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The Tax Policy Landscape Five Years after the Crisis

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THE TAX POLICY LANDSCAPE FIVE YEARS AFTER THE CRISIS

Abstract

The height of the economic and financial crisis is now well past, but its aftermath remains wide-ranging, with many OECD countries still some way from restoring strong and sustainable economic growth. Even before the Great Recession OECD economies faced a range of challenges, most notably from globalisation, but also other challenges such as climates change, growing inequality and population ageing. Against this background, this paper discusses how tax policies have responded to fiscal and macroeconomic developments over the past five years and these longer-term structural economic developments.

LE PAYSAGE DES POLITIQUES FISCALES, CINQ ANS APRÈS LA CRISE

Résumé

Le paroxysme de la crise économique et financière est loin derrière nous, mais les séquelles restent multiples, et de nombreux pays de l'OCDE ont encore du chemin à parcourir avant de retrouver une croissance économique forte et durable. Avant même la Grande récession, les économies de l'OCDE se heurtaient déjà à un éventail de problématiques telles que, notamment, les incidences de la mondialisation, mais aussi à des défis comme le changement climatique, le creusement des inégalités et le vieillissement de la population. Dans ce contexte, ce rapport explique comment les politiques fiscales se sont adaptées face aux évolutions budgétaires et macroéconomiques de ces cinq dernières années et face à ces bouleversements économiques structurels de plus long terme.

FOREWORD

The authors thank Delegates to Working Party No. 2 on Tax Policy Analysis and Tax Statistics of the Committee of Fiscal Affairs (CFA) of the OECD, and Delegates of the CFA itself, for their helpful comments on earlier drafts. The authors are also grateful to Bert Brys for comments on previous versions of the paper, as well as to Violet Sochay and Michael Sharratt for help with preparing the paper for publication. The arguments employed and opinions expressed in this paper do not necessarily reflect the official views of the Organisation or of the governments of its member countries. The authors are responsible for any remaining errors.

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1.

[1] The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

THE TAX POLICY LANDSCAPE FIVE YEARS AFTER THE CRISIS

Pierre LeBlanc, Stephen Matthews and Kirsti Mellbye[2]

1. Introduction

It is now some five years since the economic and financial crisis was precipitated by the failure of Lehman Brothers (though its causes were more fundamental). The height of the crisis is now well past, but its aftermath remains pervasive, with many OECD countries still some way from restoring strong and sustainable economic growth. These developments have directly affected the level and composition of tax revenues. They have also shaped the discretionary tax measures that countries have adopted, though longer-term trends (such as the challenges of globalisation and equity) have continued to be major drivers of policy.

Section 1 of the paper provides a sketch of the economic background, drawing on the OECD's latest forecasts of economic growth, unemployment and government deficits and debts.

Section 2 examines how the crisis and its aftermath have affected tax revenues. Tax revenues initially fell in relation to GDP – partly for cyclical reasons and partly due to discretionary tax cuts. Tax-to-GDP ratios are now (on average) recovering, though with substantial variation across countries. The paper then considers changes in the composition of tax revenues (i.e., the tax mix); insofar as there has been a trend since 2008 it has been away from taxes on income (and toward consumption taxes and social security contributions). The paper considers how far discretionary tax policy measures can be considered the main driver.

Section 3 discusses, for each of the main categories of taxation, the principal policy trends over the past five years and the factors that have shaped them. (Issues of tax compliance, administration and avoidance (including base erosion and profit shifting (BEPS) by multinational enterprises (MNEs)) may well have been influenced by the crisis and its aftermath, but are touched on only lightly in the current paper.) The main themes discussed are:

- **Corporate income taxes (CIT) and business investment**. CIT revenues have proven to be the most cyclical of major categories of tax revenues. The CIT regime is also the part of the tax system that is particularly sensitive to structural economic changes, including the growing importance of intangible assets and the internationalisation of business (with a large and growing role being played by MNEs and a growth in interconnectedness through global value chains (GVCs)). At the same time a recovery in business investment is widely seen as critical for economic growth and, against a general trend toward higher tax rates to raise revenues, many countries have made CIT rate cuts and/ or introduced new investment or research and development (R&D) incentives.

- **Taxes on capital income (savings and investment income).** At the same time, countries have been concerned to ensure that the costs of fiscal consolidation are fairly shared. Many countries have raised personal taxes on capital income and gains.

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- **Taxes on employment**. The importance of personal income taxes (PIT) and social security contributions (SSCs) in total tax revenues, against a background of pressures to raise revenues to finance social spending and reduce budget deficits, have limited countries' reform options in this area. Nevertheless, the rise in unemployment has led a number of countries to improve fiscal incentives for employers to hire lower-paid, lower-skilled workers and to improve work incentives for such individuals.

- **Top Personal Income Tax Rates.** Top rates of tax on employment incomes have risen on average, reversing the trends of the two decades prior to the 'Great Recession'.

- **Tax reliefs/ expenditures**. While most attention tends to focus on changes in statutory tax rates, many countries have sought to improve tax design and raise revenues by broadening tax bases (particularly for income taxes), by abolishing or scaling back tax expenditures. In general, though, only the low hanging fruit has been gathered to date and the political economy of base broadening remains difficult.

- **Property taxation**. An important feature of the boom and bust in many economies over the past decade has been the fluctuation in property prices. This has produced a marked cycle in revenues from taxes on property transactions. By contrast, revenues from recurrent taxes on immovable property have been much less cyclical, in part because valuations for tax purposes tend to lag market prices (often by many years) and the relationship between market prices and the tax base has weakened. Despite the attractions of recurrent taxes on residential property (as a tax base that is not much affected by globalisation and tax competition), few countries have sought to raise significant additional revenues from such taxes as part of their fiscal consolidation efforts.

- **Consumption taxes**. Broad based consumption taxes, notably value-added taxes (VAT), have played a significant part in fiscal consolidation in many countries, primarily through increases in tax rates rather than a broadening of the base.

- **Environmentally-related taxation**. Despite the compelling arguments for increased use of environmentally related taxes and the pressing needs for additional tax revenues, the use of such taxes has increased only modestly over the past five years and, overall, revenues have tended to fall somewhat in relation to GDP.

- **Financial stability and financial sector taxation**. While favourable tax regimes for debt interest encouraged increased leverage (and there were opportunities for tax arbitrage, e.g. between income and gains, or domestic and overseas tax regimes, that were exploited in the development of structured financial products), these were generally long-standing features of tax regimes. For the most part tax regimes have not been reformed since 2008 to make debt less attractive, perhaps because of a desire not to weaken the impact of ultra-low interest rates in supporting aggregate demand. Some countries have, though, sought to address a perceived under-taxation of the financial sector, notably through the introduction of bank levies.

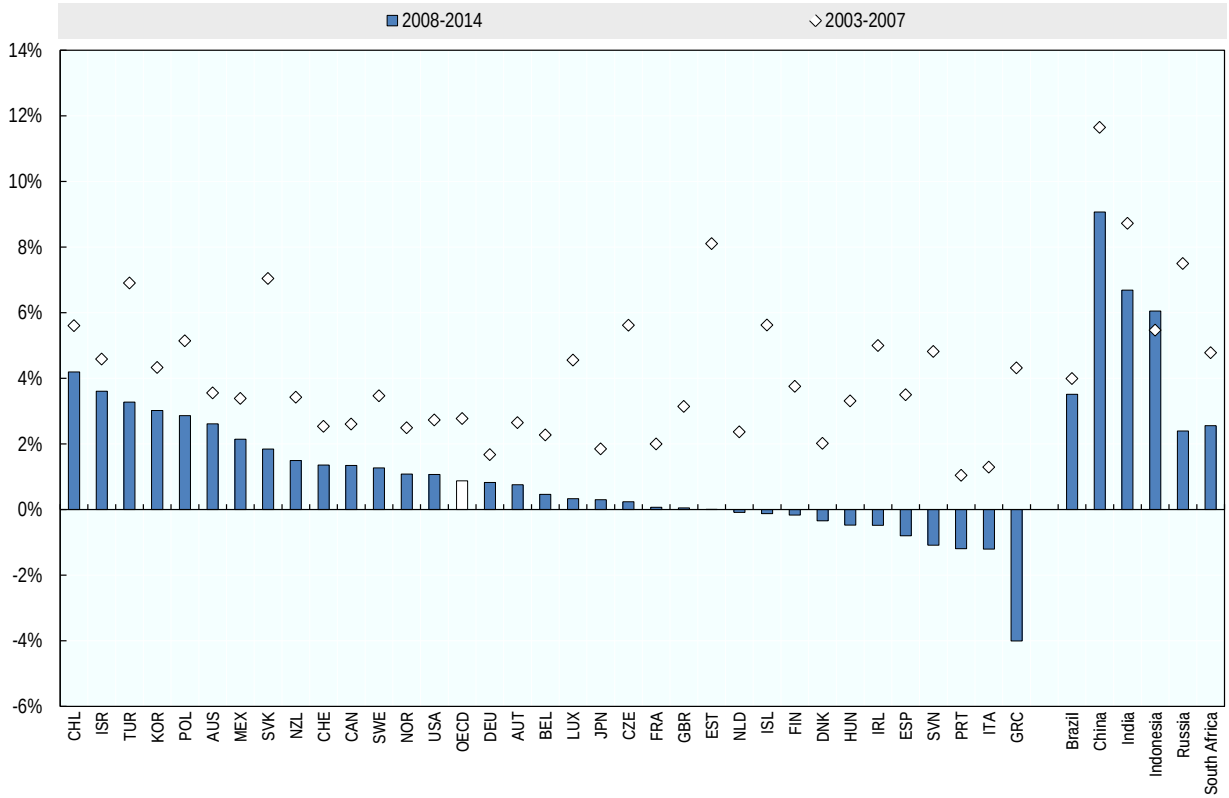
2. Economic background

Not only was the fall in economic activity in most OECD countries in 2008/2009 particularly synchronised and sharp, but economic recovery (while stronger in some countries than others) has, overall, been remarkably slow and weak. The past 4-5 years thus diverge substantially from what might have been expected on the basis of previous trends. This section summarises these developments, drawing on outturn data and forecasts from the current OECD Economic Outlook (No. 93, published in May 2013) for economic growth, unemployment, budget deficits and public debt. The following sections then draw on this background to discuss how these developments have affected tax revenues and tax policies.

Economic activity. For most OECD economies, the past five years have been characterised first by the severity of the recession precipitated by the crisis that came to a head in September/ October 2008, and then by the slowness of the economic recovery which (over four years on) remains incomplete in many countries.

The latest forecasts from the Economic Outlook suggest modest economic growth in 2013 and 2014 on an OECD-wide basis, with particular weakness in the Euro Area. Detailed figures by country and year are presented in the Annex. Taking a somewhat longer view, Figure 1 shows that the recession and the patchy, anaemic recovery from it have meant that growth rates since 2007 have been lower than in the years before, with some economies forecast still to be operating below 2007 levels even in 2014. Also, as Table 1 shows, the gap between OECD and non-OECD growth rates has been greater in the 2008-2013 period than in prior years, with the OECD's share of world output falling commensurately.

Figure 1: Average annual real GDP growth (%), 2003-2007 vs. 2008-2014



Source: authors' calculations based on data from the Economic Outlook 93 database (May 2013).

Table 1: Real GDP growth

	2002-2007	2008	2009	2010	2011	2012	2013	2014
World	4.2 %	2.5 %	-1.1 %	5.0 %	3.7 %	3.0 %	3.1 %	4.0 %
OECD	2.6 %	0.2 %	-3.6 %	3.0 %	1.9 %	1.4 %	1.2 %	2.3 %
US	2.6 %	-0.3 %	-3.1 %	2.4 %	1.8 %	2.2 %	1.9 %	2.8 %
Euro Area	2.0 %	0.3 %	-4.3 %	1.9 %	1.5 %	-0.5 %	-0.6 %	1.1 %
Japan	1.6 %	-1.0 %	-5.5 %	4.7 %	-0.6 %	2.0 %	1.6 %	1.4 %
China	11.2 %	9.6 %	9.2 %	10.4 %	9.3 %	7.8 %	7.8 %	8.4 %
Memorandum item: OECD share	73.0 %	68.8 %	67.1 %	65.9 %	64.7 %	63.6 %	62.4 %	61.3 %

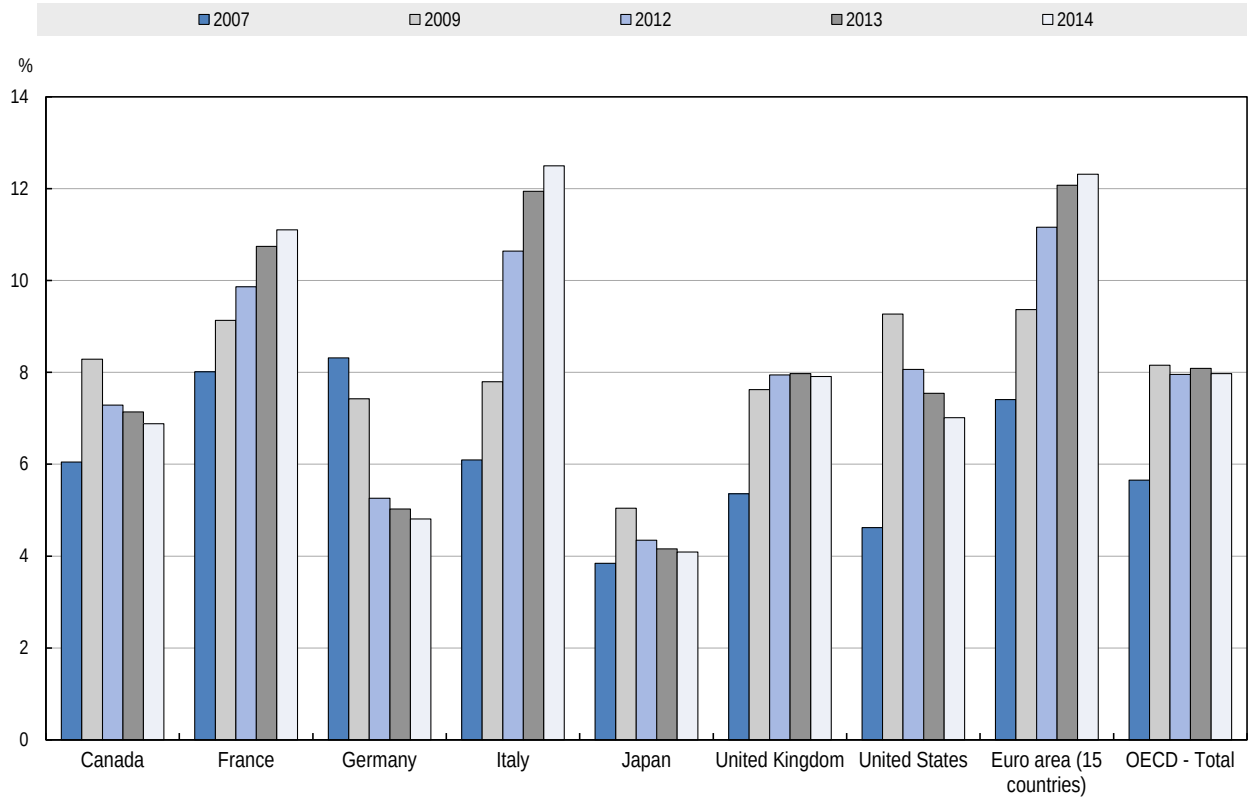
Source: authors' calculations based on data from the Economic Outlook 93 database (May 2013). For world and OECD, figures based on moving nominal GDP weights, using purchasing power parities (PPPs). OECD's share of world GDP based on 2005 PPPs. OECD share for 2002-2007 is averaged over those years.

