened to include auxiliary buildings, parking places, and houses and lands owned by religious organisations but not used for a religious purpose. As from 2013, local municipalities are allowed to determine the tax rate within the scope of a tax rate 'corridor' (0.2-3%) provided by law. As a rule, tax rates should be set between 0.2% and 1.5%; if real estate is not maintained according to the procedure provided by law, the rate may be set between 1.5 and 3.0%.

Property tax decrease: From 2013, the law provides for reductions for families with three or more children.

Other tax increase: As of 2012, the tax on gambling, slot machines and gambling tables was increased by 15%. The annual financial stability duty rate was increased from 0.036% to 0.072%. Since October 2011 several legislative measures under the Action Plan to Combat the Shadow Economy (e.g. the application of reverse VAT in sectors prone to undeclared activity and changes in the procedure for paying personal income tax on scrap metal (deduction at the place of payment)) entered into force. The Law on Individual Declaration of Property and Reporting of Undeclared Income was adopted with effect from June 2012. It allows previously undeclared taxable income to be legalised and aims to improve oversight over an individual's financial position, in particular the accuracy of expenses incurred and tax payment and the legality of earned income. [0.25% of GDP]. Further measures to fight shadow economy were undertaken in 2013.

Lithuania

PIT changes: Further reduction in the tax burden on labour and increase of the progressivity were introduced in the amendments of the PIT law adopted in July 2013. From 1 January 2014: (i) the maximum non-taxable allowance is increased from LTL 470 to LTL 570 and in gradually decreasing manner will be applicable for employment income up to LTL 3,192 per month (previously up to LTL 3,150) (ii) the additional non-taxable allowance for dependent child is increased from LTL 100 to LTL 200 (iii) the PIT rate for dividends is decreased from 20% to 15%; (v) the tax exemptions applicable for capital income are narrowed by taxing interest from deposits or non-equity securities if such income exceeds LTL 10,000 and by taxing capital gains from the alienation equity securities, if such gains exceeds LTL 10,000.

CIT changes: There was an increase in the maximum annual income for small companies (with up to 10 employees) which would qualify for a reduced rate of 5%, (from LTL 500 000 to LTL 1 000 000). The scope of the incentive for investment projects was widened. The incentive for companies established in free economic zones was expanded to include such activities as manufacture, repair and maintenance of aircraft, spaceships and/or equipment for them; computer software programming, consulting and other IT services; data processing and storage services; and IT service centre services. The amendments of the CIT law adopted in July 2013 prolonged CIT allowance for investment: entities will be allowed to reduce taxable profit up to 50% by the amount of expenses relating to the acquisition of new technologies (produced up to 2 years before the acquisition) also for a period of 2014–2018.

SSC changes: From 1 August 2012, relief from social security contributions (i.e. pension insurance contribution) for first-time employees was abolished. From 1 January 2013, due to the increase of the minimum statutory monthly salary from LTL 850 to LTL 1 000 (from approx. EUR 240 to EUR 290), the monthly minimum health insurance contribution (HIC) was increased from LTL 77 to LTL 90 (from approx. EUR 22 to EUR 26).

VAT decreases: From 1 January 2013, a reduced VAT rate of 9% was introduced for public passenger transportation services and for newspapers, magazines and other periodical printed press materials (except printed press that contains erotic or violent content and marketing materials). The reduced VAT rate of 5% on technical equipment for disabled persons and related repairs was introduced. The 9% reduced VAT rate on supplies of heating energy, hot and cold water intended for heating of residential premises and the 5% reduced VAT rate applicable to medicines was extended to 31 December 2013. More simplified invoices were introduced. Starting from 1 January 2012 the threshold for registration as a VAT payer from LTL 100 000 (about EUR 29 000) was increased up to the threshold of LTL 155 000 (approximately EUR 45 000).

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Table (continued)

Excise duties increases: From 1 January 2013, excise duty on gas oil used as motor oil was increased from EUR 302.07 to EUR 330.17 per 1 000 l. From 1 March 2012 excise duty on cigarettes was increased from EUR 64 to EUR 67.19 per 1 000 cigarettes and for cigars and cigarillos from EUR 23.16 to EUR 24.32 per kilogram of the product. From 1 March 2013, excise duty on cigarettes was increased again to EUR 70.67 per 1 000 cigarettes (EUR 42.86 + 25 %, not less EUR 70.67) and for cigars and cigarillos to EUR 25.49. From 1 March 2014 the excise duty for cigarettes will increase to EUR 74.14 (EUR 45.47 + 25 %, not less EUR 74.14) and for cigars and cigarillos to EUR 26.93. From 1 January 2013 the excise duty for tobacco was increased from EUR 40.26 to EUR 47.21 per kilogram of the product. From 1 April 2014 the excise duty on ethyl alcohol will increase from EUR 1279 to EUR 1292 per hectolitre of pure ethyl alcohol as well as excise duties on beer, intermediate products, wine and other fermented beverages will increase by 10-47%.

Property tax: New immovable property tax rates are effective from January 2013 varying from 0.3 % to 3 % of the taxable value of the property (formerly 0.3 % to 1 %). The exact tax rate is set by the municipalities. From the same date, the new Law on Land Tax entered into force, harmonising land taxation with taxation of other immovable property (previously land was taxed at 1.5 of its cadastral value). The annual tax rate ranges from 0.01 % to 4 % and is set by the municipality in which the land is located.

Luxembourg

PIT changes: As of January 2013 a top rate of 40 % has been introduced for individuals, which applies to incomes of more than EUR 100 000 (EUR 200 000 for jointly taxed couples). The maximum deduction for interest on loans is reduced by 50 % and the deductible amount is limited to EUR 336 per taxpayer. The same deduction is also applied to the taxpayer's spouse or partner and for each child belonging to the taxpayer's household. As the four first kilometres of travel (from home to workplace) are no longer deductible, the maximum amount of travel expenses deductible per taxpayer has been reduced by EUR 396. PIT has been increased by a surcharge for the Employment Fund. The new rate as of January 2013 is 7 % (previously 4 %). The rate is 9 % for taxable income exceeding EUR 150 000 (EUR 300 000 for jointly taxed couples). Taking into account the surcharge, the top marginal tax rate is 43.6 %, applying to incomes of more than EUR 150 000 (EUR 300 000 for jointly taxed couples).

CIT changes: The corporate tax system is, in principle, classical. The tax on profit is calculated by adding the general CIT rate of 21 % (previously 22 %), a 7 % (5 % until 2012) solidarity tax surcharge for the employment fund and a municipal business tax (which for Luxembourg City amounts to 6.75 %), taking the all-in effective rate to 29.22 % for Luxembourg City (28.8 % in 2012). As of January 2013, a new minimum corporate income tax is applied, ranging from EUR 500 for small companies (with a total balance sheet below EUR 350 000) to EUR 20 000 if the total balance sheet exceeds EUR 20 million. Luxembourg also applies a system of investment credits and provides for specific tax incentives. As of 2013, these will be reduced.

VAT changes: As of 2013, the turnover threshold for the VAT exemption for small enterprises (*régime de la franchise*) will increase from EUR 10 000 to EUR 25 000. For VAT on private residences, the gain from applying the 3 % reduced VAT rate on construction and renovation works of dwelling will be limited to EUR 50 000.

Excise duties changes: Regarding excise duties on car fuels, the rate applicable for diesel-driven cars is EUR 338.36 per 1 000 litres from 1 September 2012. Tobacco taxation changed from 1 January 2013. The new excise rates applying to cigarettes are 45.84 % (proportional component) and EUR 10.3586 per 1 000 cigarettes (specific component).

Social security contribution changes: --

Other changes: --

Malta

PIT changes: The top income tax rate of 35 % per cent will be reduced to 32 % for people with annual income of less than EUR 60 000.

CIT changes: Under certain terms and conditions, a tax exemption may apply to domestic mergers and group restructuring, if it is ascertained that there are sound economic reasons for the merger/division.

VAT changes: The VAT exemption on diesel purchased by fishermen for fishing purposes will be extended to 2013

Excise duties changes: Excise duty is being increased on fuel by EUR 0.02 per litre, cement by EUR 5 per tonne and on cigarettes and tobacco by 6 % and 8 % respectively.

Social security contribution changes: Parents born between 1 January 1952 and 1 January 1961 who stop working to take care of their children with the intention of resuming their occupation will be credited with the equivalent of one year's social security contributions per child (two years for disabled children). Regarding pension incentives and deductions for persons with a disability, an income tax deduction has been introduced for fees paid by parents and relatives in respect of residency services (for the elderly) and community support services.

Other changes: The seven-year period for opting out of the 12 % final withholding tax capital gains regime on transfers of immovable property will be extended to 12 years. A donation or transmission *causa mortis* of immovable property from parents to their children will no longer be subject to tax. A stamp duty of 3.5 % will apply on the first EUR 150 000 of the value of the property when buying immovable property as a sole ordinary residence. A 25 % refund on expenditure will be introduced as an incentive for the restoration and development of property. Motor vehicle registration tax on Euro V cars will be reduced whilst motor vehicle registration tax on Euro IV cars will be increased. The registration tax for commercial vehicles will also be reduced.

The Netherlands

PIT changes: The employers' health insurance premium no longer counts as taxable income from 2013. This operation was made budget-neutral by adjusting the first and second tax bracket, several tax credits, tax rates in the first and second tax bracket, allowances and social security premiums. In 2013, workers aged 60 to 63 can receive an additional tax credit if they carry on working. In 2013, a one-off surtax of 16 % applies to wages exceeding EUR 150 000. The yearly adjustment of tax brackets to reflect inflation did not take place in 2013.

CIT changes: --

VAT changes: The standard VAT rate was increased from 19 % to 21 % on 1 October 2012.

Excise duties changes: Alcohol and tobacco excises were raised in 2013.

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Table (continued)

Social security contribution changes: As of 2013, employers pay 7.75% of gross earnings and self-employed and pensioners 5.65% of their net business profits or pension for health insurance up to a maximum salary income of EUR 50 853 to the state health insurance fund. As of 2013, for employers hiring older or disabled workers a mobility bonus of EUR 7 000 is applied for a maximum of three years. The bonus is subtracted from the amount of social security premiums to be paid.

Other changes: In October 2012, a tax on banks was introduced. In January 2013, insurance tax increased from 9.7% to 21%. To support the housing market, a temporary cut in property transfer tax from 6% to 2% has been made permanent. From 1 January 2013, interest on new mortgages for owner occupied dwellings is only tax deductible on mortgages that are repaid in full (and at least as annuity) over the course of the loan agreement of 30 years. Interest on new mortgages on which no capital is paid back is no longer deductible. The WBSO will be maintained as the main instrument for stimulating R&D by providing tax deductions for the wages of R&D workers. The 'green' element of car taxation has been reinforced. In 2013, the upper CO₂ limit for the exemption from vehicle tax was further reduced, and tax on vehicles with higher CO₂ emissions increased.

Poland

PIT changes: From 2013, the personal income tax base will be broadened as the use of statutory 50% costs of earnings from copyright and licences used mainly by high income earners will be limited. The tax credit for taxpayers with more than two children will be increased.

CIT changes: --

VAT changes: From April 2013, the 23% rate will apply to folk art and crafts (instead of an reduced rate) and on certain postal services. As of 2012, the threshold for qualifying as a small taxpayer for income tax and VAT purposes is PLN 5 324 000 (EUR 1 201 155) of annual turnover, including VAT.

Excise duties changes: --

Social Security Contribution changes: --

Other changes: --

Portugal

PIT changes: The budget law for 2013 increased the average PIT rates and the maximum marginal rate increased to 48%, on incomes over EUR 80 000. On top of the regular PIT, a 3.5% surtax on taxable income above the minimum wage and additional, progressive solidarity rates (2.5% on income over EUR 80 000 and 5% on income over EUR 250 000) apply. Capital gains tax increased from 25% to 28% of the positive difference between capital gains and capital losses arising from the disposal of shares, applicable to resident and non-resident individuals (that tax rate had already increased in 2012 from 20% to 25%). The withholding tax rate for resident and non-resident individuals applied to investment income e.g. from dividends, interest from bank deposits and debt securities increased to 28% (the withholding tax rate also rose twice in 2012, from 21.5% to 25% and to 26.5% in November). Withholding tax on income of self-employed workers, also increased, from 21.5% to 25%. Rental income is subject to a special rate of 28%, but the taxpayer has the option of including it in aggregated income. The deductibility of mortgage interests has been further reduced and some other fiscal benefits curbed.

SSC changes: In January 2013, the Portuguese government adopted an incentive to recruit unemployed people over 45 years of age, a group vulnerable to unemployment, via reimbursement of employers' social security contributions, under certain conditions. The base for calculation of social contributions was widened by including supplementary payments to public employees and sickness and unemployment benefits (above a minimum level).

CIT changes: The withholding tax rates applicable to royalties, commissions, service fees and property income earned by non-residents have been increased from 15% to 25%. There has also been an increase from 21.5% to 25% in the tax rate applicable on the positive balance between capital gains and capital losses obtained by securities investment funds and from 20% to 25% of the tax rate applicable to property income obtained by real estate investment funds. As from 1 January 2013, the lower taxable profit threshold for the 5% rate was reduced from EUR 10 million to EUR 7.5 million. The 5% rate applied to taxable profits over EUR 10 million from 1 January 2012. The deductibility of interests has been limited so that net financial costs are deductible only up to the greater of the following thresholds, EUR 3 million threshold or 30% of the EBITDA.

VAT changes: A cash accounting regime was adopted in May 2013 (and will come into force in the last quarter of 2013) under which VAT is due when payments are made, not when invoices are issued.

Excise duties changes: The 2013 budget increased the maximum rates of excise duties on petrol, spirit drinks, heating and tobacco.

Other changes: The 2013 Budget Law extends the bank levy, the financial sector's contribution, to 2013. Employees pay contributions equal to 11% of their gross salary without any ceiling. The applicable social contributions rate for employers varies according to the employment contract. In 2013, a rate of 23.75% applies to permanent contracts and 26.1% to fixed term contracts. Property taxation: The revaluation of 4.9 million properties that took place recently underpinned changes to the assessment of the recurrent property tax. Following the widening of the tax base, municipalities lowered their tax rates, varying now between 0.3% and 0.5%. Safeguard clauses were introduced to prevent a too high increase for low-income taxpayers. A stamp duty on high-value properties (above EUR 1 million) has been also introduced.

Romania

PIT changes: --

CIT changes: As of February 2013, the previously optional turnover-type tax of 3% on gross income applicable to microenterprises became mandatory for any SME with a gross income lower than EUR 65 000; the Ministry of Finance is expecting a positive impact on the revenue collected. The impact of the measure remains to be seen, as highly profitable companies would be favoured, while companies running losses would be disadvantaged. As of February 2013, the existing tax deduction for R&D expenditure was further increased from 120% to 150%. However, the strict eligibility conditions attached to the present R&D tax incentives make them barely functional in stimulating private R&D spending.

VAT changes: --

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Table (continued)

SSC changes: --

Excise duties changes: Following a recent change to the tax code in January 2013 by means of a government ordinance, excise duties on beer and fermented beverages are based on alcohol concentration as well as the production process. Excise duties on beer have been increased. Total excise duties on cigarettes will be increased every year on 1 April until 2018. In 2018, the EU minimum for excise duty will be reached.

Other changes: An 'environmental stamp tax' which differentiates car purchase tax based on CO₂ emissions has been introduced. This is consistent with efforts to tax environment-related negative externalities. In early 2013, Romania also adopted a tax on the exploitation of natural resources other than natural gas, together with a tax on surplus revenue obtained as a consequence of the deregulation of natural gas prices.

Slovakia

PIT changes: A tax amendment adopted at the end of December 2012 replaced the flat tax with a progressive income tax with a top rate of 25%. Earnings, equal to gross wage less social and health contributions, of up to 176.8 times the subsistence minimum will be subject to the 19% tax rate (up to EUR 34 401.75 in 2013), and 25% above that.

CIT changes: As of 1 January 2013, the corporate tax rate increased to 23%.

VAT changes: --

Excise duties changes: --

Social Security Contribution changes: In 2013, Slovakia simplified the rules for social contributions: for the self-employed, the basis for calculating SSCs was adjusted by increasing the minimum level. It will be broadened during the 2013-15 period by decreasing a coefficient that previously reduced the base. The possibility of deducting 40% of expenses without any bookkeeping to reduce the tax base was limited in nominal terms to EUR 5040 per year or 420 EUR per month. SSCs were significantly increased for workers by agreement who have a regular income. Those with an irregular income will pay lower rates, and students, the disabled and pensioners will be exempted. As of 1 January 2013, health insurance contributions from dividends are being increased from 10 to 14% and withheld. The maximum assessment base for health insurance contributions from dividends is higher than for other income types. It is set at EUR 94 320 for 2013 (120 times the average monthly salary). The minimum assessment base is set at EUR 337.70 for employees, while for self-employed it is half of the average gross wage (0.5 x 786 EUR/month). The minimum assessment base does not apply to dividends.

Other changes: Effective as of 1 January 2012, Slovak banks and branches of foreign banks operating in the Slovak Republic, established according to special legislation on banks, are subject to a bank levy. The levy is calculated from the bank's liabilities at the end of the previous calendar quarter (adjusted by special items as stipulated in legislation). The current levy is set at 0.4%. For the next years, the levy will depend on total revenue collected, subject to the following rules:

- 0.2% - if the total revenue collected is > 500 million EUR and ≤ 750 million EUR in the preceding year,
- 0.1% - if the total revenue is > 750 million EUR and < 1.45% of total amount of assets of the banking sector in the Slovak republic in the preceding year,
- 0% - (1) if the total amount of levies will be > 750 million EUR in the preceding year and (2) will be ≥ 1.45% of total amount of assets of the banking sector in the Slovak Republic in the preceding year,
- 0.05% - if (2) is fulfilled in year-2 but not in year-1

The levy is due on the 25th day of every calendar quarter.

As of 1 September 2012 a special duty is paid on business income in regulated sectors: energy industry, insurance and re-insurance industry, public health insurance, electronic communications, pharmaceuticals, postal services, rail traffic, public water and sewer systems, air transport and health care services. The duty is charged on companies having licenses in the regulated sectors and if the revenue from business in those sectors exceeds 50% of their total revenues. The monthly rate 0.363% is applied to the profit in previous year higher than EUR 3 million.

Slovenia

PIT changes 2013: For the 2013 and 2014 tax years an additional tax bracket of 50% was introduced for very high incomes (above EUR 70 907.20). The second bracket, 27%, has been extended so that the 41% bracket starts at a taxable base of EUR 18 960.28. The flat tax rate on income from capital (on interest, dividends and capital gains) has been increased to 25%.

CIT changes: The CIT rate has been reduced from 18% to 17% for 2013. The standard investment deduction for businesses has been increased from 30% to 40%, and the ceiling has been abolished. General R&D tax relief was increased from 40% to 100%. This eliminates the current regional R&D tax relief.

VAT changes: As of 1 July 2013, the standard rate of VAT increased by 2 percentage points (pps) to 22% and the reduced VAT by 1 pp to 9.5%.

SSC changes: --

Excise duties changes: Excise duties on alcohol and tobacco increased in 2012 and 2013 in several steps.

Other changes: Special property taxes were introduced on immovable property of high value, taxes on motor vehicles and pleasure boats rose. The property tax on premises depends on the type and the value of the property, with progressive rates ranging from 0.1% to 1.5% (several exemptions apply). In 2012, an anti-crisis tax on immovable property was introduced on properties in Slovenia above a certain value (properties for commercial and business use are exempted). For 2012, the threshold was set at EUR 1 million of the property's value. At the end of 2012, amendments were introduced for the years 2013 and 2014 lowering the threshold to EUR 500 000. Tax rates will be 0.5% of the property's value, if the owner's property value is between EUR 500 000 and EUR 2 million (for residential property the tax rate is 0.25%) and 1% of the property's value for immovable property worth above EUR 2 million (for residential property the rate is 0.5%). In March 2013, a tax on financial services was introduced, set at 6.5% of the fees received by the service provider. Tax on CO₂ emissions was increased as of January 2013.

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Table (continued)

Spain

PIT changes: As of January 2013, lottery prizes of EUR 2500 or more are subject to a 20% special charge and short-term capital gains are excluded from the savings tax schedule and taxed under the progressive tax scale. For the period 1 September 2012 to 31 December 2013, withholding tax on payment for professional activities has been increased from 15% to 21%, and to 9% (from 7%) for the first three years of activity. From 1 January 2014, the rate will be 19%. As from January 2013, the tax credit for the acquisition or restoration of the taxpayer's primary residence was abolished, though acquisitions prior to that date still benefit. Individual entrepreneurs with a turnover of less than EUR 5 million and fewer than 25 employees may deduct 20% of their positive net income. The same reduction applies for the first two years of new entrepreneurial activities, and an exemption for lump-sum unemployment benefit is granted to those making use of such income to work in self-employment for at least five years or to contribute to labour companies, labour cooperatives or companies provided that they maintain the holding for five years.

CIT changes: There are new ceilings on deductibility of depreciation; the special free depreciation initially planned for the period 2011–15 has been abolished and new ceilings on deduction of the net financial costs of corporate groups and associated companies, on the deduction of financial goodwill and on offsetting the losses of large companies have been introduced. For 2013 and 2014, tax depreciation for large companies is limited to 70% of the deductible amount. Dividends and capital gains from shares in holdings in non-resident companies established in low-tax jurisdictions that are not subject to the foreign source income exemption are subject to a special charge of 8% in 2012, 10% in some cases until 30 November 2012. The reduced rate for smaller companies linked to employment has been extended to 2013 and a revaluation of balance sheets is being offered with a special levy of 5% on the net increased value. The tax credit for employee training in new technologies has been extended to 2013 and the tax credits for investment in books and films are being extended to 2014. From January 2013, new corporate start-ups will be subject to a 15% tax rate on their annual profits under EUR 300 000, and 20% on the excess as of the first and second year in which profits arise. From 2011 to 2013, companies with fewer than 25 employees and a turnover below EUR 5 million are being taxed on their annual profits below EUR 300 000 at 20%; above this threshold they are taxed at 25%. Companies that no longer qualify as SMEs will nevertheless be able to apply the scheme for three years following the loss of their SME status.

SSC changes: From 2013, the maximum monthly base is EUR 3425.70 (an increase of 1%); the minimum varies depending on the type of work (ranging from EUR 753 to EUR 1 051.50 per month).

VAT changes: With effect from 1 September 2012, the standard rate of VAT increased from 18% to 21%, the reduced rate increased from 8% to 10% and several categories of goods previously subject to the 8% reduced rate are now subject to the standard rate. As of January 2013, house purchases have been moved from the 4% super-reduced rate to the 10% reduced rate.

Excise duties changes: Tobacco tax rates were raised in March, July and December 2012. Tobacco taxes have been rebalanced in June 2013 by increasing the specific component and reducing the proportional one. Alcohol taxes (except beer and wine) have been increased by 10% in June 2013. In 2013, three new taxes were created: a tax on the sale of electric energy, a nuclear tax and a tax on the storage of radioactive waste. The zero rate applying to non-fuel uses of liquid petroleum gas (LPG) has been abolished. They will be taxed at the rate of EUR 15 per tonne.

Other changes: The wealth tax levy has been extended to 2013. The Budget Law set a legal interest rate for money at 4% and a late payment interest rate at 5% for 2013. Several taxes on electricity generation are being applied from 2013. The creation of an Office for Fiscal Responsibility (also planned for 2013) is expected to enhance fiscal monitoring and transparency.

Sweden

PIT changes: The budget bill for 2013 introduced a further increase in the basic tax allowance for individuals over 65 years old and tax incentives for investment in new companies. Further, the scope of reduction for household services was expanded. Tax relief for foreign key personnel was reformed and simplified in 2012. Investment savings account was introduced in 2012.

CIT changes: The budget bill reduced the CIT statutory rate by 4.3 percentage points from 26.3% to 22%.

VAT changes: No change in 2013. Since 2012, Sweden has applied a reduced VAT rate to restaurants and catering services.

Excise duties changes: Excise duties on energy products partly obtained from biomass have been reduced. Excise duties on tobacco has been raised since 2012.

Other changes: The tax deduction for rental income increased. Property tax on apartment buildings has been lowered.

United Kingdom

PIT changes: In March 2013 (the 2013 budget), a new tax-free childcare scheme worth up to GBP1200 per child under 12 (20% of working families' childcare costs) was announced. It will be phased in from autumn 2015 and will ultimately be open to around 2.5 million families with children under 12. Parents who receive childcare support, at present through tax credits and in due course through universal credit, will see this support increased. The additional GBP 200 million in support is planned to be phased in from April 2016 and is equivalent to covering 85% of the childcare costs of qualifying households where the lone parent or both earners in a couple pay income tax. In addition, the upper limit on the basic (20%) PIT rate will be lowered from GBP 34370 (EUR 39602) in 2012–13 to GBP 32010 (EUR 36883) in 2013–14. The tax-free personal allowance will be increased by GBP 1335 (EUR 1538) to GBP 9440 (EUR 10877) for 2013–14. For 2014–15, the basic personal allowance will be GBP 10000 and the basic rate limit will be reduced to GBP 31865. The capital gains tax relief on reinvesting gains in SEIS (seed enterprise investment scheme) shares will be extended. The Finance Bill 2013 restricts the trading losses that can be set off against general income to the greater of either (i) GBP 50000, or (ii) 25% of the individual's adjusted total income for that tax year. In addition, the limit also affects other reliefs including early years' trading losses (i.e. the first four assessment years of trading), and post-cessation trade relief (granted for a seven-year period after cessation). The restriction is stated to take effect from 2013–14. The annual allowance for tax-privileged pension saving will be reduced from GBP 50000 to GBP 40000 (EUR 46089) as from 2014–15. The lifetime allowance for tax-privileged pension saving will be reduced from GBP 1.5 million (EUR 1.73 m) to GBP 1.25 million (EUR 1.44 m) as from 2014–15.

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Table (continued)

CIT changes: For the 2013 financial year (i.e. from 1 April 2013 to 31 March 2014), the corporation tax rate is 23 %. The Finance Bill 2013 provides that the corporation tax rate for the financial year 2014 (i.e. from 1 April 2014 to 31 March 2015) will be 21 % and 20 % for financial year 2015 (i.e. from 1 April 2015). For the financial year 2012, the main rate of corporation tax was 24 %. From April 2013, large companies are able to claim an 'above the line' credit for their R&D expenditure — this will be fully refundable to companies with no corporation tax liability. Initially, the credit will be available upon election, but it will become mandatory by April 2016. The credit will be equivalent to 10 % of qualifying expenditure. Regarding the 'patent box' incentive for innovation, from April 2013, 60 % of profits attributable to qualifying intellectual property is taxed at a rate of 10 %. This proportion of the profits will be increased annually, rising to 100 % in 2017. In January 2013, the Annual Investment Allowance (AIA) has been increased from GBP 25 000 to GBP 250 000 for two years for qualifying investment in plant and machinery.

SSC changes: The Finance Bill 2013: effective from April 2014, all businesses and charities will be entitled to an allowance of GBP 2 000, to be offset against their employer Class 1 national insurance contributions.

VAT, excise duties and environmental taxes: The scope of Air Passenger Duty will be extended in 2013 to include business jets. Under the Finance Bill 2013, VAT registration and deregistration thresholds will be increased in line with inflation. From 1 April 2014, climate change levy rates will be increased in line with inflation. The standard rate of landfill tax will increase by GBP 8 per tonne to GBP 80 per tonne, for disposals of waste made, or treated as made, to landfill, on or after 1 April 2014. The lower rate will be frozen for 2014-15 at GBP 2.50 per tonne. The duty escalator has been scrapped and general beer duty reduced by 2 %. Other alcohol and tobacco duty rates increased by 2 % above inflation in March 2013. Gaming duty was adjusted in line with inflation from 1 April 2013. A planned increase on fuel duty as from 1 September 2013 was scrapped.

Other changes: The Finance Bill 2013 contains measures to introduce an annual tax on enveloped dwellings (ATED). This is a charge on UK residential properties valued at over GBP 2 million, where such properties are owned by certain non-natural persons. The legislation is effective from 1 April 2013. The Finance Bill 2013 also proposes a capital gains tax charge of 28 % on the disposal of residential property subject to the ATED. The measure is effective from 6 April 2013.

With effect from 1 January 2013, the bank levy rates have increased both for (i) chargeable equity and long-term chargeable liabilities (0.065 %) and (ii) short-term chargeable liabilities (0.130 %). The Finance Bill 2013 provides that, with effect from 1 January 2014, the rates will increase to 0.071 % and 0.142 %, respectively.

New resources will be made available from 2013 to combat tax evasion and avoidance, including the launch of a comprehensive offshore tax evasion strategy, coordination on international taxation rules, e.g. on transfer pricing, and the introduction of the UK's first General Anti-Abuse Rule (GAAR).

* Finance Bill 2013 measures are to be enacted after the cut-off date for the report.

Note: The list of reforms draws upon the 2013 National Reform Programmes, 2013 Taxation Trends Report, IBFD database and DG TAXUD databases, and other sources used by the Commission services in the annual assessment of the National Reform Programmes. Cut-off date is June 2013.

Source: Commission services.

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

This and the following chapter provide a first identification of the main challenges Member States face in the area of taxation. They correspond to key dimensions of national tax systems, where policy action is expected to impact on macroeconomic performance, such as GDP, employment, fiscal sustainability and — possibly — macroeconomic stability (e.g. prices and private debt level). The areas under scrutiny concern the design of national tax policies and are under the direct control of the Member States' governments. They are explicitly mentioned in the Annual Growth Survey, being relevant for the coordination of national policies. Any issues which are specifically pertinent to the functioning of the single market and which require tax cooperation between EU Member States, via legislative action or more informal initiatives at EU level (such as tax competition, double taxation, and tax havens) are excluded.

This chapter focuses on two wide-ranging macroeconomic challenges affecting EU Member States: the scope for using taxation to aid fiscal consolidation and the growth-friendliness of Member States' tax structure. These issues are particularly important in the present context, where Member States need to continue their consolidation efforts, while preserving fragile growth by enhancing the quality of taxation.

Member States that are currently subject to an economic adjustment programme (Cyprus, Greece, Ireland and Portugal) are excluded from the analysis in the section on broad challenges linked to consolidation on the revenue side. This is because the fiscal sustainability indicators used in this sub-section cannot be as precise as the detailed and frequent monitoring of debt sustainability carried out by the European Commission, the IMF and the ECB under an adjustment programme. Programme countries are only included indicatively in the other sections of this chapter and of Chapter 4, as the screening yields useful information. The outcome of the screening should not prejudice at any rate the content of the Memorandum of Understanding (MoU) or the programme implementation reviews carried out jointly by the European Commission, the ECB and the IMF.

First of all, this chapter updates and refines the analysis carried out in last year's report on the broad challenges linked to consolidation on the revenue side (Section 3.1) and to the scope for growth-friendlier tax structures (Section 3.2). The analysis covers the EU-27. Data for Croatia are presented if available, but the level of detail does not allow for the screening approaches to be applied. The chapter then looks into the topic of tax shift and fiscal devaluation (Section 3.3). It highlights main features of the two concepts and presents insights from recent simulations on the output and employment effect of shifting taxes from labour to consumption. Different models are used (including QUEST), depending on the type of simulations run. The simulations on tax shifts also explore particularly relevant policy dimensions, such as the gains in targeting specific types of labour and the effects of compensating transfer recipients. The analysis of fiscal devaluation also addresses distributional effects.

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

Given the current budgetary situation, Member States need to continue to make or step up significant consolidation efforts. This sub-section identifies those Member States that have very high consolidation needs and have 'tax space' available and could, therefore, consider increasing their tax revenues.

3.1.1. Benchmarking approach

As in last year's report, Member States are subject to preliminary quantitative screening. They are benchmarked using the Lisbon Assessment Framework (LAF), which is explained in more detail in Annex A1.1. When applying this approach, a Member State is considered to face a challenge in a particular area of tax policy if it is in the bottom third of the distribution.⁽¹⁸⁾ Before drawing firm policy conclusions, though, there

⁽¹⁸⁾ According to the normality assumption. The respective threshold is called 'LAF minus'. This threshold is determined not only with the average but also by the standard deviation to capture the dispersion of the distribution. All averages are GDP-weighted unless otherwise indicated.

should be a complementary in-depth country analysis, which is beyond the scope of this general examination. ⁽¹⁹⁾

Assessing countries against best practices would also be a very useful alternative approach, but would require in-depth country-specific examination, which lies outside the remit of this report. In some limited cases, mainly for sustainability indicators, alternative well-established benchmarks are used (instead of LAF), such as the thresholds defining high risks in the Commission Report on fiscal sustainability.

To see how robust the results are to the various screening approaches, this section also presents the results of alternative screening approaches, based on: (i) LAF thresholds computed with arithmetic averages instead of weighted averages, (ii) a ranking of countries, (iii) LAF weighted corrected for outliers with two different Winsorizing procedures consisting in replacing either the values lying in the 5% of the distribution (considering the sum of the lower limit and of the upper limit) or the two extrema on both sides of the distribution by the adjacent values ⁽²⁰⁾.

3.1.2. Screening of Member States

There is thought to be potential for using tax increases to support the consolidation process if: (i) the tax-to-GDP ratio is relatively low, and at the same time (ii) there is either scope for increasing the least distortionary taxes (consumption, recurrent housing and environmental taxes) or the overall tax burden has not increased substantially (unless warranted by large consolidation needs). The sub-section is based on the approach set out in 2011 and 2012. This is summarised in Annex A1.2 and explained in more detail in Wöhlbier et al. (2013).

Table 3.1: Sustainability gap

Country	Sustainability gap indicators (2013)				Strong consolidation challenge
	S1 - "medium-term"	Total	S2 - "long-term"		
			of which:		
			Initial Budgetary position	Ageing component	
BE	5.2	6.9	0.3	6.6	X
DE	-0.3	1.4	-1.1	2.4	
EE	-3.4	1.2	0.5	0.7	
ES	6.1	5.6	3.7	1.9	X
FR	2.3	1.9	0.9	0.9	
IT	1.1	-2.1	-2.8	0.7	
LU	-1.5	8.6	-0.1	8.7	X
MT	3.1	6.8	1.8	5.0	X
NL	3.1	6.5	2.6	4.0	X
AT	2.4	4.0	0.4	3.6	
SI	4.2	8.6	1.7	6.9	X
SK	0.6	4.9	1.5	3.5	
FI	2.1	6.2	1.3	4.9	X
BG	-2.9	1.1	0.7	0.3	
CZ	0.7	5.0	1.3	3.7	
DK	-2.5	1.7	0.1	1.6	
HR	-	-	-	-	-
LV	-3.0	-1.0	0.9	-1.8	
LT	1.0	5.7	1.8	3.9	
HU	-1.4	-0.1	-0.4	0.3	
PL	1.1	2.8	1.8	1.0	
RO	-0.8	4.1	0.4	3.6	
SE	-2.7	2.4	-0.3	2.7	
UK	6.1	6.2	3.6	2.6	X
EU-27	2.1	2.9	0.7	2.2	
EA-17	1.9	2.3	0.1	2.2	
LAF plus	1.1	1.8	-0.2	1.7	
LAF minus	3.2	4.0	1.5	2.8	

Note: No data are available for Croatia. Indicator values above zero are indicative of a sustainability gap.

Source: Commission services.

A potential need for higher tax revenues to help consolidation is assessed on the basis of the two commonly accepted indicators of fiscal sustainability — the S1 and S2 indicators. The higher these indicators, the less sustainable the level of public debt. The main indicator for *long-term* fiscal sustainability, referred to as ‘S2’ (*‘ageing-induced fiscal risks’*) indicates the permanent adjustment of the fiscal deficit (as % of GDP) that is required to stabilise the debt level in the long term, also taking into account the additional expenditure brought about by an ageing population. ⁽²¹⁾ The indicator of *medium-term* fiscal sustainability is also used, referred to later on as ‘S1’ (*‘debt compliance risk’*). S1 corresponds to the required adjustment in the budget balance (as % of GDP) to achieve a general government gross debt of 60 % of GDP — the debt threshold in the Treaty — by 2020. The indicators are explained further in Annex A1.2.

⁽¹⁹⁾ This in-depth country analysis is done in the ‘European Semester’ exercise.

⁽²⁰⁾ For a detailed description of the different benchmarking approaches see Wöhlbier et al. (2013).

⁽²¹⁾ For example, the value of 2.9 for the EU-27 indicates that, taking into account the current budgetary position and the additional expenditure brought about by an ageing population, Member States would have to tighten their fiscal stances, in terms of the structural primary balance, by an average of 2.9% of GDP, for their public finances to return to a sustainable path in the long run.

Table 3.2: 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 MTO
	2013	2009-13	2009-2013	2013
BE	45.4	2.1	2.6	3.0
DE	39.8	-0.2	-0.2	-0.9
EE	32.6	-2.4	0.5	0.3
ES	32.1	1.8	4.5	0.5
FR	46.3	4.1	3.6	-0.2
IT	44.3	1.6	3.5	3.8
LU	38.6	-1.4	0.8	1.1
MT	33.9	-0.1	1.2	2.4
NL	39.8	1.6	1.9	2.5
AT	43.1	0.3	0.7	0.1
SI	37.3	0.6	0.7	0.6
SK	29.2	-0.1	3.0	-0.5
FI	44.4	0.8	1.9	0.9
BG	28.7	-0.1	1.2	1.8
CZ	35.4	1.4	2.2	-0.6
DK	49.3	0.0	1.5	2.3
HR*	-	-	-	-
LV	27.1	0.9	7.3	0.7
LT	27.3	-2.1	0.6	-0.9
HU	38.9	-1.4	2.4	-0.6
PL	32.0	1.2	3.1	2.3
RO	28.8	0.1	2.3	0.7
SE	44.3	-2.4	-0.8	-0.9
UK	37.4	1.1	1.4	---
EU-27	40.1	1.3	2.3	1.7
EA-17	40.9	1.6	2.6	1.2
LAF plus	38.0	0.7	1.4	---
LAF minus	42.2	2.0	3.2	---

Note: Column (1) presents the tax-to-GDP ratio (excl. imputed SSC) based on the Commission's spring 2013 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 over the period 2009-13. Column (4) provides the distance to the Medium-Term Budgetary Objective (MTO).

Source: Commission services.

Based on this approach and on the methodology described in Annex A1.2, Belgium, Spain, Luxembourg, Malta, the Netherlands, Slovenia, Finland and the UK face strong consolidation challenges due to serious sustainability issues in the medium and/or the long run. ⁽²²⁾

Table 3.2 presents indicators used to assess the 'tax space': (i) the tax-to-GDP ratio as an indicator of the 'overall tax space', ⁽²³⁾ (ii) the change in the cyclically adjusted tax-to-GDP ratio over the period 2009-13 to measure 'tax fatigue', ⁽²⁴⁾ (iii) the sum of discretionary revenue measures as an additional indication of 'tax fatigue' and (iv) the distance to the Medium Term Objective (MTO) as a supplementary indicator of the adjustment needed to reach the MTO. In addition to these indicators, it is also important to assess how much scope Member States appear to have to increase the least distortionary taxes (recurrent taxes on immovable property, consumption taxes and environmental taxes). This assessment is carried

out in Sub-section 3.2.2 and summarised in Table 3.11.

Based on the screening explained in Annex A1.2 and the indicators of the 'tax space' presented in Table 3.2 and Table 3.11, Table 3.3 presents the Member States that are considered to have scope for increasing taxes. They are characterised by a relatively low tax-to-GDP ratio and still have scope for increasing the least distortionary taxes or have not increased taxes strongly in the period 2009-13, as measured by the cyclically adjusted tax-to-GDP ratio and the level of discretionary revenue measures.

Table 3.3: Assessment of 'tax space'

Country	Overall tax level	Room to increase least distortionary taxes	No significant tax increase in recent years	Outcome: room for tax rise
BE		X	X	
DE		(X)	X	
EE	X	(X)	X	X
ES	X	X	X	X
FR		X	X	
IT		X		
LU		X	X	
MT	X	(X)	X	X
NL			X	
AT		X	X	
SI	X	(X)	X	X
SK	X	X	X	X
FI		(X)		
BG	X	(X)	X	X
CZ	X	X		X
DK			X	
HR*	-	-	-	-
LV	X	X		X
LT	X	X	X	X
HU		X	X	
PL	X	(X)	X	X
RO	X	X	X	X
SE		(X)	X	
UK	X			

Note: Column (1): Member States with a tax-to-GDP ratio below LAF plus are considered as having overall tax space. Column (2): Based on the assessment shown in Table 3.11, 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 the recent past ('no tax fatigue') or if the distance to the Medium-Term Budgetary Objective (MTO) is greater than the EU average.

Source: Commission services.

Table 3.4 summarises the screening results. Among those Member States with high sustainability challenges, Spain, Malta and Slovenia have some scope for raising taxes, which may be used to contribute to consolidation (on the revenue side).

However, due to the usual indicator lags, this screening may not take into account recent tax increases or substantial measures taken in response to the challenges identified last year. This mainly concerns the assessment of the scope for increasing the least detrimental taxes, which is generally based on 2011 data and so does not

⁽²²⁾ The S1 indicator is greater than 3 or S2 indicator greater than 6 for these Member States.

⁽²³⁾ The available 'Tax space' does not only depend on the tax-to-GDP ratio but on the room to increase it, which depends on country characteristics. It is not a call for higher taxes and has to be seen in the context of the expenditure side of the budget and the preference for redistribution.

⁽²⁴⁾ Due to composition effects, the change in the cyclically-adjusted tax burden may underestimate the magnitude of the discretionary tax increases undertaken in some Member States, such as Spain. For a more detailed analysis of discretionary tax measures see Princen et al. (2013).

reflect measures taken in 2012 and 2013 as described in Chapter 2. This qualifies the results for Spain and Slovenia, where a recent rise in taxation should be taken into consideration when drawing policy conclusions.

A more detailed discussion of which tax categories could be used to increase revenue (i.e. that offer scope for increases) can be found in Sub-section 3.2.2. Of course, while further country-specific analysis is necessary, some countries with little tax space (reflected in a relatively high overall tax burden) may still need to raise taxes further — in addition to curbing public expenditure significantly — to meet their consolidation challenges, at least in the short to medium term.

Table 3.4: Overview: fiscal consolidation challenges

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

Note: Column 1 is based on Table 3.1 and Column 2 on Table 3.3.

Source: Commission services.

Sensitivity analyses were run on how to compute the thresholds for defining challenges. An 'X' in Table 3.5 indicates that a particular screening approach has identified a challenge for the country in question. As shown in the last two columns of Table 3.5, the result obtained with the standard LAF approach also holds good if the data are corrected for outliers as described in Section 3.1.2. As expected, using the LAF approach with a non-weighted distribution or the approach based on country ranking come up with different results. Unlike the standard LAF weighted approach, which takes into account the economic size of each Member State, these two approaches give more weight to the small Member States. This matters, as those Member States in particular that joined the Union in 2004 are in many cases characterised by

a very low tax-to-GDP ratio. So the un-weighted approach biases the average downwards. Only one country (Spain) with a strong need for consolidation appears in the bottom third of the distribution in terms of low tax-to-GDP ratio. With the ranking approach, none of the three countries appears in the bottom third. However, the tax-to-GDP ratio remains fairly low for these countries and could justify using revenue increases to help consolidate.

Table 3.5: Fiscal consolidation challenge: outcome of different screening approaches — robustness check

Country	LAF weighted	LAF unweighted	Ranking	Windsorising cap at 5%	Windsorising extrema
BE					
DE					
EE					
ES	X	X		X	X
FR					
IT					
LU					
MT	X			X	X
NL					
AT					
SI	X			X	X
SK					
FI					
BG					
CZ					
DK					
HR	-	-	-	-	-
LV					
LT					
HU					
PL					
RO					
SE					
UK					

Note: Cyprus, Ireland, Greece and Portugal are not covered by the screening approach. No data are available for Croatia.

Source: Commission services.

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

In many Member States, a high tax burden on labour, especially on groups with only a precarious foothold in the labour market, coexists with relatively low levels of those taxes considered less detrimental to growth, i.e. consumption taxes, recurrent taxes on immovable property and environmental taxes.⁽²⁵⁾ This indicates that there is room for a shift away from labour taxes to other tax bases. Certainly, in some Member States the fiscal consolidation constraints are so demanding that a reduction in labour taxes is becoming very difficult. However, even those Member States that need to increase revenue to contribute to fiscal

⁽²⁵⁾ Consumption taxes include excise duties on tobacco and alcohol. These form part of the so-called 'sin taxes' and are meant to reduce their consumption and related health problems.

consolidation could consider a relative shift in the tax structure, by raising the least detrimental taxes first and avoiding increasing the tax burden on labour. Increases in indirect taxation might require accompanying policies to address non-compliance in that area.

Annex A1.3 outlines the quantitative screening principles used to identify countries that have both a need and scope for improving the structure of taxation with a view to enhancing growth. This sub-section first identifies which Member States have a particular need to reduce (overall or group-specific) labour taxation and then highlights those that appear to have particular scope for increasing taxes that are considered the least detrimental to growth. ⁽²⁶⁾ Cyprus does not feature in the labour taxation screening because the micro data used in the screening is not available for recent years.

3.2.1. Need for a shift: high tax burden on labour

The overall tax burden on labour, as measured by the implicit tax rate (ITR) on labour and the tax wedge at average earnings ⁽²⁷⁾, is considered to be particularly high (above LAF minus) in Belgium, Germany, France, Italy, Austria, Finland, the Czech Republic, Hungary and Sweden (see Table 3.6). However, it is necessary to look also at labour market outcomes in gauging the urgency of a labour tax reduction. Of the above countries, Germany, Austria, Finland and Sweden have an employment rate significantly above the EU-27 average (above LAF plus), also close to or above the Europe 2020 employment target of 75 %. For these countries, the issue of high labour costs remains pertinent but is considered to be less problematic in the screening analysis.

It is also important to stress different labour market groups, which face particular employment problems and whose labour market participation is, at the same time, considered to be particularly responsive to labour supply incentives created by a lower after-tax wage. Annex A1.4 discusses the effects of labour taxation on different groups. It

concludes that second-earners, lone mothers, low-skilled workers and older workers have high labour tax elasticities.

Table 3.6: Tax burden on labour and overall labour market situation

Country	Employment rate (2012)	p.m. Unemployment rate (2012)	ITR on labour (2011)	Tax wedge (100% AW, 2012)
BE	67.2	7.4	42.8	56.0
DE	76.7	5.5	37.1	49.7
EE	72.1	10.1	36.2	40.4
IE	63.7	14.4	28.0	29.8
EL	55.3	24.1	30.9	41.9
ES	59.3	24.5	33.2	41.4
FR	69.3	9.5	38.6	50.2
IT	61.0	10.4	42.3	47.6
CY	70.2	11.8	26.7	
LU	71.4	5.0	32.8	35.8
MT	63.1	5.5	25.5	29.78*
NL	77.2	4.7	37.5	38.6
AT	75.6	4.1	40.8	48.9
PT	66.5	15.9	25.5	36.7
SI	68.3	8.9	35.2	42.3
SK	65.1	13.6	31.9	39.6
FI	74.0	7.0	39.6	42.5
BG	63.0	12.0	25.5	33.6*
CZ	71.5	6.8	39.0	42.4
DK	75.4	7.0	34.6	38.6
HR	55.4	-	-	-
LV	68.2	14.8	32.0	44.4*
LT	68.7	13.3	32.0	40.7*
HU	62.1	10.8	38.4	49.4
PL	64.7	10.0	32.2	35.5
RO	63.8	7.0	31.4	44.8*
SE	79.4	7.1	39.4	42.8
UK	74.2	6.9	26.0	32.3
EU-27	70.1	9.4	35.8	43.3
EA-17	69.1	10.1	37.7	47.0
LAF plus	72.8	7.2	33.7	39.7
LAF minus	67.5	11.6	37.9	47.0

Note: Employment rate and unemployment rate (20 to 64 y ears), tax wedge of single earner without children at 100 % of the average wage for full-time work (AW), ITR on employed labour; * data for the tax wedge refer to 2011 in the case of Bulgaria, Greece, Lithuania, Latvia, Malta and Romania. No data are available for Croatia and no recent data for the tax wedge on labour for Cyprus.

Source: Commission services, OECD.

Youth unemployment may also be affected by labour taxation, but this is just one of a large number of other equally important factors ⁽²⁸⁾. This section will focus on two of these groups that are of particular importance in the labour taxation discussion: low-skilled workers ⁽²⁹⁾ and second-earners. Low-skilled workers also face difficulties with employability given their supposedly high labour costs (including labour taxes) compared with their productivity.

⁽²⁶⁾ This sub-section focuses on the main results; a more detailed analysis can be found in Wöhlbier et al. (2013).

⁽²⁷⁾ For an explanation of the concepts of ITRs and tax wedges see the Glossary.

⁽²⁸⁾ The high unemployment rates currently faced by young people are clearly linked to cyclical factors, but also to structural problems in the education system (e.g. leading to high drop-out rates) and the labour market (e.g. growing skills and geographical mismatches, the level of labour costs).

⁽²⁹⁾ 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.

Table 3.7: Labour market situation of low-skilled and tax burden on low-income earners

Country	Tax burden on low-wage earners and labour market situation of low-skilled (1)								p.m. Youth labour market performance (2)			
	Labour market performance	Disincentives to work										
	Employment rate (low-skilled)	Tax wedge (67% AW)	Inactivity trap (67% AW)	(67%)	Unemployment trap (67% AW)	Tax wedge (50% AW)	Inactivity trap (50% AW)	(50%)	Unemployment trap (50% AW)	Unemployment rate (youth)		
	2012	2012	2011	of which contribution from labour tax	2011	of which contribution from labour tax	2012	2011	of which contribution from labour tax	2011	of which contribution from labour tax	2012
BE	59.4	50.5	66.8	36.5	90.7	36.5	42.8	68.4	27.8	87.8	27.8	19.8
DE	62.7	45.6	65.4	34.9	73.4	34.9	42.5	72.0	31.2	72.0	31.2	8.1
EE	56.3	39.2	49.7	18.8	63.5	13.5	37.9	58.5	17.0	63.5	13.5	20.9
IE	47.1	20.1	76.7	11.4	75.9	10.6	10.4	90.3	2.8	89.3	1.7	30.4
EL	56.4	38.6	21.5	21.5	60.1	21.5	37.7	20.2	20.2	71.8	20.2	55.3
ES	54.4	37.0	44.2	17.9	82.8	12.8	31.6	46.1	10.8	77.7	7.7	53.2
FR	66.6	47.1	54.7	26.1	77.2	19.4	35.6	58.5	23.2	83.2	20.2	24.3
IT	60.4	44.5	25.4	25.4	77.8	22.3	41.3	19.0	19.0	79.0	19.0	35.3
CY	68.3	;	;	;	;	;	;	;	;	;	;	27.8
LU	76.2	28.9	70.5	17.8	86.7	6.7	25.3	83.3	12.7	93.3	4.3	18.1
MT	60.0	18.6*	56.1	12.6	55.7	12.6	15.5*	66.4	9.4	65.8	9.4	14.2
NL	70.4	33.2	82.1	33.1	84.0	9.0	27.8	91.9	26.2	97.1	3.8	9.5
AT	69.0	44.2	66.1	27.6	67.4	27.6	40.0	73.5	21.8	73.5	21.8	8.7
PT	70.8	32.0	37.1	16.2	79.0	16.2	28.1	39.1	11.0	76.0	11.0	37.7
SI	63.0	38.5	59.6	28.8	89.7	9.7	33.4	64.4	23.1	85.5	5.5	20.6
SK	37.3	36.9	29.6	19.3	44.3	19.3	34.1	29.6	15.8	40.8	15.8	34.0
FI	64.9	36.7	69.0	27.5	72.2	16.1	33.1	80.8	25.5	80.8	13.5	19.0
BG	41.6	33.6*	36.6	21.6	81.6	21.6	33.6*	41.8	21.6	81.6	21.6	28.1
CZ	50.4	39.3	62.4	19.1	80.2	19.1	36.2	66.0	15.1	79.2	15.1	19.5
DK	68.4	37.0	86.6	26.5	89.1	12.2	35.7	102.2	21.5	93.9	9.4	14.1
HR	49.5	-	-	-	-	-	-	-	-	-	-	43.0
LV	59.0	43.5*	57.7	29.9	89.9	29.9	42.6*	66.0	28.8	88.8	28.8	28.4
LT	43.6	38.9*	43.5	19.9	68.5	19.9	37.1*	49.1	17.5	82.6	17.5	26.4
HU	48.3	47.6	51.3	29.6	79.6	19.6	45.1	55.9	26.8	79.6	19.6	28.1
PL	52.9	34.6	50.1	27.2	81.5	21.5	33.7	56.8	26.1	96.7	19.0	26.5
RO	59.1	43.8*	36.5	27.6	53.8	27.6	42.6*	37.9	26.1	59.0	26.1	22.7
SE	67.5	40.7	69.7	28.9	73.7	10.4	39.1	83.6	26.9	83.6	6.9	23.7
UK	63.1	28.2	64.8	21.9	64.8	21.9	24.0	74.2	18.5	74.2	18.5	21.0
EU-27	62.1	39.6	56.0	26.8	75.3	22.4	34.7	60.8	22.4	79.0	19.3	23.5
EA-17	62.5	42.9	53.6	27.8	76.9	23.4	37.3	56.9	22.9	78.9	20.1	24.1
LAF plus	64.4	36.0	49.6	24.5	72.3	19.1	31.3	52.3	19.9	75.8	15.9	18.2
LAF minus	59.8	43.2	62.5	29.2	78.3	25.7	38.1	69.4	25.0	82.3	22.6	28.8

Note: (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 single worker with no children at 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, housing benefits). *Tax wedge data for the indicators measuring the disincentives to work refer to 2011 in the case of Bulgaria, Greece, Lithuania, Latvia, Malta, and Romania. No data are available for Croatia and no recent data for Cyprus. (2) Unemployment rate of young workers (15-24).

Source: Commission services, OECD.

We systematically use indicators measuring the tax burden on low-skilled workers and the so-called 'traps' ⁽³⁰⁾ they face in (re)entering the labour market from inactivity and unemployment (presented in Table 3.7 at both 50 % and 67 % of the average wage). Based on the screening outlined in Annex A.1.3 Belgium, Germany, France, Italy, Austria, Latvia, Hungary, Romania, Sweden and the UK all face the challenge of reducing the tax burden on low-skilled workers. ⁽³¹⁾ The indicators at the 50 % level are used in addition to those at the 67 % level because they reflect measures to cut labour costs and are specifically aimed at very low income levels. ⁽³²⁾ The challenge is considered to

be more limited in France as the disincentives to work are high only at the 67 % level, as special measures are in place for those at or close to the minimum wage. In Sweden and the UK, on the other hand, special disincentives appear only at the 50 % level. As a qualifier, France, Austria and Sweden show relatively high employment rates for low-skilled workers, which mitigates the issue of high tax for the low-skilled and is reflected in the screening. ⁽³³⁾

⁽³⁰⁾ See the Glossary for a definition of these concepts.

⁽³¹⁾ Countries in which low-skilled workers face very high unemployment or inactivity traps which are mainly due to the social benefits system are not captured by the screening.

⁽³²⁾ The 50 % threshold is also used as the wage distribution is skewed to the right and, therefore, the median wage is

below the average wage. Special measures aimed at low-income levels can, however, lead to rather high low-wage traps in the areas in which these are phased out.

⁽³³⁾ For a discussion of which components of the tax burden could be reduced — which of course depends on the specific Member State — see the 2011 edition of the report. Generally, a reduction in employers' social contributions has a direct impact on labour costs, at least in the short term.

Second earners sometimes face specific disincentives to returning to work from inactivity or to increasing the number of hours worked. Such disincentives are to some extent due to the benefits system, but taxes (including SSC) often play an important role. The data in Table 3.8 show that disincentives for second-earners to return to work from inactivity are high in Belgium, Germany and the Netherlands, whereas disincentives to increase the number of hours worked are high in Belgium, Germany, Italy and Denmark.

Table 3.8: Gender-specific labour market situation and tax burden on second earners

Country	Labour market performance			Disincentives to work			
	Employment rate - female	p.m. Employment rate - male	p.m. Average working hours - female	Inactivity trap (67% AW)		Low-wage trap (33%-67% AW)	
				2011	of which contribution from labour tax	2011	of which contribution from labour tax
BE	73.9	84.5	32.8	47.3	47.3	59.0	59.0
DE	78.2	88.1	30.5	47.0	43.9	45.9	45.9
EE	75.5	83.1	37.5	24.0	24.0	24.0	24.0
IE	64.6	74.5	30.9	47.0	16.1	39.1	29.7
EL	53.8	74.0	39.1	21.5	21.5	25.2	25.2
ES	61.3	71.1	34.8	23.8	23.8	23.7	23.7
FR	76.0	85.8	34.6	32.2	25.4	34.0	27.2
IT	59.1	81.6	32.8	40.4	31.5	48.4	41.7
CY	74.0	83.3	38.1	-	-	-	-
LU	75.0	91.0	33.4	33.7	24.2	30.8	30.8
MT	55.2	89.5	34.7	30.7	16.5	20.5	17.8
NL	78.9	88.6	24.5	46.1	38.7	41.3	45.2
AT	81.1	89.6	32.7	30.0	30.0	40.3	40.3
PT	72.5	78.4	37.4	20.4	19.8	28.9	27.7
SI	81.0	85.4	38.5	51.9	28.8	51.6	35.3
SK	69.6	83.0	39.5	25.3	25.3	31.4	29.9
FI	79.4	84.4	34.9	27.3	27.5	32.2	31.1
BG	71.8	74.3	40.4	21.6	21.6	21.6	21.6
CZ	74.6	90.9	38.9	34.0	27.3	12.8	12.8
DK	79.1	84.6	31.2	75.9	27.8	51.7	40.1
HR	65.5	71.8	-	-	-	-	-
LV	75.1	77.8	37.9	35.1	35.1	33.3	33.3
LT	79.2	78.1	37.3	46.7	19.9	41.7	26.4
HU	68.9	80.4	38.5	29.6	29.6	37.8	37.8
PL	71.5	82.9	38.4	42.5	24.0	36.4	26.4
RO	67.8	81.7	39.6	32.0	28.5	31.9	31.9
SE	82.5	87.8	34.2	22.1	28.9	28.6	34.5
UK	74.5	86.6	31.2	46.4	21.9	36.6	32.0
EU-27	72.6	84.3	32.8	39.2	30.7	38.8	35.8
EA-17	71.8	83.8	32.6	37.8	32.9	40.0	37.4
LAF plus	75.6	86.3	34.0	35.1	27.2	35.2	32.1
LAF minus	69.6	82.3	31.6	43.3	34.2	42.4	39.6

Note: Employment rate for age group 25-54. Female working hours refers to average number of usual weekly hours of employed persons in 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, housing benefits). Inactivity includes household work. No data are available for Croatia and no recent data for Cyprus.

Source: Commission services, OECD.

The labour market situation of second earners in the countries with relatively high disincentives, taking the female employment rate as a proxy, is, however, significantly better than the EU-27 average in Germany, the Netherlands, Finland, and Denmark. This mitigating factor is reflected in the screening. It should, however, be borne in mind that the employment rate does not capture the number of hours worked, which is another

important indicator of labour under-utilisation. In particular, of these four countries with high female employment rates, the average number of hours worked is low for women in the Netherlands, Germany and Denmark (see Table 3.8)⁽³⁴⁾, indicating disincentives to increase the number of hours worked and to work full-time.

3.2.2. Room for manoeuvre: potential for increasing consumption, property or environmental taxes

Member States are considered to have room to shift taxes away from labour if their tax burden is relatively low in at least one of the following three areas: consumption taxes, recurrent property taxes or environmental taxes. All of these tax categories have been found to be among those which are the least detrimental to growth.⁽³⁵⁾ Inheritance taxes are also often considered to cause relatively little distortion, but revenues from them are fairly limited in most Member States and they are politically charged, given the intergenerational impact and the issue of business succession.

By far the broadest tax base for shifting labour tax is consumption. As measured by the share of consumption taxes in GDP in 2011, revenues from consumption taxes were particularly low in Belgium, Ireland, Spain, Luxembourg, Slovakia and Latvia (see Table 3.9).⁽³⁶⁾ In addition to those countries, Greece, Italy, Cyprus, Portugal and Lithuania had a tax burden on consumption in 2011, as measured by the ITR on consumption, significantly below the EU-27 average in 2011. Moreover, in France and Austria there was a big gap between the tax burdens on labour and consumption (as measured by the difference between the two ITRs) — well above the EU-27 average. Hence, this also indicated potential to consider a shift of taxation away from labour towards more growth-friendly tax bases, incl.

⁽³⁴⁾ While the gap between average male and female weekly working hours was around ten hours in the Netherlands and Germany in 2012, it was rather low (less than five hours) in Denmark. Another related indicator is the share of employed women working part-time, which is particularly high in the Netherlands, Germany and Belgium.

⁽³⁵⁾ For a discussion of the effect of different types of taxes on growth, see European Commission (2011a).

⁽³⁶⁾ For Ireland, the rather low value is also due to a high share of multinational companies in the Irish economy. A comparison of consumption taxes with GNI would provide a more favourable picture. Data for Spain do not reflect the substantial VAT increase implemented in 2012.

environmental taxes and recurrent property taxes as discussed below.

However, as most of the data used in the screening are only available up to 2011, there is a need to take into account the often substantial tax reforms implemented in 2012 and the first half of 2013, which are presented in Chapter 2. As a rough proxy for the impact of these changes on revenues from consumption taxes, the projected change in revenues from indirect taxes over the period 2011-13, according to the Commission spring 2013 forecast, is used. ⁽³⁷⁾ Of the countries found to have potential for increasing consumption taxes, revenues from indirect taxes are forecast to increase by more than one percentage point in Italy ⁽³⁸⁾ and by more than 0.5 percentage points in Spain and Luxembourg. Assuming that these increases are confirmed and indeed linked to higher consumption taxes, they would tend to limit the actual scope for future increases. This points to the need for further country-specific analysis, as this dimension is not factored into the screening.

When considering increases in consumption taxes it is important to examine in which sub-category (VAT, excise duties on alcohol and tobacco or energy) Member States have a particular scope for increasing revenues, as was done in the 2011 edition of this report. ⁽³⁹⁾ A rise in consumption taxes might lead to a rise in price levels, translating into higher inflation in the short run. This may (partly) counteract the cut in labour costs from the tax shift, depending on the response of wages to prices (referred to as second round effect).

A second category of less growth-harmful taxation comprises recurrent taxes on immovable property, though these generate substantially less revenue than consumption taxes. In terms of revenue, property taxes can be considered particularly low

in 19 Member States (see Graph 4.3 in Chapter 4), which could raise their revenues by 0.4 percentage points or more by bringing revenue in line with the EU-27 average. However, the revenue from the tax on imputed rent, which is applied in a limited number of countries, is not included in the data.

Table 3.9: Consumption taxes and indirect taxes

Country	Share of consumption taxes in total taxation	Consumption taxes as % of GDP	ITR on consumption	Gap: ITR on labour and consumption	p.m.: Share of indirect taxes in total taxation	p.m.: Indirect taxes as % of GDP
	2011	2011	2011	2011	change 2008-13	change 2011-13
BE	24.2	10.7	21.0	21.8	28.2	-0.1
DE	28.2	10.9	20.1	17.0	28.3	0.5
EE	41.3	13.6	26.1	10.1	43.3	5.7
IE	34.8	10.1	22.1	5.9	41.9	0.3
EL	38.5	12.5	16.3	14.7	38.4	-0.3
ES	26.9	8.4	14.0	19.2	33.4	3.7
FR	25.3	11.1	19.9	18.7	33.4	-1.1
IT	25.3	10.8	17.4	24.9	34.0	1.9
CY	36.2	12.7	17.7	8.9	42.5	-3.3
LU	27.3	10.2	27.2	5.5	32.5	-0.6
MT	40.1	13.4	19.0	3.6	39.8	-2.5
NL	30.4	11.7	26.3	11.2	30.1	-1.0
AT	27.9	11.7	21.2	19.6	33.7	0.7
PT	36.7	12.2	18.0	7.4	39.3	-3.6
SI	37.7	14.0	23.0	12.2	39.2	1.6
SK	36.9	10.5	18.7	13.3	33.5	-2.0
FI	32.2	14.0	26.4	13.2	32.9	3.0
BG	51.9	14.1	22.4	2.2	54.0	0.0
CZ	32.6	11.2	21.4	17.5	34.8	4.2
DK	31.6	15.1	31.4	3.1	34.2	-1.4
HR*	-	-	-	-	-	-
LV	38.3	10.5	17.2	14.8	42.2	5.0
LT	43.4	11.3	17.5	14.5	40.3	2.4
HU	39.2	14.5	26.8	11.5	47.7	8.9
PL	39.1	12.7	20.8	11.4	39.7	-1.6
RO	44.5	12.6	21.6	9.8	46.2	4.5
SE	28.8	12.8	27.3	12.1	41.7	3.4
UK	33.1	11.9	19.5	6.5	36.3	5.2
EU-27	29.3	11.2	20.1	15.7	33.7	1.4
EA-17	27.7	10.8	19.4	18.2	32.1	0.6
LAF plus	31.1	11.7	21.4	13.3	35.4	2.3
LAF minus	27.5	10.7	18.7	18.1	32.0	0.4

Note: The column 'gap' shows the difference between the ITR on labour and the ITR on consumption. No data by economic function are available for Croatia. Data for indirect taxes are based on the 2013 Commission spring forecast.

Source: Commission services.

This could explain the very low revenue from recurrent taxes on immovable property in some countries (e.g. in Luxembourg and the Netherlands). As discussed in Chapter 4 (Sub-section 4.2.2), revenue from recurrent taxes on immovable property could, first of all, be increased by bringing the cadastral values of housing in line with market values. Tax rates could be increased as a second step.

The third tax category which has been found to be less detrimental to growth is environmental taxation, in particular the one falling on consumption. Quite apart from the revenue-generating element 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

⁽³⁷⁾ Indirect taxes are broader than consumption taxes as, under ESA 95, indirect taxes also include revenues from other taxes, in particular large parts of property tax revenues, some additional smaller environmental taxes, stamp taxes and payroll taxes.

⁽³⁸⁾ The scheduled increase in the standard VAT rate in Italy as from July 2013 has recently been postponed to October 2013 by the Council of Ministers.

⁽³⁹⁾ The increase in consumption taxes can also include special taxes, such as those on fat products, that aim at changing consumption behaviour. The scope for increases in environmental taxes is discussed below.

reforming environmentally harmful subsidies, and through tax rate increases. Revenue expectations should not be too high, given the relative narrowness of the environmental tax base. Based on the criteria outlined in Annex A1.3 and the data shown in Table 3.10, Belgium, Spain, France, Austria, Slovenia, Slovakia, Czech Republic, Latvia, Lithuania, Hungary, Poland and Romania seem to have room for boosting their revenue from environmental taxes. ⁽⁴⁰⁾ Due to indicator lags already mentioned in the above, recent increases in environmental taxes in 2012 and 2013 are not reflected in the data yet. ⁽⁴¹⁾

Table 3.10: Tax burden on the environment

Country	Environmental taxes as % of GDP, 2011	Implicit tax rates on energy, 2011
BE	2.1	127.2
DE	2.3	229.6
EE	2.8	137.5
IE	2.6	209.2
EL	2.7	223.8
ES	1.6	157.6
FR	1.8	198.1
IT	2.8	270.3
CY	2.9	188.1
LU	2.4	222.5
MT	3.2	240.6
NL	3.9	235.9
AT	2.4	183.1
PT	2.4	174.0
SI	3.4	205.7
SK	1.8	103.2
FI	3.1	156.0
BG	2.9	105.8
CZ	2.3	139.3
DK	4.1	382.2
HR*	-	-
LV	2.5	98.2
LT	1.7	105.9
HU	2.5	119.8
PL	2.6	122.5
RO	1.9	99.6
SE	2.5	244.2
UK	2.6	245.0
EU-27	2.4	215.1
EA-17	2.3	212.2
LAF plus	2.6	234.9
LAF minus	2.2	195.3

Note: No data are available for Croatia. See Glossary for a definition of environmental taxes applied in this report and an explanation of the ITR on energy.

Source: Commission services.

3.2.3. Summary findings on the need and potential for tax shifting and robustness checks

Based on the screening summarised in Table 3.11, Belgium, France ⁽⁴²⁾, Italy, Latvia, Hungary ⁽⁴³⁾ and Romania in particular and, to a lesser extent, Germany, the Netherlands, Austria, Finland, the Czech Republic and Sweden appear to be facing the challenge of reducing the tax burden on labour (either overall or for specific groups) and at the same time appear to have room to increase taxes which are less detrimental to growth. These Member States could, therefore, analyse in greater detail whether to shift the tax burden away from labour, and if so, how. The picture presented for the Member States may, however, not be fully up to date, given the backward-looking character of the indicators.

Table 3.11: Overview: tax structure indicators

Country	High tax burden on labour			Potential to shift				Need and room for tax shift
	Overall	Specific groups - low skilled	Specific groups - second-earners	Consumption	Recurrent housing	Environment	Room to shift	
BE	X	X	X	X		X	X	X
DE	(X)	X	(X)		X		(X)	(X)
EE					X			
IE				X			X	
EL				X			X	
ES				X		X	X	
FR	X	(X)		X		X	X	X
IT	X	X	X	X	X		X	X
CY	-	-	-	X	X		X	-
EU				X			X	
MT					X		(X)	
NL			(X)					
AT	(X)	(X)		X	X	X	X	(X)
PT				X	X	X	X	
SI					X		(X)	
SK				X	X	X	X	
FI	(X)			X	X		(X)	(X)
BG					X		(X)	
CZ	X				X	X	X	X
HR			(X)					
LV	-	-	-	-	-	-	-	-
LT		X	-	X	X	X	X	X
HU	X	X		X	X	X	X	X
PL					X	X	(X)	
RO		X			X	X	X	X
SE	(X)	(X)			X		(X)	(X)
UK		(X)						

Note: '(X)' depicts 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 either recurrent housing taxes or environmental taxes are low. Croatia is not covered by the screening approach, while Cyprus is not included in the analysis for the need to reduce labour taxation.

Source: Commission services.

⁽⁴⁰⁾ The two indicators shown in Table 3.9 are both used for the assessment. Each one has its own weaknesses. Environmental (or energy) tax revenue as a % of GDP does not take into account the level of energy consumption/intensity in a country and hence does not measure a 'true' tax burden. In the case of the implicit tax rate on energy, it is not the whole base (level of energy consumption) that is actually taxed: i.e. transport is heavily taxed in most countries, while energy use for heating and industrial production is taxed much less or is exempt. It follows that Member States with, in relative terms, a large low-taxed industrial sector and low, or not taxed, heating use appear 'bad'. Moreover, an increased use of (untaxed) renewable energy over time (as set out in the energy/climate policy) leads to a lower indicator and hence weaker performance.

⁽⁴¹⁾ Such increases have in particular been implemented in Spain.

In this analysis, Member States need also to take into account the effect of such a shift on tax compliance, which is something some countries might find particularly challenging in the area of indirect taxation. Tax shifts could therefore go hand in hand with measures to improve tax

⁽⁴²⁾ Measures voted in France in 2012, i.e. the corporate income tax credit for competitiveness ('CICE'), which aims at reducing labour costs, is not reflected in the assessment.

⁽⁴³⁾ Targeted measures in force in Hungary since 2013 reducing employer SSC for vulnerable groups are not reflected in the tax burden data underlying the assessment.

compliance — with special reference to VAT and other indirect taxes. The effect on income redistribution — discussed in more detail in Section 4.3 — also needs to be taken into consideration.

Applying different alternative screening approaches as outlined in Sub-section 3.1.2 allows again to check if alternative screening approaches confirm these challenges. Table 3.12 sets out the results, showing the broad robustness of the results presented earlier across alternative approaches. All the countries identified as facing a challenge based on the standard LAF approach are confirmed by at least two of the alternative approaches. Some (limited) differences in the Member States identified appear, in particular when using unweighted LAF or the ranking approach, which only affect borderline cases (indicated with a '(X)'). As mentioned in Section 3.1, this is no surprise since these approaches take no account of the economic size of the Member States.

Table 3.12: Need and room for tax shift: outcome of different screening approaches — robustness check

Country	LAF weighted	LAF unweighted	Ranking	Windsorising cap at 5%	Windsorising extrema
BE	X	X	X	X	X
DE	(X)	X		(X)	X
EE		(X)			
IE					
EL		(X)			
ES					
FR	X	X	(X)	X	X
IT	X	X	X	X	X
CY	-	-	-	-	-
LU					
MT					
NL					
AT	(X)	(X)	(X)	(X)	(X)
PT					
SI					
SK					
FI	(X)			(X)	(X)
BG					
CZ	X	(X)	X	X	X
DK					
HR	-	-	-	-	-
LV	X	X	X	X	X
LT					
HU	X	X	(X)	X	X
PL		(X)			
RO	X	(X)	(X)	X	X
SE	(X)			(X)	(X)
UK					

Note: '(X)' depicts borderline cases. Cyprus and Croatia are not covered by the screening approach.

Source: Commission services.

modelling simulations on the implementation of those policies. Depending on the type of simulations run, different models are used (e.g. QUEST, NiGEM), to take advantage of their relative abilities to capture the different (e.g. short versus long term) impacts of the reforms. All models point to GDP and employment gains from tax shifts and, to a lesser extent — limited to the short term — from fiscal devaluations. External trade effects differ — possibly because of the way they are modelled and calibrated — but any differences are mostly moderate. We can also explore different dimensions for policy design, e.g. targeting the shift to specific types of labour and compensating transfer recipients. The distributional impacts of fiscal devaluation are also addressed in detail.

3.3.1. Conceptual clarification: tax shift and fiscal devaluation

In recent public debates, the concepts of fiscal devaluation and tax shift have been used interchangeably. In the context of this report, it is therefore useful to explain how these two policies are defined. This clarification is important because the concept of tax shift plays a prominent role in the Commission's policy recommendations in the context of the European Semester.

While the two concepts involve the same type of policy measures, namely a change in the tax structure away from labour, their objective differs. The objective of a tax shift is a *long-term* gain in terms of growth and jobs. Given that some categories of taxes are known to be less detrimental to growth than others⁽⁴⁴⁾, a shift in the structure of taxation aims at making the tax system more efficient in terms of its impact on growth and employment in the long run. In particular, a growth-friendly tax shift would imply a shift away from the most detrimental taxes, like labour taxes and corporate income, to revenue sources like consumption, environmental and recurrent taxes on immovable property.

In general, such a shift can generate static and dynamic efficiency gains. Static efficiency gains arise because taxes with high deadweight losses

3.3. TAX SHIFTS AND FISCAL DEVALUATIONS: INSIGHTS FROM RECENT MODELLING SIMULATIONS

This section starts with some conceptual clarifications on defining tax shifts and fiscal devaluations. Then, it provides insights from

⁽⁴⁴⁾ See European Commission (2011a) and Prammer (2011) for a review of the literature on the effect of taxation on growth.

are replaced with taxes with lower deadweight losses. Shifting tax away from labour (especially for the most vulnerable groups) would stimulate labour supply by reducing the disincentives to work and would raise labour demand by reducing firms' labour costs. Dynamic efficiency gains may also ensue. Indeed, shifting taxation from income to consumption reduces the tax burden on savings (since savings are defined as disposable income minus consumption). In endogenous growth models, this incentive to save promotes the accumulation of physical capital, and places the economy on a higher growth path. Cutting taxes on personal income, particularly when they have a progressive structure, also encourages the accumulation of human capital. These effects concern the long-term impact on growth and employment of shifting the tax structure.

The sovereign debt crisis affecting peripheral euro area countries has recently revealed major external imbalances in these countries, seen through sizeable current account deficits accompanied by a sustained deterioration in price competitiveness. These imbalances in a few countries have triggered a broad policy debate on the economic expediency of using *fiscal devaluation* in these countries. While fiscal devaluation is theoretically a 'zero-sum' game on trade outcomes when carried out simultaneously in all countries, it may help correct large external imbalances in a limited number of countries by boosting their competitiveness, at least temporarily. The issue is particularly relevant in a monetary union, where a nominal devaluation of the domestic currency vis-à-vis the rest of the world is no longer available.