The seeds of this disappointing economic performance lie in economic developments prior to 2008, notably the strong expansion of credit in many countries. Though not associated with a resurgence of consumer price inflation, easy monetary conditions contributed to imprudent lending by banks, rising asset prices (particularly for residential property) and increased household and corporate indebtedness. When the boom burst, it left many banks with unprecedented amounts of bad debt and many households highly leveraged (and some with negative equity in their property). Business profits too were squeezed (discouraging investment) and a lack of capital impaired the ability of banks to finance new investment.

While economic recovery has been held back on the demand side by fiscal consolidation, by deleveraging of households (and businesses) and a lack of credit (notwithstanding extraordinarily low interest rates), structural (supply-side) factors may have played a role as well. These factors include the competitive pressures from emerging economies (especially Brazil, China and India but also many smaller economies) and associated shifts in international comparative advantage. While cheap imports from these countries benefitted consumers (and helped bring about cost reductions through the development of global value chains), it has required structural change in many OECD countries out of some sectors (such as textiles) and into those sectors that supply the type of goods and services that are in demand from these rapidly growing economies (such as services, capital goods and luxury products).

Unemployment. Across the OECD area as a whole, unemployment has increased from 5.7% in 2007 to about 8.0% since 2009 (see Figure 2). The increase has been sharpest in those Euro Area countries most severely hit by the crisis (Spain, Greece, Ireland and Portugal). Only a few countries (most notably Germany) have experienced a fall in unemployment compared with 2007. In the Euro Area as a whole, the unemployment rate is expected to continue to rise in 2013 and again in 2014.

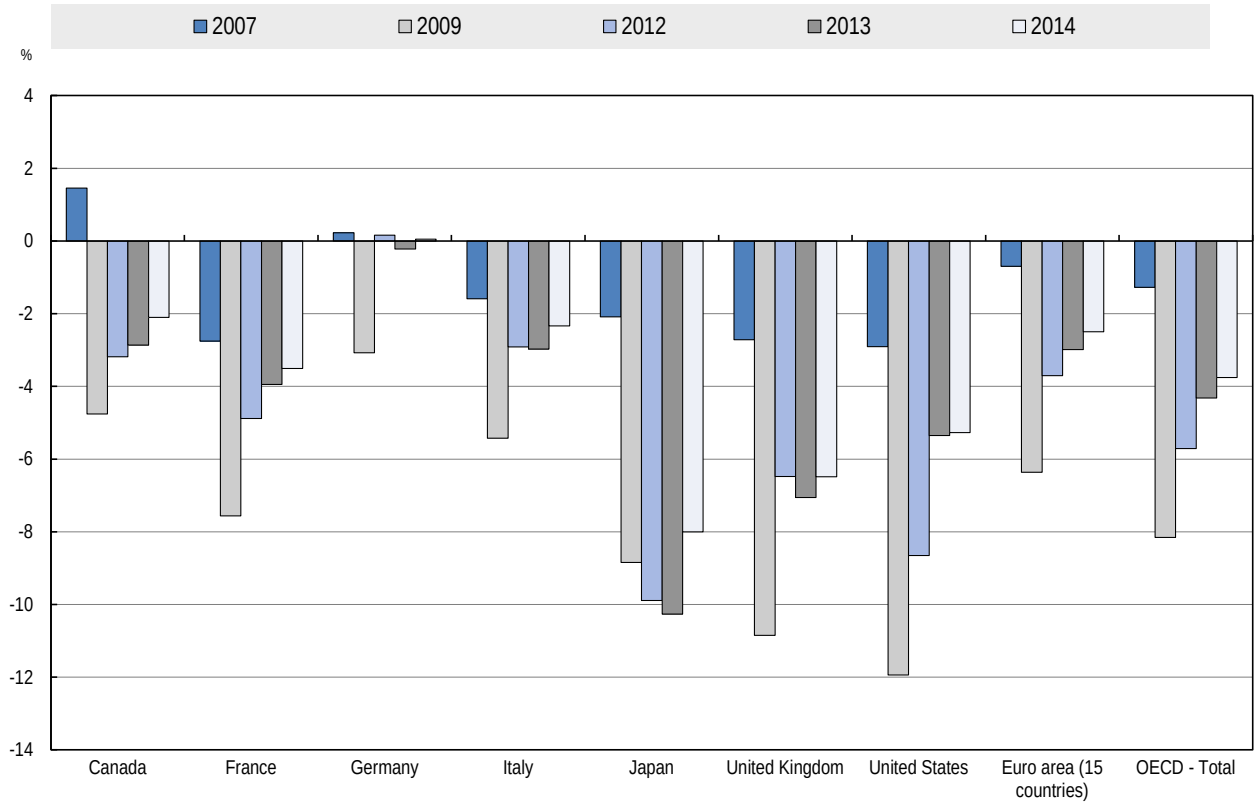
Figure 2: Unemployment rate (%) in 2007, 2009, 2012, 2013 and 2014



Source: OECD Economic Outlook No. 93

Budget deficits and public debt. Budget deficits in OECD countries have generally been decreasing since their peak in 2009 (Figure 3). This reflects a combination of economic recovery and discretionary revenue increases and expenditure reductions. However, deficits are still far larger than their pre-crisis levels. The most marked increases in deficits have been in Japan, the UK and the US among the larger economies. In the case of Japan, the deficit is projected to further increase through 2013, while projections for the other countries show a reduction compared to the 2009 peak. The projections for 2014, however, show a reduction also for Japan.

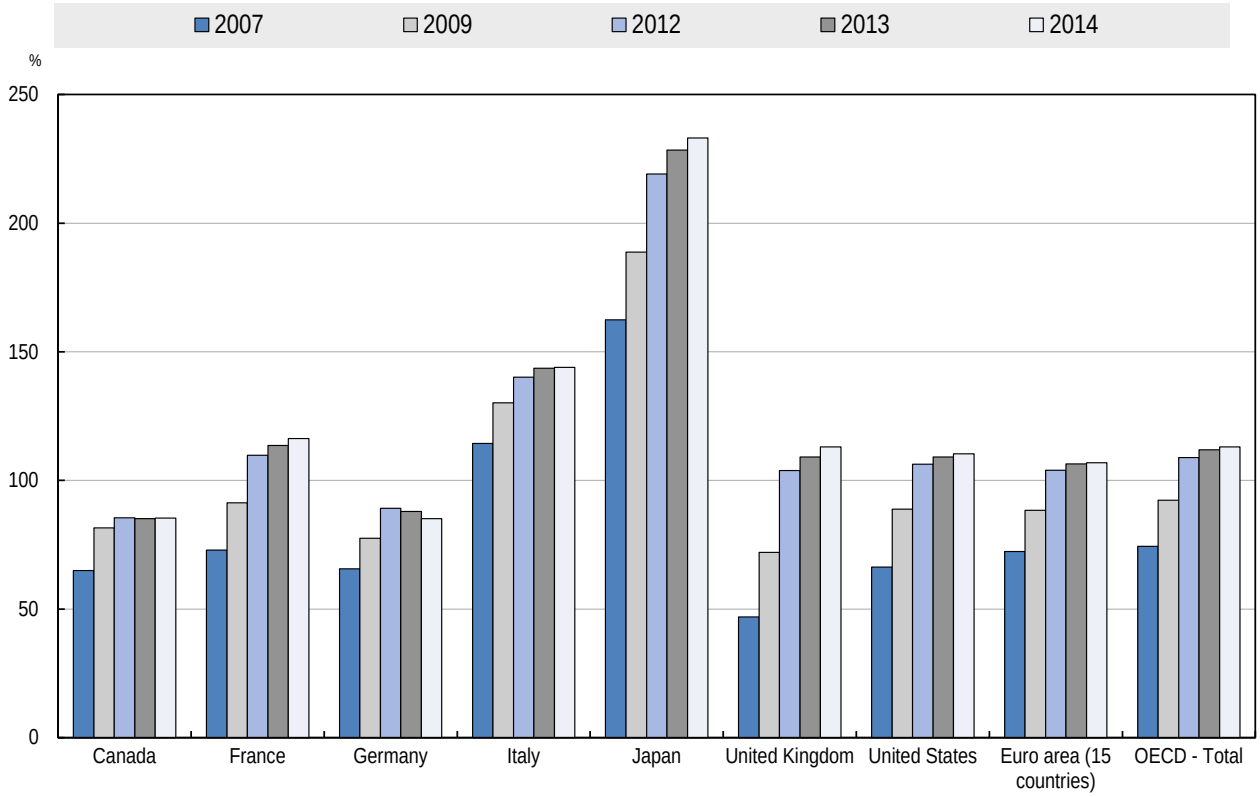
Figure 3: General Government Financial Balance: surplus (+) or deficit (-) as a % GDP



Source: OECD Economic Outlook No. 93

Large budget deficits (and in some countries the costs of rescuing financial institutions) have dramatically increased public sector debt in recent years. Total OECD general government gross financial liabilities in relation to GDP are projected to increase from 73% in 2007 to 113% in 2014 – see Figure 4. While the pace at which debt ratios are rising has now decelerated, slow growth in nominal GDP (the denominator of the ratio and a prime determinant of tax revenues) will make it more difficult to stabilise (let alone reduce) these ratios; and potentially increase the scale of fiscal consolidation needed.

Figure 4: General government gross financial liabilities as % of GDP

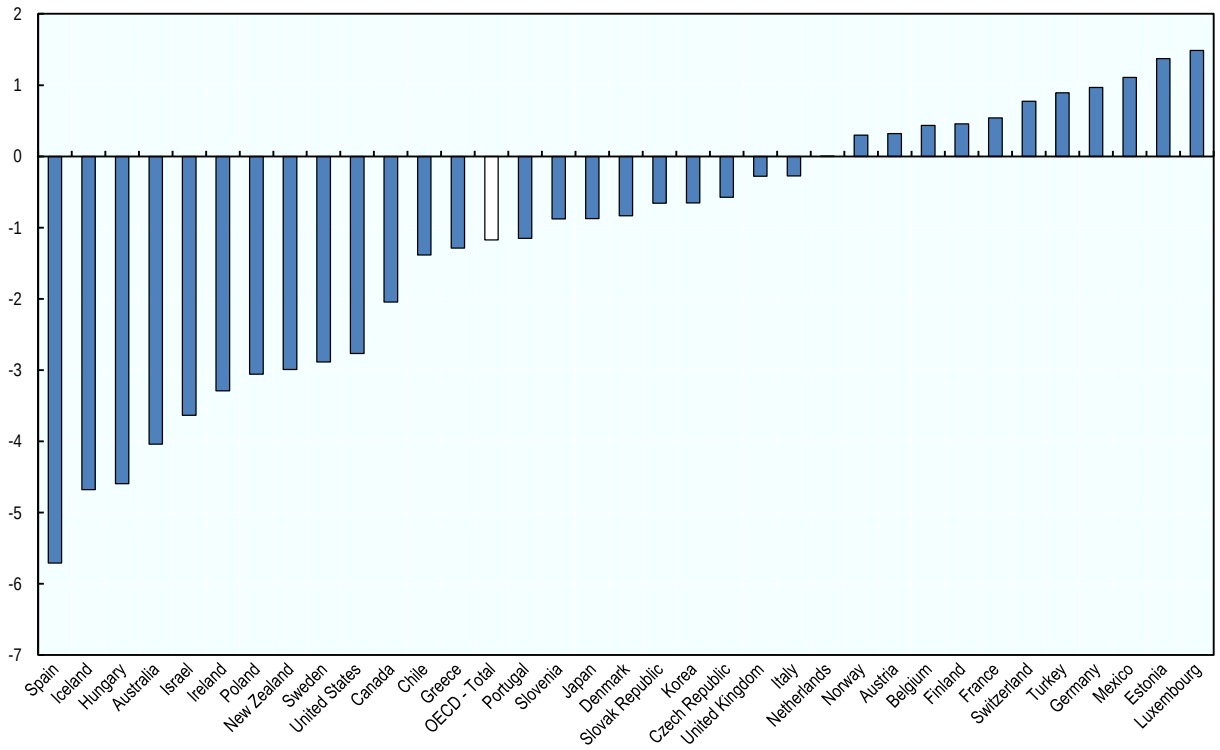


Source: OECD Economic Outlook No. 93

3. Trends in tax revenues and their composition

Tax-to-GDP ratios (as measured in *Revenue Statistics*) fell in a majority of OECD countries between 2007 and 2011 (and by 1.2 percentage points on an unweighted-average basis, see figure 5). Taxes on income and profits as a share of GDP fell by a similar percentage, In effect 'accounting' for all of the overall fall.

Figure 5: Change in tax revenue as a percentage of GDP 2007-2011[1]



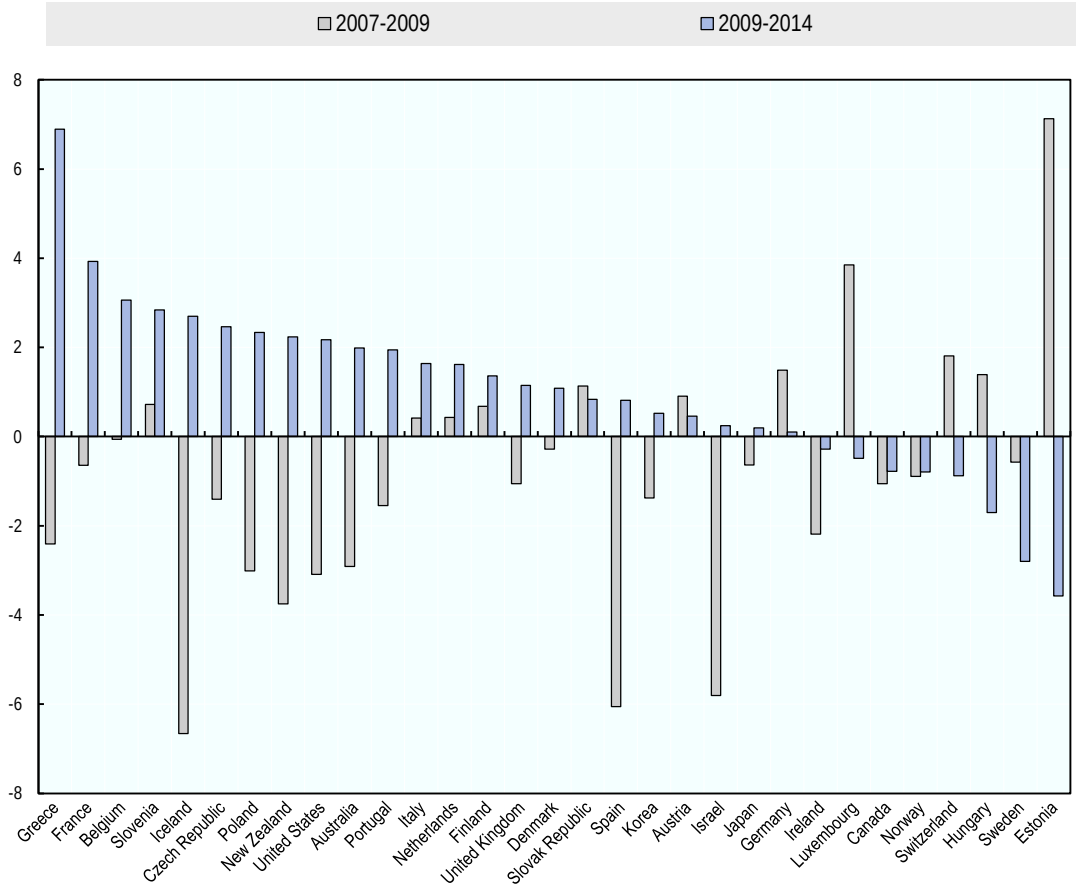
1.Data for 2011 are provisional. Change from 2007 to 2010 for Australia, Ireland, Japan, Mexico, Netherlands, Poland, Portugal. The OECD-Total change is calculated by using 2010 figures for the countries where 2011 figures are not available.
Source: Revenue Statistics.