A *fiscal devaluation*, also called internal devaluation, is a tax shift that aims primarily to influence the competitiveness of a country by affecting its terms of trade. It mimics the effects of currency devaluation. Fiscal devaluation addresses a very specific problem affecting countries with large macroeconomic imbalances: it seeks to boost their impaired competitiveness vis-à-vis their trading partners in the *short-term* so as to accelerate the correction of their current deficit. The standard fiscal devaluation takes the form of a reduction in the burden on labour, notably employers' social contributions, financed by an increase in VAT. Lower social contributions mean lower labour costs, making domestic products less expensive, and thus stimulating exports. At the

same time, the increased VAT would affect the price of imports (subject to VAT, while exports are exempt from VAT) ⁽⁴⁵⁾. Overall, net exports and the output of the economy would increase, and the trade balance would improve, at least temporarily.

While the long-term gain of a tax shift could materialise if all countries carried out the same policy at the same time, the short-term gain of a fiscal devaluation on competitiveness will be cancelled out if all countries engage in this policy. Fiscal devaluation would therefore be most efficient for countries with large initial external imbalances.

3.3.2. Macroeconomic impacts of tax shifts

Once a possible need for shifting tax away from labour is identified in a given country, it is useful to have a rough idea of its actual macroeconomic impact, especially on output and employment. Using the QUEST model, this section tries to quantify the macroeconomic effects of a tax shift. To avoid too strong a focus on country-specific results and issues, most of the simulation results are presented for the EU as a whole. The simulation focuses on consumption taxes, which have the largest tax base. Some country-specific models may indicate stronger or weaker results for particular Member States but are beyond the scope of this sub-section.

The macroeconomic impacts of a tax shift depend on a number of crucial policy dimensions. Two of them are investigated systematically here using the QUEST model: i) the specific groups benefitting from the labour tax cuts and the need to target these, and ii) the material effect of compensatory schemes to help certain categories recoup the purchasing power losses induced by a rise in consumption taxation.

Labour tax cuts for specific skill groups

This section provides a quantitative assessment of a shift from labour to consumption taxation, using the 28-region endogenous growth version of the QUEST model, calibrated for each of the EU

⁽⁴⁵⁾ The increased VAT discourages imports relative to domestically produced goods (for the latter, the effects of lower producer costs and a higher VAT broadly cancel each other out).

Member States and for the rest of the world. This model is part of the global dynamic stochastic general equilibrium (DSGE) model family employed in DG ECFIN for quantitative policy analysis. It incorporates the semi-endogenous technological change mechanism of Jones (2005) with an R&D production sector. More importantly, it also distinguishes three types of labour skills: low-, medium- and high-skilled. ⁽⁴⁶⁾

The tax experiments presented here assume a 1 % GDP reduction in labour taxes (comprising both social contributions and taxes on personal income) financed by a similarly sized increase in consumption taxes, such that the tax shift is ex-ante budgetary neutral. It is assumed that the tax reforms are carried out simultaneously in all Member States. ⁽⁴⁷⁾ The two scenarios examined in this sub-section take the benchmark assumption that benefit and transfer recipients are not compensated for the increase in consumption taxes. The first scenario investigates the effect of a uniform tax shift from the wages of all skill types to consumption (*central scenario*). The second examines the effect of a tax shift targeted to alleviate only the tax burden of low-skilled workers, leaving the labour tax burden on medium and high-skilled workers unchanged (*targeted scenario*).

The model simulations suggest that a permanent shift of taxes from wages to consumption has positive GDP effects (see Table 3.13). ⁽⁴⁸⁾ Reducing labour taxes lowers wage costs and reduces prices. The gain in competitiveness that results from the labour tax reduction leads to an increase in employment and output, and boosts exports. Compared to the ‘no-policy change’ baseline, EU-wide real GDP increases in the first year by about 0.11 % and rises to 0.48 % in the long run under the central scenario. The country-by-country variation in the long-term effects of a

tax shift (Graph 3.11) depends on a number of factors.

- First the relative size of the tax base is important. In countries where private consumption is high relative to wage income, labour taxes can be reduced more for any given increase in VAT, and thus the tax wedge (difference between gross and net consumer income) can be reduced more.
- The change in the tax wedge also depends on the initial size of both the labour tax and value added tax. For any given absolute change in the labour tax rate the wedge changes more if the initial labour tax rate is high, and vice versa for the consumption tax.
- Finally, labour supply elasticity is of crucial importance for determining how a change in the tax wedge shifts the labour supply equation. Countries with high labour supply elasticities will see greater impact from any tax shift. Other factors also play a role, such as the scale of transfers and the trade link with other Member States.

Table 3.13: Central scenario, main macroeconomic variables, EU-27

Years	1	2	3	4	5	10	Long run
GDP	0.11	0.15	0.18	0.20	0.21	0.24	0.48
Employment	0.12	0.20	0.24	0.26	0.27	0.30	0.41
Employment, low sk.	0.10	0.22	0.29	0.35	0.39	0.47	0.63
Employment medium sk.	0.11	0.19	0.23	0.25	0.25	0.26	0.36
Employment high sk.	0.21	0.18	0.19	0.19	0.19	0.20	0.28
Consumption	0.15	0.18	0.21	0.23	0.24	0.28	0.66
Investment	0.03	0.08	0.13	0.17	0.20	0.29	0.40
Exports (volume)	0.13	0.18	0.21	0.23	0.24	0.28	0.54
Imports (volume)	0.07	0.09	0.11	0.13	0.14	0.17	0.40
Price level GDP	0.00	-0.03	-0.06	-0.09	-0.12	-0.20	-0.52
Consumer price level	1.81	1.79	1.75	1.72	1.70	1.62	1.30
Terms of trade	-0.06	-0.07	-0.08	-0.09	-0.09	-0.10	-0.16
Unemployment rate (pp)	-0.10	-0.18	-0.22	-0.24	-0.25	-0.27	-0.38
Gov. balance % GDP	0.08	0.13	0.17	0.20	0.22	0.31	0.00
Trade balance % GDP	0.00	0.01	0.01	0.01	0.01	0.01	0.00

Note: Uniform tax shift from the wages of all skill types to consumption. Per cent deviations from baseline, except for unemployment, government balance and trade balance, where percentage point deviations are shown.

Source: Commission services.

⁽⁴⁶⁾ For further details, see Roeger et al. (2008).

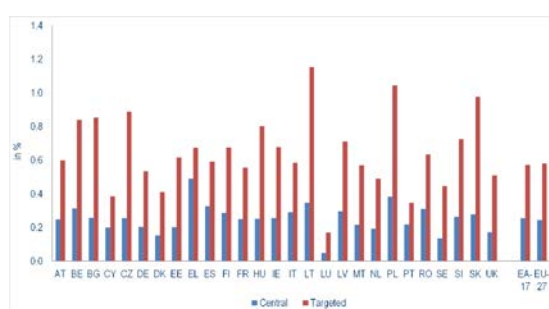
⁽⁴⁷⁾ The exercise considers an EU-wide tax reform and shows the impact of a stylised 1 % of GDP shock in all EU-27 Member States simultaneously. If only one or a selected few Member States were to undertake the tax shift, the competitiveness improvement will be larger, but partly offsetting this will be a smaller demand effect (if other Member States do not undertake these reforms, demand will not be boosted there, and export demand for home products will be lower).

⁽⁴⁸⁾ The shocks were calibrated based on the relevant tax-bases from Eurostat (2012 data), consumption and wage shares respectively in an ex-ante budgetary neutral setting.

This version of the QUEST model explicitly distinguishes households by their position in terms of income distribution, since wages are increasing in line with the corresponding skill levels. This feature of the model is utilised in the second scenario, in which only the labour taxes on low-skilled earners are reduced in a budgetary neutral way. This targeted tax shift produces much greater effects compared to the central scenario, with EU-

27 GDP increasing by 0.18 % in the first year and 1.25 % in the long run. Low wage earners often experience particularly marked disincentives to work, while being characterised by quite high labour supply elasticity with respect to labour earnings relative to higher wage earners.⁽⁴⁹⁾ The same tax shift in this scenario produces greater output effects because it is targeted at the labour force group with the most elastic labour supply.

Graph 3.1: Central vs targeted scenario, 10 ys GDP results



Note: Per cent deviations from baseline. 'Targeted' at low-skilled workers.

Source: Commission services.

Compensation of transfer recipients

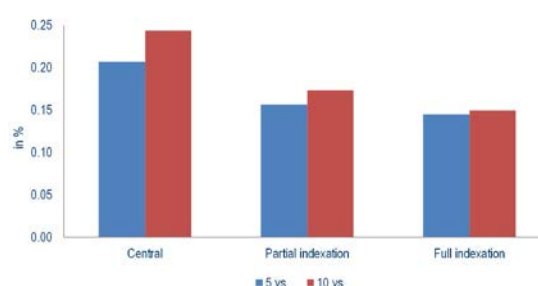
The issue of financially compensation for certain categories (e.g. transfer recipients) to enable them to recoup their lost purchasing power is a crucial economic and redistributive dimension behind structural tax reforms.⁽⁵⁰⁾ This is why the QUEST simulations presented in the previous sub-section are re-run, relaxing the working assumption that benefit and transfer recipients are not compensated for the increase in consumption taxes.

Two additional scenarios, called partial and full indexation respectively, illustrate how the effects of a shift from labour to consumption taxation will depend on how other income groups are compensated for the tax increase. The third scenario considers the sensitivity of the central scenario results under the assumption that unemployment benefit recipients and other transfer recipients, but not pensioners, are compensated for

the increase in consumption taxes (*partial indexation*). In the fourth scenario, pensions, other transfers, and benefits are all indexed to consumption taxes (*full indexation*).

A comparison with the first (central) scenario confirms the theoretical intuition that shifting the burden of taxation away from labour to non-labour income recipients — that is, ruling out indexation clauses — adds to the employment and output effects relative to our indexation scenarios (see Graph 3.22 for a presentation of the GDP effects). In our central scenario, real wages fall more because labour taxes can be reduced more for any given increase in consumption taxes compared to the indexation scenarios. Assuming partial compensation but excluding pensions, the EU-wide real GDP increases by 0.16 % after five years and by 0.28 % in the long run, while in the last scenario, with compensation for pensions, benefits and transfers, the output gains are even smaller: 0.15 % after five years and 0.13 % in the long run.

Graph 3.2: Central, partial and full-indexation scenarios, 5 ys and 10 ys EU-27 GDP results



Source: Commission services.

3.3.3. Macroeconomic and redistributive impacts of fiscal devaluation

General fiscal devaluation results from QUEST and other studies

Studies that have set out to quantify the effects of a fiscal devaluation have typically found positive effects on GDP and employment and improvements in the trade balance, but the size and duration of these effects is rather modest.

Simulations with the QUEST model by the European Commission (2011b) find for Portugal

⁽⁴⁹⁾ See Juhn et al. (2002) and the discussion in Annex A1.4 on the effects of taxation on different labour market groups.

⁽⁵⁰⁾ The distributional impacts of fiscal devaluation taking the form of a reduction in employers' social contributions financed by an increase in VAT are discussed in the context of the CPB study.

that effecting fiscal devaluation by shifting social contributions to VAT by 1 % of GDP would raise GDP by 0.1 % in the short run and by 0.4 % after ten years. The improvement in the trade balance is 0.1 pp in the first year, but most of this is reversed after about seven years. This is not dissimilar to an exchange rate devaluation, which would also lead to only a temporary improvement in net exports.

But results crucially depend on assumed compensation of transfer recipients and labour supply elasticities. When transfer recipients are to be compensated for higher consumption taxes, the gains from fiscal devaluation are smaller. When the labour supply elasticity is higher, output effects and trade effects are larger.

Empirical studies point to bigger improvements in net exports in the short term. De Mooij and Keen (2012) find the short-run increase in net exports from a shift of 1 % of GDP ranging between 1 and 4 % of GDP. However, they also find any effects of a fiscal devaluation to be temporary. Overall, fiscal devaluation thus appears to be beneficial in the short term for net exports, output and employment, but the size of the effects is likely to be moderate.

Results of a recent CPB study on the impact of fiscal devaluation

To explore the effects of fiscal devaluations, a study was carried out for the European Commission, DG TAXUD, by a consortium under the leadership of CPB Netherlands Bureau for Economic Policy Analysis.⁽⁵¹⁾ The aim was to quantify the main macroeconomic and distributional impacts of fiscal devaluation for selected EU Member States (Austria, France, Italy and Spain, chosen mainly for the availability of suitable models and data) and the EU as a whole. The study uses macroeconomic and micro-simulation models to analyse the effectiveness of fiscal devaluations in the short and long term, and assuming unilateral/multilateral implementation. The main conclusions are set out below.

Macroeconomic effects of unilateral implementation

For the purposes of assessing the short-run dynamics, the study used a macroeconomic model⁽⁵²⁾, revealing that a fiscal devaluation has a small, short-lived expansionary effect on employment and GDP for all the countries under consideration.

Contrary to the other studies, the model finds a (marginal) worsening of the trade balance (after nine years) because import growth responding to greater domestic demand offsets the relative price effects, which explains the reduction in net exports. Because nominal wages are rigid, fiscal devaluation temporarily reduces real labour costs; consequently, employment increases and unemployment decreases. Simultaneously, domestic demand increases because of reduced consumer prices and higher real wages. The expansionary effects disappear in the long run due to the gradual increase in nominal wages.

The study therefore concludes that the trade balance effects, in whatever direction, are minimal.

For the long-run estimation, general equilibrium models⁽⁵³⁾ were used. Here, the study finds that fiscal devaluation has no substantial impact on the trade balance in the long term. However, there is a small, but permanent, expansion in employment and GDP. There are two reasons for these effects. First, as social transfers are not indexed to the higher VAT, the employees' bargaining power deteriorates and therefore wage costs are constantly lowered. Second, redistribution of resources from existing to future generation takes place due to a shift from wage to consumption taxes. The current generation pays higher VAT but benefits less from the decreased social contributions. Moreover, future generations benefit from a less distortive taxation system. Therefore, the long-run outcome is higher consumption and a slight deterioration of the trade balance.

⁽⁵¹⁾ CPB et al. (2013).

⁽⁵²⁾ Macroeconometric model NiGEM (National Institute Global Econometric Model).

⁽⁵³⁾ CEPII macro model for France and IHS.

Distributional effects of unilateral implementation

The study presents distributive effects in terms of changes in disposable income or disposable expenditure by deciles of equivalent (pre-reform) income and by deciles of equivalent (pre-reform) expenditure.

As regards the distribution of equivalent disposable income in the long term, the study finds that when a reduction in social contributions is not targeted but applied to all employees, the fiscal devaluation is in general regressive, regardless of whether only the standard rate or all VAT rates are raised. On the other hand, in general, the reform's effect is progressive if the reduction in labour taxation is limited only to low income groups.

The distributional effects in terms of equivalent expenditures do not change significantly, becoming only slightly more progressive (except for France).

Analysing the employment condition across types of households shows that, in general, the biggest beneficiaries are households of employed workers with or without children. In contrast, households of pensioners and self-employed workers are harmed the most (as they do not directly benefit from the decrease in employers' social contributions).

Macroeconomic effects of multilateral scenarios

The study explored two multilateral scenarios. In the first there are three devaluing countries and in the second there are six. The GDP effects of a fiscal devaluation are found to be greater in a devaluing country under a unilateral rather than a multilateral scenario. When several countries engage in fiscal devaluation at the same time, the individual gains of the reforms are smaller. Also, the trade balance deteriorates less when more countries undertake the reform.

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

This chapter continues the analysis started in Chapter 3 of the main taxation challenges facing Member States. It focuses specifically on issues regarding the design of individual taxes and tax administration. As stated in Chapter 3, these are key dimensions of national tax systems where policy action is expected to impact on macroeconomic performance and which are mainly tackled by Member States at national level. They are reflected in some form in the 2013 Annual Growth Survey. This excludes issues which are specifically pertinent to the functioning of the single market and which require tax cooperation between EU Member States.

Member States are benchmarked applying the LAF approach as outlined in Section 3.1.1. This first effort to identify tax challenges at Member State level is based on consistent indicators available for most EU countries but must be supplemented by country-specific analysis. Moreover, it in no way prejudices the work on the programme countries carried out by the European Commission, the ECB and the IMF.

This chapter first analyses two particularly topical issues in more detail this year, namely tax expenditure in personal income taxation (Section 4.1.1) and the debt bias in corporate taxation (Section 4.1.2). It then updates and partly refines last year's analysis of the design of VAT, housing taxes and environmental taxation and of tax governance (Section 4.2). It also looks into the topic of income inequality and taxation, which was first addressed last year (Section 4.3). Finally, it provides a general summary of all of the tax policy challenges discussed and identified in Chapters 3 and 4 (Section 4.4).

4.1. SPECIAL FOCUS ON TWO ISSUES

4.1.1. Tax expenditure with insight from personal income taxation

Tax expenditures are widely used, but can in many cases pose serious definition issues. This section provides an overview of existing reporting of tax expenditures in Member States and examines their main characteristics.

Last year's report gave an account of the main tax expenditures in corporate income tax systems across the EU Member States, while the 2011 report very tentatively tried to compare the size of tax expenditures in direct taxation, distinguishing between corporate and personal income tax. This year the focus is on two specific issues in the personal income tax system, namely the broad category of work-related tax expenditures and tax expenditure linked to the tax treatment of income from self-employment.

General issues related to the use of tax expenditures

Tax expenditures can be defined as '*provisions of tax law, regulation or practices that reduce or postpone revenue for a comparatively narrow population of taxpayers relative to a benchmark tax*'⁽⁵⁴⁾. Favourable tax treatment may also be given in connection with a specific sector or activity, e.g. reduced VAT for hotel services and accelerated depreciation for specific types of investment. Tax expenditures can take a number of forms, e.g. allowances, exemptions, rate relief, deferrals, and tax credits. As instruments for promoting specific social or economic policies, they are closely related to direct spending programmes.

From a public finance perspective, tax expenditures entail costs in terms of foregone revenue compared to a benchmark tax system. A precise quantification of such losses is not straightforward, notably because of behavioural responses, interactions with other tax bases and other methodological issues. While a given tax expenditure can be immediately related to the reduction in the beneficiary's tax liability for the corresponding base, the overall impact on revenues depends crucially upon the interaction with other relevant taxes. A typical example is the abolition of tax relief on mortgages, which could indirectly increase tax revenue from dividend and interest income once households have readjusted their portfolios to accommodate the higher cost of mortgages. Thus, when estimating the revenue

⁽⁵⁴⁾ OECD (2010a) with reference to Anderson, B. (2008).

impacts of reforming tax expenditures, behavioural reactions need to be taken into account.

Perhaps more importantly for budget management, tax expenditures tend to reduce the transparency and certainty of the budgetary process because they are less well-identifiable and controllable than items on the expenditure side. While spending programmes tend to be routinely reviewed when drafting the annual budget and are subject to budgetary ceilings, tax expenditures often do not face similar scrutiny and their budgetary effect ultimately depends upon behaviour. This issue is particularly relevant in times of fiscal consolidation when resorting to tax expenditure can in practice circumvent existing expenditure rules and limits on direct spending programmes if such limits do not apply to tax expenditures.

Tax expenditure increase the complexity of the tax system and thus compliance costs. Moreover, they tend to be particularly difficult to repeal, for political economy reasons, and are liable to grow over time. In addition, they can be regressive (e.g. they are often credited against the marginal tax rate under a progressive tax system). This may run counter to the redistributive goals of the tax system. More generally, some types of tax expenditures can lead to welfare losses by distorting investment and consumption choices. So it would seem important to assess them regularly. Spending programs may have similar drawbacks as those mentioned above and could in some cases require more administration, but they are generally more targeted and easier to control and could be considered as an alternative to tax expenditure.

Severe problems in identifying tax expenditures

Since, by definition, tax expenditures are a deviation from a benchmark (or normative) tax system, they are generally rather difficult to identify in a straightforward way. Tax rules vary greatly across countries and there is no commonly accepted tax baseline against which to assess deviations. Therefore, a meaningful cross-country qualitative comparison poses significant challenges, and tax expenditure figures are poorly comparable across countries.

Table 4.1: National reporting of tax expenditures

Country	regular (annual*)	non-regular (latest)
BE	X	
DE	X	2009
EE	X	
IE		2009
EL		
ES	X	
FR	X	2011
IT	X	2010/2011
CY		
LU		
MT		
NL	X	
AT	X	
PT	X	
SI		
SK	X	
FI	X	2010
BG	(X)	2011
CZ		
DK	(X)	
HR		
LV	X	
LT		
HU	X	
PL	X	
RO		
SE	X	
UK	X	

Note: * Regular reporting is biannual in Germany. In Denmark, not all tax expenditures are updated annually. In Bulgaria, the new Law on Public Finances adopted at the end of January 2013 and entering into force at the beginning of 2014 provides for annual publication of tax expenditure information. Latvia published a report on reliefs in personal income taxation in 2011.

Source: Commission services.

Around 2/3 of the Member States regularly report on or assess their system of tax expenditures. Reporting on tax expenditures is essential for a comprehensive picture of the tax-benefits system. The information below takes stock of reporting practices in the EU Member States.

The fact that information on tax expenditures in force or planned in Member States is often fragmented and not fully transparent makes it more difficult to identify possible improvements in fiscal and tax arrangements and can make fiscal policy-making less effective and efficient. This in turn affects the strength of the domestic budgetary framework because — more or less hidden — revenue losses may weaken the impact of enhanced discipline on the expenditure side.

Since the definition of the benchmark tax system varies across countries, the very same identification of what precisely constitutes tax expenditure will differ. For example, the same tax relief could be classified as a tax expenditure in one country, while being considered as a part of

Table 4.2: Elements of regular reporting practices

Country	Legal requirement	Levels of government covered				Time coverage	Categorization
		Central government	State government	Local government	Social security funds		
BE	X	X				t-5, t-4, t-3, t-2, t-1	tax base, purpose
DE	X	X	X	X		t-2, t-1, t, t+1	tax base, type of tax measure, purpose, sector
EE		X	n.a.			t, t+1	tax base, purpose
ES	X	X	X			t+1	tax base, type of tax measure, expenditure category
FR	X	X	n.a.		X	t-1, t, t+1	tax base, expenditure category
IT	X	X	n.a.	X		t, t+1, t+2	type of tax measure, purpose, sector
NL		X	n.a.			t-2, t-1, t, t+1, t+2, t+3, t+4	tax base
AT	X	X	X			t-3, t-2, t-1	tax base, sector
PT	X	X	n.a.			t-2, t-1, t, t+1	tax base, purpose
SK	X	X	n.a.	X	X	t-2, t-1, t, t+1, t+2, t+3	tax base
FI		X	n.a.	X		t-1, t, t+1	tax base, purpose
DK		X	n.a.	X		various years	tax base
LV		X	n.a.			t-2, t-1	tax base
HU	X	X	n.a.			t+1	tax base
PL		X	n.a.	X		t-1	tax base, purpose
SE		X	n.a.	X	X	t+1, t+2, t+3	tax base, type of tax measure, expenditure category
UK		X	n.a.	X		t-1, t	tax base

Note: In the column for time coverage 't' refers to the year of publication. 'n.a.' stands for 'not applicable'. State government refers to the Länder in Austria and Germany, the gewesten en gemeenschappen / Régions et communautés in Belgium and the comunidades autonomas in Spain. In Belgium, the reporting covers taxes collected by the federal government. In Spain, the autonomous communities publish different tax expenditure reports. For In France the reporting of tax expenditure in social security funds refers to the Projet de loi de financement de la Sécurité sociale - Annexe 5: Présentation des mesures d'exonérations de cotisations et contributions et de leurs compensations. Finland, time coverage refers to numbers published for individual tax expenditure items by the Ministry of Finance in the budget proposal. The VATT report identifies all tax expenditure for t-2, t-1, t and t+1. In Bulgaria, the new Law on Public Finance provides for annual publication of tax expenditure information as of 2014. Detailed information on reporting is not available yet.

Source: Commission services based on national sources.

the benchmark tax system (and thus referred to as 'structural relief') in another. In the latter case, of course, the item would not be listed as tax expenditure in place in that country. Moreover, quantifying the cost of some items might be particularly prone to measurement error.

In the absence of a commonly agreed definition of tax expenditures, the case for transparent reporting is even stronger. Within the context of the transposition of the Directive on requirements for budgetary frameworks (2011/85/EU), Member States will be required to provide information on the tax expenditures and their impact on revenues. Article 14(2) of the Directive states that: *'Member States shall publish detailed information on the impact of tax expenditures on revenues'*.

Overview of existing reporting of tax expenditure in Member States

Table 4.1 gives an overview of existing tax expenditure reporting in Member States. It shows that 17 Member States regularly report on tax expenditures and Bulgaria already decided to do so as of 2014. For some countries, one-off tax expenditure reviews or inventories have been produced recently — see the third column of Table 4.11. These reports are generally more extensive and could include reviews or judgments on

specific tax expenditure measures. The contents, do, however, vary from report to report. References to national publications connected with regular reporting and the specific reports can be found in Annex A2, Table A2.8.

Here, the focus will be on regular reporting practices. Some common features have been identified, albeit with exceptions. Regular reporting is typically conducted by the Ministry of Finance, Economics or Taxation or by services reporting to these ministries. It is mostly annual. Some of the countries publish tax expenditure figures together with other budget documents; others publish them as individual reports. The countries in general use the *revenue forgone* method for calculating tax expenditures, but there are important differences in methodology, for instance whether revenues are estimated on a cash or accrual basis.

Table 4.2 provides information about reporting practices: whether national law requires reporting on tax expenditures, coverage in terms of level of government and time and the categorisation of tax expenditures used.

There is a legal requirement to report on tax expenditures in 9 of the 17 Member States that report regularly today. The levels of government

covered vary between countries. While central government is widely covered, tax expenditures related to local taxes and social security funds seem to be less well captured. In the case of local and state government, this is partly due to the heterogeneity of the taxes applied.

There is also great variance in the number of years covered and whether reporting is backward or forward looking. In Austria and Belgium, the reporting is clearly backward looking covering the last three or even five years, whereas in Sweden tax expenditures are forecast for the three years to come. The Netherlands has the longest reporting period and the reporting is both forward as backward looking. The most frequent years reported on are the past year, the current year and the coming year.

Tax expenditure is generally categorised according to the tax base (e.g. VAT, PIT, or CIT) and often grouped according to type of tax measure (e.g. allowances, rate relief, exemptions), purpose (low income earners, housing, etc.) or sector (households, businesses, or agriculture). Some countries also link tax expenditure to the expenditure side of the budget (e.g. Spain, France and Sweden).

Overall, those countries that do not report on tax expenditure regularly find it difficult to provide such information. Based on available information, these countries are: Ireland, Greece, Cyprus, Luxembourg, Malta, Slovenia, the Czech Republic, Croatia, Lithuania and Romania. All countries could consider improving their tax expenditure reporting.

Main tax expenditure items in personal income taxation in selected Member States

Table 4.3 gives examples of the main personal income tax expenditure items for selected Member States, alongside their estimated budget cost (in % of GDP). The information is taken directly from national sources detailed in Annex 2, Table A2.8, to which the reader is referred for further explanations, e.g. on the methods used for quantification. The data are not consistent, so no systematic and general cross-country comparison should be attempted based on the information in the table.

Table 4.3: Some examples of main tax expenditure items in the personal income tax system

Country	Item	Cost (% GDP)	Reference year
BE	Tax reduction for pensions	0.64	2010
	Tax deduction sole own dwelling	0.29	2010
	Tax reduction for energy savings	0.21	2010
	Tax reduction housing saving	0.21	2010
	Tax reduction for 3rd pillar pension savings	0.14	2010
DE	Exemption for labour income from shift work	0.08	2012
	Tax subsidy for owner-occupied housing (incl. child bonus)*	0.05	2012
	Tax reduction for private renovation	0.06	2012
	Tax incentives for old age private pension	0.05	2012
EE	Increased basic exemption in the event of pension	0.70	2013
	Increased basic exemption from the second child	0.14	2013
	Deduction of mortgage interest	0.10	2013
	Deduction of training expenses	0.08	2013
ES	Work-related allowances	1.00	2013
	Deductions for investments in housing	0.18	2013
	Allowances related to joint taxation	0.17	2013
	Allowances for social security contributions	0.11	2013
	Exemptions for awards from lottery, bets etc.	0.09	2013
FR	Tax deduction for household employees	0.18	2013
	Tax relief on pensions	0.16	2013
	Work credit	0.12	2013
	Tax deduction for nursery services	0.09	2013
	Tax deduction for savings payments	0.07	2013
IT	Tax credit for employment income, pensions and self-employment income	2.41	2012
	Tax credit for dependent family members	0.67	2012
NL	Tax deduction for self-employed	0.31	2013
	Tax exemptions for certain capital payments	0.15	2013
	Tax deduction for debtless own dwelling	0.06	2013
	Tax deduction of donations	0.06	2013
	Tax deduction of schooling costs	0.04	2013
AT	Reduced tax rate for christmas and holiday earnings	1.96	2011
	Preferential treatment of severance and specific non-regular earnings	0.29	2011
	Low taxation of other earnings (compensation for overtime, nights, sundays and bank holidays etc.)	0.26	2011
	Allowance for invested profit	0.15	2011
	Standard deduction for special expenses (related to insurances, housing and certain shares)	0.13	2011
FI	Exemption of imputed rents	1.37	2011
	Allowance for pension insurance contributions	0.84	2011
	Allowance for labour income	0.79	2011
	Allowance in municipal taxation	0.74	2011
PL	Exemption of capital gains on owner occupied housing	0.69	2011
	Child tax credit	0.38	2011
	Joint taxation of spouses	0.20	2011
	Agricultural subsidies	0.15	2011
	Exemption of family benefits, family and nursing benefits, etc.	0.11	2011
SE	Relief on imputed rents on owner-occupied housing (single homes and apartments)	0.69	2011
	Exemption of child benefits	0.43	2011
	Relief on the return on pension savings	0.40	2011
	Deferred tax on capital gains from housing (single homes and apartments)	0.25	2011
	Reduced tax on realised capital gains from housing	0.25	2011
UK	Relief for registered pension schemes	1.40	2012-13
	Exemption of gains arising on disposal of only or main residence	0.64	2012-13
	Personal tax credits	0.25	2012-13
	Relief for individual savings accounts	0.11	2012-13
	Relief for entrepreneurs' qualifying business disposals	0.11	2012-13

Note: * The tax expenditure has already been abolished.

Source: Commission services based on national sources.

The specific tax expenditure items can be tentatively grouped according to their intended policy objectives.

- For instance, *family-related expenditures* comprise tax credits for dependants (Italy and Poland), increases in the general allowance if there are children (Estonia), tax exemptions for

children and other family benefits (Sweden and Poland). In all these cases, the revenue cost is estimated at below one percentage point of GDP.

- *Provisions related to housing* are relatively numerous. They comprise exemption of imputed rents (e.g. in Finland and Sweden), deductibility of mortgage interest payments (Estonia), tax reductions for renovation (Germany) and several different types of relief on capital gains. Those take the form of full exemption (the UK and Finland), or a tax reduction and tax deferral (Sweden) on sale of the main residence. Although the figures for these are subject to a wide margin of error (and they concern different years), strikingly the estimated cost of tax relief from capital gains on housing is of the same order of magnitude in Finland, Sweden and the UK, hovering around slightly more than half a point of GDP ⁽⁵⁵⁾. By contrast, the cost of tax relief for owner-occupied housing is much more variable, being estimated at almost 0.7 % of GDP in Sweden and at roughly 1.4 % of GDP in Finland.
- The same variability is observed in estimates of the cost of *different provisions favouring pension savings*, which are counted among the tax expenditures in Belgium, Germany, Sweden, Finland and the UK. In Belgium and Germany, tax incentives for savings in private pension schemes are worth 0.14 and 0.05 % of GDP respectively. In Sweden, tax relief on the return on pension savings cost 0.4 % of GDP in 2011, while in Finland for the same year the estimated cost of the allowance for pension insurance contributions was slightly more than twice as large. In the UK, tax relief for registered pension schemes is the largest tax expenditure item, reaching 1.4 % of GDP in 2012-13.
- A number of *tax incentives favouring labour income* are in place in Member States. These are the general work-related allowance in Spain (1 % of GDP), the work tax credit in France (0.12 % of GDP) and the tax deduction for self-employed people in the Netherlands (0.31 % of

GDP). Austria and Germany grant special tax treatment to particular categories of earnings, such as those derived from shift work, or to compensation for working on public holidays. In Austria, the cost of these items was roughly 1.5 % of GDP in 2011.

Discussion of selected tax expenditure items

The examples provided in Table 4.3 cover a wide range of economic, social and other objectives. Discussing such a range of issues goes beyond the scope of this report. The focus of this year's report is on two important items: tax expenditure related to making work pay and tax expenditure provided to the self-employed.

Work-related tax expenditure

Work-related tax expenditure ⁽⁵⁶⁾ is a broad category including several kinds of tax relief granted to different players in the labour market. Prominent among these are tax expenditures used as tools for 'Making Work Pay' (MWP) policies. These policies are very relevant in the EU's strategy for reaching the 'Europe 2020' target of 75 % employment among those aged 20 to 64 (European Employment Observatory, 2012)⁽⁵⁷⁾.

MWP policies aim, on the one hand, to make work more attractive by providing a financial incentive for those who are unemployed or inactive to become employed, and, on the other hand, to support those who are at risk of poverty or social exclusion even when employed ⁽⁵⁸⁾. Therefore, the policies can operate through different channels. Many Member States have largely implemented reductions in social contributions and/or in-work benefits for low wage workers, but an analysis of these instruments goes beyond the scope of this section. Rather, the measures considered here are those that fall under personal income tax expenditure. They include tax credits, tax rate reliefs and exemptions for specific individuals or

⁽⁵⁵⁾ Given the induced behavioural response, those figures overestimate the likely revenue yield if the favourable tax treatment of capital gains were abolished.

⁽⁵⁶⁾ The concept of 'work-related tax expenditure' differs between Member States. For example, the Irish Commission on Taxation (2009) describes 28 measures addressed both to employees and to employers as 'tax expenditures relating to employment'.

⁽⁵⁷⁾ See also OECD (2010a) which highlights some specific characteristics of MWP tax expenditure that might give it a particular role compared to other tax expenditures.

⁽⁵⁸⁾ See 'Inactivity trap' and 'Unemployment trap' in the Glossary.

groups. These measures correspond respectively to deductions from tax liability, reduced tax rates and exclusion from the tax base.

For operational purposes, tax credits can have different eligibility criteria (e.g. the level of personal and/or household income, employment status, or the number of hours worked) and different generosity criteria (the extent of relief, the possibility of obtaining a refund, the time it takes to receive the credit). The generosity of the relief may also depend on the taxpayer's situation (level of income, age, household composition, number of dependents). For tax rate reliefs and exemptions, the only eligibility criterion is, in most of the cases, income level.

Tax credits and tax reliefs can be designed taking into account interaction with other factors such as social contributions, benefits, whether there is a minimum wage, features of the demand side of the labour market and the possible choices of those already employed. Other relevant considerations are the budgetary implications, error-proneness and the scope for fraud induced by the system.

As far as *tax credits* are concerned, the UK was a pioneer in this field, having introduced the Family Credit in 1988, replaced in 1999 with the Working Family Tax Credit. In 2010, the transition to a Universal Credit System ⁽⁵⁹⁾ was announced, although the current model still relies mainly on the Working Tax Credit introduced in 2003. Other Member States introduced tax-related MWP measures in 2001: France (*prime pour l'emploi*), Belgium (*crédit d'impôt pour les bas revenus d'activité professionnelle*) and the Netherlands (*arbeidskorting*). Regarding eligibility criteria, tax credits are means-tested both at individual and household level in the UK and France, and only at individual level in Belgium and the Netherlands. The potential beneficiaries can be employees or self-employed in the UK, France and the Netherlands while in Belgium the measure is

mainly for the self-employed ⁽⁶⁰⁾. The number of weekly worked hours is an eligibility criterion in the UK. In terms of generosity, in France the minimum annual income required to access the credit is EUR 3 743 while the maximum depends on household composition. Income brackets are wider in the Netherlands, where there is no minimum income required and a maximum of EUR 69 573. The precise algorithm applied to calculate the amount of the tax credit gives a measure of the generosity of the system but other aspects are also relevant. One is refundability, meaning that if the credit exceeds the amount of tax due, the difference is not lost (e.g. in the Netherlands the credits are not refundable). Another is the time taken to obtain the relief. Some credit rates depend on the number of dependents, as in the UK or France. And in some cases incentives also depend on age, as in the Netherlands.

As far as *tax rate reliefs* and *tax exemptions* are concerned, between 2011 and 2013 the need for budget consolidation did not provide much scope for reducing the former and/or increasing the latter. In fact, most of the Member States generally increased personal income taxes. Nonetheless, there were some exceptions. Latvia gradually reduced the PIT rate from 2013 to 2015, and as of 2013, the UK will increase the 'personal allowance': the amount of income free of taxation.

Making Work Pay tax-related measures, and especially tax credits, have been mainly assessed in terms of their effectiveness in increasing employment and their income redistribution capacity. In the case of France, different authors (e.g. Cazenave (2005) and Arnaud et al. (2008)) concluded that the 2001 PPE (*prime pour l'emploi*) scheme was too limited in size to achieve relevant change in the employment rate. Stancanelli (2007) also showed the PPE policy to have a negative and significant impact on the employment probability of married women and, in some cases, a positive and significant one for unmarried women. For the UK, Brewer et al. (2006) found that the Working Family Tax Credit, in force until 2003, led to an

⁽⁵⁹⁾ The UK is in a transitional period. Both the Working Tax Credit and the Child Tax Credit will be incorporated into the Universal Credit System (together with the income-based Jobseeker's Allowance, income-related Employment and Support Allowance, Income Support and Housing Benefit); the process, started in April 2013 will go through different pilot and trial stages, before being rolled out nationally by 2017.

⁽⁶⁰⁾ Also a part of the public sector is still covered. With the aim of strengthening the labour supply effect, for most wage earners the PIT tax credit has been converted into a reduction of social contributions based upon the number of worked hours.

increase in the labour supply of single mothers while the labour supply of coupled parents was gender-related, with a slight decrease for mothers and a slight increase for fathers. Brewer et al. (2011) also found that the new system of Universal Credit was likely to give a stronger financial incentive to work to the part-time or low-wage main earners, with higher earners and second earners having a weaker incentive. In terms of redistribution impact, the new measure has generally been considered progressive, as the bottom income deciles will gain the most as a fraction of income. From a comparative perspective Bargain and Orsini (2005) presented a EUROMOD micro-simulation with the aim of applying a working tax credit similar to the British Working Family Tax Credit, and, alternatively, a purely individualised wage subsidy to Germany, Finland and France. The conclusion points to a negative effect overall on female employment after the introduction of the working tax credit, and a positive effect on female employment after the introduction of the wage subsidy. These results are valid in particular for France and to a lesser extent for Germany and Finland. A similar exercise has been carried out by Marx et al. (2011), who considered the Belgian system. The simulation includes, alternatively, higher minimum wages, reductions in employee social contributions, tax relief for low-paid workers and a stylised version of the British Working Tax Credit. The authors concluded that the tax credit had the strongest impact in terms of in-work poverty reduction.

Tax expenditure for the self-employed

Tax expenditures are also used to provide preferential tax treatment to specific groups of taxpayers, including the self-employed.⁽⁶¹⁾ The aim is to increase the number of self-employed persons in the EU, by favouring flexibility, entrepreneurial skills and mobility. In this context, many Member States have introduced tax measures to sustain/support this category of economic activity. However, encouraging this specific form of behaviour (i.e. becoming self-

employed) could lead to differential and unequal fiscal treatment of essentially similar activities.⁽⁶²⁾

With the current advantages built into the tax system (e.g. deductions, credits, allowances for start-up costs, etc.), it is inevitable that efforts will be made by some taxpayers to be reclassified as self-employed, whatever their income tax position might be. This is mainly due to the sometimes favourable system of allowable deductions, which may apply for example to operating expenses, equipment, the taxpayer's children and non-working spouse.

Depreciation is allowed as a deduction across the EU (except for the UK, where a capital allowance system is in place). However, the depreciation periods allowed vary quite widely and are in many cases shorter than economic depreciation. Travel expenses are allowed as a deduction in the EU, while deductions for children and a non-working spouse are only available in half of the Member States.

The issue is not that these tax expenditures should necessarily be removed, especially if they could foster entrepreneurship. Rather, it could be ensured that they do not amount to a discriminatory regime that encourages firms to outsource their employees, resulting in the substitution of employees by 'fake' self-employed people, who are physically and functionally part of the business. In that case, the tax expenditures would result in a tax windfall.

4.1.2. Debt bias in corporate taxation

Corporate income tax (CIT) systems generally favour debt over equity financing. Indeed, a large majority allow deduction of interest paid but there is no such deduction for equity costs. In theory, this distortion could be removed at shareholder level by taxing interest income higher than dividend income.⁽⁶³⁾ However, in practice this is rarely the case and the increasing internationalisation of capital markets makes it

⁽⁶¹⁾ A self-employed person is defined as an independent worker, who works independently of an employer, in contrast with an employee, who is subordinate to and dependent on an employer.

⁽⁶²⁾ Apart from the system of contributions and benefits, differences in tax treatment are also linked to collection mechanisms and timing, as well as income tax base.

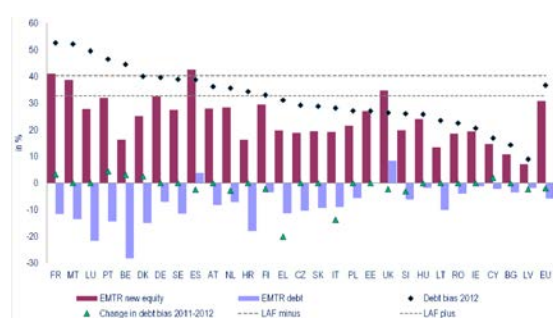
⁽⁶³⁾ A theoretical model which describes this case is developed by Fuest and Hemmelgarn (2005).

even more unlikely because shareholders and creditors are not necessarily taxed in the same country as the company.

Some country estimates of the debt bias

Graph 4.1 illustrates the debt bias for Member States. It shows the effective marginal tax rates (EMTR) on investment financed by new equity and by debt. As in 2012, France, Malta, Luxembourg, Portugal and Belgium are among the countries with the highest gap between EMTRs for debt and new equity. Belgium's situation illustrates that the debt gap can be positive even in countries with an allowance for corporate equity (ACE). This is because the notional interest rate in the ACE system still differs from the actual interest rate charged. Germany, Sweden and Spain maintain a debt-bias above the EU average.

Graph 4.1: EMTR in % on debt- and equity-financed new corporate investment, 2012



Note: It should be mentioned that the results of the EMTR depends on the assumptions made. However, the advantage of data is that the same set of assumptions is applied to all countries, which makes them comparable.

Source: ZEW (2013).

Computing the debt bias in terms of retained earnings instead of new equity, the results are almost identical. Only the value for Estonia changes considerably, as retained earnings are not taxed. Graph 4.1 also indicates the change in the debt bias compared to 2011. It shows an increased debt bias in Portugal and Belgium (both resulting from changes to ACE rules) and in France (due to a new 5 % surcharge on large companies), and a considerably reduced debt bias in Greece (due to data revisions), and in Italy (after the introduction of an ACE). Italy is now below the EU average.

Distortions generated by the debt bias

Both the economic literature and policy makers have recognised this distortion and its potentially harmful consequences. The economic and financial crisis demonstrated that high leverage among companies, in particular financial institutions, can lead to serious economic consequences if re-financing options essentially dry up overnight. The effect of the debt bias on leverage is empirically documented. Two recent meta-studies by Feld et al. (2013) and de Mooij (2011a) review the existing empirical studies and find that the marginal effect of taxes on the debt ratio is about 0.27 — though results vary between studies given differences in methodologies and data quality.⁽⁶⁴⁾ This means that a one percentage point higher CIT rate is associated with a 0.27 percentage point higher debt-asset ratio.

There is also evidence that the tax advantage of debt fuels international profit-shifting activities as rules on interest deductibility differ between countries and there are mismatches in decisions on which instruments are considered debt financing. Several studies analyse the debt financing of multinationals with either parent companies or subsidiaries in the United States, Germany, Canada and the EU. The results of these studies suggest that firms use intra-group loans to adapt their financial structure and minimise their overall tax burden. By shifting debt to an affiliate located in a high-tax country, corporate groups are able to deduct interest payments against a higher statutory tax rate while the interest received by the lending affiliate is taxed at a lower rate. Taking data from 32 European countries between 1994 and 2003, Huizinga et al. (2008) find that a 10 % increase in the tax rate increases leverage by 1.8 %. The authors also show evidence of debt-shifting as, for multinationals with two equal-size establishments in two countries, a 10 % increase in the tax rate in one country leads to an increase in leverage of the company located in that country by 2.4 % and a decrease in leverage in the affiliated foreign company by 0.6 %.

⁽⁶⁴⁾ Feld et al. (2013) collected information from 48 studies with a total of 1144 estimates and find a marginal tax effect of 0.27. De Mooij (2011) draws on 19 studies with a total of 267 estimates and finds a marginal tax effect of between 0.17 and 0.28.

The tax bias towards debt financing also creates welfare costs. Weichenrieder and Klautke (2008) estimate this cost at between 0.08 % and 0.23 % of GDP, while Gordon (2010) estimates it at about 0.25 % of GDP. As pointed by de Mooij (2011b), these estimates assume an average elasticity that applies to a representative firm and fails to take into account the heterogeneity of responses and hence the additional welfare costs due to misallocations. Existing studies also fail to include the larger welfare costs of the negative externalities of using debt, such as systemic risk, the probability of default and the social costs of business cycle fluctuations. Finally, they do not take into account the distortions created by debt-shifting activities and misallocation due to international tax arbitrage and administrative and compliance costs (de Mooij, 2011b). Consequently, the welfare impact of the debt bias can be assumed to be higher than what has been found in the literature so far.

Addressing the debt bias: the Allowance for Corporate Equity vs Comprehensive Business Income Tax

At corporate level, the unequal treatment of debt and equity ('debt bias') could be removed or at least reduced by introducing an ACE or by moving towards a Comprehensive Business Income Tax (CBIT).⁽⁶⁵⁾

The ACE system retains the existing deductions for interest payments but also applies a tax relief for equity financing by exempting a 'normal rate of return' from corporate taxation. It has been advocated on the grounds of its appealing theoretical properties: it only taxes economic rents (in excess of normal profits), without distorting marginal investment decisions. Although this traditional argument has been recently challenged in more complex settings⁽⁶⁶⁾, in practice, the ability of the ACE to eliminate the debt bias depends crucially on its specific design, notably on whether actual interest rates differ from the notional return chosen to relieve equity.

⁽⁶⁵⁾ These systems were discussed in more detail in earlier issues of this report.

⁽⁶⁶⁾ For instance, agency problems, as in Koethenbuerger and Stimmelmayer (2009), and credit constraints, as in Keuschnigg and Ribi (2012), are shown to reduce the efficiency properties of the ACE.

By removing the deductibility of interest payments, CBIT unifies the tax treatment of financing sources. Unlike the ACE, CBIT enlarges the tax base, which could be a desirable feature in a context of fiscal consolidation.⁽⁶⁷⁾ If designed in a revenue-neutral fashion, it would allow a corresponding cut in the statutory rate, potentially reducing efficiency losses under the CIT system and decreasing the attractiveness of profit shifting. The transition towards a CBIT system would need to be designed so as not to penalise companies with a high existing stock of debt.

Understandably, at the current economic juncture where concerns for base erosion in CIT have grown, the policy stance seems to be influenced by the revenue implications of the reforms. Thus, in the spirit of CBIT, limits to the deductibility of interest payments have been introduced for instance in France, where, since 2013, 15 % of interest payments (25 % as from 2014) is no longer deductible.

As the value of the debt bias depends on the statutory tax rate against which interest payments will be deducted, the debt bias could also be reduced by lowering the corporate tax rate. While tax rate changes are more visible and for this reason in some cases perhaps politically more attractive than tax base reforms like the ACE or CBIT, their consequences on financing structure could be given close attention in the absence of finance neutrality of the tax base.⁽⁶⁸⁾ Two other approaches are to combine the two systems⁽⁶⁹⁾, allowing either the deductibility of (notional risk-free or actual) return on capital, irrespective of whether it is in the form of equity or debt (possibly with a cap on the total), or a cash-flow tax which,

⁽⁶⁷⁾ Assuming a constant statutory tax rate, the ACE would reduce revenues. De Mooij (2011b) estimates the potential loss of ACE systems to be around 15 % of CIT revenue or 0.5 % of GDP. However, he rightly argues that these budgetary costs can be reduced by limiting the deduction to new investment only. Also, such reforms could be part of a larger tax reform. For example, ACE could be part of an expenditure tax system where ACE reform is financed by an increase in VAT. Simulations by De Mooij and Devereux (2011) suggest that this would increase employment and GDP and recover more than 75 % of the initial fiscal costs in the long run.

⁽⁶⁸⁾ The choice between the ACE and CBIT may also be dictated by the presence or absence of economic rents and whether such rents are mobile or not (see Fatica et al., 2013, for a discussion).

⁽⁶⁹⁾ See de Mooij and Devereux (2011).

thanks to immediate expensing, puts debt- and equity-financing on an equal footing when it comes to taxation.

Banks and the debt bias

Keen and de Mooij (2012) analyse the responsiveness of bank leverage to taxation. They find that, on average, the leverage ratio of banks was around 89 % in 2011, compared to a ratio of between 40 and 60 % for non-financial firms. The authors show that taxes influence the capital structure of banks and that, despite capital requirement constraints, the size of the effects of corporate taxation on the financial structure of banks is close to those for non-financial firms. ⁽⁷⁰⁾

Recently, Hemmelgarn and Teichmann (2013) have found that bank leverage, dividend payouts and earnings management (in terms of loan loss reserves) react to changes in the domestic statutory CIT rate. Because they focus on short-term effects, tax elasticities are smaller than in related studies. In the three years after a tax increase by 10 percentage points, the results predict an increase in leverage of 0.98 percentage points or a relative increase by about 1.1 % (in relation to the equity ratio it would mean a notable relative decrease, of 8.9 % of equity). The long-run effects can even be larger, as suggested by the above-mentioned meta-studies. These results suggest that a reduction in the preferential treatment of debt would result in a significant decrease in bank leverage. In addition, the results also show that regulatory capital requirements in the banking sector alone do not seem to be a prime determinant of financial structure. The fact that banks' capital structure reacts to taxes might indicate either that capital regulations do not create fully binding conditions or, more likely, that tax-sensitive capital buffers above the regulatory requirements exist. In either case, the effect of taxation conflicts with the aim of current regulatory reform to increase capital in the context of Basel III.

⁽⁷⁰⁾ Gu et al. (2012) extend this research to multinational banks and find that international debt shifting is also induced by the debt bias.

4.2. CHALLENGES IN THE DESIGN OF INDIVIDUAL TAXES AND TAX ADMINISTRATION: AN UPDATE

Whereas Section 3.2 looked at the potential for shifting taxation to tax bases less detrimental to growth, such as consumption, housing and environmental taxation, this section investigates the scope for improving the design of VAT, housing and environmental taxation and tax administration. In doing so, it builds on the analysis made in previous reports.

4.2.1. Broadening the VAT base

As discussed in last year's report, VAT efficiency could be increased by having a broad base, with few exemptions and reduced rates. Revenues from VAT fall short of the amounts that would accrue if all private consumption ⁽⁷¹⁾ was taxed at the standard rate and revenue effectively collected. To give an idea of the revenue loss, Graph 4.2 presents actual VAT revenue as a share of the theoretical revenue if all consumption were taxed at the standard rate. This share gives a (good) first indication of the impact of exemptions and reduced rates, i.e. of 'policy efficiency'. However, it is also affected by the share of tax evasion or tax non-compliance ('collection efficiency'), which also diminishes the ratio. ⁽⁷²⁾

Graph 4.2 suggests that the impact of reduced rates, exemptions and/or VAT fraud and evasion is indeed significant, as actual VAT revenue in the EU-28 is less than 50 % of the theoretical total in 2011. These figures might, though, be somewhat underestimated as the indicator includes some elements in the denominator that are not part of the

⁽⁷¹⁾ 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 as investment in the national accounts and some private consumption items are exempt from VAT, e.g. spending on financial services and on public services. Private consumption also includes imputed rents on owner-occupied housing. The importance of these items depends on the structure of the economies.

⁽⁷²⁾ The ratio is also affected by the consumption structure 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.

VAT base. ⁽⁷³⁾ On average, the ratio remained more or less unchanged from 2010 to 2011.

Although quite high on average, the impact of reduced rates, exemptions ⁽⁷⁴⁾ and VAT fraud varies significantly across Member States. In fact the difference between the highest VAT revenue ratio, in Luxembourg ⁽⁷⁵⁾, and the lowest, in Greece, is substantial. Next to Luxembourg only four countries — Cyprus, Estonia, Bulgaria and Slovenia — gather more than 60 % of the theoretical maximum.

According to this assessment, as can be seen in Graph 4.2, six Member States — Greece, Spain, Italy, Latvia, Portugal and the UK — exhibit a VAT revenue ratio significantly below the EU-28 average (below LAF minus). ⁽⁷⁶⁾ This indicates that these countries in particular could improve either the structure of VAT or tax compliance in order to increase its efficiency. In addition, the ratio is below the EU average in Slovakia, France, Belgium, Ireland, Poland and Lithuania, signalling scope for increasing VAT efficiency. As discussed

in last year's report, the indicator could be affected negatively by the crisis and the economic cycle in general, even though VAT is a proportional tax. ⁽⁷⁷⁾ ⁽⁷⁸⁾. Several Member States have undertaken VAT reforms recently as described in Chapter 2. It needs to be seen how these reforms will affect the indicator.

Graph 4.2: Actual VAT revenues as a percentage of theoretical revenues at standard rates, 2010 and 2011



Note: The ratio consists of actual VAT revenues divided by the product of the VAT standard rate and net final consumption expenditure, i.e. final consumption expenditure minus VAT receipts. A low value of the ratio suggests that exemptions, reduced rates, or tax evasion have significant impact. The indicator is analogous to the 'C-efficiency' and 'VAT revenue ratio' computed by the OECD, see OECD (2011c).

Source: Commission services.

⁽⁷³⁾ One important element is consumption of housing services by owner-occupiers, an item on which VAT cannot be levied. On average, this accounts for slightly less than 12 % of final consumption. On the other hand, while this results in a downward bias in the ratio, other items tend to boost it, one example being sales of residential housing, which yield VAT revenues but are not part of final consumption. Overall, excluding the consumption of housing services by owner-occupiers does not have a major impact on the ranking of countries in terms of the ratio. An alternative calculation, e.g. the calculation made in the OECD review of France, identifies the same countries as having the narrowest VAT base (see OECD, 2011a, p. 17).

⁽⁷⁴⁾ Several exemptions to the VAT regime are actually required by the VAT Directive (e.g. financial services). (Annex X, part B to the VAT Directive concerning transactions allows Member States to continue to exempt certain goods and services if they were exempt on 17 January 1978 (although they are mostly taxed). These are the 'historical' exemptions that are 'targeted' by the wish to raise VAT efficiency. As regards other exemptions which could be taxed, under Article 137 of the VAT Directive, Member States may give taxable persons the option of paying tax on certain financial transactions (which are otherwise exempt).

⁽⁷⁵⁾ However, the high value for Luxembourg is influenced by cross-border shopping, as VAT revenues are included in the nominator of the indicator while the denominator excludes the consumption expenditure of non-resident households.

⁽⁷⁶⁾ The data does not include recent VAT reforms. In particular, the full effect of the substantial 2012 reform in Spain on the ratio will only be seen once 2013 data is available.

4.2.2. Housing related taxation

Property taxes, and in particular recurrent taxes on immovable property, have been found to be among the taxes least detrimental to growth by various studies. Taxes on immovable property or housing take various forms and include recurrent taxes, transaction taxes and taxes on capital gains. Property taxes generally play a relatively small role in the EU Member States in terms of revenue (2.1 % of GDP in 2011), with nearly a third referring to taxes on transactions (0.8 % of GDP). ⁽⁷⁹⁾

⁽⁷⁷⁾ Recessions, for example, lead to a shift in consumption patterns towards primary goods, lower construction activity, revenue on which is included in VAT revenues, and rising bankruptcies.

⁽⁷⁸⁾ Note that as explained in footnote 21, this indicator can be biased for some countries — such as Luxembourg — because of cross-border shopping. 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 VAT rates. A full assessment made in the European Semester also includes additional information such as the categories to which the standard rate is not applied.

⁽⁷⁹⁾ See European Commission (2013f). For country data, see Graph 4.3.

Transaction vs recurrent taxes on immovable property

Transaction taxes on properties tend to discourage transactions, which implies that the market is likely to be thinner and the price discovery process hampered. Theoretically, it is always possible to replace a tax on property transactions with a recurrent tax, which would entail less distortion of the market. ⁽⁸⁰⁾ A transaction tax on immovable property could also have negative impacts on labour mobility and risks providing a more volatile revenue stream than an equivalent recurrent tax. On the positive side, a tax on real property transactions could theoretically deter speculation, but this relationship remains empirically ambiguous. It is also likely to prove politically difficult to use the property transaction tax as a timely policy response to mitigate price increases in the housing market. Moreover, other policies are available that can also deal effectively with housing market bubbles. ⁽⁸¹⁾

Tax systems that rely heavily on taxes on property transactions provide scope for reform. A shift from taxes on property transactions to recurrent taxes on immovable property would reduce the distortions introduced by the tax, as there would be a more limited negative impact on the overall allocation of resources in the economy.

There is a considerable variation between Member States in terms of revenue from transaction taxes on immovable property. Belgium, Spain, France, Italy, Luxembourg and Malta recorded revenues close to or above 1 % of GDP in 2011. However, these data include revenue from other capital and financial transactions. ⁽⁸²⁾ Belgium, Italy and Greece still apply a tax on transactions at a rate above or equal to 10 % (see Table 4.4), even if reductions and exemptions apply e.g. for first-time buyers.

A second set of countries, i.e. France, Spain, Luxembourg, Portugal and the UK, currently apply rates in the 5-8 % range, with Portugal and the UK ⁽⁸³⁾ applying progressive rate structures.

⁽⁸⁰⁾ See for example Johansson et al. (2008).

⁽⁸¹⁾ Crowe et al. (2011).

⁽⁸²⁾ No further disaggregation of data is currently available.

⁽⁸³⁾ In Portugal, the transaction tax on first residences ranges from 0 % to 8 %. The UK tax rate ranges from 1 % to 7 %, with the latter applying to properties above GBP 2 million and 5 % applying to properties above GDP 1 million. In

Nearly half of the Member States apply tax rates below or at 5 % on immovable property transactions. Several Member States do not levy such taxes.

Table 4.4: Tax rates on real estate transactions in EU Member States, 2013

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

Note: * indicates a progressive or multiple rate structure; no rate indicated for Romania and Croatia; the top rate in the UK of 7 % applies to properties above GBP 2 million. In Italy, some rates are levied on cadastral values rather than transaction values. In Germany, the rate is set at the state level and is in one case above 5%.

Source: Commission services.

In terms of reforms, Ireland and the Netherlands reduced their property stamp duties to the 1-2 % range in 2011. Cyprus reduced and partly suspended the application of the tax on immovable property transactions until the end of 2016. The Czech Republic, in contrast, chose to increase the tax on transactions in 2013 from 3 % to 4 %.

A gradual shift from taxing immovable property transactions to a recurrent tax on housing could potentially improve the functioning of the housing market in several Member States. In particular, Belgium, Italy and Greece have scope for such a reform, but it could also be considered in Spain, Luxembourg, France, and Portugal. ⁽⁸⁴⁾

The design of recurrent taxation of immovable property

Normally, the tax rules on immovable property are mainly related to the taxation of capital. Housing can also be regarded as consumption of a service with taxation designed in line with other

addition, there has been a 15 % rate for acquisitions by certain non-natural persons since March 2012.

⁽⁸⁴⁾ Under the financial assistance programme, Greece is committed to reforming property taxation in 2014, while maintaining current revenue. Portugal is committed to shifting property taxation towards recurrent property taxes and away from transaction tax, while protecting vulnerable households, and (as part of PIT reform) to reducing mortgage interest deductibility. Additional revenue is to be raised by broadening the property tax base. Cyprus is committed to raising more revenue and updating property values for the recurrent tax, while reviewing the possibility of a shift from transaction to recurrent taxation of immovable properties.

consumption taxes. Another possibility is to regard the tax as a payment for local public services. ⁽⁸⁵⁾

Neutral capital taxation of residential housing

According to optimal tax theory, taxation of capital ideally aims at neutral tax treatment of different investments, which implies that returns from residential property would be taxed as other capital income. Accordingly, the return or imputed rent from the house, less depreciation allowances and interest payments (i.e. the net return), would be subject to income tax. ⁽⁸⁶⁾ Capital gains from housing transactions would also be taxed in order to achieve neutrality vis-à-vis the taxation of other assets. A tax on imputed rents could generally be approximated through a recurrent annual tax on the property. ⁽⁸⁷⁾ In both cases, it is important that the value of the tax base is regularly updated.

A tax on imputed rents and/or a recurrent property tax are essential to balance the tax subsidy provided through interest rate deductibility. If taxation is too low, a tax subsidy is provided which favours investment in owner-occupied housing over other investment, and household indebtedness through mortgage loans. Thus, what constitutes neutral tax treatment depends on the tax treatment of other financial investments. ⁽⁸⁸⁾

Favourable tax treatment of home ownership is based on the assumption that it generates positive externalities for society ⁽⁸⁹⁾, but it also has drawbacks. Home ownership tends to reduce labour mobility and there is a risk that interest deductibility will encourage over-allocation of capital to the housing sector. ⁽⁹⁰⁾ Empirical studies also show that reduced interest costs are capitalised into higher house prices, implying that

the policy does not achieve its aim of lowering costs for home buyers. ⁽⁹¹⁾

If it proves difficult to tax imputed rents, a possible second-best design in an optimal tax policy setting of owner-occupied housing could be: (i) not to allow mortgage interest deductibility and (ii) to levy a lower recurrent tax on immovable properties. Moreover, the tax level could broadly take account of the tax treatment of interests (i.e. the lack of mortgage interest deductibility in relation to other assets) and capital gains (possibly favourable tax treatment). ⁽⁹²⁾ In this way, housing investment would be taxed in line with other capital assets and the tax system would not favour debt.

Increasing tax revenue on housing

Reliance on recurrent property taxes varies considerably between Member States, and revenue ranged from nearly 3.4 % of GDP in the UK in 2011 to nil in Malta (where there is no recurrent property tax), with an average of 1.3 % of GDP (see Graph 4.3). ⁽⁹³⁾ Revenues from recurrent property taxes would preferably first be increased by bringing the tax base in line with the market value of the property. This is important if the tax is to function properly and be levied on the return on the investment or the rental value.

Rising house prices result in higher tax liabilities if the tax base properly reflects market valuation and lower liabilities when prices fall. In a rising

⁽⁸⁵⁾ For a discussion about these approaches to property taxation, see Johannesson Linden and Gayer (2012).

⁽⁸⁶⁾ In a comprehensive income tax system, this corresponds to PIT. In a dual income tax system, the tax on personal capital income is applied.

⁽⁸⁷⁾ 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.

⁽⁸⁸⁾ See for example Keen et al. (2010) and Andrews et al. (2011).

⁽⁸⁹⁾ See Andrews and Caldera Sanchez (2011) for an overview of the benefits and costs of homeownership (box 1 in the paper).

⁽⁹⁰⁾ European Commission (2010d).

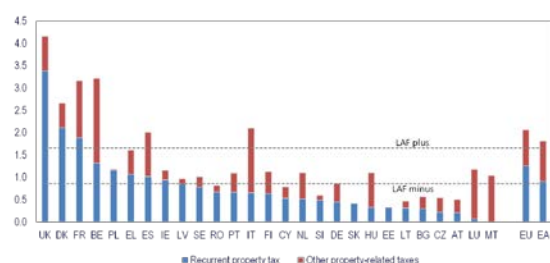
⁽⁹¹⁾ Capozza et al. (1996), Harris (2010) and Agell et al. (1995). Moreover, recent results indicate that demand shocks (e.g. through financial deregulation) have a greater likelihood of being capitalised into real house prices when the country provides interest deductibility (Andrews, 2010).

⁽⁹²⁾ 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.

⁽⁹³⁾ The Netherlands and Luxembourg apply PIT 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 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. It implies that the positive difference between the imputed return and interest paid ("a notional interest on equity") can be deducted against taxable income..

market, this tends to result in political pressure to freeze the valuation (or reduce tax rates). Once the tax base is frozen, however, it becomes politically very difficult to update it, as reflected by current practice across the EU. Failure to update the tax base regularly risks leading to erosion of the tax base and of revenues over time, while at same time providing further support for rising house prices. Thus, it is important to maintain regular revaluation of the cadastral values used as the tax base.

Graph 4.3: Revenues from property taxation, 2011 (in % of GDP)



Note: Ordered by revenues from recurrent property taxes. 'Other taxes on property' includes taxes on net wealth, inheritance, gifts and other property items as well as financial and capital transactions. Data does not include PIT on imputed rents. No data is available for Croatia.

Source: Commission services.

Many Member States have not updated property values for many years. ⁽⁹⁴⁾ According to the information available, at least 10 Member States (Belgium, Germany, Estonia, Greece, France, Italy, Cyprus, Luxembourg, Austria and the UK) apply rather outdated property values. Some (e.g. Germany, Greece, Cyprus, Portugal, Italy and Lithuania) are currently reassessing real estate values with a view to bringing them into line with market values and others (e.g. Germany) are considering doing so. Ireland is currently introducing a local property tax based on market valuation of properties, while Slovenia intends to do so in 2014. ⁽⁹⁵⁾

An increase in the tax rates for recurrent property tax could be an alternative to reassessing the tax base. However, adjusting the rate without updating the tax base means the increased tax burden would reflect the valuation of properties at some specific

time in the past. Moreover, as the tax burden is not proportionate to current property values, the tax increase would not be levied on the actual return and would not properly help to dampen price increases. Distributional concerns are often raised in relation to housing taxation reforms, and these aspects need to be addressed, not least in order to facilitate implementation of reforms ⁽⁹⁶⁾.

Reducing the debt bias in housing taxation

Many Member States allow tax deductibility of mortgage interest payments, and in some cases even of capital (re)payments. These tax systems favour debt creation and result in a debt bias in the taxation of housing. As a result, housing tax systems may have contributed to increases in housing prices, debt leverage and household over-indebtedness. ⁽⁹⁷⁾ Of the 15 countries that were singled out under the macro-economic imbalance procedure as having private debt above 160 % of GDP in 2011, 9 currently apply or have applied mortgage interest deductibility (Belgium, Denmark, Ireland, Spain, Luxembourg, the Netherlands, Portugal, Finland and Sweden). ⁽⁹⁸⁾

Many Member States are now in the process of reducing the debt bias in their housing tax system through reducing the scope of tax deductibility of mortgage interest payments (see Table 4.5 for details). Various kinds of reforms are currently under way in 11 of the 14 countries that still have mortgage interest deductibility to reduce the debt bias in housing taxation. At present, only Sweden, Italy and Bulgaria are not undertaking reforms in this area. However, Bulgaria strictly limits deductibility both in monetary terms and as regards eligibility (young families), while Italy has increased the recurrent property tax. In 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. ⁽⁹⁹⁾

⁽⁹⁴⁾ See European Commission (2012a) for an overview of the situation.

⁽⁹⁵⁾ See Chapter 2 for countries that are currently carrying out reassessments.

⁽⁹⁶⁾ Property tax reforms are complicated by the fact that some households own high-value properties yet have low disposable income (e.g. pensioners) and might therefore have difficulty paying a tax on imputed rents. This might be addressed through various policy measures, e.g. tax deferrals or ceilings.

⁽⁹⁷⁾ See Keen et al. (2010).

⁽⁹⁸⁾ European Commission (2013d).

⁽⁹⁹⁾ European Commission (2013b).

Table 4.5: Rules and reforms of mortgage interest deductibility 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 political agreement of December 2011 on the reform of the federal system, interest mortgage deductibility will be phased out at federal level and this competence will be transferred to regions as of 2014. However, all regions have not yet stated their intentions with respect to deductibility.
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. There is a relief worth 20% of the interest on qualifying loans for seven years, with higher rates for first-time homebuyers. Mortgage interest relief is restricted to € 3000 for single people and € 6000 for married/widowed taxpayers. The provisions are to be phased out by 2017. The following is valid for 2012: • First-time buyers in 2012 get mortgage interest relief at a rate of 25% for the first two tax years, decreasing after that, with some first-time buyer ceilings. • Non-first-time buyers in 2012 get mortgage interest relief at a rate of 15% from 2012 until 2017. • A special rate of 30% for the tax years 2012 to 2017 was introduced for first-time buyers who bought their sole or main residence for the first time in the years 2004 to 2008 or paid their first mortgage interest payment in this period.
Greece	Yes. All interest payments on loan taken out before the end of 2002 to finance a primary residence (max 120m ²) are deductible. For mortgage loans taken out after 2002, a credit of 20% of the annual mortgage interest on principal home is granted (on the first € 200,000 of the loan). This tax credit was reduced to 10% in October 2011.
Spain	Yes, but not for new mortgages. Up to a maximum of €9040, 15% of expenses on the house (repair, mortgage etc) are deductible. The maximum credit is thus €1356 (for a period, the credit was withdrawn for incomes above €24170). Spain decided to abolish the mortgage interest deductibility for new mortgages taken out for house purchases from 1 January 2013.
France	No. (2007-2010 there was a tax credit for interest on loans for a principal residence for five years. The credit is equal to 20% up to € 3750 per year, increased by € 500 per year for each dependent person. The limits are doubled for couples.) In 2010, subsidised loan schemes were introduced, targeted at first-time buyers, low-income earners, housing shortage areas and purchases of new housing.
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.
Luxembourg	Yes, with a ceiling of €1500 per person in the household. This is reduced to €750 after 12 year of occupancy. No tax is deductible 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.
Malta	No.
Netherlands	Yes. Mortgage interest payment are fully deductible for investments in owner-occupied dwellings at the marginal personal income tax rate (with a top rate of 52%). Up until 2012 the paid interest was fully deductible for a period of 30 years. As of 2013, new mortgages need to be paid off in full (at least as an annuity) over the loan agreement of 30 years to be eligible for tax deductibility. 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.
Portugal	Yes, there is a tax credit of 30% of interest and principal repayments on loans for a permanent residence. The Memorandum of Understanding provided that the mortgage interests would not be deductible for new mortgages from 2012 and mortgage interest deductibility for owner-occupied housing in general will be reduced.
Slovakia	No. Subsidised interest rates.
Slovenia	No.
Finland	Yes. Deductible from capital income at 80% in 2013 and 75% in 2014. 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.
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 300000 (CZK 80000 from 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.
Croatia	No.
Latvia	No.
Lithuania	No. (There is a deduction for interest on a loan taken out before January 1 2009, limited to one dwelling).
Hungary	No.
Poland	No. (Loans taken out between 1 January 2002 and 31 December qualify for deductibility based on older provisions up to 2027.)
Romania	No.
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%.
UK	No.

Source: Commission services, OECD.

Thus, there could be a need to initiate reforms to start reducing the incentives in the tax system to take on debt or increasing the property tax. In Belgium, the implications of the transfer of powers relating to mortgage interest deductibility to the regions in 2014 are as yet unknown.

In summary, around half of the Member States' tax systems continue to favour mortgage debt financing of homeowners. Ten Member States (Belgium, Estonia, Greece, Italy, Luxembourg, the Netherlands, Finland, the Czech Republic, Denmark and Sweden) face the challenge of a tax system favouring housing investment and household indebtedness, though to varying

degrees. As stated, Ireland, Portugal and Spain have undertaken or are undertaking reforms to phase out interest deductibility, either generally or for new mortgage contracts. Bulgaria strictly limits deductibility to young families, which can be regarded as a targeted form of support ⁽¹⁰⁰⁾. In most of the other countries, reforms are under way. In some cases, these reforms can already be judged as rather limited and/or back-loaded. Overall, these reforms could still be evaluated in order to judge whether the bias towards debt in the tax system is being sufficiently reduced.

⁽¹⁰⁰⁾ Other policy instruments which do not encourage indebtedness would be preferable to support homeownership.

In terms of optimal tax theory, a neutral tax system for investment in residential property which allows interest deductibility should also tax the corresponding return on the investment. In practice, however, as in the above countries, taxes on imputed rents or recurrent property taxes are often too low to tax imputed rents in line with other investment. If in practice it proves difficult to keep property taxes at the level required to achieve neutrality, removing the debt bias in the tax system by gradually phasing out interest rate deductibility would be the preferred second-best option.

4.2.3. Environmentally related taxation

Environmentally related taxes serve an environmental purpose and provide fiscal revenue. Fiscal consolidation, which reduces the scope for environmental policy measures on the expenditure side of the budget, strengthens the need to use taxes as well as other market-based ⁽¹⁰¹⁾ policy instruments in environmental policy. ⁽¹⁰²⁾ The fiscal role of environmental taxes in consolidation policies and of tax shifts to more growth friendly tax structures is discussed in Chapter 3, Section 3.2.

In terms of environmental policy, there are several tax-related challenges. First, to meet agreed environmental policy objectives, sufficient policy instruments, including taxes, other market-based instruments and regulation ⁽¹⁰³⁾, need to be put in place. Environmental taxes (or other equivalent market-based instruments) could play a role in the policy mix to enhance cost-efficiency. Second, energy taxes and other environmental taxes could be designed in such a way that they provide appropriate incentives to reduce emissions over time and improve resource efficiency, including through environmentally consistent tax rates across various energy carriers and emissions (e.g. across fuels). ⁽¹⁰⁴⁾ Finally, environmentally harmful

subsidies within the tax systems could be phased out. ⁽¹⁰⁵⁾ Various measures, outlined below, could be taken at national level to improve on existing tax systems.

Fulfilment of the agreed limitation targets for greenhouse gas emissions

In late 2008, the Member States agreed on an overall EU-wide emission target to reduce greenhouse gas emissions by 20 % in 2020 as compared with 1990 levels. This effort will be divided between the sectors covered by the EU Emission Trading System (ETS) and non-ETS sectors. Member States need to define national policies and measures to limit their emissions in the non-ETS sectors. Energy taxation is consequently a particular important instrument for Member States to reduce emission in non-ETS sectors. ⁽¹⁰⁶⁾ The Effort Sharing Decision sets national targets for emissions outside the ETS ranging from limiting the increase in emissions to 20 % to implementing a 20 % emission reduction compared with 2005 emission levels. The latest emission data and projections indicate that the EU is on track to achieve its EU-wide target by 2020. However, these projections also point to the need for some countries to adopt and effectively implement additional policy measures to achieve their individual targets for non-ETS emissions. This is also evident in relation to the binding intermediate emission targets in the Effort Sharing Decision, which are defined for 2013 onwards. The level of ambition relating to these targets varies considerably between Member States.

According to their own national projections, nine countries are expected to miss their target by a gap of more than 3% and therefore needs to design and implement new policy measures to fulfil the emission targets. These countries include Belgium, Ireland, Spain, Italy, Luxembourg, Austria, Finland and Lithuania.

Finally, it is also illuminating to look at progress towards the 2013 target as defined by the Effort Sharing Decision. Recent emission data indicate

⁽¹⁰¹⁾ The importance of market-based instruments is underlined in the Europe 2020 Strategy, which refers to both the use of these policy instruments and work to phase out environmentally harmful subsidies as essential elements of the climate and energy policy.

⁽¹⁰²⁾ See European Commission (2012a) for a more extensive discussion of environmental taxation.

⁽¹⁰³⁾ See Kosonen and Nicodeme (2010) for a discussion on the choice of policy instruments.