Revenues have, though, been recovering (in part due to discretionary tax increases). Forecasts from the Economic Outlook for total (tax and non-tax) general government receipts[3] as a percentage of GDP are shown in Figure 6.

These figures indicate that, overall, across the OECD, receipts are expected to recover (after sharp falls in the years immediately after the 2008 crisis) back toward pre-crisis levels. Indeed, on an unweighted-average basis, total general government revenues as a share of GDP are expected to be slightly higher in 2014 (43.5%) than in 2008 (43.2%). However, developments in individual economies have varied widely, as has the extent to which this recovery in revenues reflects cyclical factors or the impact of tax policy measures.

3 General Government Revenue (GGR) is a broader concept than tax revenues as it also includes non-tax revenues (e.g. payments to general government that are requitable and/or non-compulsory). There can also be other differences, including the inclusion of some imputed transfers. On an unweighted average basis, GGR is around 8% of GDP higher than tax revenues, as measured in Revenue Statistics.

Figure 6: Change in total general government revenues, as % of GDP
2007-2009 and 2009-2014



Source: Economic Outlook 93 database. Figures not available.in the database for Chile, Mexico and Turkey.

Some of the biggest falls in the ratio of receipts to GDP have been in countries severely hit by the crisis (e.g. Ireland, Spain). However, some countries with substantial initial room for manoeuvre have also seen substantial reductions in their tax burdens, mainly as a result of policy measures (e.g. Sweden).

The more general trend since 2009 has, though, been a marked recovery in total general government revenues in relation to GDP. Between 2009 and 2014, this ratio is projected to rise by 2.5 percentage points or more in Belgium, the Czech Republic, France, Greece, Iceland and Slovenia; and in all of these countries except Iceland, the ratio is likely to be higher in 2014 than in 2007 (i.e., before the crisis). Table 2 provides an overview of changes in the GGR ratio since 2007. While a majority of countries saw a drop in the ratio between 2007 and 2009 (see bottom left quadrant), by 2014 a majority are forecast to have a higher ratio than before the crisis (top right quadrant). Interestingly, most of the latter group had above average GGR ratios before the crisis.

Table 2: Total general government revenues (GGR) as % of GDP, 2009/2014 compared with 2007

	2009	2014
GGR ratio higher than 2007	Estonia, Luxembourg, Switzerland, Germany, Hungary, Slovak Republic, Austria, Slovenia, Finland, Netherlands, Italy	Greece, Estonia, Slovenia, Luxembourg, France, Belgium, Italy, Netherlands, Finland, Slovak Republic, Germany, Austria, Czech Republic, Switzerland, Denmark, Portugal, United Kingdom
GGR ratio lower than 2007	Iceland, Spain, Israel, New Zealand, United States, Poland, Austria, Greece, Ireland, Portugal, Czech Republic, Korea, Canada, United Kingdom, Norway, France, Japan, Sweden, Denmark, Belgium	Israel, Spain, Iceland, Sweden, Ireland, Canada, Norway, New Zealand, Australia, United States, Korea, Poland, Japan, Hungary

Source: Economic Outlook 93 database. Figures not available in the database for Chile, Mexico and Turkey. Countries presented by magnitude of difference in GGR ratio.

How far the increases in the ratios for total general government revenues represent a cyclical recovery is hard to determine, as standard measures for 'cyclically adjusting' tax revenues depend on being able to identify 'trend' output (i.e. an underlying estimate of the non-inflationary productive potential of an economy) and, with the depth of the recession and the hesitancy of the recovery from it, any such measure at present must be highly uncertain. It is unclear to what degree the fact that economic activity in many countries is now substantially below what it would have been had previous trends continued reflects structural factors rather than just the effects of the cycle. Correspondingly, estimates of cyclically adjusted revenues are unlikely to be very robust.

Bearing this caveat in mind, though, OECD estimates (also taken from the Economic Outlook database)[4] indicate that there has been a significant underlying or structural element to the rise in revenues in countries such as Belgium, Finland, France, Greece, Iceland, Italy, Japan, the Netherlands and the United States over the past 3-4 years. This is in line with the information on changes in tax rates presented below. The increases in tax burdens would appear to be a significant contributor to the 'austerity fatigue' being felt in a number of countries. There is also a risk that the associated increases in effective tax rates could reduce incentives and make it more difficult to restore growth over the medium term, though this may depend on how the additional revenues have been raised.

Statistics on the composition of tax revenues are taken from *Revenue Statistics*, and are thus available up until 2011 for most countries. Table 3 indicates that in relation to GDP, the overall fall in revenue between 2007 and 2011 (the latest year for which comparable data are available[5]) was primarily in income taxes. This is reflected in the analysis of the composition of revenues shown in Table 4.

On average across the OECD, taxes on income and profits (i.e., PIT and CIT together) and taxes on goods and services, each contribute about one-third of total tax revenue. Social security contributions and payroll taxes contribute about one-quarter.

4 See cyclically adjusted current receipts, general government, as a percentage of potential GDP (series YRGQA).

5 For some countries the latest figures available are from 2010. Data for 2011 are provisional.

Table 3: Change in tax revenue by category as a percentage of GDP from 2007 to 2011

Country	Total tax revenue	1000 Taxes on income, profits and capital gains	2000+3000 SSC and payroll taxes	4000 Taxes on property	5000 Taxes on goods and services
Australia[2]	-4.0	-3.1	-0.1	-0.3	-0.6
Austria	0.3	-0.4	0.7	-0.1	0.2
Belgium	0.4	-0.3	0.6	0.1	0.1
Canada	-2.0	-1.7	0.0	0.0	-0.4
Chile	-1.4	-1.8	0.1	-0.3	0.6
Czech Republic	-0.6	-1.7	-0.2	0.1	1.2
Denmark	-0.8	0.0	0.0	0.1	-1.0
Estonia	1.4	-0.9	1.6	0.1	0.6
Finland	0.5	-1.4	0.6	0.0	1.2
France	0.5	-0.4	0.7	0.3	0.1
Germany	1.0	-0.3	1.0	0.0	0.3
Greece[3]	-1.3	-0.7	-0.9	0.1	0.3
Hungary	-4.6	-4.0	-0.8	0.3	0.0
Iceland	-4.7	-2.1	1.3	-0.2	-4.1
Ireland[4]	-3.3	-0.8	-0.1	-1.0	-1.2
Israel	-3.6	-3.4	-0.2	-0.2	0.1
Italy	-0.3	-0.8	0.5	0.1	0.4
Japan[5]	-0.9	-1.8	1.0	0.2	0.2
Korea	-0.7	-0.6	0.6	-0.4	-0.2
Luxembourg	1.5	0.8	1.2	-0.8	0.3
Mexico[6]	1.1	0.5	0.2	0.0	0.5
Netherlands[2]	0.0	-0.1	0.6	-0.3	-0.1
New Zealand	-3.0	-5.0	0.0	0.3	1.7
Norway	0.3	0.5	0.6	0.0	-0.8
Poland[2]	-3.1	-1.5	-0.9	0.0	-0.6
Portugal[2]	-1.2	-0.7	0.5	-0.2	-0.9
Slovak Republic	-0.7	-0.6	0.6	0.0	-0.7
Slovenia	-0.9	-1.5	0.2	0.0	0.5
Spain	-5.7	-3.3	-0.2	-1.1	-1.1
Sweden	-2.9	-2.6	-0.5	-0.1	0.3
Switzerland	0.8	0.2	0.5	-0.1	0.2
Turkey	0.9	0.1	-0.3	0.2	1.1
United Kingdom	-0.3	-1.2	0.1	-0.4	1.2
United States	-2.8	-1.8	-0.8	-0.1	-0.1
OECD – Total[6]	**-1.2**	**-1.2**	**0.2**	**-0.1**	**0.0**

Note: The components may not add up to the total because of rounding and/or the exclusion of the "other" category from this table. Data for 2011 are provisional.
1. Change from 2007 to 2010 for some sectors in some countries.
2. All figures show change from 2007 to 2011.
3. Change from 2007 to 2010 for total taxes and taxes on property.
4. Change from 2007 to 2010 for total taxes and SSC and payroll taxes.
5. Change from 2007 to 2010 for all taxes except taxes on income, profits and capital gains.
6. Unweighted average. Calculated change from 2007 to 2011, using 2010 figures where 2011 data is not available.

From 2000 to 2007, the revenue share of taxes on income and profits increased by about one percentage point on average across the OECD and the revenue share of taxes on goods and services decreased by about one percentage point. From 2007 to 2011, the share of tax revenue from income and profits decreased by 2.5 percentage points, while the share of tax revenue from social security and payroll increased by 1.5 percentage points and the share of taxes on goods and services increased by 1.1 percentage points. Since the other categories are relatively small, and the changes in them are generally small, the rest of this section will focus on changes in the three main categories; income and profits, social security and payroll, and goods and services.

Table 4: Composition of total tax revenue, OECD average for 2000, 2007 and 2011

	2000 (%)	change 2000 to 2007 (percentage points)	2007 (%)	change 2007 to 2011 (percentage points)	2011 (%)
Income and profits	35.0	0.9	35.9	-2.5	33.4
Social security and payroll	25.6	0.0	25.6	1.5	27.1
Property	5.4	0.1	5.6	-0.1	5.5
Goods and services	33.1	-1.1	32.0	1.1	33.1
Other	0.7	-0.1	0.6	0.0	0.6

1. Data for 2011 are provisional. For Australia, Ireland, Japan, Mexico, Netherlands, Poland, Portugal 2011 figures are not available, and the OECD-Total change is calculated by using 2010 figures for these countries.
Source: Revenue Statistics.

While the average tax mix in the OECD was relatively stable between 2000 and 2007, there were some more important shifts for several countries. Table 5 shows countries where the tax revenue share of at least one of the three main categories has increased or decreased by more than three percentage points from 2000 to 2007; this threshold is chosen because it represents roughly one-tenth of revenues on average from each major type of tax. It shows no single pattern in changes in the tax mix during the period. Table 6 shows countries where changes of this magnitude have taken place from 2007 to 2011. A complete overview of changes in the tax revenue shares in all OECD countries over these two periods can be found in Tables A2 and A3 in the Annex (with significant increases or decreases highlighted in order to make it easier to identify shifts in the tax mix).

Table 5: Change in tax revenue share of main categories of taxes by more than three percentage points from 2000 to 2007

	Up	Down
Income and profits	CHL, ISL, ESP, SVN, KOR	TUR, GRC, FIN, ISR, IRL
Social security and payroll	KOR, GRC	POL, NLD
Goods and services	TUR, EST	CHL, KOR, ESP, ISL, NOR

Source: Calculations based on Revenue Statistics.

Turning to the change in the tax revenue shares from 2007 to 2011 (Table 6), a clearer pattern seems to emerge. No country had an increase in the share of revenues from taxes on income and profits of more than three percentage points, while 13 countries had a decrease of more than three percentage points. The largest shift in the tax mix from income and profits to goods and services can be found in New Zealand, where the tax revenue shares have changed by approximately -10 and 8 percentage points respectively, and due in large part to the recent tax reform that reduced CIT and PIT rates and increased the standard VAT rate. Other countries shifting from taxes on income and profits to taxes on goods and services include Hungary, Israel, Chile, the Czech Republic and the United Kingdom. Significant shifts in the tax mix from

taxes on income and profits to social security contributions and payroll taxes have taken place in Japan, Spain, Estonia and Ireland.

Table 6: Change in tax revenue share of main categories of taxes by more than three percentage points from 2007 to 2011[1]

	Up	Down
Income and profits		NZL, HUN, ISR, JAP, CHL, ESP, CZE, EST, FIN, SVN, SWE, GBR, IRL
Social security + payroll	ESP, IRL, JAP, ISL, EST	
Goods and services	NZL, CHL, HUN, ISR, CZE, GBR	ISL

1. Data for 2011 are provisional. Change from 2007 to 2010 for Ireland and Japan. Source: Calculations based on Revenue Statistics.

At first blush, it may appear that a shift away from taxes on income and profits in several countries since the onset of the crisis is consistent with the OECD's recommendations on taxation and economic growth. The overarching prescription that resulted from this analysis was that a revenue-neutral, growth-oreiented tax reform would shift part of the tax mix from income taxes to less distortive taxes (e.g., on consumption, property or environmentally-related taxes). More recently, there has been some interest (especially in the fixed exchange rate context of the Eurozone) in the proposition that a switch from 'origin-based' taxes (e.g. on employment income) to 'destination-based' taxes (notably VAT) could provide at least a temporary boost to a country's trade competitiveness. Much would depend, though, on how prices and wages respond to such a tax shift and the jury is still out on the effectiveness of 'fiscal devaluations'. The general desirability of such a switch is thus unclear; and, as table 6 indicates, the overall trend has been towards higher SSCs and payroll taxes on employment incomes.

In most countries much of the shift in the composition of tax revenues appears to have been, in the first instance, an automatic response to economic developments rather than discretionary policy decisions. Arguably, though, since countries do in principle have the option of making (offsetting) discretionary changes, the changes in the composition of tax revenues can be regarded as having been tacitly accepted. Only a few countries, though, appear to have made explicit decisions to shift the balance of taxation away from taxes on income (notably CIT) to taxes on spending (e.g. New Zealand and to a lesser extent the United Kingdom). Even where it has been the intent of policy-makers to alter the tax mix, the design of individual taxes can be expected to matter. For example, it is more likely that there will be a positive impact if VAT is well-administered and levied at a single rate on a broad base.

The implications of shifting the tax mix from taxes on income and profits to social security contributions and payroll taxes for economic growth are unclear. The OECD analysis on taxation and economic growth did not find any strong evidence that personal income taxes are significantly more distortive than social security contributions (although corporate income taxes would be expected to be more distortive than both). Again, country-specific circumstances (e.g., the extent to which other rigidities in the labour market magnify the negative effect of employer social security contributions on labour demand) and the design of individual taxes (e.g., the extent to which workers associate an increase in social security contributions with an increased in expected benefits) are likely important.

4. Tax policy developments

The recession and its aftermath have affected tax policy in a number of ways – most obviously through the part played by tax policy in providing a fiscal stimulus to aggregate demand and then, later, to fiscal consolidation, but also through their impact on the structure of aggregate demand and output/ employment.

In 2008 and 2009, the severity of the crisis (and perhaps an expectation that, with the help of 'Keynesian' interventions, the depth of the recession would be attenuated and recovery would be rapid) prompted a number of countries to cut taxes to support aggregate demand, including both cuts to PIT and, in some cases, VAT. However, such cuts further increased budget deficits that were growing anyway because weak economic activity led to lower than forecasted tax revenues, while spending plans were initially broadly unchanged, or even increased. The consequent rise in budget deficits, which, as time went on, looked increasingly structural (i.e. they would not rapidly be extinguished by any realistic prospect of economic recovery), produced a rapid rise in the ratio of public debt to GDP. This has prompted countries to act to stabilise debt ratios (or meet other targets) through programmes of fiscal consolidation.

Where governments felt that they needed to make rapid progress in reducing budget deficits, they generally turned to tax policy in the first instance (given the likely lags involved in reducing public expenditure plans in an efficient manner). Thus not only have most of the discretionary tax cuts of 2008 and 2009 been reversed, but many countries have raised rates of VAT, PIT and SSCs and broadened tax bases where they judged there to be potential low-hanging fruit – roughly in that order of preference.

Table 7 provides an overview of the changes in headline tax rates. Compared with before the crisis over half of the 34 OECD countries have raised their top PIT rates and their standard rate of VAT, while over half have cut their main statutory rate of CIT. Other things equal, this might be expected to raise the share of PIT and VAT in total revenues and decrease the share of CIT.

Table 7: Number of OECD countries changing 'headline tax rates', 2007 to 2013

	Increase	No Change	Decrease
Top PIT rate	18	9	7
Main CIT rate	6	9	19
Standard VAT rate	18	15	1

The following sub-sections review, for each of the main categories of tax, some of the key influences on tax revenues and policies (including how far tax bases as well as rates have changed). Finally, there is a brief discussion of some of the tax issues raised by the financial crisis and the policy response to them to date.

4.1. CIT and Business Investment

The CIT regime is the part of the tax system that is particularly sensitive not only to the effects of the business cycle but also to the internationalisation of business (with a large and growing role being played by MNEs and a growth in interconnectedness through GVCs). At the same time, the CIT regime is often seen as the most crucial tax for business investment, since it is the main tax on its return, and business investment in turn plays a critical role in economic growth; and, while tax is just one among many determinants of investment, it is a policy instrument that governments can change relatively easily. There has thus been downward pressure on statutory and effective CIT rates to try to encourage investment

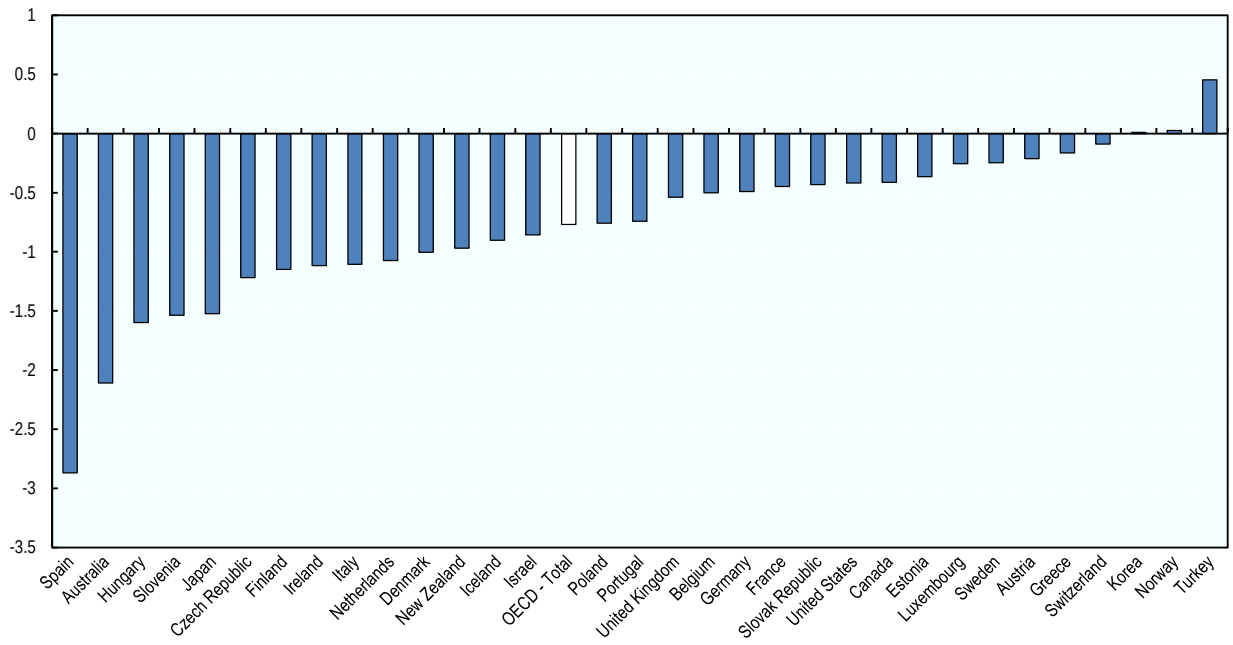
(particularly through inward foreign direct investment (FDI)) notwithstanding falls in tax revenue and pressures to protect tax bases from BEPS.

4.1.1. CIT Revenues

As already noted in section 2 the fall in the ration of taxes on income and profits in relation to GDP was similar (on average across the OECD) to the overall fall in the tax burden. In fact, much of the fall was attributable to CIT revenues. Figure 7 compares CIT revenue as a share of GDP before the crisis (2007) with the latest year's data (2011 for most countries, 2010 for a handful). The OECD unweighted average CIT revenues to GDP ratio fell from some 3.8% in 2007 to 2.8% in 2009 before recovering slightly in the following years. The (unweighted) average reduction in the ratio between 2007 and 2011 was 0.8% of GDP. Overall, it would appear that CIT revenues are particularly responsive to the business cycle, though it is less clear how far this sensitivity helps stabilise aggregate demand. (Trying to maintain an unchanged total tax-to-GDP ratio in the face of this cyclicality of CIT revenues would, though, tend to be deflationary.

There was also significant variation across the OECD in changes in the share of GDP collected in CIT revenues during this period. Spain and Australia registered particularly large drops in their CIT revenues to GDP ratios (2.9% and 2.1% of GDP respectively), while Turkey was the only country with a clear increase in its CIT revenues to GDP ratio (0.5% of GDP).

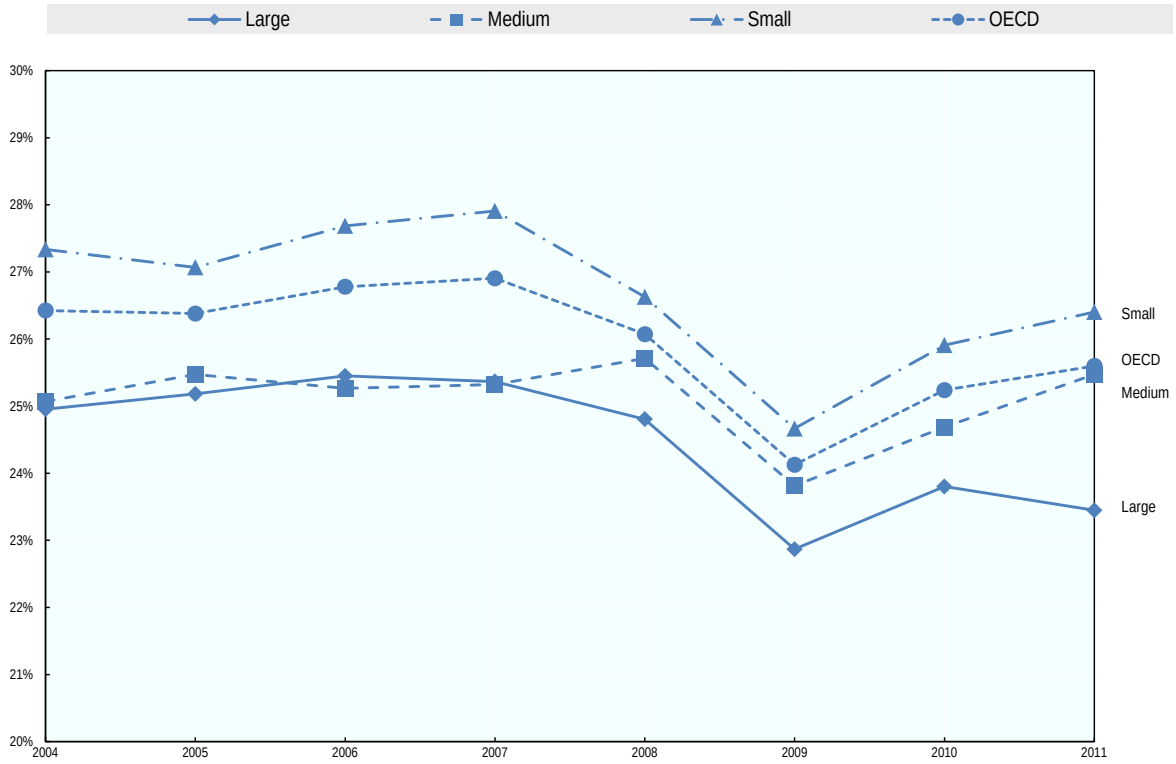
Figure 7: Change in CIT revenues as a percentage of GDP between 2007 and 2011[1]



Source: Revenue Statistics 2012.
(1) Data for 2011 are provisional. Figures are not included for Chile and Mexico, since revenues from taxes on income cannot be fully allocated between PIT and CIT. 2010 figures are the most recent for Australia, Greece, the Netherlands, Poland and Portugal.

This fall in revenues reflects the scale of the fall in the ratio of net operating surplus to GDP shown in Figure 8 – falls of the order of 2 ½ - 3 percentage points – and taxable profits are likely to have fallen even further given reliefs for losses.

Figure 8: Net operating surplus as a share of GDP, 2004-2011



Calculations based on OECD National Accounts (for countries where net operating surplus is available). Averages are unweighted. Large: France, Germany, Italy, United Kingdom, United States. Medium: Australia, Canada, the Netherlands, Spain. Small: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, Greece, Ireland, Israel, Poland, Portugal, Slovakia, Slovenia and Switzerland.

4.1.2. Interconnectedness and GVCs

One reason for the sharpness of the initial economic contraction in late 2008/ early 2009 was the growing interconnectedness of economies, so the shock was rapidly propagated through a fall in international trade. World trade, investment and production are increasingly organised around GVCs that embrace activities from design, production, marketing, and logistics to distribution. More than half of the world's manufacturing imports are intermediate goods (i.e. parts and components and semi-finished products) and around 50% of the value of exports in OECD countries is services value added (OECD, 2013a). Today, most goods and a growing share of services are 'made in the world', with different firms and countries specialising in the specific activities that make up a GVC.

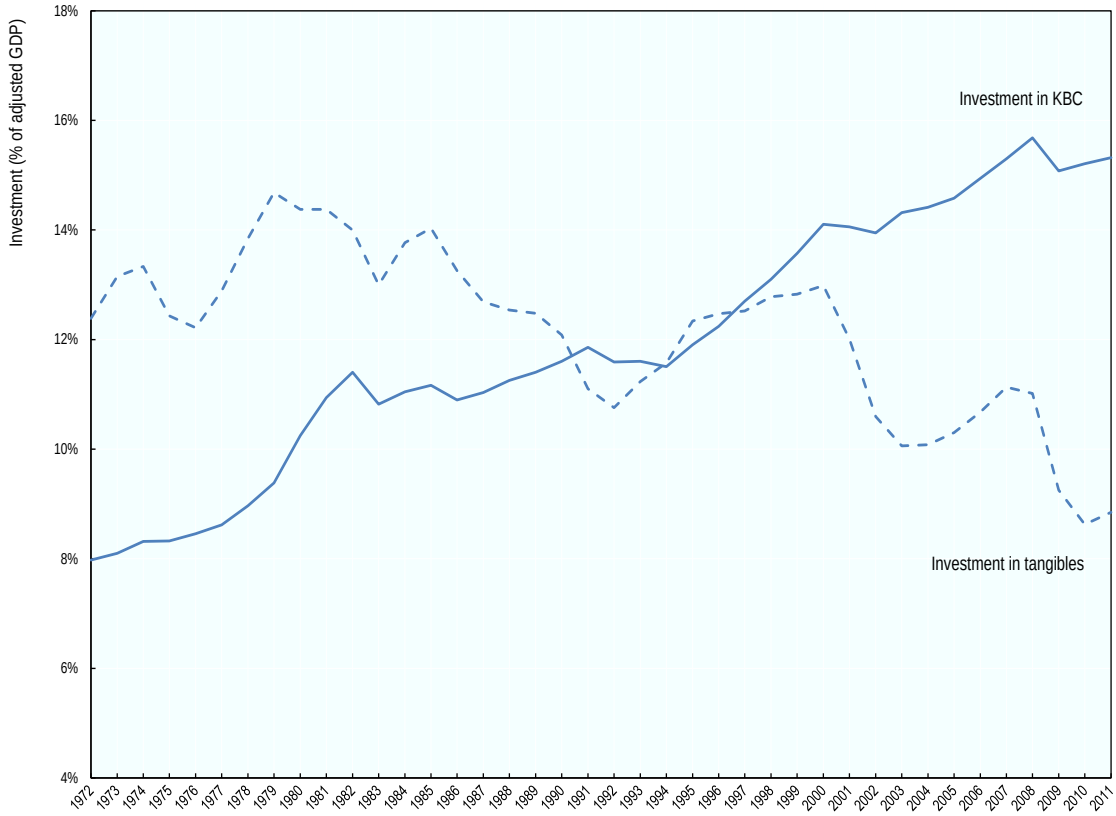
GVCs have emerged in part from technological advances and the liberalisation of trade and investment. They have enabled firms to become more efficient (through economies of scale and scope) and to deliver final products to customers at a lower cost.