⁽¹⁰⁴⁾ The need to achieve resource efficiency is captured by the 2020 renewable energy targets and the 2020 energy efficiency targets.

⁽¹⁰⁵⁾ This concerns preferential tax treatment of specific sectors, uses and goods. See for example the Inventory of Estimated Budgetary Support and Tax Expenditure for Fossil Fuels 2013 (OECD, 2013b).

⁽¹⁰⁶⁾ The main sectors outside the ETS are transport (except aviation), buildings, agriculture and waste.

that Estonia and Luxembourg appear to fall short of their annual binding target as of 2013. These countries face the challenge of defining a greenhouse gas reduction policy that can meet the reduction objectives. ⁽¹⁰⁷⁾

Further policy measures to be implemented to achieve the targeted emission reduction in the non-ETS sectors could focus on market-based measures, i.e. taxes, charges, or quotas, in which carbon and energy taxation could play an important role. Member States that are projected to meet their targets easily could also consider undertaking energy and environmental tax reforms (see Chapter 3, Section 3.1).

Structure of excise duty rates on fossil fuels

The current structure of excise duty rates in Member States does not normally reflect the environmental and energy properties of the various fuels and could be made more efficient in environmental terms. Current energy tax structures tend rather to promote fuels that are relatively more detrimental to the environment and/or are less energy-efficient. ⁽¹⁰⁸⁾ Proper relative tax rates of fuels could be achieved through a carbon or an energy tax, or through a combination of the two. ⁽¹⁰⁹⁾

The Member States still tend to promote the use of diesel strongly through their relative low tax rates (see Graph 4.4). The EU average for the diesel vs petrol tax ratio increased slightly in 2013 compared to 2012. Some Member States have increased the tax on diesel more than the tax on petrol: Italy, Luxembourg, Slovenia, Lithuania, Romania and Sweden. In two other cases

(Denmark and Greece), the ratio appears to have fallen, pointing to a larger tax advantage for diesel over petrol. Overall, there has not been substantial progress. In particular, Belgium, Germany, Greece, France, Luxembourg, the Netherlands, Portugal, Slovakia, and Finland could still benefit from reviewing whether it is possible to reduce the preferential tax treatment of diesel. ⁽¹¹⁰⁾

There are similar inconsistencies in the taxation of fossil-based heating fuels in many Member States. Normally, heating oil is taxed heavily, while rates on natural gas and coal are relatively low, thereby giving the latter a tax advantage as a heating fuel. The situation is rather complex, as conditions vary considerably between Member States according to their industrial structure and fuel mix. The issue mainly concerns households and businesses falling outside the scope of the ETS. Several countries also exempt household consumption of heating fuels.

It is important to ensure that energy tax rates become more consistent across fuels and uses, and that the tax system does not unduly favour fossil-based solutions. Consistent tax rates are particularly important to provide correct framework incentives for technology development.

Graph 4.4: Diesel/petrol ratio, 2013



Note: The ratio compares the excise duty rates per 1000 litres of fuel. No comparable data is available for Croatia.

Source: Commission services.

⁽¹⁰⁷⁾ Further details will be available in the Commission Communication on Progress towards achieving the Kyoto Objectives that is published annually before October 31st. See also Europe 2020 Targets: climate change and energy, http://ec.europa.eu/europe2020/pdf/themes/16_energy_and_ghg.pdf

⁽¹⁰⁸⁾ OECD (2012), Taxing Energy Use.

⁽¹⁰⁹⁾ A carbon tax would be based on the carbon content of the fuel and would therefore rank the various fuels according to their carbon content. A neutral energy tax, in terms of promoting energy efficiency equally across energy products, would tax fuels according to their energy content. The Commission proposal to revise the Energy Tax Directive (COM(2011) 169/3) addresses these issues. It also covers competitiveness aspects of this proposal.

⁽¹¹⁰⁾ Some of these countries are already taxing diesel at relatively high rates. Moreover, some countries offset the advantage for diesel by levying a higher annual circulation tax. Such a tax adds to the overall cost of owning the car. However, the drawback is that it does not affect the marginal cost of additional driving in the same way as a fuel tax does. As an example, Denmark actually decreased the fuel tax on diesel in its 2012 tax reform, and this reduction was offset by an increase of the annual circulation tax on diesel cars.

Indexation of environmental taxes

At present, the majority of the Member States' tax frameworks do not require indexation of energy and other environmental taxes to the general price level.⁽¹¹¹⁾ Indexing excise duty levels to inflation would help to maintain the real value of taxes over time and thereby revenue, and to maintain the impact of the tax on relative prices and thereby on agents' behaviour. Only a limited number of Member States currently apply indexation (e.g. Denmark, the Netherlands and Sweden). The introduction of indexation of excise duties to core inflation in 2012 is included in the Memorandum of Understanding for Portugal. In February 2013, as part of its reform programme, Cyprus introduced a mechanism to ensure regular reviews of excise duty rates.⁽¹¹²⁾⁽¹¹³⁾

Reduced VAT on energy

As discussed in Section 4.2.1, broadening the VAT base by removing reduced rates, zero rates and exemptions could reduce the distortions caused by differential treatment of goods and services while at the same time generating more fiscal revenue. The current EU VAT legislation allows Member States to levy lower VAT rates on electricity and natural gas, and on district heating. However, such reduced rates conflict with overall ambitions in energy and climate policy and constitute environmentally harmful subsidies by reducing incentives to reduce energy consumption. Targeted income support could possibly be provided more efficiently to vulnerable households through general welfare payments.

According to the European Commission (2013f), at the beginning of 2013 Greece, France, Ireland, Italy, Luxembourg, Malta and the UK were reported to tax natural gas and electricity at a reduced VAT rate. Belgium, Ireland, Luxembourg, Portugal and the UK also apply reduced VAT rates

on fuel oil and/or solid fuels (European Commission, 2013c). These Member States face a challenge in phasing out these subsidies. It is noticeable that very few reforms have been undertaken in this area during the last year, though Portugal has removed the reduced VAT rate on heating oil⁽¹¹⁴⁾.

Taxation of company cars

Company cars are defined as passenger light-duty vehicles leased or owned by companies but used by their employees for business or personal travel. Copenhagen Economics (2009) concludes that the favourable taxation of company cars in many EU Member States is distortionary and imposes welfare costs on society. OECD (2012d) confirms this analysis and provides additional data on this topic.

Company car tax benefits mainly depend on the treatment of access to and use of the car when taxing the employee's income. The OECD study defines a benchmark tax treatment of the company car benefit which would make taxation neutral and the employee indifferent to the choice of this benefit-in-kind or an equivalent cash wage. The company car benefit consists of two components reflecting fixed and variable costs. The OECD study covers 17 Member States, for which the average tax is estimated to be 42 % lower than this benchmark. This can mainly be explained by a lower charge on capital (which is assumed to be 28 % of the vehicle value in the benchmark) and no charge for the distance driven (which is included in the benchmark). Only Finland, Austria and Germany include the distance driven in the tax base. The untaxed benefit is found to increase slightly with higher CO₂ emissions. This can be explained by CO₂ emissions being positively correlated with vehicle prices and high CO₂ emissions implying lower fuel efficiency. This means the subsidy is more valuable for a car with relatively higher CO₂ emissions. However, the study also shows that the largest part of the tax subsidy actually relates to cars with more modest CO₂ emissions, as there are many company cars with such a profile.

⁽¹¹¹⁾ Indexation is relevant to all excise duties that are levied on the quantity of the product (i.e. not ad valorem). The adjustment would preferably be based on an index of core inflation that excludes prices on energy and unprocessed food. This would diminish volatility stemming from these commodity markets and prevent the indexation of energy taxes from feeding into the same index used for indexation.

⁽¹¹²⁾ See European Commission (2013e).

⁽¹¹³⁾ For further discussion of indexation of environmental taxes, see European Commission (2012a).

⁽¹¹⁴⁾ In line with the Memorandum of Understanding, see European Commission (2011c).

Table 4.6: Summary of challenges in area of environmentally related taxation

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

Source: Commission services.

Company car rules tend to encourage car ownership and affect the choice of car model, as well as driving habits. Moreover, company car schemes risk mitigating and counteracting incentives to reduce fuel consumption provided through energy and vehicle taxation. Company cars account for an average of approximately 35 % of all passenger cars in the EU countries covered ⁽¹¹⁵⁾.

The taxation regime for company cars in most Member States promotes over-use of such cars as they reduce the marginal cost of driving. According to both Copenhagen Economics (2009) and the OECD (2012d), private use of company cars is heavily subsidised in several Member States. Including the distance driven in the tax base is particularly relevant in order to provide better environmental incentives. Based on the above studies, the subsidy (measured as the percentage gap in the imputed tax base) is particularly large — according to the LAF-criteria — in Belgium, the Czech Republic, Germany, Greece, Hungary, Italy, Portugal and Slovakia. Against this background, these countries in particular could consider reviewing the tax treatment of company

cars. ⁽¹¹⁶⁾ It could be beneficial to reduce these tax subsidies and thereby favour the deployment of cleaner vehicles. Belgium reviewed its company car regime in 2012 with a view to reducing the incentive to choose large cars, while Hungary and Portugal ⁽¹¹⁷⁾ have increased the tax on company cars.

Vehicle taxation

Transport taxes (excluding fuels) are an important category of environmentally related taxes in the EU. They accounted for 0.5 % of GDP on average in 2011. This corresponds to 1.3 % of total tax revenues and 21 % of environmentally related tax revenues. The two main forms of transport taxes are registration taxes levied on the purchase of a car and circulation (or road) taxes levied annually on car ownership. The transport sector currently accounts for close to one third of all the CO₂ emissions in the EU Member States ⁽¹¹⁸⁾, and

⁽¹¹⁶⁾ Note, however, that data is missing for Bulgaria, Cyprus, Estonia, Ireland, Latvia, Lithuania, Malta, and Romania in the study by Copenhagen Economics. The OECD study covers 17 Member States.

⁽¹¹⁷⁾ In line with the Memorandum of Understanding (European Commission 2011c).

⁽¹¹⁸⁾ Statistical Pocketbook on Transport 2013 at http://ec.europa.eu/transport/facts-fundings/statistics/pocketbook-2013_en.htm

⁽¹¹⁵⁾ OECD (2012d), The tax treatment of company cars and commuting expenses, forthcoming.

emissions are projected to rise rapidly over the next 30 years. ⁽¹¹⁹⁾ In this context, vehicle taxes on particularly passenger cars are increasingly used as a policy instrument designed to give buyers an incentive to choose cars with lower CO₂-emissions.

CO₂-based vehicle taxation may complement transport fuel taxes by providing an additional incentive for consumers to purchase fuel-efficient and hence low-emitting cars. Fuel taxation is the main policy instrument to encourage fuel efficiency, and has the added advantage that it also affects driving habits. Registration taxes could possibly have a strong influence on the fuel-efficiency of cars as they affect the retail price at the time of the purchase. The design of the circulation (or road) tax also has an impact as it affects the overall cost of owning a car. However, there is not yet much evidence relating to the efficiency of recently introduced CO₂-based vehicle taxes in reducing transport-related CO₂-emissions. ⁽¹²⁰⁾ ⁽¹²¹⁾

Currently, 19 EU countries apply a registration tax on passenger cars. In most of them, the tax takes account of the vehicle's CO₂ emission profile, often in addition to other characteristics of the car. A circulation tax is applied in 21 Member States, and in around half of these countries the tax rate depends more or less on CO₂ emissions. Vehicle taxation is also used by some Member States to support alternative fuels. Thus, electric and hybrid

vehicles are exempt from taxes or receive a subsidy in a number of countries. ⁽¹²²⁾

In 2013, Slovenia increased the taxation of motor vehicles. The Netherlands also undertook reforms of vehicle tax by further differentiating the registration tax according to CO₂ emissions, and simultaneously phasing out the CO₂ exemption for low-emitting cars in annual circulation tax.

Estonia ⁽¹²³⁾, Slovakia, the Czech Republic, and Lithuania are the countries that do not apply any vehicle taxes on passenger cars. Bulgaria and Poland apply one of these taxes on passenger cars, but with an indirect link to CO₂-emissions through cylinder capacity or horsepower. These countries could still benefit from reviewing whether a CO₂-based vehicle tax on passenger cars could help them to reduce transport-related CO₂ emissions.

Summary of challenges in the area of environmentally related taxation

The challenges discussed in this section can be divided into: (i) the need to make more use of taxation to achieve environmental objectives; and (ii) tax design issues in the area of environmental taxation. ⁽¹²⁴⁾ Concerning the former, Belgium, Ireland, Spain, Italy, Luxembourg, Austria, Finland and Lithuania face a challenge to consider whether tax instruments can be used more extensively when defining the greenhouse gas reduction policy to achieve the reduction objectives for non-ETS sectors.

Various measures could be taken at national level to improve the design of environmental taxation. These include: (a) adjusting the structure of tax rates on fossil fuels according to their carbon and energy content; (b) indexing environmental taxes; (c) considering the abolition of reduced VAT rates on energy; (d) reducing tax subsidies for company cars; and (e) introducing CO₂-related vehicle taxation. Individual Member States are considered to face an overall challenge regarding tax design issues if challenges have been defined in three out

⁽¹¹⁹⁾ European Commission (2012g).

⁽¹²⁰⁾ Giblin and McNabola (2009) studied an Irish reform in 2008 which introduced both CO₂-based registration and a circulation tax. The reform would bring about a 3% reduction in CO₂ emissions from private transport, which reflects a 3.8% reduction in emission intensity for petrol cars and a 3.6% reduction for diesel cars, as well as a shift of 6% from petrol to diesel car ownership.

⁽¹²¹⁾ In 2005, a Commission proposal (COM(2005) 261final) aimed at removing cross-border obstacles to trade in cars and improving the functioning of the internal market by first making registration taxes refundable and then phasing them out. A further aim was to transform vehicle taxation into a more efficient environmental policy instrument by introducing differentiation according to CO₂ emissions. The proposal has not been adopted by the Council but, as shown above, Member States have incorporated parts of the proposal into their tax systems. A Commission communication (COM(2012) 756) clarifies the current situation and makes recommendations on how to avoid double taxation.

⁽¹²²⁾ ACEA, Tax guide 2013, and DG TAXUD, "Taxes in Europe database".

⁽¹²³⁾ In 2011, new cars in Estonia had the highest average emissions per kilometre in the EU (156.9g/CO₂/km, 16% above the EU-average).

⁽¹²⁴⁾ For the use of environmental taxation for consolidation and in tax shifts, see Chapter 3, Sections 3.1 and 3.2.

of the five areas discussed. On this basis, nine Member States have particular scope for improving the design of their environmental taxes: Belgium, Germany, Greece, France, Italy, Luxembourg, Portugal, Slovakia and the Czech Republic. Table 4.6 provides an overview of the challenges Member States face in the area of environmental taxation.

4.2.4. Improving tax governance

In the 2012 edition of the report, special focus was put on reducing tax evasion and improving tax governance given the particular importance of the topic now. As discussed in Section 2.7, most Member States are stepping up efforts to improve tax collection, which has already led to an improvement in tax compliance. The goal for revenue authorities is to collect the full amount of taxes and duties payable in accordance with the law. Tax authorities could aim to reduce the tax compliance gap while at the same time minimising the administrative costs of collecting taxes for the government (collection costs) and of paying taxes for taxpayers, i.e. businesses and individuals (compliance costs). This year's report updates this analysis while slightly refining the screening approach.

Action plan to combat tax fraud and tax evasion

The Commission supports international efforts to combat tax evasion and doing so by means of automatic information exchange between tax administrations, which can build on the long-running EU experience in this area. Multilateral action could help to achieve a result in a way that minimises costs to both businesses and governments, but it would have to reflect the particular circumstances and laws of different countries, including those on proportionality and data protection requirements. In December 2012, the European Commission adopted an Action Plan⁽¹²⁵⁾ setting out over 30 measures to combat tax fraud and tax evasion now and in the future. It includes concrete steps to help protect Member

States' tax revenues against aggressive tax planning, tax havens and unfair competition. The priorities now are for Member States to make the necessary improvements to their national tax administrations and systems, to make full use of the existing European toolbox and to agree on new EU-wide rules and instruments where relevant.⁽¹²⁶⁾

Tax compliance issues: reviewing available indicators

The size of the shadow economy gives an initial idea of the extent of tax non-compliance.⁽¹²⁷⁾ In addition to the shadow economy, which is not necessarily driven only by tax reasons but has a large impact on tax revenues, a sizeable part of tax evasion consists of underreporting in the formal sector. The ability to misreport and readiness to exploit opportunities to do so seem to be decisive explanatory variables for the size of the shadow economy and the total amount of tax evasion.⁽¹²⁸⁾ For a discussion of behavioural economics and tax compliance see Box 4.1.

As discussed in past editions, it is, however, difficult to obtain reliable estimates of its size and different studies, which apply different methods, come to rather different results for some Member States. One of these approaches, applied by

⁽¹²⁵⁾ Commission communication An Action Plan to strengthen the fight against tax fraud and tax evasion, COM(2012) 722.

⁽¹²⁶⁾ Note that besides action on tax evasion and fraud, the EU and the OECD have also progressed in their actions against aggressive tax planning. The OECD-based project Base Erosion and Profit Shifting (BEPS) puts the emphasis on combating the undermining of tax bases in jurisdictions around the world. A comprehensive Action Plan for two years was launched in July 2013, a work to which the European Commission is associated. In addition, the Commission recommendation on aggressive tax planning of 6 December 2012 urges Member States to take a common approach in addressing double non-taxation and apply the shared General Anti-Abuse Rule (GAAR). The recommendation on 'tax havens' of the same date urges them to apply a common definition for non-compliant third countries and to take measures against non-compliant or in favour of compliant third countries. Several pressure areas identified in the BEPS report were also addressed in the December package, building on issues such as tackling harmful tax competition, on which the EU has made significant progress.

⁽¹²⁷⁾ Some Member States, such as Denmark, Estonia, Greece, Slovenia, Sweden, and the UK, calculate and publish estimates of the tax gap. See OECD (2013a) for more information.

⁽¹²⁸⁾ See, e.g., Robinson and Slemrod (2011) and Kleven et al. (2011).

Box 4.1: Behavioural economics and tax compliance

Neoclassic economic models of tax compliance are based on the assumption that taxpayers are rational and selfish agents who would always try to understate their earnings and evade income taxes. ⁽¹⁾ These theoretical considerations have the advantage of being simple and clear in predictions, but fall short in explaining the relatively high compliance rate observed in the real world given the relatively low probability of an individual tax payer's being audited.

Recent advances in experimental economics provide a more realistic picture of the taxpayers' reasoning and behaviour. Laboratory experiments where people make economic decisions under controlled circumstances help to refine economic models of tax evasion and test two major issues: individual decision making and social effects. ⁽²⁾ Individual decision making has been shown to deviate systematically from the standard economic assumptions. The phenomenon of loss aversion serves as an example: people show a strong tendency to avoid losses when making risky choices. ⁽³⁾ Thus, models of tax compliance incorporating factors such as individuals' tendency to over-weight the relatively small probability of being confronted with a tax audit in reality, to make decisions relative to a reference point and to regret actions can predict more realistic levels of tax compliance. As a taxpayer's decision to comply with tax regulations is likely to be affected by the socio-cultural environment, a second strand of behavioural economic models tries to capture a large number of social influences.

Social effects in taxation

Experimental research has highlighted the important role of social preferences, norms, fairness and reciprocity in the outcome of social dilemmas. ⁽⁴⁾ Deciding whether or not to pay taxes is an example of such a dilemma situation. Participants in economic experiments were found to be willing to share what they received with a stranger or contribute significantly to a public good. ⁽⁵⁾ This contrasts with standard economic theory which predicts no voluntary contributions to public goods.

Economic experiments also established conditional cooperation as a relatively stable type of social preferences (Chaudhuri, 2011): individuals would often share their resources if they believe that others would also do so, and in turn act selfishly if they expect selfish behaviour from their peers. These findings are important for the issue of taxation, because they suggest that taxpayers might be less compliant if they believe others are not paying their due amount of taxes. For example, an experimental analysis has shown that tax amnesties can decrease overall tax compliance by crowding out voluntary compliance among honest taxpayers (Alm et al. 1990).

Improving voluntary compliance

According to the neoclassic model of tax compliance, self-employed workers have an incentive to understate their true income and overstate deductibles when filing their annual tax declaration. ⁽⁶⁾ For most employees, the scope for evading income tax is limited, because firms report their income directly to the tax authority. Still, employees might have an incentive to overstate their deductibles. Findings from behavioural economics and experiments can be used to tackle both issues and improve voluntary tax compliance. Reducing the cost of compliance and increasing the (psychological) cost of non-compliance seems to be vital in increasing overall compliance. For that matter, the way the government approaches the taxpayer seems to have great influence on taxpayers' behaviour. Letters from the tax authority could for example highlight social norms to pay taxes, offer services to reduce the cost of compliance and trigger reciprocity, or state personal benefits to remind people to contribute their fair share:

⁽¹⁾ For a survey of the tax compliance literature see for example Slemrod J. (2007).

⁽²⁾ For a survey of behavioural economic models of tax evasion see for example Hashimzade et al. (2012).

⁽³⁾ For a discussion of loss aversion and tax evasion see Hashimzade et al. (2012).

⁽⁴⁾ Herrmann et al. (2008) find large behavioural differences in a cross-cultural social dilemma experiment and explain them in terms of varying norms of civic cooperation and the rule of law.

⁽⁵⁾ A discussion of dictator, ultimatum and public good experiments can be found in Torgler (2002).

⁽⁶⁾ For experimental evidence on compliance and labour supply of employees and self-employed see Doerrenberg and Duncan (2012).

(Continued on the next page)

Box (continued)

- Signing a tax report form at the beginning could trigger more compliant behaviour by reminding taxpayers of their self-perception as honest and law-abiding citizens. ⁽⁷⁾
- Higher institutional quality is associated with increased intrinsic motivation to pay taxes. Thus, improving the quality of public goods and services and communicating this fact can help to increase tax compliance. ⁽⁸⁾
- Trust in governments and tax authorities can help to maintain a high level of tax compliance (see Torgler, 2003).
- Social norms are generally accepted rules of a society, to which people tend to adhere. Behaviour that violates social norms might yield psychological costs. Thus, promoting a social norm of tax compliance can be vital. ⁽⁹⁾
- A shift from an enforcement-oriented tax authority to a more service-oriented approach, providing information and assistance to taxpayers can increase tax compliance (see Alm et al., 2010).

The measures above might have the potential to boost voluntary tax compliance, yet few are being systematically implemented by EU tax authorities. For some of the measures, only evidence from laboratory experiments is available. They have not yet been implemented in field trials and the usual caveats apply. Furthermore, it is important to note that these approaches are likely to have different outcomes across countries, when applied in the specific socio-cultural context of the taxpayer's compliance decision.

⁽⁷⁾ For experimental evidence see Shu et al. (2012).

⁽⁸⁾ Survey data on the correlation between institutional quality and tax morale is discussed in Frey and Torgler (2007).

⁽⁹⁾ For a discussion of social norms and tax compliance and a theoretical model see Traxler (2010).

Schneider (2013), uses the Multiple Indicators Multiple Causes (MIMIC) model which examines the relationship between the unobserved shadow economy and a set of observable variables.

The methodology faces strong criticism from international statistical institutions ⁽¹²⁹⁾ and should not be taken as producing uncontested values. ⁽¹³⁰⁾ The available results only provide a very rough indication. The levels should not be taken as an absolute measure of the phenomenon. ⁽¹³¹⁾

According to Schneider (2013), shadow economic activity varies considerably across Member States (see Table 4.7). Another important source that is

used to get a feeling for the level of tax compliance is the European Employment Observatory (EEO), which collected national data in 2004 and 2007 for the share of undeclared work. Depending on availability, these figures are based on micro surveys, labour-force survey studies, macro studies or other available information. ⁽¹³²⁾ Hence, the reported national data for undeclared work are not fully comparable across countries but appear to be a useful complement to the indicator scheme, given its substantial methodological drawbacks. Another source used to complement these two indicators is the World Bank's research on informal workers, which includes non-contract work, informal self-employment and unpaid family work and is more recent than the EEO data. ⁽¹³³⁾

⁽¹²⁹⁾ The Intersecretariat Working Group on National Accounts (ISWGNA) warned against the use of the indicator in 2006. The ISWGNA gathers representatives of the five international organisations (European Commission, IMF, OECD, UN, World Bank) who have co-signed the international manual System of National Accounts, 1993.

⁽¹³⁰⁾ It is an indirect measure based on statistical relationships, notably the currency demand, which can partly capture home production. It might not take country specific characteristics and differences sufficiently into account as the parameters of the model are estimated jointly for a large group of countries.

⁽¹³¹⁾ Arguably, they overestimate the true measure of the shadow economy.

⁽¹³²⁾ In micro surveys individuals are asked if they have performed (or acquired) activities in the shadow economy during the previous year. One reason for the lower results is that micro surveys usually apply a more narrow definition of the shadow economy, focusing on households' supply of black labour, whereas the macro studies tend to include also other types of tax evasion. Another possible reason might be biased reporting. Nevertheless, it is likely that the size of the shadow economy is overestimated, at least for some countries, in macro-estimations like Schneider (2012).

⁽¹³³⁾ See Hazans (2011) for more details.

Another indicator in cross-country comparisons could be ‘adjustments for the non-observed economy’ (NOE) in national accounts, although this also includes items that are not part of the shadow economy, e.g. illegal activities and informal work (e.g. work done in the household). However, such data is only available for a limited number of countries and in many cases also not for recent years. ⁽¹³⁴⁾

Divergence between the available indicators highlights the need for caution. The data on undeclared work points to a great deal of heterogeneity, with estimates ranging from 2 % to 30 %. The estimated size of undeclared work is usually significantly lower in the reported national data than in the Schneider (2013) estimates for the size of the shadow economy, which can only be partly explained by the underreporting of income included in the size of the shadow economy. The range of the data for informal workers is even wider.

Member States are considered to have a particular need and scope for improving tax compliance if: two out of three indicators of (i) the shadow economy in 2013, (ii) undeclared work and (iii) informal workers, presented in Table 4.7, are significantly above the EU-28 average. According to this criterion, Bulgaria, Cyprus ⁽¹³⁵⁾, Greece, Hungary, Italy, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovenia and Spain, face a particular challenge in this area. ⁽¹³⁶⁾⁽¹³⁷⁾

Table 4.7: **Size of shadow economy, undeclared work and informal workers in the EU Member States**

Country	Size of shadow economy (in % of GDP)		Undeclared work (share of GDP or employment, 1995-2006)	Informal workers (% of extended labour force, 2008-2009)	Overall Challenge	Non-observed economy adjustments (% of GDP, reference year)
	2010	2013				
BE	17.4	16.4	6-10	10.5		4.6 (2009)
DE	13.9	13.0	7	11.9		NA
EE	29.3	27.6	7-8	9.8		9.6 (2002)
IE	13.0	12.2	NA	33.0		4 (1998)
EL	25.4	23.6	25	46.7	X	NA
ES	19.4	18.6	12	18.8	X	11.2 (2000)
FR	11.3	9.9	4-6.5	10.3		6.7 (2008)
IT	21.8	21.1	12	22.4	X	17.5 (2008)
CY	26.2	25.2	4	53.0	X	NA
LU	8.4	8.0	NA	NA		NA
MT	26.0	24.3	25	NA	X	NA
NL	10.0	9.1	2	12.6		2.3 (2007)
AT	8.2	7.5	2	19.7		7.5 (2008)
PT	19.2	19.0	5	22.4	X	NA
SI	24.3	23.1	17	14.1	X	10.2 (2007)
SK	16.4	15.0	13-15	12.2		15.6 (2009)
FI	14.0	13.0	4	11.2		NA
BG	32.6	31.2	22-30	13.2	X	13.4 (2011)
CZ	16.7	15.5	9-10	12.5		8.1 (2009)
DK	14.0	13.0	3	11.5		NA
HR	NA	28.4	NA	NA		10.1 (2002)
LV	27.3	25.5	18	8.0	X	13.6 (2000)
LT	29.7	28.0	16-18	6.4	X	18.9 (2002)
HU	23.3	22.1	15-20	9.4	X	10.9 (2009)
PL	25.4	23.8	12-15	21.6	X	15.4 (2009)
RO	29.8	28.4	16-21	11.8	X	21.5 (2010)
SE	15.0	13.9	5	8.2		3 (2009)
UK	10.7	9.7	2	21.7		2.3 (2005)
EU-27	15.4	14.3	7.3	16.4		
EA-17	15.5	14.4	8.1	16.0		
LAF plus	13.4	12.3	5.3	13.6		
LAF minus	17.4	16.4	9.2	19.3		

Note: An ‘X’ in the column ‘overall challenge’ indicates that the Member State is above LAF minus for at least two out of the three indicators: shadow economy, undeclared work and informal workers. Non-observed economy adjustment: For BE, FR, IT, NL, AT, SI, SK, CZ, HU, PL, SE and UK the source of information is OECD (2012b). For EE, IE, ES, HR, LT and LV data are from UN (2008), as reported in OECD (2012a). For LV, the upper estimate (output approach) is taken. BG: data refers to the ‘estimation of the shadow economy completeness’, the source of information is the National Statistical Institute. RO: estimates refer to the gross value added of the non-observed economy. The source is the National Institute of Statistics, quoted in the annual report of the Romania Fiscal Council (2012). Please refer to the original sources of information for additional important notes and clarifications on the data

Source: Schneider (2013), European Commission (2004, 2007), Hazans (2011), OECD (2012a), OECD (2012b), Romanian Fiscal Council (2012), UN (2008).

Quality of tax administration

In the area of tax governance, one indicator that is often used to provide a basic assessment of tax authorities’ efficiency is the ratio of administrative costs to net revenue collection. According to the data collected by the OECD (2013a), the average cost of tax collection in the EU-28 amounted to EUR 1.1 per 100 units of revenue in 2011 (see Graph 4.5). ⁽¹³⁸⁾ Based on this data, tax authorities in Slovakia and Poland in particular, and to a significant but lesser extent in Germany, Portugal,

⁽¹³⁴⁾ See OECD (2012b, Annex 1) for an overview of available data. Statistical Office of Slovenia (2013) also provides data for GDP exhaustiveness adjustments.

http://www.stat.si/eng/novica_prikazi.aspx?id=5588.

⁽¹³⁵⁾ Based on the national source referred to in footnote 118.

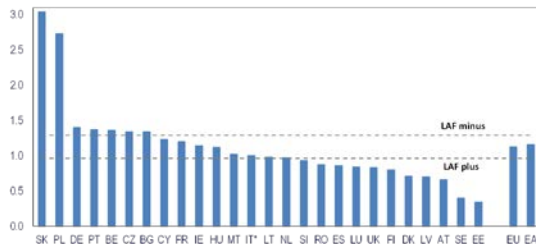
⁽¹³⁶⁾ In last year’s report, the VAT gap as measured by Reckon (2009) was used as an additional indicator. Given that the latest data refers to 2006, the indicator is not used this year. Based on that indicator, the Czech Republic and Slovakia were also found to face a challenge in this area.

⁽¹³⁷⁾ Of these countries, as shown in Table 4.7 last column, the level of NOE adjustment is considerable (i.e. above 9%) for Bulgaria, Hungary, Italy, Latvia, Lithuania, Poland, Romania, Slovenia and Spain. No data on NOE adjustments are available for Cyprus, Greece, Malta and Portugal. A considerable level of NOE adjustment is between 9% and 16% of GDP, as in OECD (2012b), p. 4.

⁽¹³⁸⁾ The indicator is the ratio of aggregate administrative costs for tax functions per net revenue collections (costs per 100 units of revenue). The trend in the ‘cost of collection’ ratio is influenced by a series of factors: (i) changes in tax rates over time; (ii) macro-economic changes; (iii) abnormal expenditure by tax administrations; and (iv) changes in the scope of taxes across Member States. Thus, its value as an indicator of effectiveness is rather limited.

Belgium, the Czech Republic and Bulgaria appear characterised by relatively high costs of revenue collection, i.e. above LAF-minus.

Graph 4.5: Administrative cost per net revenue collection (cost per 100 units of revenue, 2011)



Note: 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 in the count of revenue collection of SSC and excise matter. Note that SSC are excluded from the calculation for AT, BE, CZ, FR, DE, LU, PL, PT, SK, ES and CY. Excise is excluded for CZ, FI, FR, DE, PL, PT, SK, SI and BG. IT values do not take into account the cost of tax-related work carried out by the Guardia di Finanza and Equitalia. In the case of SE, costs do not include those of debt collection. For ES, customs are included. See OECD (2013a), pp. 191 and 192, for more details
Source: OECD (2013a).

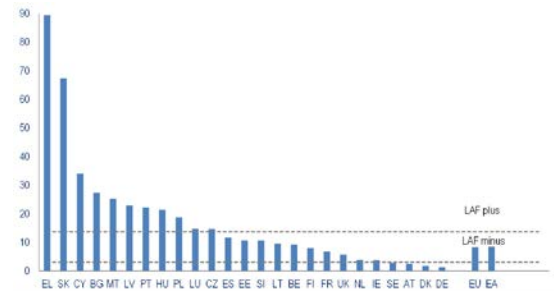
In general, it is difficult to construct indicators that give an exhaustive description of the quality of tax administration. The OECD Tax Administration Comparative Info Series report (OECD, 2013a), however, provides information on tax authorities' performance in terms of total tax collection, refund of taxes, services provided to taxpayers, tax verification activities and collection of tax debt.⁽¹³⁹⁾

Graph 4.6 reports data on debt collection activities in the EU Member States for which information is available. Based on this data, debt collection — as measured by the level of undisputed tax debt as a share of net revenue collection — seems a particularly salient issue for Greece (2010 data). Slovakia, and to a lesser extent for Cyprus, Bulgaria, Malta, Latvia, Portugal, Hungary, Poland, Luxembourg and Czech Republic, which are all significantly above the EU average.

Comparative data also exist for a few specific areas which are of particular relevance to efficient and effective tax administration: (i) use of third-party information to obtain information on

taxpayers' taxable activities; and (ii) the use of pre-filing of tax returns.⁽¹⁴⁰⁾

Graph 4.6: Undisputed tax debt as a share of net revenue collection, 2011



Note: Greece refers to 2010. No (recent) data available for HR, IT and RO. In Italy, the task of tax debt collection is entrusted to Equitalia spa. Please refer to OECD (2013a), p. 230, for additional notes.
Source: OECD (2013a).

Pre-filing returns using third-party information and electronic services

Third-party information regarding individual income is widely used in the EU. According to the latest version of the OECD comparative information series on tax administrations (OECD, 2013a), 12 Member States (Estonia, Denmark, Finland, France, Ireland, Italy, Lithuania, Malta, Portugal, Slovenia, Spain and Sweden) use this information fully or to a substantial level to pre-fill personal income tax returns.⁽¹⁴¹⁾

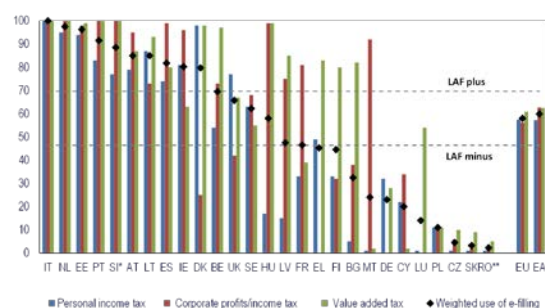
It should ideally be as easy as possible for taxpayers to fill in and file their tax returns, even if they are not pre-filled. While in some cases complicated tax rules cannot be avoided, appropriate electronic services could simplify the filling-in process. As shown in Graph 4.7, the use of electronic filing varies widely across Member States. The average share of e-filing across the main tax categories PIT, CIT and VAT was below 20 % in Romania, Slovakia, the Czech Republic, Poland and Luxembourg in 2011, but also below LAF minus in six other Member States.

⁽¹³⁹⁾ Other useful indicators to assess the quality of tax collection could be the backlog of tax cases pending in courts and the time spent for the settlement of tax cases.

⁽¹⁴⁰⁾ While not covered in the screening approach, the effectiveness of the courts dealing with tax issues and the legal certainty of the interpretation of the tax law contribute to the efficiency of tax collection.

⁽¹⁴¹⁾ In these countries, substantial use is made of pre-filing (fully or partly) for a significant proportion of taxpayers (above 50%) to complete PIT returns. The reference year is 2011 (see OECD, 2013a).

Graph 4.7: Use of electronic filing for PIT, CIT and VAT, 2011



Note: * Use of electronic filing for PIT in SI is based on 2009 data.
** 2009 data RO. No data is available for Croatia.

Source: OECD (2013a).

Costs of tax compliance

Tax compliance costs are an important variable often associated with non-compliance. A widely used indicator for measuring tax compliance costs for small and medium-sized enterprises is the 'paying taxes' indicator. ⁽¹⁴²⁾ In 2012, Bulgaria and the Czech Republic in particular but also nine other Member States showed relatively high tax compliance costs (above LAF minus, see Graph 4.8). Overall, however, compliance costs have trended downwards in the EU recently (2005 average: 212 hours, 2012: 178 hours).

Graph 4.8: Administrative burden of tax systems for a medium-sized company



Note: See footnote 142 for information on the indicator.

Source: PwC et al. (2012).

⁽¹⁴²⁾ This measures the time required to prepare, file and pay (or withhold) CIT, value added or sales tax and labour taxes, including payroll taxes and SSC for a case study company active on the domestic market. The indicator is calculated annually by PwC, the World Bank and IFC; see PwC et al. (2012). The comparison is subject to several limitations; e.g., the case study company is not a representative company and regional variations across a country are not taken into account.

Overall results for quality of tax administration

To assess whether Member States are considered to have a particular need and scope for making tax collection more efficient and effective, the following five criteria are applied: (i) administrative cost ratio to net revenue collection is significantly above the EU-27 average; (ii) undisputed tax debt is very high as a share of net revenue collection; (iii) the administrative burden of tax systems for mid-sized companies is significantly above the EU average; (iv) relatively little use is made of pre-filing; (v) the extent of e-filing is significantly below the EU average.