4.1.3. Knowledge based capital

A feature of many GVCs is the important part that services and intangible assets play in them. Indeed, business investment in Knowledge-Based Capital (KBC) has been growing in importance in recent decades and in some countries now exceeds investment in tangible assets – see Figure 9 which illustrates trends in the US and Figure 10 which sets out comparative data for a number of countries covering tangible investment and also investment in a number of intangibles – computerised information, innovative intellectual property and economic competencies. Such intangibles are often critical for a business'

competitive advantage and its ability to earn more than a 'normal' return. Thus the tax treatment of the costs of investment in intangible capital and the taxation of the return on such investment can be important to the growth process in many OECD countries, as the regime for investment in plant and machinery on which policy makers have traditionally focussed.

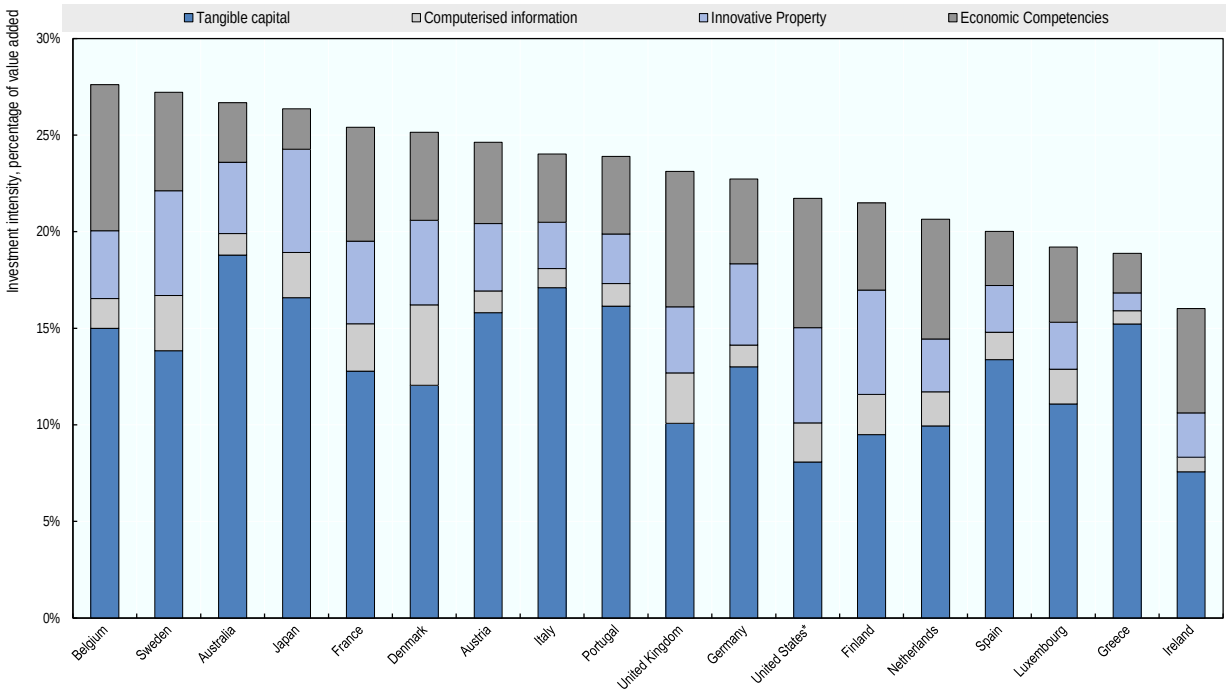
Figure 9: Business investment in knowledge-based and tangible capital, United States, 1972-2011 (% of adjusted GDP)



Note: Estimates are for private industries excluding real estate, health and education.

Source: Unpublished update on Corrado, C.A. and Hulten, C.R. (2010), How do you Measure a 'Technological Revolution?, American Economic Review: Papers & Proceedings 100 (May 2010): 99–104.

Figure 10: Business investment, % of value added, 2010



Note: Figures refer to the market economy, which excludes real estate, public administration, health and education.
*Figures correspond to the definition of the private sector in the National Industry and Production Accounts (NIPA).

Source: INTAN-Invest (www.intan-invest.net), with additional information from the OECD Main Science and Technology Indicators, from Eurostat for EU countries' tangible investments and market sector value-added, from the United States Bureau of Economic Analysis for tangible investments and private sector value-added, from the Australian Innovation System Report (2012), Australian Bureau of Statistics, and from the Japanese Industrial Productivity database.

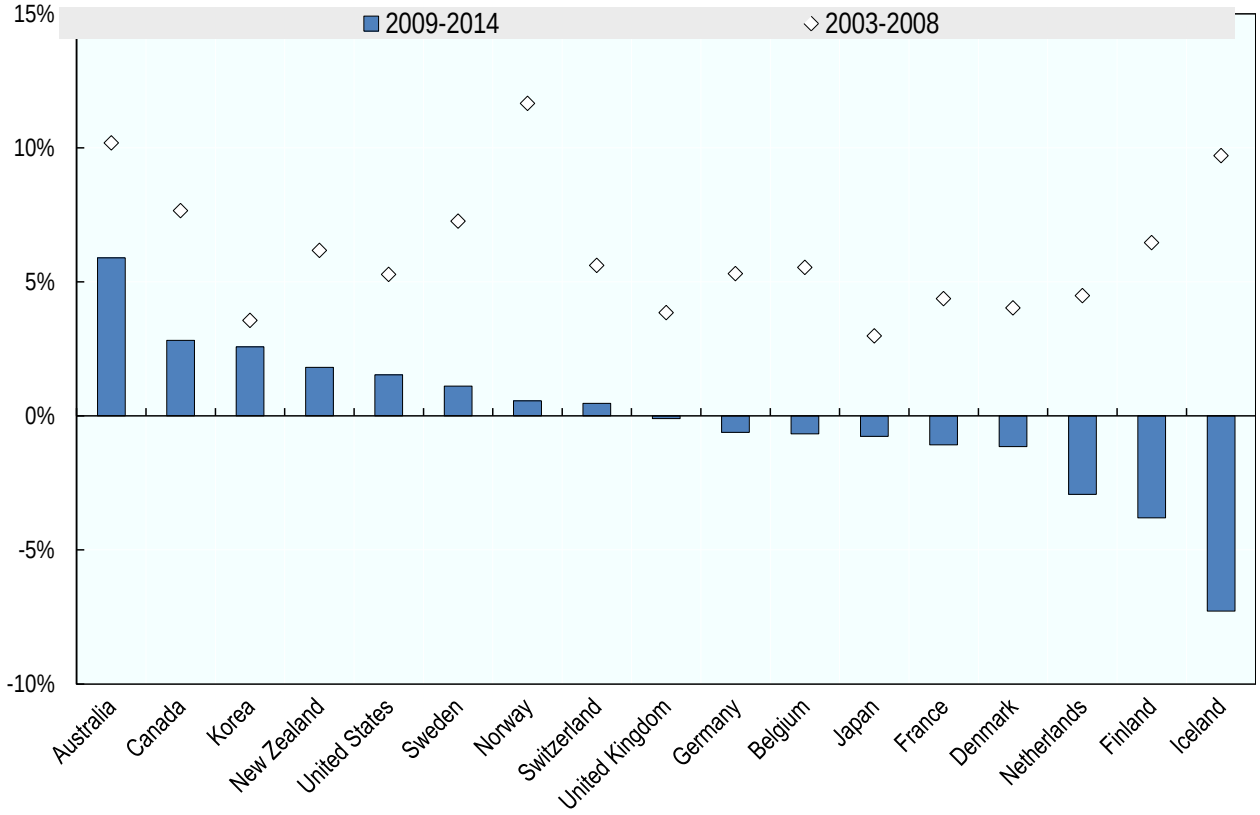
The growth in interconnectedness between economies and increased importance of investments in intangibles for the process of economic growth present a number of challenges for tax policy. In particular intangible capital can be much more readily shifted between tax jurisdictions than, say, plant or industrial buildings. As a result it has become harder to establish in which jurisdiction profits have been earned and to ensure effective (source and residence) taxation of capital income, while avoiding undue compliance costs, double taxation or hindering such growth processes. The growth in GVCs and in trade in intangibles and services similarly pose challenges for the taxation of consumption. The OECD projects on BEPS and the development of International VAT Guidelines are thus very much on the mark, as is the work on New Sources of Growth (NSG) and New Approaches to Economic Challenges (NAEC).

4.1.4. Business investment

The recession and its aftermath have significantly reduced business investment in almost all OECD countries – see Figure 11. A recovery in business investment is widely seen as critical for restoring economic growth and, while econometric evidence suggests that effective tax rates on the return on investment are generally some way from being the most important determinant of investment (see review in OECD, 2007), it does suggest a positive response to changes in rates. Against a general trend toward higher tax rates to raise revenues, many countries have made CIT rate cuts. The rate at which the (unweighted) average CIT rate in the OECD has fallen, has, though been slower than pre-2007. However,

more recently a number of countries have introduced new investment incentives (e.g., accelerated depreciation or additional deductions for investment) or R&D incentives.

Figure 11: Average annual % change in private non-residential gross fixed capital formation (volume)

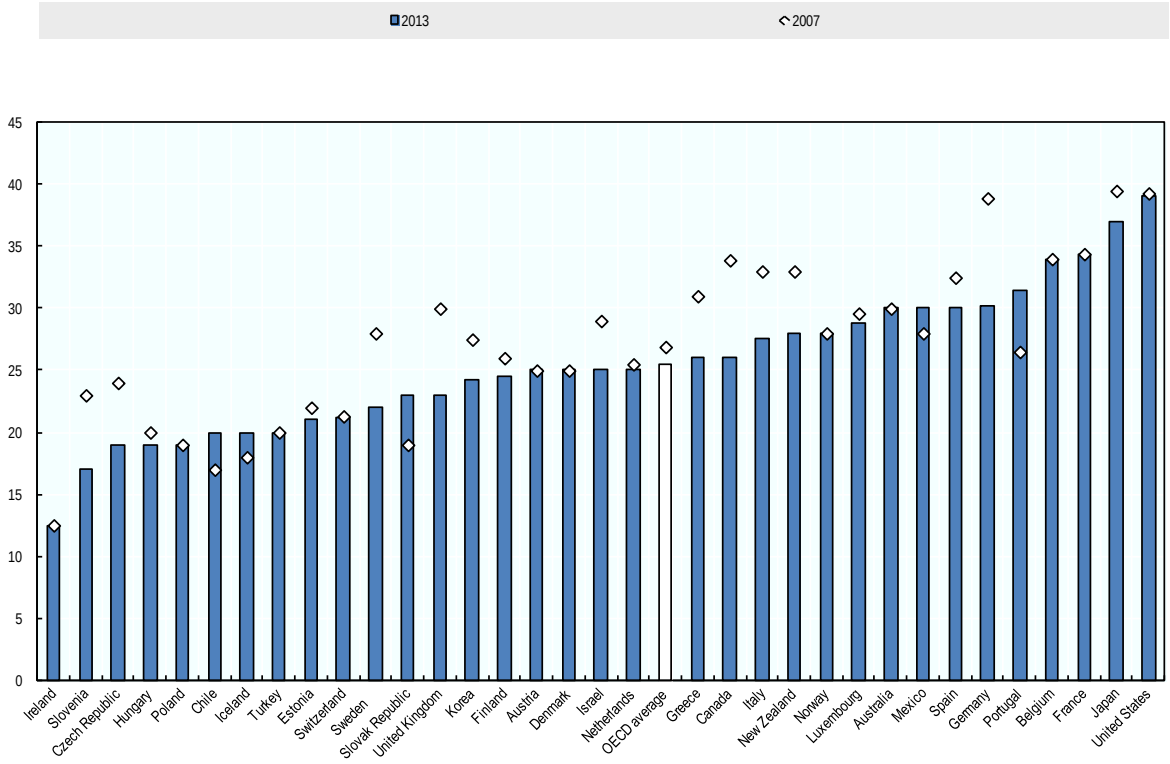


Calculations based on Economic Outlook 93 database (May 2013). Statistics are only available for these countries in the database.

4.1.5. Statutory CIT rates

Figure 12 compares the main statutory rates of CIT in 2007 and 2013. The unweighted OECD average has declined by about 1½ percentage points during this period, from 26.9% in 2007 to 25.5% in 2013. Around half of OECD countries reduced their main statutory CIT rate by 0.5 percentage points or more, while only 5 countries increased their rate by at least this amount. Over this period, the rate at which CIT rates have fallen has slowed down to some extent. However, not reflected in Figure 12 are upcoming CIT rate reductions that have been announced but not yet legislated (e.g., Denmark, Finland, Norway) or that are part of multi-year commitments that will extend into future years (e.g., Slovenia, United Kingdom).

Figure 12: Main statutory CIT rate (%), 2007 and 2013



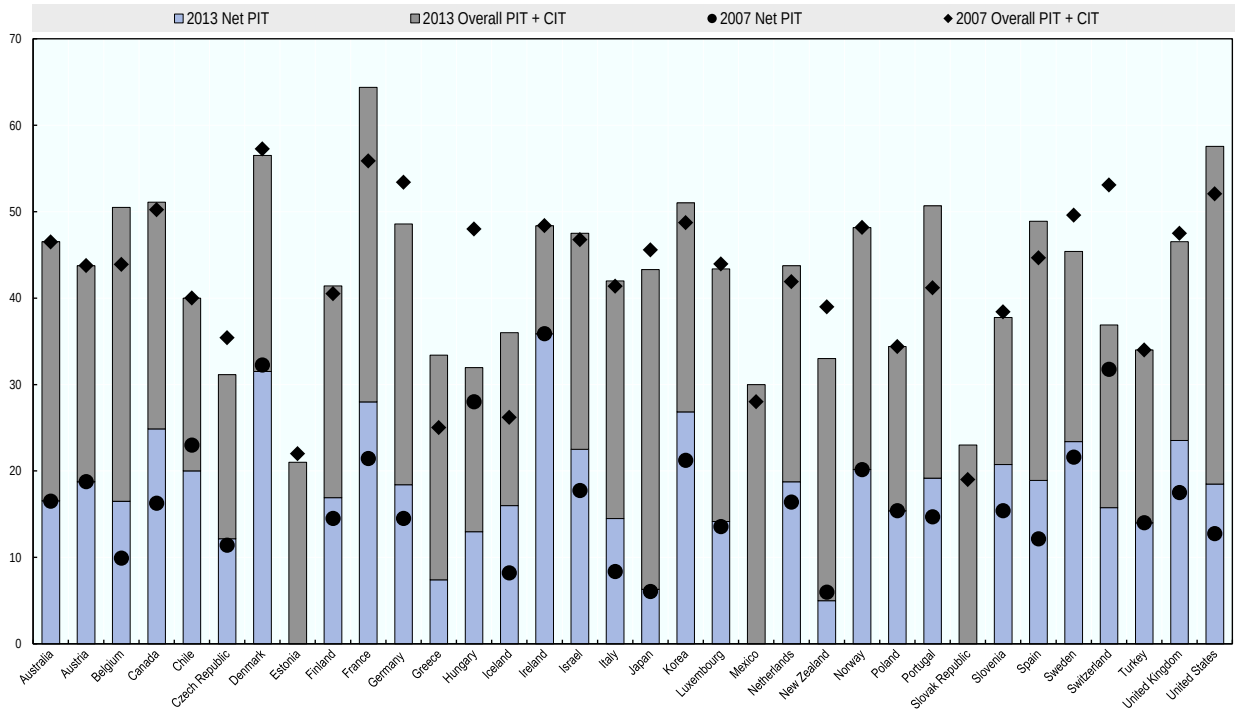
Sources: OECD Tax Database.

4.2. Personal taxes on capital income

While CIT rates have continued to fall since the onset of the crisis, tax rates on personal capital income (interest, dividends and capital gains) have increased during this period – see figure 13 for distributed corporate income (dividends). More than half of OECD countries have raised personal tax rates on at least one form of personal capital income since 2007; and nearly half have raised their top personal tax rate on distributed personal income while also cutting CIT rates.

The general trend towards higher taxes on personal capital income could be driven by a number of factors. Equity is likely high on the list for several countries. During the lead-up to the crisis, the share of income going to the top 1% increased significantly in some OECD countries. Along with increases in top PIT rates (discussed below), policy-makers could have judged that increasing tax rates on capital income, especially for higher-income individuals, would make fiscal consolidation efforts fairer.

Figure 13: Overall CIT + PIT rates on distributed corporate income, 2007 + 2013



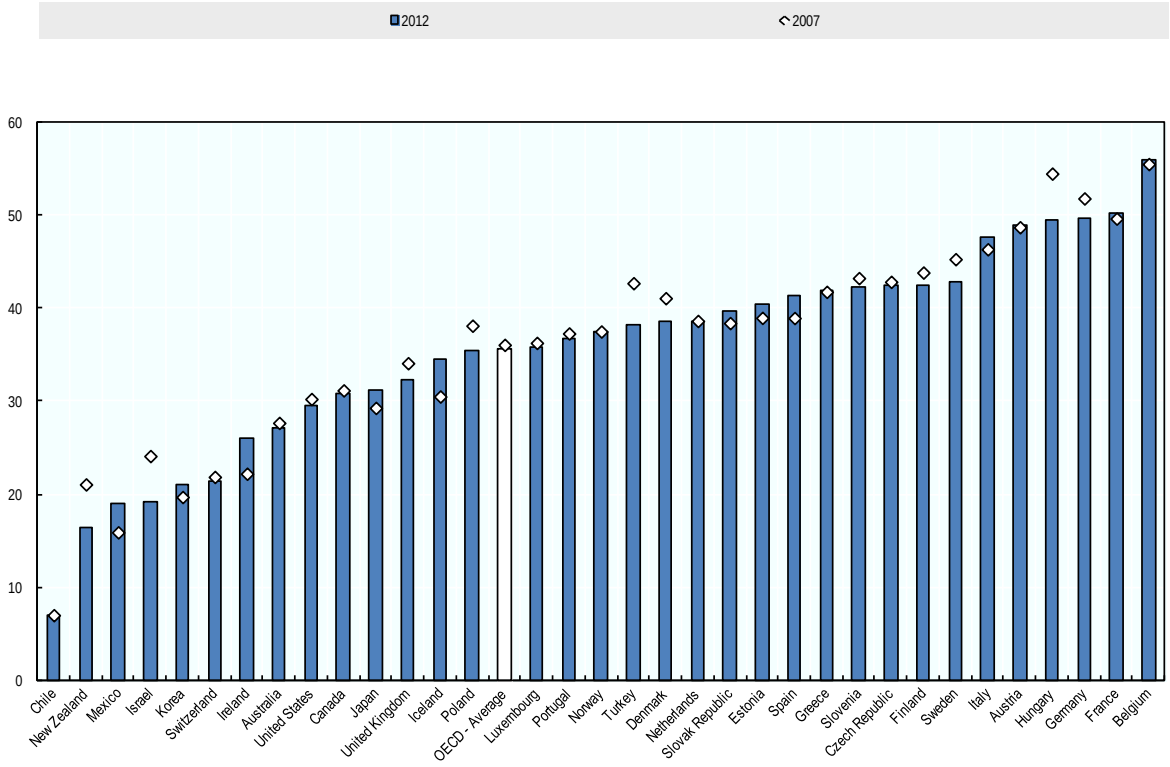
Source: OECD Tax Database

Evolving views on the efficiency costs of taxes on personal capital income could be another important factor. With increasing global integration (as discussed above), lowering CIT rates may be increasingly viewed as mattering most for reducing the cost of capital and encouraging investment, with taxes on personal capital income playing a role only for those small firms that cannot access international capital markets. Reducing CIT rates and increasing taxes on personal capital income may thus be viewed as an attempt to strike a balance between equity and incentives.

4.3. Labour income and employment

Taxes on labour (i.e., most of PIT as well as SSCs and payroll taxes) account for half of tax revenues on average in OECD countries. The important contribution of these taxes to government revenues, and thus to financing social spending and to reducing budget deficits, means that governments have had to tread carefully: any broad-based reduction would be expensive, and any broad-based increase can result in many losers. As Figure 14 shows, there has been little movement overall in the average tax wedge between 2007 and 2012. Apart from action on top PIT rates (see next section), few countries have undertaken comprehensive reform of taxes on labour; exceptions include Hungary and New Zealand.

Figure 14: Average tax wedge (%), 2007 and 2012



Source: Taxing Wages (2013). For a single individual earning the average wage, without children.

While average tax rates have generally not changed much around the middle of the income distribution, most countries have had to face a significant increase in unemployment (see Figure 2 above). There is particular concern about considerable increases in long-term unemployment and youth employment, and the "scarring effects" that can result from extended periods without work.

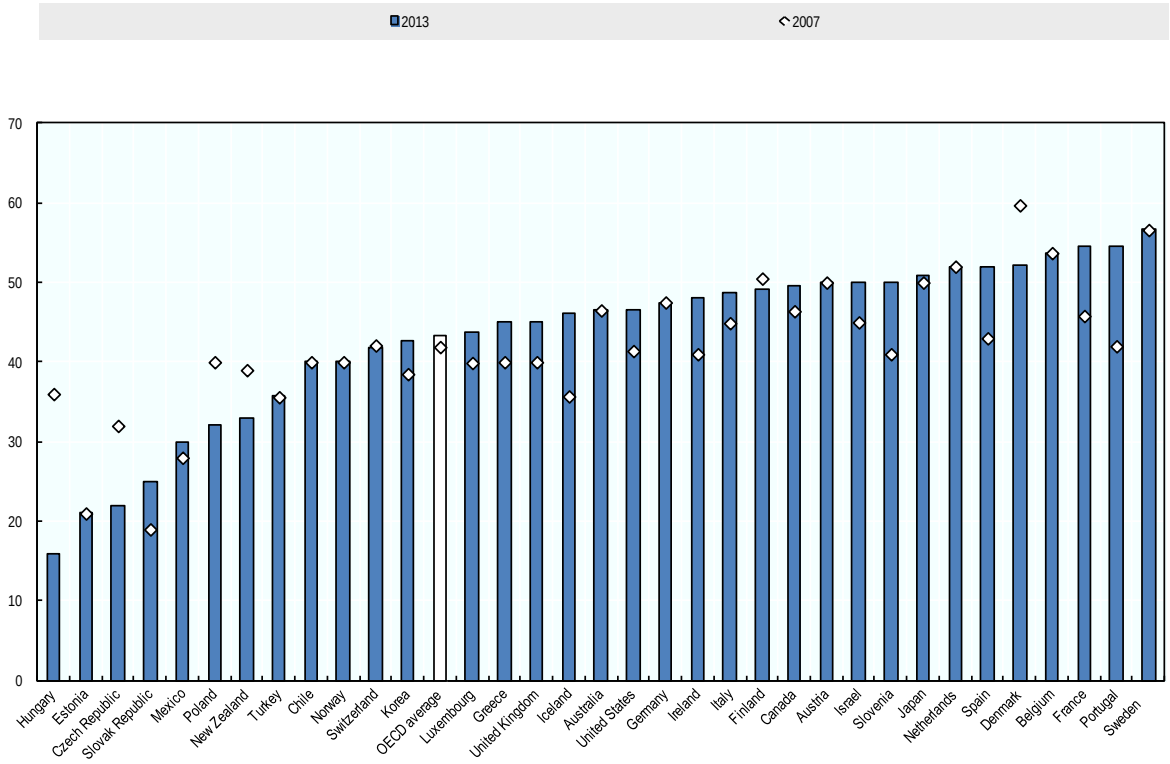
The rise in unemployment has strengthened arguments for tax reforms that can improve incentives for employers to hire lower-paid, lower-skilled workers and improve work incentives for such individuals. Countries have followed different reform paths, with some focusing on labour demand by reducing tax burdens on employers (i.e., through targeted reductions in employer SSCs) (e.g., France, Hungary), while others have focused more on labour supply by increasing in-work tax credits (e.g., Canada, Sweden) or increasing the size of the first tax-free slice of income (e.g., Australia, Denmark, United Kingdom). Not all these policies would necessarily be equally effective in boosting employment; and the measures chosen would likely reflect the severity of budget constraints, wider (re)distributive objectives, etc.

4.4. Top PIT rates

While taxes on labour have been relatively stable for most of the population, top PIT rates have tended to increase since the onset of the crisis. As Figure 15 shows, between 2007 and 2013, top PIT rates went up in 16 OECD countries and down in six. While the increases have been relatively modest, this does

reverse the general downward trend in top PIT rates that started in the 1980s and lasted until the mid-2000s.[6]

Figure 15: Top PIT rate (%), 2007 vs. 2013



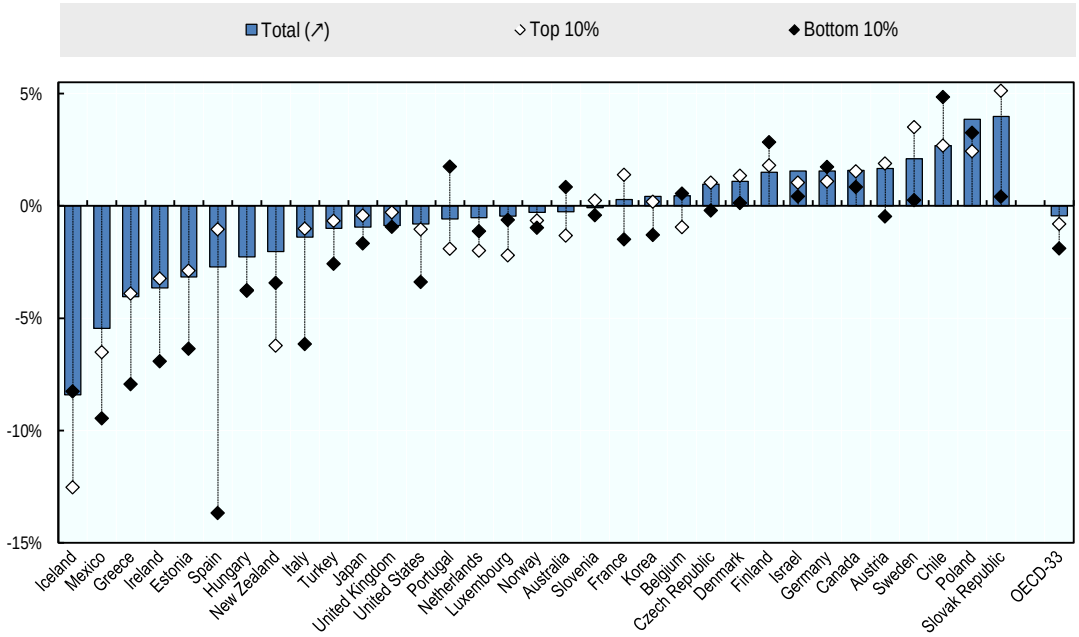
Sources: OECD Tax Database, plus questionnaire responses from member countries for 2013.

In several cases, such as in Canada, the Czech Republic, France, Greece, Italy, Portugal and Spain, these increases have taken the form of temporary surcharges (although these have been extended in some cases as meeting fiscal consolidation targets has proved more difficult than expected). Also, in some cases (including Canada, the Czech Republic, France, Italy, Korea, Luxembourg, the Slovak Republic, Slovenia and the UK), the increases apply only to quite high income levels (i.e., these countries have effectively added a new PIT bracket at the top of the income distribution).

Concerns about equity are clearly an important driver of increases in top PIT rates. As countries have had to reduce social spending and implement broad-based tax increases (e.g., to VAT rates) to rein in budget deficits, higher PIT rates at the top of the income distribution (along with the increases in taxes on personal capital income, as discussed above) have helped make the overall package of policy measures more palatable. This concern is likely to remain, as available data suggest that there may have been some widening of the income gap since the onset of the crisis (see Figure 16).

6 See Brys, Matthews and Owens (2011) for a discussion of tax reform trends in the decades preceding the crisis.

Figure 16: Annual percentage changes in disposable income for total population and bottom and top deciles, 2007-2010[1]



Note: Data refer to 2010 except for Chile, Hungary, Japan, New Zealand and Turkey where they refer to 2009 and Ireland and Switzerland where they refer to 2008.
1. Indicators are based on equivalised household incomes (i.e., adjusted for household size).
2 Information on data for Israel: http://dx.doi.org/10.1787/888932315602.
Source: OECD (2013b). OECD Income Distribution and Poverty Database (www.oecd.org/social/income-distribution-database.htm).

Nevertheless, concerns remain about the impact of increases in top PIT rates on incentives to increase work effort and invest in skills and entrepreneurship; and the increased incentive to incorporate for tax planning reasons when the gap between (top) PIT rates and the CIT rate is widened. Indeed, the high elasticity of taxable income at the top of the income distribution, as indicated by empirical studies, may reflect responses in real economic behaviour as well as changes in tax planning. Experience in the United Kingdom, starting with the increase in the top PIT rate from 40% to 50% and followed by a subsequent decrease in this rate to 45% after preliminary estimates found that the revenue gain was less than anticipated, suggests that behavioural responses can matter for this group, (especially if rate changes are announced in advance and tax planning opportunities are available).

4.5. Tax reliefs/ expenditures and addressing tax avoidance/ evasion

Policy-makers have thus also sought alternative ways to increase average (personal) tax rates paid by high-income individuals. There have been modest steps taken to reduce tax expenditures that disproportionately benefit high-income individuals. Some countries (e.g., Australia, Denmark, Ireland, United Kingdom) have moved to make tax preferences for pensions and retirement savings less generous at the high end; others have moved to limit the overall amount of tax reliefs (either as a monetary amount or as a percentage of income) that can be deducted from taxable income (e.g., France, Greece, Korea, United Kingdom, United States). While such measures can be expected to have less of an impact on incentives than increasing top PIT rates, increasing average PIT rates may have some influence on where high-skilled individuals choose to live and work.

Overall, though, while a number of countries have undertaken substantive studies of the cost-effectiveness of tax incentives and tax expenditures (as recommended by, for instance, OECD (2010)) and a number of countries (e.g., Greece, Portugal) have taken significant steps to scale back tax expenditures, for the most part only the low hanging fruit that has been gathered. This may in part reflect the strength of the constituencies benefiting from these tax breaks, but governments appear also to have been under pressure to introduce new tax reliefs to try to stimulate investment or increase employment (as discussed above).