Table 4.8 presents an overview of these five indicators. Member States that fulfil either four of the five criteria or the first three criteria could be considered to face a challenge concerning their tax administration. This applies to Germany, Portugal, Slovakia, Bulgaria, the Czech Republic, Poland, and Greece. ⁽¹⁴³⁾

Table 4.8: Overview table of tax administration challenges

Country	Cost of revenue collection	Undisputed tax debt	Cost of paying taxes	Pre-filing using third party information	Use of e-filing	Overall challenge
BE	X					
DE	X		X	X	X	X
EE						
IE						
EL	-	X	(X)	X	X	(X)
ES						
FR						
IT		-	X	X		
CY	X	X		X	X	
LU				X	X	
MT		X			X	
NL						
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
DK						
HR	-	-		-	-	-
LV		X	X	X		
LT						
HU		X	X	X		
PL	X	X	X	X	X	X
RO		-	X		X	
SE						
UK				X		

Note: An 'X' in column four indicates that third party information is not used in the Member State to pre-fill returns. An 'X' in column five indicates that the use of e-filing is relatively low. An 'X' in the last column indicates that a Member States has an 'X' in four out of five first columns or in the first three columns.

Source: Commission services.

⁽¹⁴³⁾ Several Member States, including Greece, are currently undergoing significant reform of their tax system and tax administration as part of the economic adjustment programme. The Commission is providing technical assistance to Greece to increase the efficiency of tax collection and improve tax compliance.

4.3. INCOME INEQUALITY AND TAXATION

Income inequality is receiving growing attention in economic research and policy formulation. In times of low growth, European societies are confronted with difficult choices to release the growth potential of their economies while not burdening those at the bottom of the income distribution with excessive hardship. Under these conditions, the mechanisms linking equity and efficiency are worth careful exploration.

This section contributes to this exploration by considering the relationship between income inequality and taxation. First, we discuss whether there is a trade-off between equity and efficiency in the area of taxation (Section 4.3.1). Second, the role of tax policies to reduce inequalities is presented (Section 4.3.2). Box 4.2 sets out some facts on income inequality in the EU and its economic relevance.

4.3.1. A trade-off between equity and efficiency?

New arguments put the standard paradigm of the efficiency-equity trade-off in a different light. According to standard analysis, policies aimed at equity come at the expense of efficiency, because redistributive public intervention overwrites market allocations, is associated with disincentives to work, and increases the cost of employment creation. In this perspective, a dynamic focus on growth and employment is more helpful than static preoccupations with poverty and inequality.

However, this received wisdom had already been questioned on political economy grounds long before the recent resurgence of the policy debate, specifically by asserting that income inequality has a negative impact on growth, specifically arising from higher pressure for redistributive policies, in democracies (Meltzer and Richard, 1981; Persson and Tabellini, 1992).⁽¹⁴⁴⁾

Some reforms can indeed be ‘win-win’ as they can both enhance growth and mitigate income

inequality. Non-tax examples include improving the quality and reach of education accessible to all, active labour market policies, promoting the integration of immigrants, and fostering women’s participation in the labour market.

Concerning taxation, reducing tax expenditure in personal income taxation and reducing tax evasion and fraud can positively contribute to both employment and social policy goals. This is because tax expenditure (e.g. tax breaks for childcare, owner-occupied housing) often benefits high-income groups which can deduct it against higher marginal tax rates. Cutting tax expenditure would narrow the distribution of disposable income. In terms of efficiency, it would reduce the overall complexity of the tax system, with a favourable effect on compliance and higher tax receipts.

Tax evasion increases income inequality compared with a situation of full tax compliance, because high-income taxpayers often have more opportunities and skills to evade or to disguise and switch their sources of income from high-taxed to low-taxed categories. Aggressive tax planning based on the use of mismatches between tax systems can also create inequalities.

Most other tax reforms can entail trade-offs between reducing income inequality and raising GDP per capita. Shifting the tax mix to taxes less detrimental to growth — in particular away from labour towards consumption, environmental and real estate taxes — would improve incentives to work but may undermine equity, depending on design.

This is because personal income taxes are generally progressive and the prime taxation tool used for redistribution, while environmental and consumption taxes usually tend to be regressive (or less progressive). Indeed the tax shift comes along with two types of impacts: on the one hand, positive growth and employment effects, and direct potential regressive impacts on the other. The policy challenge is precisely to maximise the first while minimising along the latter impacts.

⁽¹⁴⁴⁾ Models of wage bargaining have recently been employed to show that growing divergence in market outcomes might not result from efficient market allocations but instead reflect the increased bargaining power of high income earners (Alvaredo et al., 2013).

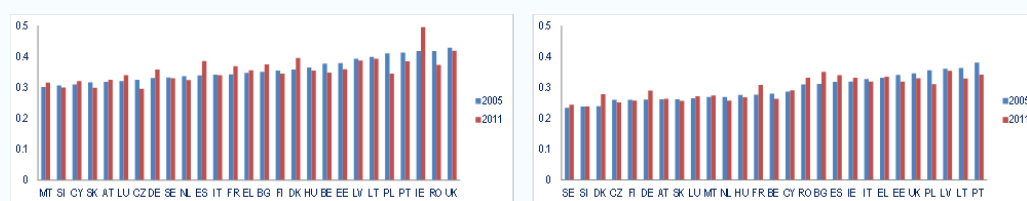
Box 4.2: Income inequality in EU Member States

This box sets out some stylised facts on income inequality in the EU and its economic relevance.

Inequality in disposable income: the standard GINI approach

In Europe, levels of inequality in disposable income and recent changes in them have been moderate (see Graph 1). The Gini index is a common metric of inequality: it portrays the deviation of a distribution from equality to a fully unequal distribution on a scale of 0 to 1 (i.e. 100%). In 2005, taken as the reference pre-crisis year ⁽¹⁾, the Gini index of disposable household income inequality for the total population in the EU Member States, corrected for differences in household composition, stood at an average of 0.306. ⁽²⁾ Romania, Cyprus, and Belgium came closest to this average. The highest levels of inequality in disposable income were recorded in Poland, Latvia, Lithuania, and Portugal, with Gini indices above 0.35, while values below 0.24 were characteristic of Slovenia, Denmark, and Sweden. Turning to changes during the crisis, average EU-28 inequality of disposable incomes remained broadly stable in 2011 compared with 2005. Larger increases between 2 and 4 percentage points were recorded in Romania, Spain, Germany, France, Denmark, and Bulgaria, while decreases between 2 and 4.5 percentage points were recorded in Estonia, Lithuania, Portugal, and Poland. Overall, EU countries have become more similar ⁽³⁾, particularly as inequality has decreased in countries with highest levels, while it has remained comparatively stable in those with the lowest levels.

Graph 1: Gini index of household income in EU Member States adjusted for household size (equivalisation), market income after pensions (left panel)/disposable income (right panel), total population, 2005 and 2011



Note on the lower panel: missing 2005 data are proxied by 2006 for BG and 2007 for RO; missing 2011 data are proxied by 2010 for IE.

Source: Commission services.

Gini indices have a number of limitations. They do not give a full picture of deprivation or reflect the persistence of poverty, where social mobility needs to be considered. They do not say anything about whether inequality in factor incomes and its reduction by redistribution are related to drivers that are socially considered fair or unfair. They do not look at important components of utility and well-being such as the distribution of work. They disregard consumption taxes and the provision of public goods, while on these accounts societies might be closer to ideals of equality (OECD, 2008). In the crude manner employed above, they do not say anything about important dimensions of inequality such as attachment to specific generations (for a broad elaboration of intergenerational equity see Vanhuyse, 2013).

Another systemic issue concerns perceptions of inequality, which also require more consideration. Better understanding is needed of how people form opinions about relative incomes and how they are translated into demand for redistribution. Policy debates might help address misalignments between perceptions and reality.

Effects of public intervention on inequality: comparing market and disposable income

Inequality in market incomes remained the same on average in 2011 as in 2005, but variation increased: in some countries (Poland, Romania, the Czech Republic, and Belgium), inequality decreased, in some cases substantially, while other countries (France, Germany, Denmark, Spain, and Ireland), saw a remarkable increase of up to 7.7 percentage points.

⁽¹⁾ This choice is guided by the fact that data availability generally became annual for most Member States as of 2005.

⁽²⁾ For comparison, post-redistribution income inequality in the United States stood at 0.38 most recently (2010 data, OECD).

⁽³⁾ This is expressed by the significant negative correlation of -0.6 between changes in the Gini index until 2011 and its level in 2005.

(Continued on the next page)

Box (continued)

The effects of public intervention on inequality are shown by comparing disposable income inequality (i.e. post-policy intervention) with that in market incomes (i.e. pre-policy intervention). EU Member States are ranked differently by Gini index of market income inequality than by disposable income.

On average, in 2005, due to interpersonal income transfers via the public tax-benefit systems, inequality in disposable household income in the EU was about six percentage points lower than when measured for market and pension incomes. Public redistribution therefore contributes significantly to mitigating inequality in market incomes. Countries achieving most inequality reduction were Denmark, Romania, Sweden, Ireland, Belgium, and Finland, where Gini indices of market and disposable income inequality were about 9 to 12 percentage points apart. Countries ranking lowest were Italy, Greece, Spain, and Cyprus, with differences between market and disposable incomes of about 1.5 to 2.5 percentage points. Overall, inequality reduction by public redistribution remained the same on average in 2005 and 2011, with noteworthy changes in the ranking of countries: Spain, Lithuania and Ireland considerably increased their level of redistribution, with the latter achieving a difference of disposable against market income inequality of above 16 percentage points. In contrast, Romania's inequality reduction considerably declined, by nearly seven percentage points.

Inequality in wealth

There is also growing recognition of the size of wealth inequality. In EU Member States, wealth is substantially more unequally distributed than income, with Gini indices from 66 per cent to well above that (Credit Suisse Research Institute, 2011). Although not directly an indicator of its distribution, the stock of wealth, measured in percentage of income, in Europe has also been found to have increased from post-war secular lows of around 200 to 300 % to about 600 %. The reasons put forward are a slowdown in productivity resulting in an increasing share of legacy capital compared with new vintages, and improvements in asset valuation after World War II (Piketty and Zucman, 2013).

Why and how economic inequality matters for growth and well-being

The literature identified some negative effects on societies' members and also on fiscal and financial stability and growing evidence of negative effects of economic inequality.

The detrimental effects of income inequality on fiscal and financial stability have also been recognised in the wake of the economic crisis. The financial and economic crisis has prompted hypotheses that inequality was a pivotal driving force of excessive leverage at the heart of the crisis, due to excessive supply of, or demand for, credit (Acemoglu, 2011, Rajan, 2010, and Kumhof and Rancière, 2011), which resulted from growing income inequality as documented for the United States. This suggests that inequality-reducing policies are potentially important for macroeconomic and financial stability. Income inequality is also found to make fiscal consolidation more difficult, precisely because of greater claims for redistribution (Larch, 2011), and has recently been conjectured to aggravate external imbalances, in the context of financial liberalisation being commonly adopted in response to mounting income inequality (Kumhof et al., 2012).

There is, furthermore, growing evidence of negative effects of economic inequality on societies' members. Well-being is increasingly recognised to have an important relative, or relational, component: as a result, advances in the income levels of some members of society impose negative externalities on others, giving rise to a 'rat race' of work that does not result in genuine increases in well-being (van der Ploeg, 2004). Consumption externalities and demand for status goods fuelled by inequality have long been hypothesised and recently rediscovered to be at the core of the mechanisms adding to macroeconomic instability (Galí, 1994; Bertrand and Morse, 2013). People are found to display non-trivial and legitimate preferences for redistribution, as shown by survey evidence and experimental game theory. These might reflect demand for insurance against income shocks developed under conditions of a 'veil of ignorance' about one's own future situation, or other-regarding preferences irrespective of one's own position, conditional on cooperation or unconditional. Survey replies provide strong support for conditional cooperation, which includes distinctions between sources of economic inequality considered rightful — regarded as stemming from luck — or non-rightful, resulting in a parasitic attitude (Bowles, 2012). Recent models supported by empirical evidence suggest that inequality tolerance and redistribution claims are endogenous with respect to beliefs about the role of effort and luck in income determination (Alesina and Angeletos, 2005), creating different equilibrium levels of redistributing institutions.

Specifically, in the above example, targeted transfers or tax measures may be used to ease trade-offs. The regressive effects of VAT can be mitigated by providing compensations to groups such as low income earners, the unemployed, or retirees. It is, therefore, possible to design packages of reforms whose aggregate effects raise GDP per capita and reduce income inequality.

4.3.2. Income inequality in EU Member States: the role of taxation policy

Taxation policy is not the only determinant of post-distribution income inequality, but it has been documented to play a non-negligible role. Based on data from 2010, the preliminary results of the first EU-wide comprehensive evaluation of the redistributive capacity of an array of taxes and benefits using the Euromod tax-benefit micro-simulation model tentatively suggest the following (Avram et al., 2012): tax and benefit policies effectively redistribute significant shares of market income. The most important equalising instrument are direct taxes. ⁽¹⁴⁵⁾ ⁽¹⁴⁶⁾

Tax schedules, i.e. gross taxation before allowances, are important in shaping inequality specifically in countries with progressive taxation regimes. Higher levels of redistribution rest on elevated levels of taxation, but the reverse is not necessarily the case: the effectiveness of redistribution resting on high taxation may be low. Eastern and Southern European countries are found to be less redistributive via their direct tax policies and schedules; in the case of the former, this is conjectured to coincide with the widespread use of flat tax regimes. Finally, tax allowances and credits are found to have comparatively little result on post-distribution inequality, though their effects critically depend on the design of the tax schedule to which they apply.

Second-round effects attenuate the effectiveness of redistribution. Euromod evaluations fail to consider behavioural responses to redistribution. This is because it is difficult to determine the

counterfactual when assessing redistributive policies (Esping-Andersen and Myles, 2011). Doerrenberg and Peichl (2012) study the impact of redistributive policies on income inequality in OECD countries since the 1980s applying fixed effects and IV approaches to identify the effects of government spending, social expenditure, and progressivity. They find stronger effects for social expenditure than for progressive taxation, the effects of which are more severely attenuated by behavioural response. Their results might suffer from bias due to the omission of information on tax expenditure and tax credits though.

Importantly, countries differ not only in their effectiveness (see Section 4.2.2) but in their efficiency in mitigating inequality in market incomes. Taking social transfers in cash as a proxy for redistributive expenditure, EU Member States are found to display substantial variation in this regard (Caruana, 2010). Some countries with high post-redistribution equality are found to be comparatively inefficient, which could reflect increasing marginal costs of inequality reduction via redistribution. Indeed public intervention to shape equity outcomes is carried out by many further instruments, such as those shaping labour market institutions or educational outcomes. While measurement is an issue, Algan et al. (2011) recently brought an interesting dimension into the debate around the efficiency of the welfare state, namely generalised trust and civic-mindedness of citizens, and call for policies to promote transparency of institutions on the one hand and pro-social behaviour on the other.

Redistribution and the structure of taxation

Policy reforms advocated at European level to induce a revenue-neutral shift in taxation are not necessarily neutral in terms of distributional impact. ⁽¹⁴⁷⁾ Such tax shift measures promoted by the European Commission include the application of environmental taxes, the reduction of tax expenditures, better revenue collection via indirect taxes and VAT specifically, recurrent taxation of immovable property, and a decrease in the tax burden on capital and labour. In general terms, some of these measures are likely to be conducive to fostering equality while others are not. Specifically, as concerns environmental taxes,

⁽¹⁴⁵⁾ This result is confirmed by Wang and Caminada (2011) applying a fiscal redistribution accounting framework to LIS (Luxembourg Income Study) data.

⁽¹⁴⁶⁾ The redistributive role of direct taxes echoes the standard result of Atkinson and Stiglitz (1976) that a non-linear income tax is more optimal for redistribution purposes than differentiated commodity tax rates.

⁽¹⁴⁷⁾ The same applies to a lack of reforms.

energy taxation is mostly found to be regressive, while the opposite is the case for transport-related taxes. ⁽¹⁴⁸⁾

Next, VAT is generally recognised to be regressive, although conclusions may vary if one considers the life cycle and the possible mitigating effects of the use of some reduced rates across EU Member States on products more heavily consumed by citizens on low incomes. ⁽¹⁴⁹⁾ Looking at the taxation of income through the fiscal devaluation prism, recent analysis has revealed that, in the long run, targeting of social contribution reductions is necessary to avoid regressive impacts on the distribution of disposable income (see Section 4.3.1). Finally, reducing the use of tax expenditure — proposed to avoid inefficiencies arising from outdated objectives or incentive misalignments — is considered conducive to equity where such instruments benefit those on higher incomes (OECD, 2012).

Redistribution and the taxation of top incomes

In the European context, low top-income taxation is in part linked to the low rates usually applied in most flat tax regimes. Across the OECD, the declining progressivity of income taxation is acknowledged to have diminished the redistributive capacity of tax-benefit systems (OECD, 2011). In recent decades, EU Member States have seen a substantial decline in the taxation of top personal incomes: three decades ago, top marginal PIT rates were substantially higher in many EU Member States than those seen today, by 20 percentage points or even more e.g. in the case of Italy (OECD 2011, p. 364, table 9.9). Across today's EU-28, between 1995 and 2012, top personal income tax rates declined by more than 9 percentage points on average. The decline was observable across the board (with small, recent reversals in some cases, e.g. Luxembourg or Italy). But, to date, very low PIT rates are found in

countries that have adopted flat tax regimes (i.e. Bulgaria, Estonia, Hungary, Latvia, Lithuania and Romania ⁽¹⁵⁰⁾), while top PIT rates are still between about 40 % to about 55 % in the other EU Member States. Distributional impacts of flat tax reforms depend on the flat tax rate as compared to the earlier top rate in place, and the application of tax allowances (Keen et al., 2008). Usually it is conjectured, and sometimes proven, that flat tax reforms benefit the earners of incomes at the two ends of the distribution — concerning the lower end, thanks to the adoption of allowances — while they harm those in the middle (Nicodeme, 2007). As for top income taxation in non-flat-rate countries, potential measures to increase progressivity are the application of ordinary taxation to fringe benefits, and possibly alignment of the taxation of capital gains and ordinary income, as recommended by the OECD (2011a).

Redistribution and automatic stabilisers

Automatic stabilisers inherent in the tax system contribute to stabilising the economy without any explicit government action. ⁽¹⁵¹⁾ Analysing the impact of the crisis on household income distribution in OECD members, Jenkins et al. (2011) show that the impact of recessions on income inequality is country-specific, depending on a number of institutional and policy factors. The authors highlight that countries with well-developed welfare states and automatic stabilisers were best able to provide soft landings to their citizens. The importance of automatic stabilisers in the tax system to soften the effects of downturns is also confirmed by Dolls et al. (2011), who highlight the scope for strengthening them.

Redistribution and the taxation of wealth

A tax shift towards recurrent taxes on immovable property is being suggested under the European Semester. As discussed in Section 4.2.2, revenues from such taxation amounted to 1.3 % of GDP on average across the EU-27 in 2011 (see Graph 4.3) but yield up to 3.4 % of GDP in the UK. Proponents of this shift highlight its benign

⁽¹⁴⁸⁾ For a comprehensive review of studies, see European Commission (2012a), Box 5.5 and Kosonen (2012).

⁽¹⁴⁹⁾ In fact the ratio of VAT revenue collected to its theoretical value in a situation of uniform application (and no evasion) is around 50 % on average in EU Member States (European Commission 2013, p. 33). Copenhagen Economics (2007) show, however, that this heavier consumption by low-income citizens is only true if income inequality is initially high, that the demand for such products is very inelastic and that high-income individuals benefit much more in absolute terms.

⁽¹⁵⁰⁾ The Czech Republic and Slovakia introduced a flat tax in 2008 and 2004 respectively but added a second bracket in 2013.

⁽¹⁵¹⁾ For a discussion of the role of taxation as an automatic stabiliser, see European Commission (2010a).

effects with respect to efficiency and growth (Norregaard, 2013), the large extent of wealth inequality compared with inequality in market income (Bogliacino and Maestri, 2012), and the presence of a large stock of private wealth in Europe with increasing wealth to income ratios (see above; Piketty, 2012).

Redistribution and tax evasion

To the extent that tax evasion is not the same at different points of factor income distribution, tax evasion also contributes to the distribution of disposable income. Tax evasion may differ according to income level but also within income levels, e.g. according to employment status or sector of economic activity. To improve the redistributive capacity of the welfare state, it is important to consider tax compliance. For Greece, Hungary and Italy, income tax evasion has been found to substantially reduce the progressivity of the tax system, and evasion of social contributions is conjectured to reinforce this regressive impact (Matsaganis et al., 2010; Benedek and Lelkes, 2011).

Concluding remarks: dimensions relevant for tax policy in Member States

Assuming the above perspective sensitive to income inequality, a number of conclusions emerge for tax policy. This Section has sketched present trends of income inequality in EU Member States, shown the policy relevance of economic inequality, and provided a cursory discussion of some currently topical taxation issues. All points deserve further investigation, and the above sketch contains important omissions. At the level of generality proper to this framework, the following observations can be drawn.

First, distributional analysis could receive due attention in designing policy reforms. The relevance of economic inequality to the functioning of economies, societies, and politics is being increasingly well understood and recognised. Hence, valuations of impacts on socio-economic inequality could systematically feed into proposals for policy reform, specifically in the broader context of re-assigning a more prominent role to welfare analysis in policy debate (Atkinson, 2011).

In this context, the positive role public policy can play to mitigate inequalities — notably via tax policy — is demonstrated by the difference between market income and disposable income inequality.

Second, it is also shown that not all taxes have the same effects on redistribution and that direct taxes can play a major role. Policies calling for a shift away from income taxes towards other bases less detrimental to growth are, however, not necessarily in contradiction with the role of income taxes in fighting inequalities, as proper design, including compensation measures, can accommodate both equity and efficiency aspects.

Third, the efficiency of redistribution depends on a number of ‘soft’ factors that are mutually reinforcing, hard to change, and need to be addressed nevertheless. Redistribution must indeed be seen in a broader, systemic context. The role of institutions and norms, specifically, is being increasingly recognised in a number of phenomena relevant to efficient redistribution, such as tax compliance and the efficiency of redistribution in the narrow sense. Good arguments support the view that demand for redistribution is endogenous with respect to these aspects of the state. Further understanding of these characteristics of tax-benefit systems in the broader sense has to be sensitive to country-specific conditions and backgrounds.

Finally, the prospect of endogenising redistribution via taxation and the demand for redistribution provide interesting avenues for further consideration. A proposal to endogenise the extent of redistribution with respect to market income inequality is the idea to index tax rates to inequality, thereby providing an automatic stabiliser to distribution (Burman et al., 2007). Concerning demand for redistribution, Alesina and Angeletos (2005) support the approach that, instead of redistributing income, improving modes of access to market revenue and the exploitation of own assets, as well as improved social mobility based on skill and effort, might be important to meet demand for redistribution without compromising growth, while realising gains in the dimension of fairness as well.

Table 4.9: Overview table: Tax policy challenges in Member States

Country	Contribution of tax increases to consolidation	Need and room for tax shift	Need for tax expenditure reporting	Debt bias in corporate taxation	Increasing VAT efficiency	Housing taxation		Environmental taxation		Tax governance challenges	
						Structural shift	Debt bias	GHG target	Design	Tax compliance	Tax administration
BE		X		X		X	X	X	X		
DE		(X)							X		X
EE							X	(X)			
IE*	-		X					X			
EL*	-		X		X	X	X		X	X	(X)
ES	X				X	(X)		X		X	
FR		X		X		(X)			X		
IT		X			X	X	X	X	X	X	
CY*	-	-	X							X	
LU			X	X		(X)	X	X	X		
MT	X		X	X						X	
NL							X				
AT		(X)						X			
PT*	-			X	X	(X)			X	X	X
SI	X		X							X	
SK									X		X
FI		(X)					X	X			
BG										X	X
CZ		(X)	X				X				X
DK							X				
HR	-	-	X		-	-		-	-	-	-
LV		X			X					X	
LT			X					X		X	
HU		X								X	
PL										X	X
RO		X	X							X	
SE		(X)					X				
UK					X						

Note: '(X)' depicts borderline cases. Member States under an economic adjustment programme (Cyprus, Greece, Ireland and Portugal marked with a '*') are excluded from the analysis in the first column. The screening results in the other columns are indicated purely illustratively for these countries. Programme countries follow their own surveillance process covered by the financial assistance programme. They generally face a very distinct set of economic challenges, which makes a comparison with non-programme countries difficult. Only limited information is available for Croatia.

Source: Commission services.

4.4. OVERVIEW OF TAX POLICY CHALLENGES

Chapter 3 and 4 analysed potential challenges that Member States are currently facing in the area of tax policy. While those discussed in Chapter 3 concerned macroeconomic challenges related to the sustainability of public finance and the growth-friendliness of the tax structure, Chapter 4 addressed challenges related to the design of individual taxes and tax governance. Table 4.9 provides a synoptic overview of Member States that could in particular consider policy measures in the different areas discussed.

According to the indicator-based screening applied in Section 3.1, three Member States (Spain, Malta and Slovenia) could in particular consider using taxation — in addition to expenditure control — to consolidate their public finances and make them more sustainable. These countries are found to face particular consolidation challenges and at the same time have some 'tax space', i.e. reasonable room to increase taxes.⁽¹⁵²⁾ Recent revenues measures

taken recently in Spain and Slovenia are not or only partly included in the data.

Around one third of Member States could consider shifting taxation away from labour to tax bases less detrimental to growth. In these cases, a high tax burden on labour (either in general or for specific labour market groups) coexists with some room for increasing taxes considered to be less detrimental to growth, i.e. consumption taxes, recurrent housing taxes and environmental taxes.

The analysis in Chapter 4 focused on issues relating to tax design and tax governance. As argued in Section 4.1.1, tax expenditure lowers the efficiency of the tax system and affects tax revenue. Regular reporting as currently carried out in around two thirds of the Member States is, therefore, important. Countries not reporting on their tax expenditure regularly could consider releasing regular information in some form (e.g. national publications, official websites). This would allow them to examine whether there is scope to raise economic efficiency, while possibly increasing revenue. This would also ensure compliance with the directive on requirements for budgetary frameworks of the Member States.

⁽¹⁵²⁾ The programme countries Ireland, Greece, Cyprus and Portugal were excluded from the analysis.

EU Member States share a ‘debt bias’ in corporate taxation, as a large majority allow deduction of interest paid, while there is no such deduction for equity costs. France, Malta, Luxembourg, Portugal and Belgium are among the countries with the highest gap between effective marginal tax rates for debt and equity.

EU Member States collect VAT revenues far below the level that could be collected theoretically if all consumption items were taxed at the standard rate. Widespread use of VAT exemptions and reduced VAT rates and a high gap in tax collection are among the main drivers of this gap. Greece, Spain, Italy, Latvia, Portugal and the UK have a particularly low level of revenues from VAT compared with theoretical levels as measured by the VAT revenue ratio. ⁽¹⁵³⁾

Several Member States face the challenge of shifting from transaction to recurrent taxes on immovable property. The coexistence of relatively high transaction taxes on property transfers and relatively low recurrent tax on property suggests scope for this kind of efficiency-enhancing reform. This seems to be the case particularly in Belgium, Italy and Greece, but reforms could also be considered in Spain, Luxembourg, France and Portugal. Moreover, taxation of housing continues to favour the accumulation of debt in many Member States, due to mortgage interest deductibility combined with overly low tax on imputed rents. Ten Member States are considered to face the challenge of a debt-biased housing tax

system, albeit to different degrees.

Concerning environmental taxation (see Section 4.2.3), one overarching challenge is the need to introduce efficient policy to meet the agreed environmental targets. Such policy could preferably include market-based instruments and, for instance, taxation. Around a third of the Member States face challenges in this area. A related issue is how to improve on existing environmentally related taxation, possibly by removing or reducing some environmentally harmful tax expenditure. A third of the Member States have been identified as having particular scope to improve the design of environmental taxation.

A large majority of Member States face challenges linked to tax governance. Such challenges can be related to the need either (i) to improve tax compliance as a consequence of a large shadow economy or high levels of undeclared or informal work, or (ii) to improve the functioning of the tax administration, as indicated by high tax collection or compliance costs, a high level of undisputed tax debt, or low use of e-filing and no pre-filing of tax returns. A relatively high number of Member States could consider measures to improve tax compliance and their tax administration.

Finally, the report discusses redistribution issues and concludes that distributional analysis could receive due attention in designing policy reforms.

⁽¹⁵³⁾ In particular, Portugal and Spain have introduced changes in the VAT system recently, the effect of which is not yet captured by the indicator used for the assessment.

REFERENCES

- Acemoglu, D. (2011). Thoughts on inequality and the financial crisis. Prepared for the 2011 AEA Meetings in Denver.
- Agell, J., Englund, P., & Södersten, J. (1995). Svensk skattepolitik i teori och praktik (No.104). Statens Offentliga Utredningar.
- Alesina, A., & Angeletos, G.M. (2005). Fairness and Redistribution. *American Economic Review*, 95 (4), 960-980.
- Algan, Y., Cahuc, P., & Sangnier, M. (2011). Efficient and inefficient welfare states (No. 8229). Discussion Paper, Centre for Economic and Policy Research.
- Alm J., McKee M., & Beck, W. (1990). Amazing Grace: Tax Amnesties and Compliance. *National Tax Journal*, 43 (1), 23-37.
- Alm, J., Cherry, T., Jones, M., & McKee, M. (2010). Taxpayer information assistance services and tax compliance behaviour. *Economic Psychology*, 31 (4), 577-586.
- Alpert, A., & Powell, D. (2012). Tax Elasticity of Labour Earnings for Older Individuals (No. 272). Working Paper, University of Michigan.
- Alvaredo, F., Atkinson, A., Piketty, T., & Saez, E. (2013). The top 1 percent in international and historical perspective (No. 19075). Working Paper, National Bureau of Economic Research.
- Anderson, B. (2008). Presentation held at the 5th OECD-Asian Senior Budget Officials meeting, 10-11 January 2008, Bangkok, Thailand.
- Andrews, D. (2010). Real House Prices in OECD Countries: The Role of Demand Shocks and Structural and Policy Factors (No. 831). Working Paper, OECD Economics Department, OECD Publishing.
- Andrews, D., & Caldera Sánchez, A. (2011). Drivers of Homeownership rates in Selected OECD Countries (No. 849). Working Paper, OECD Economics Department, OECD Publishing.
- Andrews, D., Caldera Sánchez, A., & Johansson, Å. (2011). Housing Markets and Structural Policies in OECD Countries, (No. 836). Working Paper, OECD Economics Department, OECD Publishing.
- Arnaud, F., Cochard, M., J unod-Mesqui, B., & Vermare, S. (2008). Les Effets Incitatifs de la Prime Pour l'Emploi: une Evaluation Difficile, *Economie et statistique*, 412, 57-72.
- Arnold, J.M., Brys, B., Heady, C., Johansson, Å., Schwellnus, C., & L. Vartia. (2011). Tax policy for economic recovery and growth, *Economic Journal*, 121(550), FF59-FF80.
- Atkinson, A., & Stiglitz, J. (1976). The Design of Tax Structure: Direct versus Indirect Taxation. *Journal of Public Economics*, 6 (1-2), 55-75.
- Atkinson, A. (2011). The restoration of welfare economics, *American Economic Review Papers and Proceedings*, 101 (3), 157-161.
- Avram, S., Levy, H., Paulus A. & Sutherland, H. (2012). *Income Redistribution in the European Union*. Prepared for the 32nd General Conference of The International Association for Research in Income and Wealth, Boston.
- Bargain, O. (2008). Making Work Pay: Assistance to Low-paid Workers in Europe (No. 2). Research Note, European Observatory on the Social Situation and Demography.
- Bargain, O., & Orsini, K. (2005). In-Work Policies in Europe: Killing Two Birds with One Stone, *Labour Economics*, 13 (6), 667-697.
- Benedek, D., & Lelkes, O. (2011). The distributional implications of income under-reporting in Hungary, *Fiscal Studies*, 32 (4), 539-560.
- Bertrand, M., & Morse, A. (2013). Trickle-down consumption (No. 18883). Working Paper, National Bureau of Economic Research.
- Blundell, R., Bozio, A., & Laroque, G. (2011). Extensive and intensive margins of labour supply: working hours in the US, UK and France (No. 1). Working Paper, Institute for Fiscal Studies.
- Bogliacino, F., & Maestri, V. (2012). Wealth inequality. In G. Ballarino, F. Bogliacino, M. Braga, M. Bratti, D. Checchi, A. Filippin, V.

- Maestri, E. Meschi and F. Scervini, Drivers of growing inequality. GINI Intermediate Work Package Report, Amsterdam Institute for Advanced Labour Studies.
- Bowles, S. (2012). *The new economics of inequality and redistribution*. Cambridge: Cambridge University Press.
- Brewer, M., Duncan, A., Shephard, A., & Suárez, M. (2006). Did Working Families' Tax Credit Work? The Impact of In-Work Support on Labour Supply in Great Britain. *Labour Economics*, 13 (6), 699–720.
- Brewer, M., Browne, J., & Wenchao, J. (2011). Universal Credit: A Preliminary Analysis (No. 116). Briefing Note, Institute for Fiscal Studies.
- Burman, L., Shiller, R., Leiserson, G., & Rohaly, J. (2007). The rising-tide tax system: indexing (at least partially) for changes in inequality. Department of Economics, Syracuse University, mimeo.
- Callan, T., Leventi, C., Levy, H., Matsaganis, M., Alari, P., & Sutherland, H. (2011). The distributional effects of austerity measures: a comparison of six EU countries (No. 6/11). Working Paper, Euromod.
- Calmfors, L. (1998). Macroeconomic Policy, Wage Setting, and Employment - What Difference Does the EMU Make?, *Oxford Review of Economic Policy*, 14(3), 125-151.
- Capozza, D. R., Green, R. K. & Hendershott, P. H. (1996). Taxes, Mortgage Borrowing, and Residential Land Prices. In H. Aaron, H. & W. Gale (Eds.) *Economic Effects of Fundamental Tax Reform*. Washington DC: Brookings Institution Press.
- Caruana, C. (2010). Measuring the efficiency and effectiveness of the welfare state: a comparative study of the EU-27 Member States, *Bank of Valletta Review*, 42, 75-106.
- Cazenave, M. (2005). Making Work Pay in Continental Europe: the Example of the French Tax Credit (No.22). Working Paper, TLM.NET.
- Chaudhuri A. (2011). Sustaining cooperation in laboratory public goods experiments: a selective survey of literature. *Experimental Economics*, 14 (1), 47-83.
- Copenhagen Economics (2007). Study on reduced VAT applied to goods and services in the Member States of the European Union. Final Report published as Taxation Paper No. 13, Directorate – General for Taxation and Customs Union.
- Copenhagen Economics (2008). Reduced VAT for Environmentally Friendly Products. Final report for Directorate – General for Taxation and Customs Union.
- Copenhagen Economics (2009), Company car taxation – subsidies, welfare, and environment. Published as Taxation Paper No. 22, Directorate – General for Taxation and Customs Union.
- CPB Netherlands Bureau for Economic Analysis and CAPP in consortium with CASE, CEPII, ETLA, IFO, IFS, HIS (2013). Study on the Impacts of Fiscal Devaluation (No.36). Taxation Paper, Directorate-General for Taxation and Customs Union, European Commission.
- Credit Suisse Research Institute (2011), Credit Suisse Global Wealth Databook 2011.
- Crowe, C., Dell'Ariccia, G., Igan, D., & Rabanal, P. (2011). How to Deal with Real Estate Booms: Lessons from Country Experiences (No. 11/91). Working Paper, IMF.
- De Mooij, R., & Devereux, M. P. (2011). An applied analysis of ACE and CBIT reforms in the EU, *International Tax and Public Finance*, 18 (1), 93-120.
- De Mooij, R. (2011a). The tax elasticity of corporate debt: a synthesis of size and variations (No. 11/95). Working Paper, IMF.
- De Mooij, R. (2011b). Tax biases to debt finance : assessing the problem, finding solutions (No.11/11). Staff Discussion Note, IMF.
- De Mooij, R. & Keen, M. (2012). Fiscal devaluation and fiscal consolidation: the VAT in troubled times (No. 17913). Working Paper, NBER.

- Doerrenberg, P., & Duncan, D.R. (2012). Experimental Evidence on the Relationship between Tax evasion Opportunities and Labour Supply (No. 6914). Discussion Paper, IZA Institute for the Study of Labour.
- Doerrenberg, P., & Peichl, A. (2012). The impact of redistributive policies on inequality in OECD countries (No. 6505). Discussion Paper, IZA Institute for the Study of Labour.
- Dolls, M., Fuest, C. & Peichl, A. (2011). Automatic stabilisers, economic crisis, and income distribution in Europe (No.23). Gini Discussion Paper, Amsterdam Institute for Advanced Labour Studies.
- Duncan, A. (2003). Making Work Pay Policies and Employment Incentives. Prepared for CESifo Conference on Tax Policy and the Labour Market.
- Esping-Andersen, G., and Myles, J. (2011). Economic inequality and the welfare state. In B. Nolan, W. Salverda & T. Smeeding (Eds.), *The Oxford Handbook of Economic Inequality*. Oxford: Oxford University Press.
- European Commission (2001), Environmental taxes – a statistical guideline, Methods and nomenclatures, Eurostat, Theme 2 Economy and finance.
- European Commission (2008a), The LIME assessment framework (LAF): a methodological tool to compare, in the context of the Lisbon Strategy, the performance of EU Member States in terms of GDP and in terms of twenty policy areas affecting growth (No.41). European Economy Occasional Paper, Directorate – General for Economic and Financial Affairs.
- European Commission (2009a), Monitoring revenue trends and tax reforms in EU Member States (No.4). European Economy, Directorate - General for Taxation and Customs Union.
- European Commission (2009b, November), Design and Evaluation of Tax Incentives for Business Research and Development. Final Report, European Commission Expert Group.
- European Commission (2010a), Monitoring tax revenues and tax reforms in EU Member States 2010 (No.6). European Economy, Directorate - General for Economic and Financial Affairs and Directorate - General for Taxation and Customs Union.
- European Commission (2011a), Tax reforms in EU: Tax policy challenges for economic growth and fiscal sustainability (No.5) European Economy, Directorate General for Economic and Financial Affairs, European Commission (also published as Taxation Paper No.28, Directorate - General for Taxation and Customs Union).
- European Commission (2011b), Internal devaluation and external balance: a model-based analysis (Vol.10, No.3). Quarterly report on the Euro Area, Directorate - General for Economic and Financial Affairs.
- European Commission (2011c, 17 May). Memorandum of understanding between Portugal and the EC, the ECB and the IMF on Specific Economic Policy Conditionality.
- European Commission (2012c, 23 November), Growth-friendly tax policies in Member States and better tax coordination in the EU. COM(2011) 815 final VOL. 5/5 - ANNEX IV.
- European Commission (2012a), Tax reforms in EU: Tax policy challenges for economic growth and fiscal sustainability (No.6). European Economy, Directorate - General for Economic and Financial Affairs and Taxation Paper No.34, Directorate - General for Taxation and Customs Union.
- European Commission (2012b, 28 November), Communication from the Commission, Annual Growth Survey 2013. COM (2012) 750 final.
- European Commission (2012d, 15 May), Conclusions of the 3167 meeting of the Council of Economic and Finance Ministers.
- European Commission (2012e), Employment and Social Developments in Europe 2012. Directorate - General for Employment, Social Affairs & Inclusion.
- European Commission (2012f), Taxation Trends in the European Union, 2012 edition, Luxembourg.