There has, though, been an intensification of efforts to reduce tax evasion, especially in the international context. These are primarily focused on high-income individuals (as they have the means to hold significant amounts in offshore accounts). There have been significant efforts to close down tax breaks that have provided loopholes that have been exploited for tax planning. Protecting revenues can be as important for fiscal consolidation as raising additional revenues (OECD, 2011; Forum for Tax Administration SME Compliance Sub-Group, 2012) . Moreover, the difficulties faced by individual tax administrations in countering tax evasion (by individuals) and aggressive tax avoidance by corporations (especially profit shifting by MNEs) have been the major drivers of increased cooperation under OECD auspices to move toward automatic exchange of information for tax purposes and to address BEPS.

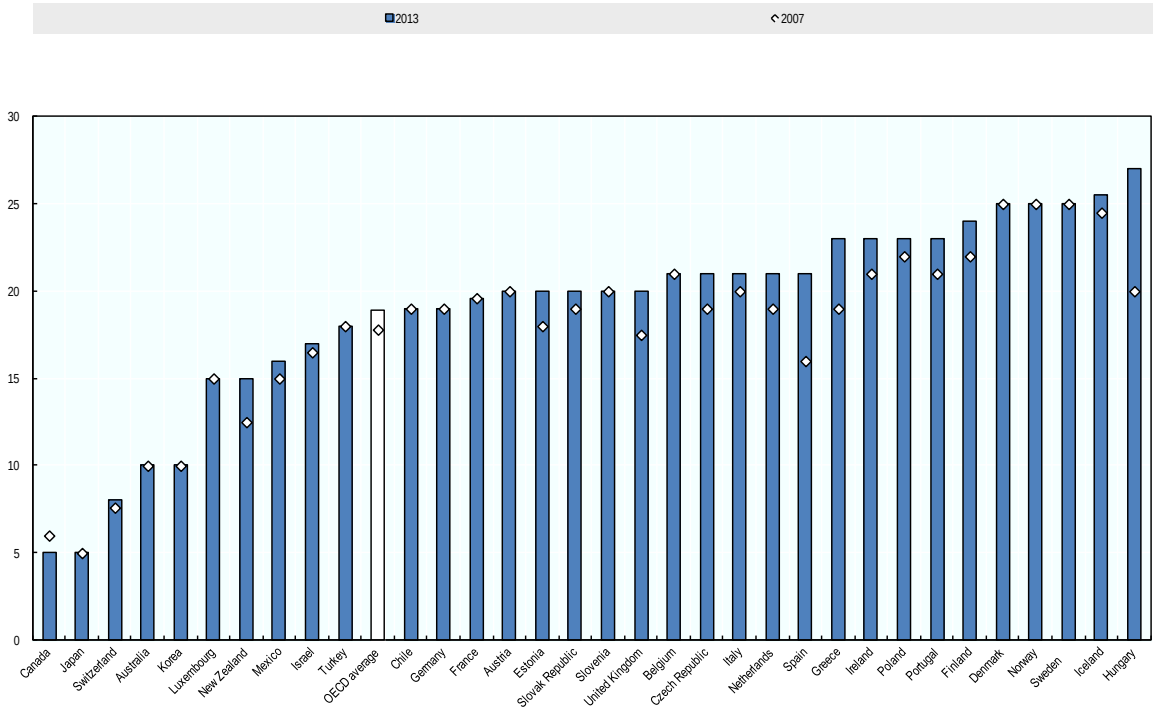
4.6. Consumption taxes

Broad based consumption taxes, notably VAT, have played a significant part in fiscal consolidation in many countries, primarily through increases in tax rates rather than a broadening of the base. Since 2007, the standard VAT rate has been increased in 18 countries, and the average VAT rate has increased by more than one percentage point, from 17.8% to 18.9% (see Figure 17).

One of the attractions of increasing VAT rates has been that the measure can be implemented relatively quickly. While several countries that have increased their standard VAT rate have raised their reduced VAT rate(s) at the same time, shifts of goods and services from the reduced rate to the standard rate have been relatively limited, although some countries (e.g., Portugal) have made considerable progress in making greater use of the standard VAT rate.[7] The continued use of reduced VAT rates for 'necessities' has helped attenuate concerns about the distributional impact of increasing revenues from VAT/ GST. However, standard economic analysis suggests that the use of reduced VAT rates is an inefficient way of achieving distributional objectives: higher-income households spend more in absolute terms on "necessities" and other goods and services benefiting from reduced rates, and lower-income households can be fully compensated (on average) at a lower cost. (The distributional impact of VAT will be examined in greater depth by the Secretariat in its future work.)

[7] Also, changes to VAT exemptions have been rare; this is understandable since coordinated action is required for EU countries, and quite complicated issues are raised in certain areas (e.g., financial services).

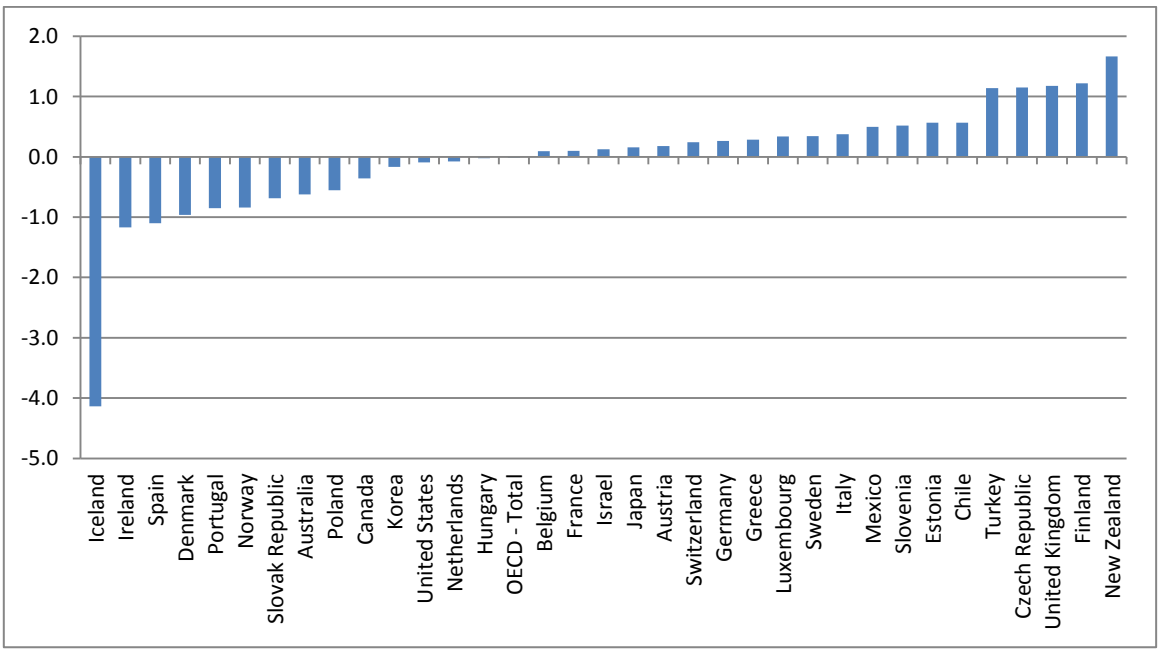
Figure 17: Standard VAT rate (%), 2007 vs. 2013



Sources: OECD Tax Database, plus questionnaire responses from member countries for 2013. Rate for Canada is federal-only (i.e., provincial-level sales taxes excluded).

Working in the opposite direction to the rise in VAT rates has been the weakness of consumers' expenditure since the crisis as households have increased their saving in order to 'deleverage'. Figure 18 compares revenues from taxes on goods and services as a share of GDP before the crisis (2007) with the latest year's data (2011 for most countries, 2010 for a handful). On average across the OECD, the goods and services tax revenue ratio is essentially unchanged from 2007 to 2011. Five OECD countries (New Zealand, Finland, the United Kingdom, Czech Republic and Turkey) have had an increase in this ratio of more than 1 percentage point. In Iceland the ratio of tax revenue from tax on goods and services to GDP decreased by more than 4 percentage points, while Ireland and Spain both had decreases of just above 1 percentage points.

Figure 18: Change in revenues from taxes on goods and services as a percentage of GDP between 2007 and 2011[1]



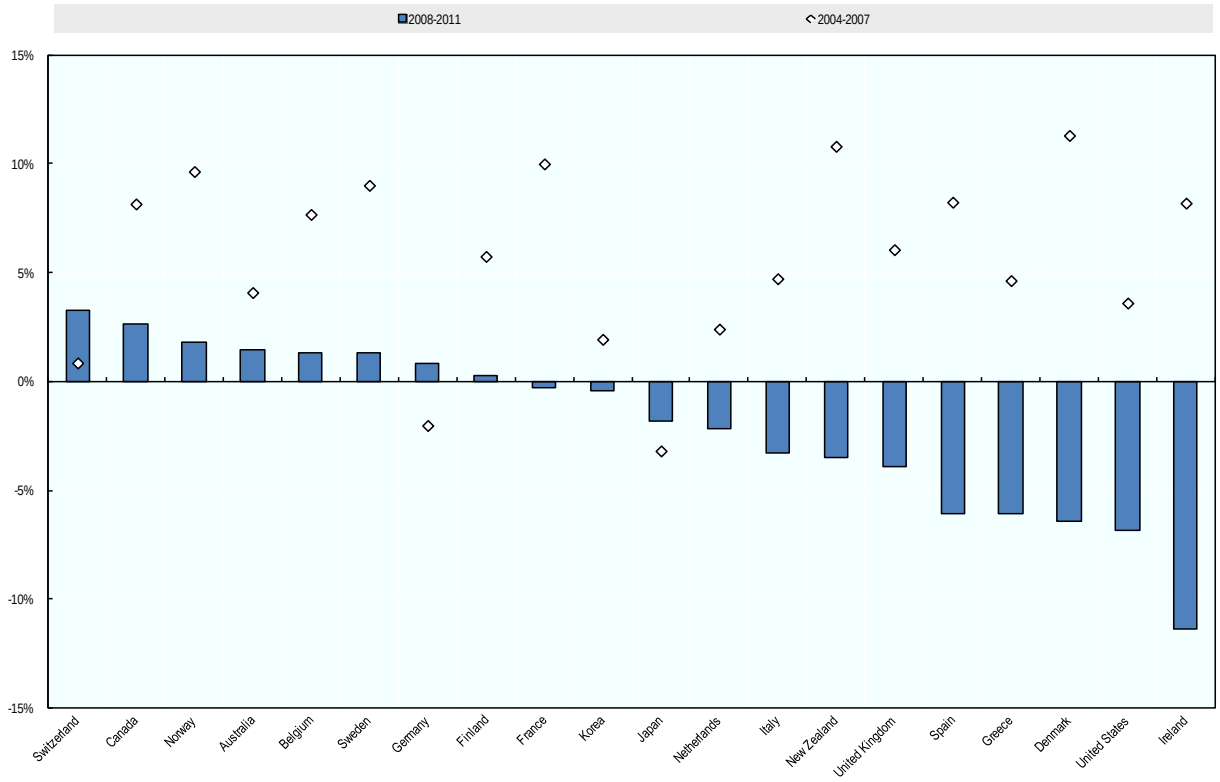
Source: Revenue Statistics 2012.
1. Data for 2011 are provisional. 2010 figures are the most recent for Australia, Greece, Mexico, the Netherlands, Poland and Portugal.

4.7. Residential property

An important feature of the pre-2007 economic expansion in many countries was a boom in residential property prices. This was then followed by significant falls in prices in most of these countries, as Figure 19 illustrates (and a slowing down of price rises in other countries).

These fluctuations in property prices produced a marked cycle in revenues from taxes on property transactions (which has been reinforced by the volume of transactions tending to rise in the boom and fall in the bust). By contrast, revenues from recurrent taxes on immovable property have been much less cyclical, in part because valuations for tax purposes may not be strongly related to market prices, in part because they have allowed to become outdated.

Figure 19: Average annual percentage change in real house prices: 2004-2007 compared with 2008-2011



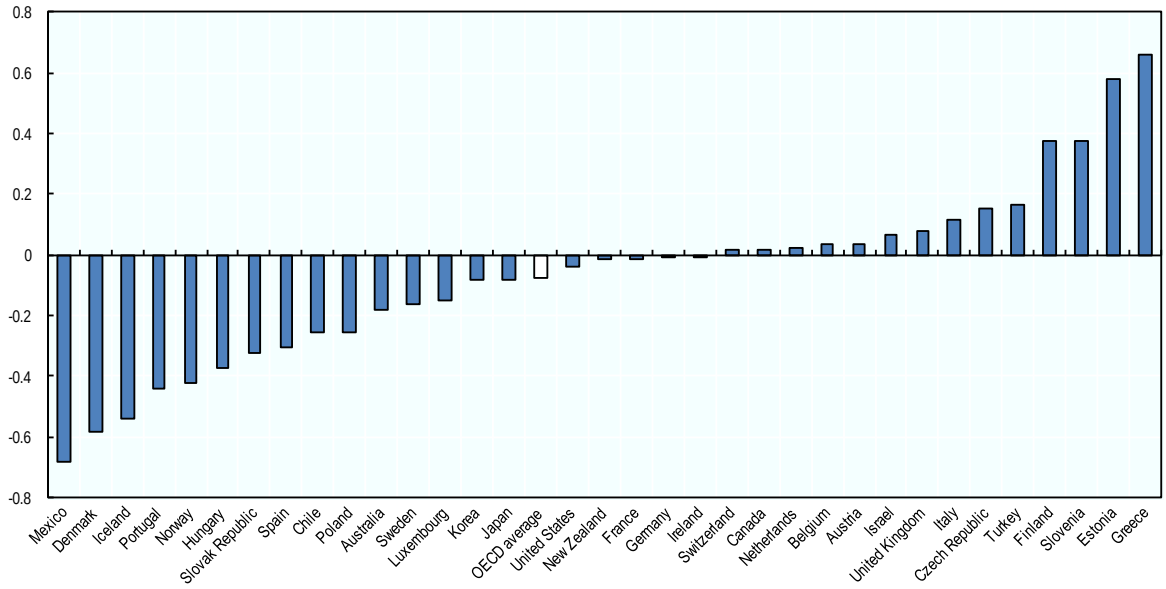
Source: Calculations based on Economic Outlook 92 database. Data only available for these countries.

Despite the attractions of recurrent taxes on residential property as a tax base that is not much affected by globalisation and tax competition, few countries have sought to raise significant additional revenues from such taxes as part of their fiscal consolidation efforts. This could in part be because the timing was unpropitious on broader macroeconomic grounds, given high levels of household sector (mortgage) indebtedness, with significant numbers of borrowers having negative housing equity, or because of the administrative costs and time required for property revaluations. However, there are likely also to have been a range of structural factors (such as the division of taxation powers in this area between central and sub-central government) as well as political economy factors such as the losers and losses being more apparent than the potentially greater number of gainers and size of gains.