- European Commission (2012g), Towards low carbon transport in Europe, Communicating transport research and innovation. Directorate - General for Mobility and Transport.
- European Commission (2012h, 24 October), Progress towards achieving the Kyoto objectives, COM (2012) 626 final.
- European Commission (2012i), Fiscal Sustainability Report 2012 (No.8). European Economy, Directorate – General for Economic and Financial Affairs.
- European Commission (2013a), Taxation Trends in the European Union 2013. Directorate – General for Taxation and Customs Union.
- European Commission (2013b). Macroeconomic imbalances – Sweden 2013 (No. 141). European Economy, Occasional Paper, Directorate – General for Economic and Financial Affairs.
- European Commission (2013c). Excise duty tables, part II – Energy products and electricity – situation at 1 January 2013. Directorate – General for Taxation and Customs Union.
- European Commission. (2013d, 28 November). The Alert Mechanism Report 2013. COM (2012) 751 final.
- European Commission (2013e), The Economic Adjustment Programme for Cyprus (No.149). European Economy, Occasional Papers, Directorate – General for Economic and Financial Affairs.
- European Commission (2013f). VAT rates applied in the Member States of the European Union – Situation at 14 January 2013. Directorate – General Taxation and Customs Union.
- European Employment Observatory (2012). Prepared for the workshop on "Making Work Pay", 21 February 2012, Brussels, Belgium.
- Evers, M., De Mooij, R., Van Vuuren, D. (2008) The Wage Elasticity of Labour Supply: A Synthesis of Empirical Estimates, *De Economist*, 156, 25-43.
- Fatica, S., Hemmelgarn, T., & Nicodème, G. (2013), The debt-equity tax bias: consequences and solutions. *Brussels Economic Review* (forthcoming).
- Feld, L. P., Heckemeyer, J.H., & Overesch, M. (2013) Capital structure choice and company taxation: a meta-study. *Journal of Banking and Finance* (forthcoming).
- Földessy, Á., (2013). A review of the international literature on the differing effects of employer versus employee contributions. In *The Hungarian Labour Market Yearbook 2013*. Budapest: The Centre for Economic and Regional Studies, Hungarian Academy of Sciences.
- French, E., & Jones, J. (2012). Public pensions and labour supply over the life cycle, *International Tax and Public Finance*, 19(2), 268-287.
- Frey, B.S. & Torgler, B. (2007). Tax morale and conditional cooperation. *Comparative Economics*, 35 (1), 136-159.
- Fuest, C., & Hemmelgarn, T. (2005). Corporate tax policy, foreign firm ownership and thin capitalization, *Regional Science and Urban Economics*, 35, 508–526.
- Galí, J. (1994). Keeping up with the Joneses: Consumption externalities, portfolio choice, and asset prices. *Journal of Money, Credit and Banking*, 26 (1), 1–8.
- Garnier, G., Gburzynska, A., György, E., Mathé, M., Prammer, D., Rua, S. & Skonieczna, A. (2013) Recent Reforms of Tax Systems in the EU: Good and Bad News. Taxation Paper (forthcoming), Directorate-General for Taxation and Customs Union, European Commission.
- Gheorgiu, R. (2012). ERAWATCH 2012 Country reports: Romania. Directorate – General for Research and Innovation and Joint Research Centre, European Commission.
- Giblin, S. & McNabola A. (2008). Modelling the impacts of a carbon emission-differentiated vehicle tax system on CO2 emission intensity from new vehicle purchases in Ireland. *Energy Policy*, 37, 1404-1411.

- Godwin, M. & Lawson, C. 2012. The Life and Death of Child Tax Credit and Working Tax Credit (No.1). Working Paper, Department of Economics of University of Bath.
- Gordon, R. H. (2010), Taxation and Corporate use of Debt: Implications for Tax Policy, *National tax Journal*, 60 (1), 65-84.
- Gu, G.W., de Mooij, R. & Poghosyan, T. (2012) Taxation and Leverage in International Banking (No. 12/281). Working Paper, IMF.
- Harris, B. (2010). The Effect of Proposed Tax Reforms on Metropolitan Housing Prices. Tax Policy Center, Urban Institute and Brookings Institution.
- Hashimzade N., Myles, G. D., & Tran-Nam, B. (2012) Application of behavioural economics to tax evasion, *Economic Surveys*, Online Version.
- Hemmelgarn, T., & Teichmann, D. (2013), Tax Reforms and the Capital Structure of Banks. Working Paper, SSRN.
- Herrmann B., Thöni C., & Gächter, S. (2008). Antisocial punishment across societies. *Science*, 319 (5868), 1362-1367.
- Huizinga, H., Laeven, L., & Nicodeme, G. (2008). Capital Structure and International Debt Shifting, *Journal of Financial Economics*, 88, 80-118.
- IMF (2009). Debt bias and other distortions: crisis-related issues in tax policy. Report, Fiscal Affairs Department, IMF.
- IMF (2012). Fiscal Policy and Employment in Advanced and Emerging Economies. Report, Fiscal Affairs Department, IMF.
- Irish Commission on Taxation (2009) Commission On Taxation Report.
- Jenkins, S., Brandolini, A., Micklewright, J. & Nolan, B. (2012). *The Great Recession and the distribution of household income*. Oxford: Oxford University Press.
- Jensen, J. & Wöhlbier, F. (2012). Improving tax governance in EU Member States: Criteria for successful policies (No.114). European Economy Occasional Papers, Directorate-General for Taxation and Customs Union, European Commission.
- Johannesson Lindén, Å. & Gayer C. (2012). Possible reforms of real estate taxation: Criteria for successful policies, (No.119). European Economy Occasional Papers, Directorate – General for Taxation and Customs Union, European Commission.
- Johansson, Å., Heady, C., Arnold. J., Brys, B., & Vartia, L. (2008) Tax and Economic Growth, (No. 620). Working Paper, OECD Economics Department. OECD Publishing.
- Juhn, C., Murphy, K.M., & Topel, R.H. (2002). Current Unemployment, Historically Contemplated, *Brookings Papers on Economic Activity*, 2002 (1): 79-116.
- Kaene, M.P. (2011). Labour Supply and Taxes: A Survey. *Journal of Economic Literature*, 49(4), 961-1075.
- Karabarbounis, M. (2012). Heterogeneity in Labour Supply Elasticity and Optimal Taxation (No. 655). Meeting Paper, Society for Economic Dynamics.
- Keen, M. & Syed, M. (2006) Domestic Taxes and International Trade: Some Evidence (No. 47). Working Paper, IMF.
- Keen, M., & de Mooij, R. (2012). Debt, Taxes, and Banks (No. 48). Working Paper, IMF.
- Keen, M., Klemm, A., & Perry, V. (2010). Tax and the Crisis, *Fiscal Studies*, 31(1), pp.43-79.
- Keen, M., Y itae K., & Varsano, R. (2008), The 'Flat Tax(es)': Principles and Experience *International Tax and Public Finance*, 15 (6), 712-751.
- Klemm, A. (2007). Allowance for Corporate Equity in Practice. *CESifo Economic Studies*, 53 (2), 229-262.
- Kleven, H.J., Knudsen, M.B., Kreiner, C.T., Pedersen, S., & Saez, E. (2011). Unwilling or Unable to Cheat? Evidence from a Tax Audit

- Experiment in Denmark, *Econometrica*, 79 (3), 651-692.
- Kosonen, K. (2012). Regressivity of environmental taxation: myth or reality? (No. 32). Taxation Paper, Directorate – General for Taxation and Customs Union, European Commission.
- Kosonen, K. & Nicodeme, G. (2010). The Role of Fiscal Instruments in Environmental Policy. In C. Soares, J. Milne, H. Ashiabor, L. Kreiser, & K. Deketelaere (Eds.), *Critical Issues in Environmental Taxation*, Vol. VIII, chapter 1, 3-20. Oxford: Oxford University Press.
- Kröger, H., & Schaffner, S. (2011). The Intensive and Extensive Margin of European Labour Supply (No. 0291). Ruhr Economic Papers, Rheinisch-Westfälisches Institut für Wirtschaftsforschung, Ruhr-Universität Bochum.
- Kumhof, M., & Rancière, R. (2011). Inequality, leverage, and crises (No. 268). Working Paper, IMF.
- Kumhof, M., Lebarz, C., Rancière, R., Richter, A., & Throckmorton, N. (2012). Income inequality and current account imbalances (No. 8). Working Paper, IMF.
- Larch, M. (2011). Fiscal performance and income inequality: are unequal societies more deficit-prone? Some cross-country evidence (No. 414). European Economy – Economic Papers, Directorate-General for Economic and Financial Affairs, European Commission
- Marx, I., Vanhille, J., & Verbist, G. (2011). Combating In-Work Poverty in Continental Europe: An Investigation Using the Belgian Case. *Journal of Social Policy*, 41(1), 19-41.
- Massimi, F., & Petroni, C. (2012). Real-World ACE Reforms and the Italian Experience. Towards a General Trend?. *Intertax*, 40 (11), 632-642.
- Matsaganis, M., Benedek, D. Flevotomou, M. Lelkes, O., Mantovani, D., & Nienadowska, S. (2010). Distributional implications of income tax evasion in Greece, Hungary and Italy (No. 21465) MPRA Paper, University Library of Munich.
- Matsaganis, M., & Leventi, C. (2013). The Distributional Impact of the Greek Crisis in 2010, *Fiscal Studies*, 34 (1), 83-108.
- Meghir, C., & Phillips, D. (2009). Labour Supply and Taxes. *Mirrlees Review*, Institute for Fiscal Studies.
- Meltzer, A., & Scott, R. (1981). A rational theory of the size of government. *Journal of Political Economy*, 89 (5), 914-927.
- Mirrlees, J., Adam, S., Besley, T., Blundell, R., Bond, S., Chote, R., Gammie, M., Johnson, P., Myles, G., & Poterba, J. (2011). *Tax by Design: the Mirrlees Review*. Oxford: Oxford University Press.
- Nicodème, G. (2007). Flat tax: does one rate fit all. *Intereconomics*, 42(3), 138-142.
- Norregaard, J. (2013). Taxing immovable property: revenue potential and implementation challenges, (No. 129). Working Paper, IMF.
- OECD (2008). Growing Unequal?: Income Distribution and Poverty in OECD Countries. OECD Publishing.
- OECD (2010a). Tax Expenditures in OECD Countries. OECD Publishing.
- OECD (2010b). Choosing a broad base – low rate approach to taxation (No.19) Tax Policy Studies, OECD Publishing.
- OECD (2011a). Divided we stand: why inequality keeps rising. OECD Publishing.
- OECD (2011b). Taxation and Employment (No.21). Tax Policy Studies, OECD Publishing.
- OECD (2011c). Consumption tax trends 2010: VAT/GST and excise rates, trends and administration issues. OECD Publishing.
- OECD (2012a, January). Reducing opportunities for tax non-compliance in the underground economy. Information Note, Forum on Tax Administration: SME Compliance Sub-Group.

- OECD (2012b). Working Party on National Accounts: Summary of the OECD Survey on Measuring the Non-Observed Economy.
- OECD (2012c). Income inequality and growth: the role of taxes and transfers (No.9). Policy Note, OECD Economic Department.
- OECD (2012d). The tax treatment of company cars and commuting expenses. (Forthcoming).
- OECD (2013a). Tax administration 2013, Comparative information on OECD and other advanced and emerging economies. OECD Publishing.
- OECD (2013b). Inventory of Estimated Budgetary Support and Tax Expenditures for Fossil Fuels 2013. OECD Publishing.
- OECD (2013c). Taxing Energy Use, A graphical analysis. OECD Publishing.
- Persson, T., & Tabellini, G. (1994). Is Inequality Harmful for Growth?. *American Economic Review*, 84 (3), 600-621.
- Piketty, T., (2012, October). *Should the rich pay for fiscal adjustment? Income and capital tax options*. Prepared for the workshop "The role of tax policy in times of fiscal consolidation", Directorate - General for Economic and Financial Affairs, European Commission,
- Piketty, T., & Zucman, G. (2013). Capital is back: wealth-income ratios in rich countries 1700-2010. Working Paper, Paris School of Economics.
- Prammer, D. (2011). Quality of taxation and the crisis: tax shifts from a growth perspective (No. 29). Taxation Paper, Directorate - General for Taxation and Customs Union, European Commission.
- Princen, S. (2012). Taxes do Affect Corporate Financing Decisions: The case of Belgian ACE (No. 3713). Working Paper, CESifo.
- Princen, S., Mourre, G., Isbasoiu, G., & D. Paternoster (2013). Discretionary tax measures: pattern and impact on tax elasticities. (No.499). European Economy - Economic Paper, Directorate – General for Economics and Finance, European Commission.
- Princen S., & Mourre, G. (eds.) (2013). The role of tax policy in times of fiscal consolidation, (No. 502). European Economy - Economic Paper, Directorate – General for Economics and Finance, European Commission.
- PwC, World Bank & IFC. (2012). Paying Taxes 2013 – The Global Picture.
- Rajan, R.G. (2010). *Fault lines: how hidden fractures still threaten the world economy*. Princeton: Princeton University Press.
- Reckon LLP (2009). Study to quantify and analyse the VAT gap in the EU-25 member states. Report for Directorate - General Taxation and Customs Union, European Commission.
- Roeger, W., Varga, J., & in 't Veld, J. (2008). Structural reforms in the EU: a simulation-based analysis using the QUEST model with endogenous growth (No.351). European Economy - Economic Paper, Directorate – General for Economics and Finance, European Commission.
- Romania Fiscal Council (2012). 2011 Annual Report - Macroeconomic and fiscal developments.
- Saez, E., Slemrod, J.B., & Giertz, S.H. (2012). The elasticity of taxable income with respect to marginal tax rates: a critical review. *Journal of Economic Literature*, 50(1), 3–50.
- Schneider, F. (2013), Size and Development of the Shadow Economy of 31 European and 5 other OECD countries from 2003-2013: A Further Decline, mimeo.
- Shu L.L., Mazar, N., Gino, F., Ariely, D., & Bazerman, M. H. (2012). Signing at the beginning makes ethics salient and decreases dishonest self-reports in comparison to signing at the end. *Proceedings of the National Academy of Sciences*, 109 (38), 15197-15200.
- Slemrod J. (2007). Cheating Ourselves: The Economics of Tax Evasion. *Economic Perspectives*, 21 (1), 25-48.
- Slemrod, J.B., & Kopczuk, W. (2002). The optimal elasticity of taxable income. *Journal of Public Economics*, 84, 91-112.

- Stancanelli, E. (2007). Evaluating the Impact of the French Tax Credit on the Employment Rate of Women (No. 33). Document de Travail, O Observatoire Français des Conjonctures Economiques.
- Torgler, B. (2002). Speaking to theorists and searching for facts: tax morale and tax compliance in experiments. *Economic Surveys*, 16 (5), 657-683.
- Torgler, B. (2003). Tax Morale, Rule-Governed Behaviour and Trust, *Constitutional Political Economy*, 14 (2), 119-140.
- Traxler, C. (2010). Social norms and conditional cooperative taxpayers, *Political Economy*, 26(1), 89-103.
- United Nations (2008). Non-Observed Economies in National Accounts: Survey of Country Practices. Economic Commission for Europe.
- Van der Ploeg, F. (2004). The welfare state redistribution and the economy: reciprocal altruism, consumer rivalry and second best (No. 1234). Working Paper, CESifo.
- Vanhuyse, P. (2013). Generationengerechtigkeit in alternden Gesellschaften, ein OECD-Ländervergleich, Gütersloh: Bertelsmann Stiftung.
- Wang, C., & Caminada, K. (2011). Disentangling income inequality and the redistributive effect of social transfers and taxes in 36 LIS countries. Working Paper, Leiden Law School - Department of Economics.
- Weichenrieder, A., & Klautke, T. (2008). Taxes and the Efficiency Costs of Capital Distortions (No. 2431). Working Paper, CESifo.
- Wöhlbier, F., Astarita, C., & Mourre, G. (2013). Fiscal consolidation and growth-friendly tax structures, forthcoming in *Commission Economic Paper*.
- Zentrum für Europäische Wirtschaftsförderung (2013). Effective Tax Levels using the Devereux/Griffith methodology: 2012 Report. Project for Directorate - General for Taxation and Customs Union, European Commission.

GLOSSARY

ACE (Allowance for Corporate Equity) allows a deduction for the return on equity from the corporate income tax base (taxable profits). Coupled with a deduction for interest payments, it would equalise the tax treatment of debt and equity finance.

CBIT (Comprehensive Business Income Tax) Interest payments can no longer be deducted from corporate profits, and are thus fully taxed at the corporate income tax rate, similarly to the return on equity.

Convergence programmes Medium-term budgetary and monetary strategies presented by Member States that have not yet adopted the euro. They are updated annually, under the *Stability and Growth Pact*. Prior to the third phase of EMU, convergence programmes were produced on a voluntary basis and used by the Commission in its assessment of the progress made in preparing for the euro. See also *stability programmes*.

Direct taxes Taxes that are levied on income, wealth and capital, whether personal or corporate.

Discretionary fiscal policy Change in the *budget balance* and in its components under government control. It is usually measured as the residual of the change in the balance after the exclusion of the budgetary impact of *automatic stabilisers*. See also *fiscal stance*.

Economic Policy Committee (EPC) Group of senior government officials; its main task is to prepare for (ECOFIN) Council discussions on structural policies. It plays an important role in the preparation of the *Broad Economic Policy Guidelines*. It is also deals with policies related to labour markets, methods of calculating cyclically adjusted budget balances and ageing populations.

Effective tax rate The ratio of broad categories of tax revenue (labour income, capital income, consumption) to their respective tax bases.

Effectiveness The same concept as efficiency except that it links input to outcomes rather than outputs.

Efficiency Can be defined in several ways, either as the ratio of outputs to inputs or as the distance

to a production possibility frontier. *Cost efficiency* measures the link between monetary inputs (funds) and outputs; *technical efficiency* measures the link between technical inputs and outputs. *Output efficiency* indicates by how much the output can be increased for a given input; *input efficiency* indicates by how much the input can be reduced for a given input.

Environmental taxes These include taxes on energy, transport, pollution and resources (excluding value added types of taxes because they are levied on all products). **Energy taxes** include taxes on energy products used for both transport (e.g. petrol and diesel) and stationary purposes (e.g. fuel oils, natural gas, coal and electricity). **Transport taxes** include taxes related to the ownership and use of motor vehicles. They also include taxes on other transport equipment such as planes and related transport services such as duties on charter or scheduled flights. **Pollution taxes** include taxes on measured or estimated emissions to air (except CO₂ taxes) and water, on the management of waste, and on noise. **Resource taxes** include any taxes linked to extraction or use of a natural resource (e.g. extraction of gas and oil, licences paid for hunting, fishing and the like).⁽¹⁵⁴⁾

Euro-Plus Pact Agreed in spring 2011 by the 17 Member States of the euro area, joined by Bulgaria, Denmark, Latvia, Lithuania, Poland and Romania. The Pact commits signatories to economic coordination for competitiveness and convergence, also in areas of national competence, with concrete goals agreed on and reviewed every year by Heads of State or Government. It forms part of the *European Semester* process and the Commission monitors the implementation of the commitments.

ESA95 / ESA79 European accounting standards for reporting of economic data by the Member States to the EU. As of 2000, ESA95 replaced the earlier ESA79 standard for comparison and analysis of national public finance data.

European Semester New governance architecture approved by the Member States in September

⁽¹⁵⁴⁾ This definition is based on "Environmental taxes – a statistical guideline" (European Commission 2001). National classifications might deviate from the guidelines.

2010. It is a process by which the EU and the euro zone coordinate their budgetary and economic policies in advance, in line with the Europe 2020 strategy, the Stability and Growth Pact and the Macroeconomic Imbalances Procedure. On the basis of previous discussions on the Commission's Annual Growth Survey, each summer the European Council and the Council of Ministers provide policy advice before Member States finalise their draft budgets.

Excessive Deficit Procedure (EDP) A procedure according to which the Commission and the Council monitor the development of national *budget balances* and *public debt* in order to assess and/or correct the risk of an excessive deficit in each Member State. Its application is further clarified in the *Stability and Growth Pact*. See also *stability programmes*.

Implicit tax rates General measure for the effective average tax burden on different types of economic income or activities, i.e. on labour, consumption and capital, as the ratio between revenue from the tax type under consideration and its (maximum possible) base.

Implicit tax rate on consumption Ratio between the revenue from all consumption taxes and the final consumption expenditure of households.

Implicit tax rate on labour The sum of all direct and indirect taxes and social contributions levied on employed labour income as a percentage of total compensation of employees from national accounts.

Implicit tax rate on capital Ratio between taxes on capital and aggregate capital and savings income. Specifically, it includes taxes levied on the income earned from savings and investments by households and corporations, as well as taxes, related to stocks of capital, stemming from savings and investment in previous periods. The denominator is an approximation of the worldwide capital and business income of residents for domestic tax purposes.

(Real) implicit tax rate on energy Ratio between total energy tax revenues and final energy consumption, deflated by the cumulative % change in the final demand deflator.

Fiscal consolidation An improvement in the *budget balance* through measures of *discretionary fiscal policy*, specified either by the amount of the improvement or the period over which the improvement continues.

Fiscal stance A measure of the effect of discretionary fiscal policy. In 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 As used in EU budgetary surveillance under the *Stability and Growth Pact* and the *excessive deficit procedure*, the general government sector covers national, regional and local government and social security funds. Public enterprises are excluded, as are transfers to and from the EU budget.

Inactivity trap Term for the disincentive to return to employment from inactivity. The inactivity trap is also often referred to as the participation tax rate. The inactivity trap refers to the part of the additional gross wage that is taxed away in the form of increased taxes (personal income tax, employee social security contributions (SSC) and withdrawn benefits such as unemployment benefits, social assistance and housing benefits) in the event of an inactive person taking up a job.

Indirect taxation Taxes that are levied at the production stage, and not on income or property arising from economic production processes. Prominent examples of indirect taxation are value added tax (VAT), excise duties, import levies, and energy and other environmental taxes.

Integrated guidelines A general policy instrument for coordinating EU-wide and Member States' economic structural reforms embedded in the Lisbon strategy, whose main aim is to boost economic growth and job creation in the EU.

Lisbon Strategy for Growth and Jobs Partnership between the EU and Member States for growth and more and better jobs. Originally approved in 2000, the Lisbon Strategy was revamped in 2005. On the basis of the Integrated Guidelines (a merger of the *broad economic policy*

guidelines and the employment guidelines, dealing with macro-economic, micro-economic and employment issues) for the period 2005-2008, Member States drew up three-year national reform programmes at the end of 2005. They reported on the implementation of the national reform programmes for the first time in autumn 2006. The Commission analyses and summarises these reports in an EU Annual Progress Report each year in time for the Spring European Council.

Low-wage trap Effective marginal tax rate defined as the rate at which taxes are increased and benefits withdrawn as earnings rise due to an increase in work productivity. This kind of trap is most likely to occur at relatively low wage levels 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 budgetary framework An institutional fiscal device that lets policy-makers extend the horizon for fiscal policy-making beyond the annual budgetary calendar (typically 3-5 years). Targets can be adjusted under medium-term budgetary frameworks (MTBF) either on an annual basis (flexible frameworks) or only at the end of the MTBF horizon (fixed frameworks).

Medium-term objective (MTO) Represents a budgetary position that safeguards against the risk of breaching the 3 % of GDP threshold under the Treaty and ensures the long-term sustainability of public finances.

One-off and temporary measures Government transactions having a transitory budgetary effect that does not lead to a sustained change in the budgetary position. See also *structural balance*.

Policy-mix The overall stance of fiscal and monetary policy. The policy-mix may consist of various combinations of expansionary and restrictive policies, with a given *fiscal stance* either supported or offset by monetary policy.

Pro-cyclical fiscal policy A *fiscal stance* which amplifies the economic cycle by increasing the *structural primary deficit* during an economic

upturn, or by decreasing it in a downturn. A neutral fiscal policy keeps the *cyclically adjusted budget balance* unchanged throughout the economic cycle but allows the *automatic stabilisers* to work. See also *tax smoothing*.

QUEST The macroeconomic model of the EU Member States plus the US and Japan developed by the Directorate-General for Economic and Financial Affairs of the European Commission.

Recently acceded Member States The countries that became members of the EU in May 2004, i.e. Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia, plus Romania and Bulgaria which joined in January 2007.

Social security contributions (SSC) Mandatory contributions paid by employers and employees to a social insurance scheme to cover pensions, health care and other welfare provisions.

Stability and Growth Pact (SGP) Approved in 1997 and reformed in 2005, the SGP clarifies the Maastricht Treaty provisions on surveillance of Member States' budgetary policies and the monitoring of budget deficits during the third phase of EMU. The SGP consists of two Council Regulations, which are legally binding on the European institutions and the Member States, and two Resolutions of the June 1997 Amsterdam European Council. See also *Excessive Deficit Procedure*.

Stability programmes Medium-term budgetary strategies presented by those Member States that have already adopted the euro. They are updated annually, in accordance with the *Stability and Growth Pact*. See also *Convergence programmes*.

Statutory tax rate on corporate income Corporate income is not only taxed through CIT (corporate income tax), but, in some Member States, also through surcharges or even additional taxes levied on tax bases that are similar, but often not identical, to CIT. In order to take these features into account, the simple CIT rate has been adjusted for comparison purposes. If several rates exist, only the 'basic' (non-targeted) top rate is presented; existing surcharges and averages of local taxes are added to the standard rate.

Tax elasticity A parameter measuring the relative change in tax revenues with respect to a relative change in GDP. Tax elasticity is an input to *budgetary sensitivity*.

Tax expenditure Public expenditure through the tax system by means of a special tax concession — such as an exclusion, an exemption, an allowance, a credit, a preferential rate or tax deferral — that results in reduced tax liability for certain subsets of taxpayers.

Tax gaps Measure used to assess the *sustainability* of public finances. They are the difference between the current tax ratio and the constant tax ratio over a given projection period to achieve a predetermined level of debt at the end of that period.

Tax smoothing The idea that tax rates should be kept stable in order to minimise the distortionary effects of taxation, while leaving it up to *automatic stabilisers* to smooth the economic cycle. It is also referred to as neutral *discretionary fiscal policy*. See also *cyclical component of fiscal policy*.

Tax wedge Difference between the wage costs to the employer of an average worker and the amount of net income that the worker receives in return. The difference is accounted for by taxes, including personal income tax and compulsory social

security contributions.

Unemployment trap Term for the disincentive to return to employment from unemployment. It measures the part of the additional gross wage that is taxed away when a person returns to work from unemployment. It takes into account the reduction in benefit payments following return to the labour market, as well as higher taxes and employee social security contributions.

VAT revenue ratio (VRR) The VRR is defined as the ratio between the actual VAT revenue collected and the revenue that would theoretically be raised if VAT was applied at the standard rate to all final consumption. In theory, the closer the VAT system of a country is to a ‘pure’ VAT regime (i.e. where all consumption is taxed at a uniform rate), the closer its VRR is to 1. A low VRR can indicate a reduction of the tax base due to large exemptions or reduced rates (a ‘policy gap’) or a failure to collect all tax, as a result of fraud, for instance (a ‘collection gap’).

VAT collection gap The difference between accrued VAT receipts and the theoretical net VAT liability for the economy as a whole given the country’s VAT system. The theoretical net liability is estimated by identifying the categories of expenditure that give rise to irrecoverable VAT and combining these with appropriate VAT rates.

ANNEX 1

Screening methodology

A1.1. BENCHMARKING APPROACH TO IDENTIFYING MEMBER STATES THAT FACE A CHALLENGE IN A PARTICULAR TAX POLICY AREA

In the ‘horizontal’ screening applied in Chapters 3 and 4, the EU-27 GDP-weighted average is used as a reference point for benchmarking. A Member State is considered to have performed badly in a particular area if the indicator under consideration is significantly lower, post-normalisation, than the EU average. Conversely, a high indicator corresponds to a good performance. The normalisation process — not displayed in the tables — is key to calculating the two performance thresholds: ‘LAF plus’ and ‘LAF minus’, indicating a good and a poor performance respectively. The ‘direction’ of performance needs to be indicated, and this is always a delicate normative exercise: is a high value for the original indicator indicative of a bad or a good performance? Each indicator may point to several different concepts, and the way it is interpreted 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 total distribution under the normality assumption (i.e. the worst performers). It is applied in the LIME Assessment Framework — LAF (see European Commission, 2008). For the sake of simplicity, the wording ‘LAF plus’ and ‘LAF minus’ or ‘very

high’ and ‘very low’ are used in the report. If a high value for a — normally distributed — indicator refers to a good (bad) performance, the values above (below) ‘LAF plus’ capture the top one-third 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 elaborate approach is applied if several indicators are used to assess whether a Member State faces a challenge in a particular policy area. The general approach is that a country faces a challenge if at least one of the indicators is significantly below the average. Different rules are applied in the various policy areas concerning the required minimum level for the other indicator(s). A more detailed explanation is provided in Parts A1.2 and A1.3.

While this mechanical screening exercise is consistent across countries, it does not take country specificities into account. This means that Member States coming out as better than ‘LAF minus’ for a specific policy area could still face a challenge in that area. On the other hand, countries not displaying a strong tax challenge may still require subtle policy adjustments. Before any firm policy conclusions can be drawn, then, an in-depth analysis will be needed. Such detailed country-specific scrutiny clearly lies outside the scope of this report. Nevertheless, the ‘LAF plus’ value might be a first — albeit rough — way of identifying countries with good practices.

ANNEX 1

Screening methodology

A1.2. SCREENING PRINCIPLES TO IDENTIFY A POTENTIAL NEED AND SCOPE FOR TAX-BASED CONSOLIDATION

Quantitative screening on the basis of selected indicators is used to identify Member States that might consider using taxation — in addition to expenditure control — to consolidate their public finances and steer them onto a more sustainable path. Such screening should identify **both** a strong need for consolidation and the availability of ‘tax space’.

In the screening, and as explained in A1.1, the terms ‘very high/very low’ are equivalent to ‘significantly above/below the average’ and relate to the relevant LAF threshold. ‘LAF minus’ corresponds to a bad performance, while ‘LAF plus’ indicates a good performance.

The following screening criteria are considered.

Fiscal sustainability problems

1) Fiscal sustainability is considered problematic if:

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

OR

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

S1 and S2 are the two most frequently used sustainability indicators. They are part of Commission’s multidimensional approach to assessing the scale and the scope of the fiscal sustainability challenges. They are presented in detail in the ‘*Fiscal Sustainability Report 2012*’

published by the European Commission (DG ECFIN) ⁽¹⁵⁵⁾.

The S1 indicator (‘debt compliance risk’) captures the medium-term fiscal challenges, identifying fiscal gaps related to the excess of projected age-related and non-age-related expenditure — notably on pension, health care and long-term care — over projected revenue, together with any gap with respect to the steady adjustment in the structural primary balance up to 2020, designed to bring the debt-to-GDP ratio down to 60 % of GDP by 2030. Specifically, one component of the S1 indicator is about the gap between the current (or initial) structural primary balance and the debt-stabilising primary surplus to ensure sustainability. It also includes a component dealing with the cost of ageing, estimated by the change in age-related spending in the 2012 Ageing Report. This component is the additional adjustment to the primary balance required because of these future expenses up to 2030. Finally, the S1 indicator includes an additional component, which also 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 (DR) will increase the indicator. By contrast, for countries with a current debt below 60 %, the DR 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.

The S2 indicator (‘ageing-induced fiscal risks’) captures long-term fiscal challenges, identifying fiscal gaps related to the excess of projected age-related and non-age-related expenditure — specifically on pension, health care and long-term care — over projected revenue together with any gap with respect to the primary balance needed to ensure that the debt-to-GDP ratio is not on an ever-increasing path. Specifically, one component of the S2 indicator corresponds to the gap between the current (or initial) structural primary balance and the debt-stabilising primary surplus to ensure sustainability. In addition, it includes a component which corresponds to the cost of ageing, estimated by the change in age-related spending in the 2012

⁽¹⁵⁵⁾ See European Commission (2012i).

Ageing Report. This component is the additional adjustment to the primary balance required as a result of these future expenses over an infinite horizon. This condition is also known as the ‘government’s inter-temporal budget constraint’.

Availability of tax space

2) There is ‘overall tax space’ currently available (relatively low tax-to-GDP ratio, i.e. significantly below average/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 the recent past.** This is considered to be the case if there has been neither a marked increase in the cyclically adjusted tax-to-GDP ratios nor a high level of discretionary revenue measures in the period 2009-2013

(increase below ‘LAF minus’ for both indicators). The distance between the structural deficit and its medium-term budgetary objective (MTO) is used as a supplementary indicator to check the magnitude of the tax increase in relative terms, i.e. compared with the current consolidation need.

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

A1.3. SCREENING PRINCIPLES WHEN IDENTIFYING A POTENTIAL NEED, AND ROOM, FOR A TAX SHIFT

Quantitative screening is used to identify Member States that might consider shifting taxation away from labour. Such screening should identify **both** a need for a reduction in labour taxation and the availability of tax space for specific tax categories.

In the screening and as explained in A1.1, the term ‘very high/very low’ is equivalent to ‘significantly above/below the average’ and relates to the relevant LAF threshold. ‘LAF minus’ corresponds to a bad performance, while ‘LAF plus’ indicates a good performance.

The following criteria are considered.

Need to reduce labour taxation

Labour taxation is problematically high if:

1(a) The ‘overall tax burden on labour’ is very high 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 indicator not being significantly below this average (i.e. below LAF plus).

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

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

(i) the tax wedge on low-income workers is very high;

OR

(ii) the inactivity trap or unemployment trap is very high (above LAF minus), with a very high contribution from labour taxes (with the contribution from labour taxes to the other trap not being significantly below the average/below LAF plus).

This analysis is carried out at 50 % and 67 % of the average wage (for single workers with no

children) so that targeted measures can be taken into account. A country is considered to face a more limited challenge if the indicators are above the thresholds 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 a very high contribution from labour taxation;

OR

(ii) the low-wage trap is very high, with a very high contribution from labour taxation.

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

Scope for increasing the least distortionary taxes

There is scope for increasing the least distortionary taxes. Increasing taxes does not necessarily mean higher tax rates. The effect could also be achieved by broadening tax bases, while paying attention to enhancing tax compliance in the short- to medium-term.

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

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

OR

(ii) *the implicit tax rate (ITR) on consumption is significantly below* the EU average,

OR

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

OR: 2(b) There is scope for increasing recurrent taxes on housing (i.e. revenue from the recurrent

tax on housing in % of GDP is significantly below average).

OR: 2(c) There is scope for increasing environmental taxation (i.e. either revenues from environmental taxes in % of GDP or the ITR on energy are significantly below average, with the other indicator 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 explained above, several mitigating factors are used in the screening (leading to an '(x)' in the screening tables):

(i) a high tax burden at either only 50 % or only 67 % of the average wage for the tax burden on the low-skilled;

(ii) a high employment level in conjunction with a high tax burden on labour;

(ii) the relative size of the tax base to which labour taxes could be shifted.

A1.4. EFFECTS OF LABOUR TAXATION ON DIFFERENT LABOUR MARKET GROUPS

This section helps identify those labour market groups, which deserve particular attention when considering the need for a tax shift. It features findings from the recent economic literature.

Taxation and labour supply: concepts

It is generally accepted that taxes on labour can cause an efficiency loss because they reduce the incentive to work (since disincentive grows as tax rates increase). However, to gauge the effects of tax reforms on labour supply decisions by households, we shall take two opposing effects into account: the income effect and the substitution effect. The income effect describes a situation where a reduced (increased) tax burden on labour causes households to work less (more), because they achieve a similar net-of-tax income with fewer (more) working hours. Alternatively, the substitution effect describes how a worker reacts to a change in the relative prices of labour and leisure. With a lower (higher) marginal tax rate, work becomes increasingly more (less) attractive than leisure. Hence, the workers supply more (less) labour and consume less (more) leisure. For individuals, both effects are in play, and which one dominates is an empirical question. The economic literature concludes, however, that the substitution effect will generally hold sway over the income effect, meaning that higher taxes suppress the labour supply (see Mirrlees et al., 2011).

In microeconomic models of labour supply and taxes, individuals are assumed to maximise their utility by balancing their relative preferred level of income (used to consume goods and services) and their level of (consumption of) leisure. To be in a position to consume goods and services, people have to work and hence sacrifice leisure time. The working hours supplied are a function of the marginal net-of-tax wage rate, of non-labour income (such as unemployment and social benefits) and of the (fixed and proportional) costs of working (e.g. transport and childcare costs). In practice, individual decisions as to whether and how much to work — known as the extensive and intensive margins respectively — are/could be based on individual preferences, wages, labour market regulations (such as regulation on minimum salary and working hours), etc. In the

case of families with small children, these decisions are/could be based on joint maximisation of common utility functions by taking into account the labour supply of the partner, the share-out of time between paid work, household work and leisure. ⁽¹⁵⁶⁾

Taxpayers' responses to the changes in tax rates are measured either by the wage elasticity of labour supply or by taxable income elasticity. The two concepts are summarised as follows:

Elasticity of labour supply: The response of labour supply to tax changes is measured by wage elasticity, which is defined as the proportional change in the quantity of labour supplied (hours worked), given a one per cent change in the net wage. ⁽¹⁵⁷⁾ The economic literature uses various elasticity concepts depending on the type of supply functions. ⁽¹⁵⁸⁾

Taxable income elasticity: The elasticity of taxable income measures the change in taxable income in response to the changes in the marginal tax rate by taking into account all the behavioural aspects of the taxpayer, such as the intensity of work, his/her career choices, the form and the timing of compensation, tax avoidance and tax evasion (Saez et al., 2009). The advantage of taxable income elasticity over labour supply elasticity is that the latter does not include all these behavioural elements.

Taxation principles recommend limiting the efficiency loss by raising taxes primarily on the

⁽¹⁵⁶⁾ For example, Kröger and Schaffner (2011) found, based on a Tobit model, that the number of children is negatively correlated with employment probability and worked hours of women, and that each additional small child (0-4 years) counts for 13% points less probability of employment. However, men with small children are more likely to be in employment and to supply more hours of work.

⁽¹⁵⁷⁾ For example, an elasticity of 0.5 means a 0.5% decrease in labour supply for a 1% decrease in the net wage.

⁽¹⁵⁸⁾ Such as compensated (Hicksian) elasticity, uncompensated (Marshallian) elasticity, intertemporal (Frisch) elasticity. Compensated (Hicksian) elasticity of labour supply holds the utility level constant and thus measures only the substitution effect. Uncompensated (Marshallian) elasticity holds the income constant and thus measures the net impact of income and substitution effect. Frisch elasticity measures the elasticity of hours worked to the wage rate by keeping the marginal utility of wealth constant. This elasticity shows how the work effort is distributed by people between different periods of life depending on the return to work at each point. See Kaene (2011), and Meghir and Phillips (2009) for a more detailed description.

type of labour with the lowest elasticity of supply (i.e. tax distortions are smaller in situations where workers reduce their working hours less in response to the tax). Therefore, a good tax policy should encourage work among the high elasticity groups and focus on inelastic groups to raise revenues.

Labour elasticities: main messages from the economic literature

Many studies have been conducted to estimate the elasticity of labour supply for various categories of workers. The results vary considerably, and there is no agreement amongst economists about the magnitude of the elasticity which could be used in policy analysis (see Evers et al., 2008, and Meghir and Phillips, 2009). However, empirical studies have shown that labour supply elasticity varies among the labour force depending on such characteristics as age, level of education, gender, marital status, family composition (e.g. lone mothers), standard of living, etc. The general conclusions from these empirical studies are ⁽¹⁵⁹⁾:

(a) *Extensive and intensive margins*: Tax elasticity tends to be larger for the extensive margin (i.e. the decision whether to work or not) than for the intensive margin (i.e. the decision on how many hours to work) (see Blundell et al., 2011). The smaller elasticity at the intensive margin is mainly explained by the fixed costs of work, e.g. for employees the cost of commuting to the workplace, the cost of work clothes etc.

(b) *Labour supply of first-income earners* ⁽¹⁶⁰⁾: The (mean) tax elasticity of labour supply for men varies between 0.08 and 0.18 (see, e.g., Evers et al., 2008). The hours of work (i.e. the intensive margin) for men do not respond strongly to changes in taxation, and *participation* is also very unresponsive for men with high levels of education. The studies looking at taxable income elasticity conclude, however, that the *amount of taxable income* of men with a high level of education is responsive to taxation because they shift their income into non-taxable forms and not

so much because they reduce their work input (see Meghir and Phillips, 2009).

(c) *Second-income earners* ⁽¹⁶¹⁾: Unlike the unresponsive first-income earner, the labour supply elasticity of second-income earners is relatively high, especially for the extensive margin (see Kaene, 2011). Meghir and Phillips (2009) conclude in their literature survey that the range of elasticity estimates is very wide but that the annual labour elasticity of second-income earners is close to one. Blundell et al. (2011) found that hour elasticities are higher for second-income earners with children (0.37) than for those without children (0.13) (see OECD, 2011). Empirical studies usually find that the fact that time worked elasticities are smaller than participation elasticities also applies to second-income earners (see Kaene, 2011, Meghir and Phillips, 2009). Second-income earner participation is sometimes disproportionately hindered by a progressive tax system where the second-earner income is taxed jointly with a first-income earner.

(d) *Low-skilled/low-income workers*: Workers with a low level of education or income are generally responsive to changes in taxation, especially for the extensive margin. Meghir and Phillips (2009) show that participation decisions are particularly sensitive among males with low and medium-level education. Based on UK data, they also find that the elasticity of participation (at a participation rate of 60 %) with respect to in-work income is 0.27 for low-skilled single men and about 0.53 for low-skilled married men.

(e) *Lone mothers*: Lone mothers constitute a special group of interest for policy analysis because the cost of working is generally very high for them. Empirical studies confirm that lone mothers' participation elasticity is among the highest of all categories (ranging from 0.34 to 1.97) (see Meghir and Phillips, 2009).

(f) *Older workers*: Older workers are found to be quite responsive to taxes. Alpert and Powell (2012) conclude that males retire in response to high taxes and that age-specific tax reductions could therefore delay retirement. Karabarbounis (2012) develops a dynamic life-cycle model that indeed suggests that

⁽¹⁵⁹⁾ See also OECD (2011) and International Monetary Fund (2012).

⁽¹⁶⁰⁾ In practice, the first-income earners are often found to be men.

⁽¹⁶¹⁾ In practice, the second-income earners are often found to be women.

people close to retirement are among the most sensitive groups in the economy. Finally, French and Jones (2012) show that a 20 % permanent increase in pay raises the elasticity of labour supply from 0.17 at age 40 to 1.17 at age 60.

(g) *Young people*: the tax elasticity of young workers has been largely under-researched in the economic literature. The situation of young workers is characterised by high levels of unemployment in the European Union and lower wages (due to less experience). A simulation with the Labour Market Model ⁽¹⁶²⁾ shows that the employment effects of a tax shift from employers' social security contributions to value-added taxes has the strongest effect when applied to young workers (15-24 years). (European Commission (2012e).

Turning specifically to *taxable income elasticity*, available studies indicate that the long- term elasticity of taxable income lies between 0.12 and 0.4 and that it is higher for high-income persons who have more access to avoidance opportunities,

such as deductible expenses (see Saez et al. 2012). Taxable income elasticity is therefore not an immutable parameter — it can be influenced by government policies (i.e. broadness and rigour of enforcement of the tax base). Taxable income elasticity is also higher where the tax system allows for many deductions from the tax base. Slemrod and Kopczuk (2002) found that the opportunities for taxpayers to manipulate the tax base means a loss of social welfare and that a tax system with a broader base without deductions and exemptions is therefore less distortive.

In conclusion, the available empirical studies suggest that efficiency loss and disincentives to work due to tax distortions could be reduced by avoiding high taxes on groups with high labour tax elasticities, such as second income earners, lone mothers, low-skilled/low-income workers and older workers. Moreover, the design of tax systems is an important element: a tax system with a broader tax base (without deductions) is less distortive when it comes to making work decisions.

⁽¹⁶²⁾ The Labour Market Model of the European Commission's DG Employment is a dynamic computable general equilibrium model.

ANNEX 2

Statistical data

Table A2.1: Total taxes (including social contributions) and tax structure, % of GDP, 2000-2011, EU-27

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Structure by type of tax												
Indirect taxes	13.7	13.4	13.4	13.3	13.4	13.4	13.5	13.4	13.1	12.9	13.2	13.4
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
Excise duties and consumption taxes	3.0	2.9	3.0	3.0	2.9	2.8	2.7	2.6	2.6	2.6	2.7	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
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
Direct taxes	14.1	13.6	13.1	12.9	12.8	13.1	13.7	13.8	13.8	12.8	12.6	12.9
Personal income	9.8	9.7	9.4	9.2	9.0	9.0	9.2	9.4	9.4	9.3	9.1	9.1
Corporate income	3.1	2.9	2.6	2.4	2.7	2.9	3.3	3.3	3.0	2.2	2.4	2.5
Other	1.1	1.1	1.1	1.3	1.2	1.2	1.2	1.2	1.3	1.2	1.2	1.2
Social contributions	12.7	12.6	12.5	12.7	12.6	12.5	12.4	12.2	12.5	12.9	12.7	12.7
Employers'	7.2	7.2	7.2	7.3	7.2	7.2	7.1	7.1	7.2	7.4	7.3	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	3.8
Self- and non-employed	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.4	1.5	1.6	1.6	1.5
Total taxes (including SSC)	40.4	39.5	38.9	38.8	38.7	39.0	39.5	39.4	39.3	38.4	38.3	38.8
Structure by economic function												
Consumption	11.4	11.2	11.1	11.1	11.1	11.1	11.1	11.0	10.9	10.7	11.1	11.2
Labour	20.1	20.0	19.8	19.8	19.4	19.4	19.3	19.1	19.6	20.0	19.6	19.7
Employed	18.4	18.3	18.1	18.0	17.7	17.6	17.6	17.5	17.9	18.1	17.8	17.9
Paid by employers	7.8	7.8	7.7	7.9	7.8	7.7	7.7	7.7	7.8	8.0	8.0	8.0
Paid by employees	10.7	10.5	10.3	10.2	9.9	9.9	9.9	9.9	10.0	10.1	9.8	10.0
Non-employed	1.7	1.7	1.7	1.8	1.8	1.7	1.7	1.6	1.7	1.9	1.9	1.8
Capital	8.9	8.4	8.0	8.0	8.2	8.6	9.2	9.3	8.9	7.8	7.8	8.0
Capital and business income	6.2	5.8	5.4	5.3	5.5	5.8	6.3	6.5	6.1	5.2	5.2	5.4
Income of corporations	3.2	2.9	2.7	2.6	2.8	3.0	3.4	3.4	3.1	2.3	2.4	2.6
Income of households	0.8	0.7	0.6	0.6	0.7	0.7	0.9	0.9	0.9	0.8	0.8	0.8
Income of self-employed (incl. SSC)	2.2	2.1	2.0	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0
Stocks of capital / wealth	2.7	2.6	2.7	2.6	2.8	2.8	2.9	2.8	2.8	2.7	2.5	2.6

Note: GDP-weighted EU-27 averages.

Source: Commission services. (Methodology and country details can be found in European Commission, 2013a).

Table A2.2: Total taxes (including social contributions) and tax structure, % of GDP, 2000-2011, EA-17

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
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
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
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
Other taxes on products (incl. import duties)	1.7	1.7	1.7	1.7	1.8	1.9	2.0	1.9	1.7	1.6	1.6	1.6
Other taxes on production	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1
Direct taxes	13.0	12.6	12.2	12.0	11.9	12.0	12.6	12.9	12.7	12.0	11.8	12.2
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
Corporate income	3.0	2.8	2.6	2.4	2.6	2.8	3.2	3.3	2.9	2.0	2.2	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
Social contributions	14.5	12.6	12.5	12.7	12.6	12.5	12.4	12.2	12.5	12.9	12.7	12.7
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
Employees'	4.6	4.5	4.4	4.4	4.3	4.3	4.2	4.2	4.2	4.3	4.3	4.3
Self- and non-employed	1.8	1.7	1.7	1.8	1.8	1.8	1.8	1.7	1.8	1.9	1.9	1.9
Total taxes (including SSC)	40.9	40.0	39.5	39.5	39.2	39.4	40.0	40.1	39.6	39.1	39.0	39.5
Structure by economic function												
Consumption	11.2	10.9	10.8	10.8	10.8	10.8	10.9	10.8	10.6	10.5	10.8	10.8
Labour	21.2	21.0	20.9	20.9	20.5	20.4	20.3	20.1	20.6	21.0	20.8	20.9
Employed	19.2	19.1	19.0	18.9	18.5	18.4	18.3	18.3	18.6	18.9	18.7	18.8
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
Paid by employees	10.4	10.3	10.2	10.0	9.7	9.7	9.7	9.7	9.9	10.0	9.8	10.0
Non-employed	2.0	1.9	2.0	2.0	2.0	2.0	2.0	1.9	1.9	2.1	2.1	2.1
Capital	8.7	8.2	7.9	7.9	8.0	8.3	8.9	9.2	8.6	7.7	7.5	7.9
Capital and business income	6.3	5.8	5.5	5.5	5.5	5.7	6.3	6.6	6.2	5.2	5.2	5.4
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
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
Income of self-employed (incl. SSC)	2.4	2.3	2.2	2.3	2.2	2.2	2.3	2.3	2.4	2.3	2.3	2.3
Stocks of capital / wealth	2.4	2.4	2.4	2.4	2.5	2.6	2.6	2.6	2.4	2.5	2.3	2.4

Note: GDP-weighted EA-17 averages.

Source: Commission services.(Methodology and country details to be found in European commission, 2013a).

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	2000	2011	1995	2000	2011	1995	2000	2011
BE	43.6	43.6	42.8	20.4	21.8	21.0	25.5	29.5	30.3
BG	30.8	38.1	24.6	17.3	18.5	22.4	---	---	---
CZ	41.4	41.2	39.0	20.9	18.8	21.4	22.4	18.7	17.6
DK	40.2	41.0	34.6	30.5	33.4	31.4	29.9	36.0	---
DE	38.8	39.1	37.1	18.8	19.2	20.1	21.3	27.0	22.0
EE	38.6	37.8	36.2	21.2	19.5	26.1	---	5.8	7.9
IE	29.7	28.5	28.0	24.7	25.5	22.1	---	---	---
EL	---	34.5	30.9	---	16.5	16.3	---	---	---
ES	31.0	30.5	33.2	14.2	15.8	14.0	---	30.8	---
FR	41.1	41.9	38.6	21.7	21.1	19.9	32.2	37.8	44.4
HR	---	---	---	---	---	---	---	---	---
IT	37.8	41.8	42.3	17.4	17.8	17.4	27.3	29.5	33.6
CY	22.1	21.6	26.7	13.0	12.6	17.7	18.0	24.7	24.7
LV	39.2	36.7	32.0	19.4	18.7	17.2	20.5	11.5	9.9
LT	34.5	41.2	32.0	17.7	18.0	17.5	12.7	7.1	5.5
LU	29.3	29.9	32.8	21.0	23.0	27.2	---	---	---
HU	42.3	41.4	38.4	29.6	27.2	26.8	14.9	18.5	17.3
MT	20.1	21.8	22.7	14.8	15.6	19.0	---	---	---
NL	34.8	35.0	37.5	23.3	23.8	26.3	21.0	20.0	12.9
AT	38.5	40.1	40.8	20.6	22.2	21.2	26.6	27.2	23.6
PL	36.8	33.6	32.2	20.7	17.8	20.8	20.9	20.5	18.3
PT	22.3	22.3	25.5	18.1	18.2	18.0	21.5	31.6	31.6
RO	31.6	33.6	31.4	12.6	17.0	21.6	---	---	---
SI	38.5	37.6	35.2	24.4	23.3	23.0	13.3	17.2	20.5
SK	38.5	36.3	31.9	26.4	21.7	18.7	35.0	22.9	14.8
FI	44.2	44.0	39.6	27.6	28.5	26.4	31.1	38.1	27.4
SE	46.8	46.8	39.4	27.9	26.3	27.3	19.9	42.7	27.0
UK	25.9	25.9	26.0	19.6	18.9	19.5	34.3	43.3	34.9
EU-27 average									
GDP-weighted	36.8	36.7	35.8	19.9	20.0	20.1	---	---	---
arithmetic	35.3	35.8	33.7	20.8	20.8	21.5	---	---	---
EA-17 average									
GDP-weighted	38.1	38.8	37.7	19.4	19.7	19.4	25.7	29.6	28.9
arithmetic	34.3	34.5	34.2	20.2	20.3	20.8	22.8	25.0	23.7

Note: EU and EA averages are adjusted for missing data.

Source: Commission services.(European commission, 2013a).

Table A2.4: 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	2011	2012	2013	1995	2000	2005	2010	2011	2012	2013
BE	60.6	60.6	53.7	53.7	53.7	53.7	53.7	40.2	40.2	34.0	34.0	34.0	34.0	34.0
BG	50.0	40.0	24.0	10.0	10.0	10.0	10.0	40.0	32.5	15.0	10.0	10.0	10.0	10.0
CZ	43.0	32.0	32.0	15.0	15.0	15.0	22.0	41.0	31.0	26.0	19.0	19.0	19.0	19.0
DK	65.7	62.9	62.3	55.4	55.4	55.4	55.6	34.0	32.0	28.0	25.0	25.0	25.0	25.0
DE	57.0	53.8	44.3	47.5	47.5	47.5	47.5	56.8	51.6	38.7	29.8	29.8	29.8	29.8
EE	26.0	26.0	24.0	21.0	21.0	21.0	21.0	26.0	26.0	24.0	21.0	21.0	21.0	21.0
IE	48.0	44.0	42.0	41.0	41.0	41.0	41.0	40.0	24.0	12.5	12.5	12.5	12.5	12.5
EL	45.0	45.0	40.0	49.0	49.0	49.0	46.0	40.0	40.0	32.0	24.0	20.0	20.0	26.0
ES	56.0	48.0	45.0	43.0	45.0	52.0	52.0	35.0	35.0	35.0	30.0	30.0	30.0	30.0
FR	59.1	59.0	53.5	45.8	46.7	46.8	50.2	36.7	37.8	35.0	34.4	34.4	36.1	36.1
HR	---	---	---	50.2	47.2	47.2	47.2	---	---	---	20.0	20.0	20.0	20.0
IT	51.0	45.9	44.1	45.2	47.3	47.3	47.3	52.2	41.3	37.3	31.4	31.4	31.4	31.4
CY	40.0	40.0	30.0	30.0	30.0	38.5	38.5	25.0	29.0	10.0	10.0	10.0	10.0	10.0
LV	25.0	25.0	25.0	26.0	25.0	25.0	24.0	25.0	25.0	15.0	15.0	15.0	15.0	15.0
LT	33.0	33.0	33.0	15.0	15.0	15.0	15.0	29.0	24.0	15.0	15.0	15.0	15.0	15.0
LU	51.3	47.2	39.0	39.0	42.1	41.3	43.6	40.9	37.5	30.4	28.6	28.8	28.8	29.2
HU	44.0	44.0	38.0	40.6	20.3	20.3	16.0	19.6	19.6	17.5	20.6	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	35.0	35.0
NL	60.0	60.0	52.0	52.0	52.0	52.0	52.0	35.0	35.0	31.5	25.5	25.0	25.0	25.0
AT	50.0	50.0	50.0	50.0	50.0	50.0	50.0	34.0	34.0	25.0	25.0	25.0	25.0	25.0
PL	45.0	40.0	40.0	32.0	32.0	32.0	32.0	40.0	30.0	19.0	19.0	19.0	19.0	19.0
PT	40.0	40.0	40.0	45.9	50.0	49.0	56.5	39.6	35.2	27.5	29.0	29.0	31.5	31.5
RO	40.0	40.0	16.0	16.0	16.0	16.0	16.0	38.0	25.0	16.0	16.0	16.0	16.0	16.0
SI	50.0	50.0	50.0	41.0	41.0	41.0	50.0	25.0	25.0	25.0	20.0	20.0	18.0	17.0
SK	42.0	42.0	19.0	19.0	19.0	19.0	25.0	40.0	29.0	19.0	19.0	19.0	19.0	23.0
FI	62.2	54.0	51.0	49.0	49.2	49.0	51.1	25.0	29.0	26.0	26.0	26.0	24.5	24.5
SE	61.3	51.5	56.6	56.6	56.6	56.6	56.6	28.0	28.0	28.0	26.3	26.3	26.3	22.0
UK	40.0	40.0	40.0	50.0	50.0	50.0	45.0	33.0	30.0	30.0	28.0	26.0	24.0	23.0
EU-28 arithmetic	---	---	---	38.3	37.9	38.4	39.3	---	---	---	23.2	23.0	22.9	23.1
EU-27 arithmetic	47.4	44.8	40.0	37.9	37.6	38.1	38.9	35.3	31.9	25.5	23.3	23.1	23.0	23.2
EA-17 arithmetic	49.0	47.1	41.9	41.6	42.3	43.1	44.5	36.8	34.4	28.1	25.6	25.3	25.4	25.9

Note: The top PIT rates reflect the statutory tax rate for the highest income bracket. The rates include surcharges, state and local taxes. Only the 'basic' (non-targeted) top CIT rate is presented here. Existing surcharges and averages of local taxes are included. For details of the calculation of the top PIT rates and CIT rates see European Commission (2013a). Data for PT includes a 3.5% general surcharge and a 5% surcharge on the last income bracket. Data for HR is provisional and includes a 18% surcharge (Zagreba rate).

Source: Commission services.

Table A2.5: Energy tax revenues in relation to final energy consumption

	Nominal				Real (2000 deflator)		
	2000	2010	2011		2000	2010	2011
BE	96.7	129.3	127.2	BE	96.7	106.7	101.6
BG	40.4	104.5	105.8	BG	40.4	68.8	67.2
CZ	53.4	129.7	139.3	CZ	53.4	76.4	78.3
DK	299.2	345.3	382.2	DK	299.2	289.4	312.6
DE	191.8	210.6	229.6	DE	191.8	183.9	196.5
EE	31.4	128.4	137.5	EE	31.4	85.7	87.6
IE	140.4	188.0	209.2	IE	140.4	154.8	170.8
EL	117.9	215.1	223.8	EL	117.9	160.1	161.4
ES	138.0	160.7	157.6	ES	138.0	121.9	115.9
FR	166.5	175.1	198.1	FR	166.5	148.6	164.9
HR	---	---	---	HR	---	---	---
IT	245.3	251.0	270.3	IT	245.3	201.2	211.0
CY	43.2	167.9	188.1	CY	43.2	130.7	142.0
LV	48.1	84.0	98.2	LV	48.1	60.7	67.4
LT	57.5	103.4	105.9	LT	57.5	72.4	71.2
LU	166.2	206.4	222.5	LU	166.2	169.6	176.0
HU	77.1	120.5	119.8	HU	77.1	76.9	74.2
MT	132.8	204.2	240.6	MT	132.8	174.1	203.0
NL	153.5	222.6	235.9	NL	153.5	184.7	191.5
AT	138.9	161.1	183.1	AT	138.9	134.9	149.0
PL	58.7	115.0	122.5	PL	58.7	89.1	93.8
PT	111.4	179.5	174.0	PT	111.4	143.8	134.5
RO	57.7	99.3	99.6	RO	57.7	68.8	65.6
SI	110.8	214.5	205.7	SI	110.8	171.2	160.6
SK	41.3	93.1	103.2	SK	41.3	45.4	48.5
FI	106.7	121.3	156.0	FI	106.7	104.0	129.9
SE	179.9	223.4	244.2	SE	179.9	214.6	219.3
UK	248.8	230.3	245.0	UK	248.8	260.6	269.8
EU-27 averages				EU-27 averages			
GDP-weighted	186.8	199.5	214.8	GDP-weighted	186.8	175.1	183.8
base-weighted	170.8	190.5	204.6	base-weighted	170.8	166.0	173.3
EA-17 averages				EA-17 averages			
GDP-weighted	176.7	196.6	196.6	GDP-weighted	176.7	163.1	163.1
base-weighted	172.2	193.4	193.4	base-weighted	172.2	160.6	160.6

Note: Nominal: EUR per tonne of oil equivalent; Real: EUR per tonne of equivalent, deflated with cumulative % change in final demand deflator (2000 = 100). Data for HR is not available.

Source: Commission services.

Table A2.6: The composition of tax wedge in 2012, single average income worker

Country	Income tax plus employees' and employers' social security contributions (as % of labour costs, 2012)				Annual change 2012/11 (in percentage points)			
	Tax wedge	Income tax	Employee SSC	Employer SSC	Tax wedge	Income tax	Employee SSC	Employer SSC
BE	56.0	22.1	10.8	23.2	0.5	0.4	0.0	0.1
BG*	33.6	7.4	10.9	15.3	1.1	-0.1	0.6	0.6
CZ	42.4	8.8	8.2	25.4	-0.1	-0.1	0.0	0.0
DK	38.6	36.2	2.7	0.0	0.2	8.1	-8.0	0.0
DE	49.7	16.0	17.3	16.4	-0.1	0.1	-0.1	-0.1
EE	40.4	12.7	2.1	25.6	0.3	0.3	0.0	0.0
IE	25.9	13.4	2.9	9.7	-0.8	-0.1	-0.7	0.0
EL	41.9	6.9	12.8	22.2	3.9	3.9	0.0	0.0
ES	41.4	13.5	4.9	23.0	1.5	1.5	0.0	0.0
FR	50.2	10.2	9.5	30.6	0.8	0.1	-0.1	0.8
HR**	---	---	---	---	---	---	---	---
IT	47.6	16.1	7.2	24.3	0.0	0.0	0.0	0.0
CY**	---	---	---	---	---	---	---	---
LV*	44.4	10.1	6.9	23.7	0.1	0.1	0.0	-0.1
LT*	40.7	16.1	8.9	19.4	0.2	-1.4	1.6	0.0
LU	35.8	13.8	11.0	11.0	-0.2	0.5	-0.7	0.0
HU	49.4	12.8	14.4	22.2	0.0	-0.7	0.8	0.0
MT*	23.3	10.6	6.4	6.4	0.9	1.4	-0.2	-0.2
NL	38.6	14.9	13.9	9.7	0.8	0.4	-0.1	0.5
AT	48.9	12.3	14.0	22.6	0.5	0.5	0.0	0.0
PL	35.5	5.8	15.3	14.4	1.1	-0.1	-0.3	1.5
PT	36.7	8.7	8.9	19.2	-2.3	-2.3	0.0	0.0
RO*	44.8	9.7	12.8	22.3	0.5	0.1	-0.1	0.4
SI	42.3	9.4	19.0	13.9	-0.1	-0.1	0.0	0.0
SK	39.6	7.4	10.5	21.8	0.8	-0.1	-0.1	1.0
FI	42.5	17.7	6.2	18.6	-0.2	-0.8	0.4	0.2
SE	42.8	13.6	5.3	23.9	0.0	0.0	0.0	0.0
UK	32.3	14.0	8.5	9.8	-0.2	-0.1	0.0	0.0
EU-27 weighted average	44.0	14.1	10.6	19.4	0.3	0.4	-0.2	0.2
EU-17 weighted average	46.9	14.1	11.2	21.6	0.4	0.3	-0.1	0.2

Note: *Data for non-OECD-EU countries (BG, LV, LT, MT and RO) are only available for 2011. For these countries, changes in tax wedge refer to period 20010-2011. ** No data is available for HR and no recent data for CY.

Source: Commission services, OECD.

Table A2.7: Standard and reduced VAT rates in the EU

Country	VAT rate	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
BE	Standard	21	21	21	21	21	21	21	21	21	21	21	21	21	21
	Reduced	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12
BG	Standard	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Reduced	-	-	-	-	-	-	-	7	7	7	7	9	9	9
CZ	Standard	22	22	22	22	19	19	19	19	19	19	20	20	20	21
	Reduced	5	5	5	5	5	5	5	5	9	9	10	10	14	15
DK	Standard	25	25	25	25	25	25	25	25	25	25	25	25	25	25
	Reduced	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DE	Standard	16	16	16	16	16	16	16	19	19	19	19	19	19	19
	Reduced	7	7	7	7	7	7	7	7	7	7	7	7	7	7
EE	Standard	18	18	18	18	18	18	18	18	18	20	20	20	20	20
	Reduced	5	5	5	5	5	5	5	5	5	9	9	9	9	9
IE	Standard	21	20	21	21	21	21	21	21	21	21.5	21	21	23	23
	Reduced	12.5 (4.2)	12.5 (4.3)	12.5 (4.3)	13.5 (4.3)	13.5 (4.4)	13.5 (4.8)	13.5 (4.8)	13.5 (4.8)	13.5 (4.8)	13.5 (4.8)	13.5 (4.8)	13.5 (4.8)	13.5 (4.8)	13.5/9 (4.8) 13.5/9 (4.8)
EL	Standard	18	18	18	18	18	19	19	19	19	19	19	23	23	23
	Reduced	8 (4)	8 (4)	8 (4)	8 (4)	8 (4)	9 (4.5)	9 (4.5)	9 (4.5)	9 (4.5)	9 (4.5)	5.5/11	6.5/13	6.5/13	6.5/13
ES	Standard	16	16	16	16	16	16	16	16	16	16	18	18	18	21
	Reduced	7 (4)	7 (4)	7 (4)	7 (4)	7 (4)	7 (4)	7 (4)	7 (4)	7 (4)	7 (4)	8 (4)	8 (4)	8 (4)	10 (4)
FR	Standard	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
	Reduced	5.5 (2.1)	5.5 (2.1)	5.5 (2.1)	5.5 (2.1)	5.5 (2.1)	5.5 (2.1)	5.5 (2.1)	5.5 (2.1)	5.5 (2.1)	5.5 (2.1)	5.5 (2.1)	5.5 (2.1)	5.5/7 (2.1)	5.5/7 (2.1)
HR	Standard	---	---	---	---	---	---	---	---	---	---	22	23	25	25
	Reduced	---	---	---	---	---	---	---	---	---	---	10 (0)	10 (0)	10 (0)	5/10
IT	Standard	20	20	20	20	20	20	20	20	20	20	20	20	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)	10 (4)	10 (4)	10 (4)
CY	Standard	10	10	13	15	15	15	15	15	15	15	15	15	17	18
	Reduced	5	5	5	5	5	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8
LV	Standard	18	18	18	18	18	18	18	18	18	21	21	22	22	21
	Reduced	-	-	-	9	5	5	5	5	5	10	10	12	12	12
LT	Standard	18	18	18	18	18	18	18	18	18	19	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	5/9	5/9	5/9
LU	Standard	15	15	15	15	15	15	15	15	15	15	15	15	15	15
	Reduced	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)	6/12 (3)
HU	Standard	25	25	25	25	25	25	20	20	20	25	25	25	27	27
	Reduced	0/12	0/12	0/12	0/12	5/15	5/15	5/15	5	5	5/18	5/18	5/18	5/18	5/18
MT	Standard	15	15	15	15	18	18	18	18	18	18	18	18	18	18
	Reduced	5	5	5	5	5	5	5	5	5	5	5	5/7	5/7	5/7
NL	Standard	18	19	19	19	19	19	19	19	19	19	19	19	19/21	21
	Reduced	6	6	6	6	6	6	6	6	6	6	6	6	6	6
AT	Standard	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Reduced	10	10	10	10	10	10	10	10	10	10	10	10	10	10
PL	Standard	22	22	22	22	22	22	22	22	22	22	22	23	23	23
	Reduced	7 (3)	7 (3)	7 (3)	7 (3)	7 (3)	7 (3)	7 (3)	7 (3)	7 (3)	7 (3)	7 (3)	5/8	5/8	5/8
PT	Standard	17	17	19	19	19	21	21	21	20	20	21	23	23	23
	Reduced	5/12	5/12	5/12	5/12	5/12	5/12	5/12	5/12	5/12	5/12	6/13	6/13	6/13	6/13
RO	Standard	19	19	19	19	19	19	19	19	19	19	24	24	24	24
	Reduced	-	-	-	-	9	9	9	9	9	5/9	5/9	5/9	5/9	5/9
SI	Standard	19	19	20	20	20	20	20	20	20	20	20	20	20	20
	Reduced	8	8	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
SK	Standard	23	23	23	20	19	19	19	19	19	19	19	20	20	20
	Reduced	10	10	10	14	-	-	-	10	10	10	6/10	10	10	10
FI	Standard	22	22	22	22	22	22	22	22	22	22	23	23	23	24
	Reduced	8/17	8/17	8/17	8/17	8/17	8/17	8/17	8/17	8/17	8/17	9/13	9/13	9/13	10/14
SE	Standard	25	25	25	25	25	25	25	25	25	25	25	25	25	25
	Reduced	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12	6/12
UK	Standard	18	18	18	18	18	18	18	18	18	15	18	20	20	20
	Reduced	5	5	5	5	5	5	5	5	5	5	5	5	5	5
EU-28	Standard	---	---	---	---	---	---	---	---	---	19.9	20.5	20.8	20.9	21.4

Note: If two VAT rates were applicable during a year the one being in force for more than six months or introduced on 1 July is indicated in the table. Super reduced rates (below 5 %) are shown in brackets. ES: Standard rate and reduced rate were increased as of September 2012 to 21% and 10%, respectively. IT: Standard rate was increased in September 2011; CY: Standard rate was increased in March 2012; FI: Reduced 17 % rate was decreased to 12 % on 1.10.2009. Standard rate as well as reduced rates were increased by one percentage point on 1.7.2010; HR: The standard VAT rate was increased to 25% on 01/03/2012. The 'zero' rate has been abolished on 1/1/2013, replaced by the introduction of a second reduced rate of 5%. **Source:** Commission services.

Table A2.8: References to national publications on tax expenditures

Regular publications				
Country	Publisher (in english)	Publisher (in national language(s))	Document(s)	Year of publication
BE	The Belgium Chamber of Representatives	Chambre des Représentants de Belgique/Belgische Kamer van Volksvertegenwoordigers	Annexe au Budget des Voies et Moyens de l'année budgétaire 2013, Inventaire 2011 des exonérations, abattements et réductions qui influencent les recettes de l'État, doc 53 2521/002./Bijlage tot de Rijksmiddelenbegroting voor het begrotingsjaar 2013, Inventaris 2011 van de vrijstellingen, aftrekken en verminderingen die de ontvangsten van de Staat beïnvloeden, doc 53 2521/002	
DK	Ministry of Taxation	Skatteministeriet	list on homepage of the ministry	
DE	Ministry of Finance	Bundesministerium der Finanzen	Dreißundzwanzigster Subventionsbericht	
EE	Ministry of Finance	Rahandus-Ministeerium	Stability Programme 2013	
ES	Ministry of Finance and Public Administration	Ministerio de hacienda y administraciones publicas	Presupuestos Generales del Estado. Memoria de beneficios fiscales	
FR	Ministry of Finance Ministry of Finance and Ministry of Social Affairs and Health	Ministère de l'Economie et des Finances Ministère de l'Economie et des Finances et Ministère des Affaires Sociales et de la Santé	Dépenses fiscales, annexe au projet de loi de finances 2013 Projet de loi de financement de la Sécurité sociale - Annexe 5 : Présentation des mesures d'exonérations de cotisations et contributions et de leurs compensations	
IT	Ministry of Economy and Finance	Ministero dell'Economia e delle Finanze	Bilancio dello Stato. In particolare gli allegati A e B "Effetti Finanziari delle Disposizioni Vigenti Recanti Esenzioni o Riduzioni del Prelievo Obbligatorio" della Tabella N.1 "Stato di Previsione dell'Entrata"	
LV	Ministry of Finance	Finansu Ministrija	Informācija par zīpojumiem „iedzīvotāju ienākuma nodokļa atvieglojumi	
HU	Ministry of National Economy	Nemzetgazdasági Minisztérium	Törvényjavaslat Magyarország 2013. évi központi költségvetéséről	
NL	House of Representatives of the States-General	Tweede Kamer der Staten-Generaal	Nota over de toestand van 's rijks financiën and Toelichting op de belastinguitgaven	
AT	Ministry of Finance	Bundesministerium für Finanzen	Förderungsbericht 2011	
PL	Ministry of Finance	Ministerstwo Finansów	Preferencje podatkowe w Polsce	
PT	Ministry of Finance	Ministerio das Finanças	Despesa fiscal 2013	
SK	Ministry of Finance	Ministerstvo financií Slovenskej republiky	Návrh rozpočtu verejnej správy na roky 2014-2016	
SE	Ministry of Finance	Finansdepartementet	Redovisning av skatteutgifter 2013	
FI	Ministry of Finance Government Institute for Economic Research (VATT)	Valtiovarainministerio/ Finansministeriet Valtion taloudellinen tutkimuskeskus (VATT)	Valtion talousarvioesitys 2013/ Statens budgetproposition 2013 Verotuet Suomessa 2009–2012	
UK	Her Majesty's Revenue and Customs(HMRC)	Her Majesty's Revenue and Customs(HMRC)	Various documents available on the homepage	
Non-Regular publications				
Country	Publisher (in english)	Publisher (in national language(s))	Document(s)	Year of publication
BG	Ministry of Finance	Министерство на финансите	Presentation of reporting in english on the homepage	2011
DE	Fifo Köln, Copenhagen Economics and ZEW	Fifo Köln, Copenhagen Economics and ZEW	Evaluierung von Steuervergünstigungen. Band 1-3.	2009
IE	Ministry of Finance	Ministry of Finance	Commission on Taxation	2009
FR	Ministry of Finance	Ministère de l'Economie et des Finances	Comité d'évaluation des dépenses fiscales et des niches sociales	2011
IT	Senate's services for public budget	Servizio del bilancio del Senato	Esenzioni e riduzioni del prelievo obbligatorio. Una analisi del bilancio per il 2011	2010

Source: Commission services.

The report is prepared jointly by the European Commission's Directorate-General for Economic and Financial Affairs (DG ECFIN) and Directorate-General for Taxation and Customs Union (DG TAXUD). The report analyses recent tax reforms in EU Member States and identifies tax policy challenges faced by EU Member States.

The report first presents tax reforms implemented in EU Member States in 2012 and the first half of 2013. Second, it discusses selected tax policy challenges that are relevant for improving Member States' tax systems. These challenges encompass the potential contribution of taxation to consolidate public finances – in addition to expenditure control – and the growth-friendliness of the tax structure, which are particularly relevant dimensions in times of slow growth and fiscal consolidation. The report also examines economic challenges related to the design of individual taxes and tax compliance. In particular, it deepens the analysis of tax expenditure with particular insights on personal income taxation and examines the debt bias in corporate taxation. Applying an indicator-based approach, it also provides an update of the analysis on VAT, housing taxation, environmental taxation and improving tax governance. Finally, it analyses the influence of taxation on income inequality.