4.8. Environmental taxation

Despite the compelling arguments for increased use of environmentally-related taxes and the pressing needs for additional tax revenues, the use of such taxes has increased only modestly in recent years and, overall, revenues have tended to fall in relation to GDP, as Figure 20 illustrates.

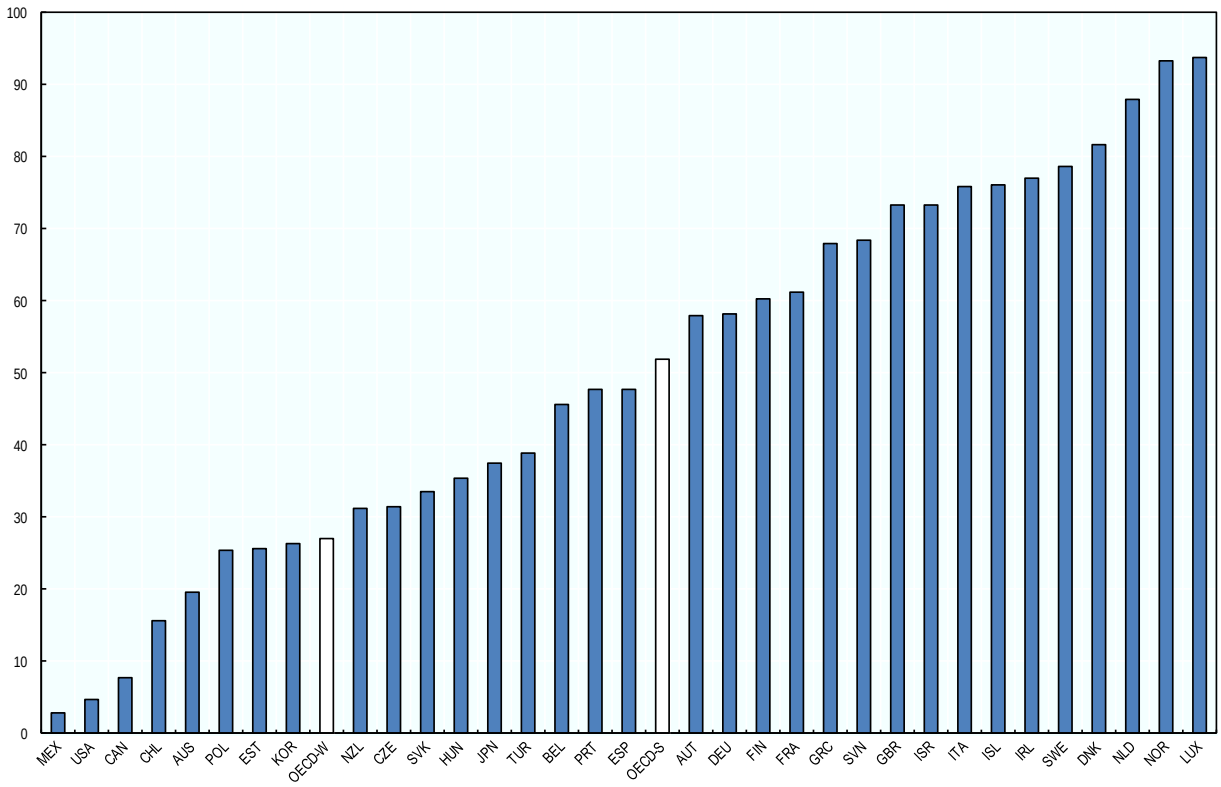
Figure 20: Change in environmentally-related taxation as a percentage of GDP, 2007- 2011[1]



Source: OECD/European Environmental Agency (EEA) database on instruments used for environmental policy and natural resources management.
(1) 2010 figures for Australia, Israel, the Netherlands, Poland and the United States.

In principle, environmentally-related taxes are intended primarily to encourage businesses and households to take account of the environmental harm resulting from their production and consumption activities. While many environmental externalities are country-specific (e.g. local air pollution) some are cross-border, most notably the contribution of emissions of greenhouse gasses to climate change. Emissions of carbon dioxide, for instance, have broadly the same effect wherever or whenever they take place. Despite the salience of the challenges of climate change, there are wide variations in tax rates across countries, as Figure 21 illustrates. While, these statistics have only recently been prepared on a cross-section basis (and a time series is not available), the information gathered by the OECD Secretariat on policy measures in member countries does not suggest any trend toward convergence of effective tax rates. This could be an indirect effect of the financial and economic crisis and its aftermath – i.e. they may have diverted attention from addressing climate change issues.

Figure 21: Average effective tax rates on CO2, Euro per tonne of CO2



Source: OECD calculations underlying *Taxing Energy Use* (OECD 2013c). Tax rates are as of 1 April 2012 (except 1 July 2012 for AUS); energy use data is for 2009 from IEA. Figures for CAN and USA include only federal taxes. OECD-W: Weighted average. OECD-S: Unweighted average.

4.9. Financial stability and financial sector taxation

While favourable tax regimes for debt interest encouraged increased leverage (and there were opportunities for tax arbitrage, e.g. between income and gains, or domestic and overseas tax regimes, that were exploited in the development of structured financial products), these were generally long-standing aspects of tax systems, rather than changes with more direct causal links to the credit expansion that preceded the crisis. (See European Commission (2010); IMF (2009); Lloyd (2009); Slemrod (2010).)

For the most part tax regimes have not been reformed since 2008 to make corporate debt less attractive. The introduction of an ACE in Italy the principal exception (though lower CIT rates in other countries also mean less tax privilege for debt over equity and regulatory reforms are increasing the amount of equity that banks need to have.) Prompted in part by European Court of Justice Judgements, a number of countries have also sought to make their thin capitalisation rules non-discriminatory, by establishing overall limits on the deductibility of interest expenses for CIT purposes. In the case of household debt, governments have perhaps wanted to avoid weakening the impact of ultra-low interest rates in supporting aggregate demand – see, for instance, discussion above of property taxation.

The first round of papers (cited above) on tax and the financial crisis spawned a second round that examined the taxation of the financial sector (e.g. IMF (2010); Shackelford, Shaviro and Slemrod (2010)). Such studies saw the VAT treatment of financial services as being one of the main areas where taxation not only had a distorting effect but probably also resulted in under-taxation. There were also important

interactions between the taxation and regulation of banks (particularly in the case of Strategically Important Financial Institutions). In practice the main type of measure introduced by OECD countries has been the introduction of bank levies (related to the size of the balance sheet). Some 15 countries now have such levies.

Another area of interest has been whether and, if so, how the tax regime can support regulation to make financial markets work better. In practice, the measures actually adopted to date have been primarily to extend and/ or introduce taxes on trading in equities 15 OECD countries have some form of tax on financial transactions, but in most cases, these taxes have been longstanding parts of the tax system (often as part of a more general tax on property transactions). To date, only France, Hungary and Italy have introduced new financial transactions taxes (FTT) since the financial and economic crisis. The number of OECD countries with an FTT could increase in the near future if certain European Union member states proceed with an FTT on an enhanced cooperation basis.

5. Some concluding observations

The tax policy landscape in the years following the crisis has been shaped both by shorter-term fiscal and macroeconomic considerations (i.e., first supporting aggregate demand and then contributing to fiscal consolidation) and longer-term structural trends (e.g., globalisation, the growing importance of intangible assets, income inequality). Both types of driver are likely to continue to be influences on tax policy in the years ahead.

Budget deficits and public debt (in relation to GDP) continue to be a concern in many countries, not only because of the slow and hesitant recovery from the recession (and perhaps a fall in the underlying or trend rate of economic growth), but also because of the upward pressures on public expenditure likely to arise from population ageing. It remains to be seen how far it will be possible to constrain the growth of health care and pension expenditures, or to cut back other public expenditure. However, the difficulties of reducing the growth of expenditure are such that there are likely to be pressures to raise more taxation. Continuing to push up tax rates on consumption and personal incomes, (as in recent years), without any significant broadening of tax bases, (or greater use of environmental and recurrent taxes on residential property), would tend to increase further the distortive effects of tax breaks and other reliefs.

On the other hand, the constituencies that benefit from tax expenditures (or low environmental and property taxes) are likely to lobby all the harder to retain them, making tax reform more difficult. In some cases beneficiaries of tax reliefs (notably reduced rates of VAT) are also able to appeal to wider distributional arguments and this is likely to have been a major reason why there has been few substantive changes in the VAT base in recent years, while standard rates have been raised in a majority of OECD countries. On the other hand, the falls/ slow growth in living standards and higher unemployment due to the 'Great Recession' appear to have made electorates in OECD countries less tolerant of tax evasion and aggressive tax avoidance, leading to a strengthening of international cooperation in these areas.

Wider economic and social considerations are likely also to continue to shape tax policy – in particular whether and, if so, how tax policy can contribute to restoring the growth of potential output and employment, support economic adaptation to take advantage of the opportunities arising from technical progress and globalisation and contribute to achieving a fair distribution of disposable income. These challenges are not new, but the potential conflicts in policy objectives are tending to grow larger. For instance, with statutory rates of CIT being cut to try to encourage the growth of business investment and promote (tax) competitiveness, it may become more difficult to maintain the coherence of tax regimes (e.g. from increased incentives for tax planning to convert employment income into capital income) and to apply a progressive rate structure to the incomes of better off individuals (who are likely to have more capital income and to be more internationally mobile). A potential attraction of shifting the composition of

the tax burden more towards consumption and residential property is that their tax bases may be less mobile internationally.

The conventional wisdom is that wide-ranging tax reforms are easiest to undertake in periods of revenue buoyancy when overall living standards are tending to rise and there are funds potentially available to compensate losers. Even when fiscal space was available (i.e., during the lead-up to the crisis), not many countries engaged in comprehensive tax reform. Nevertheless, they did make progress in reducing marginal tax rates on individuals and businesses.

On the other hand, difficult economic times may help to contribute to a willingness by policymakers and electorates to contemplate the previously 'unthinkable'. The evidence from the past five years for such a view remains modest, although as described above, there are some examples of fairly comprehensive tax changes. In addition, a number of countries have sought to take at least what they have perceived to be the low-hanging fruit in broadening tax bases. The structural aspects of tax policy remain crucial, given the contribution that raising the underlying growth rate of output could make to improving standards of living and restoring sound public finances.

REFERENCES

Brys, Bert, Stephen Matthews and Jeffrey Owens (2011). "Tax Reform Trends in OECD Countries". OECD Taxation Working Papers No. 1.

Forum on Tax Administration: SME Compliance Sub-Group (2012). Information note: Reducing opportunities for tax non-compliance in the underground economy.

Himmelgarn, T. and G. Nicodème (2010). The 2008 Financial Crisis and Tax Policy. *Taxation Papers,* European Commission No. 20.

IMF (2009). "Debt Bias and Other Distortions: Crisis-Related Issues in Tax Policy". IMF Board Paper (Washington: International Monetary Fund).

IMF (2010). Financial Sector Taxation: The IMF's Report to the G-20 and Background Material. Editors: Stijn Claessens, Michael Keen, and Ceyla Pazarbasioglu.

Lloyd, G. (2009). "Moving Beyond the Crisis: Using Tax Policy to Support Financial Stability". OECD, mimeo.

OECD (2007), Tax Effects on Foreign Direct Investment. OECD *Tax Policy Studies* No. 17

OECD (2010), Choosing a Broad Base – Low Rate Approach to Taxation. *Tax Policy Studies* No. 19

OECD (2011), Tackling Aggressive Tax Planning through Improved Transparency and Disclosure.

OECD (2013a). *Interconnected Economies: Benefitting From Global Value Chains.*

OECD (2013b). "Crisis squeezes income and puts pressure on inequality and poverty". http://www.oecd.org/els/soc/OECD2013-Inequality-and-Poverty-8p.pdf

OECD (2013c). "Taxing Energy Use: Graphical Analysis"

Shackelford, Douglas A., Daniel Shaviro and Joel Slemrod (2010). "Taxation and the Financial Sector". NYU Law and Economics Research Paper No. 10-25.

Slemrod, Joel (2009). "Lessons for Tax Policy in the Great Recession". *National Tax Journal* September 2009, 62(3), pp. 387-397.

ANNEX

Table A1: Real GDP growth (% change from previous year)

	2008	2009	2010	2011	2012	2013	2014
Australia	2.4	1.5	2.6	2.4	3.6	2.6	3.2
Austria	1.1	-3.5	2.2	2.7	0.8	0.5	1.7
Belgium	1.0	-2.8	2.4	1.9	-0.3	0.0	1.1
Canada	1.1	-2.8	3.2	2.6	1.8	1.4	2.3
Chile	3.1	-0.9	5.8	5.9	5.5	4.9	5.3
Czech Republic	2.9	-4.4	2.3	1.8	-1.2	-1.0	1.3
Denmark	-0.8	-5.7	1.6	1.1	-0.5	0.4	1.7
Estonia	-4.2	-14.1	3.3	8.3	3.2	1.5	3.6
Finland	0.3	-8.5	3.3	2.8	-0.2	0.0	1.7
France	-0.2	-3.1	1.6	1.7	0.0	-0.3	0.8
Germany	0.8	-5.1	4.0	3.1	0.9	0.4	1.9
Greece	-0.2	-3.1	-4.9	-7.1	-6.4	-4.8	-1.2
Hungary	0.7	-6.7	1.3	1.6	-1.8	0.5	1.3
Iceland	1.2	-6.6	-4.1	2.9	1.6	1.9	2.6
Ireland	-2.1	-5.5	-0.8	1.4	0.9	1.0	1.9
Israel	4.1	1.1	5.0	4.6	3.2	3.9	3.4
Italy	-1.2	-5.5	1.7	0.5	-2.4	-1.8	0.4
Japan	-1.0	-5.5	4.7	-0.6	2.0	1.6	1.4
Korea	2.3	0.3	6.3	3.7	2.0	2.6	4.0
Luxembourg	-0.8	-4.1	2.9	1.7	0.3	0.8	1.7
Mexico	1.2	-6.0	5.3	3.9	3.9	3.4	3.7
Netherlands	1.8	-3.7	1.6	1.1	-1.0	-0.9	0.7
New Zealand	-0.6	0.3	0.9	1.3	3.0	2.6	3.1
Norway	0.1	-1.6	0.5	1.2	3.2	1.3	3.0
Poland	5.0	1.6	3.9	4.5	2.0	0.9	2.2
Portugal	0.0	-2.9	1.9	-1.6	-3.2	-2.7	0.2
Slovak Republic	5.8	-4.9	4.4	3.2	2.0	0.8	2.0
Slovenia	3.4	-7.8	1.2	0.6	-2.3	-2.3	0.1
Spain	0.9	-3.7	-0.3	0.4	-1.4	-1.7	0.4
Sweden	-0.8	-5.0	6.3	3.8	1.2	1.3	2.5
Switzerland	2.2	-1.9	3.0	1.9	1.0	1.4	2.0
Turkey	0.7	-4.8	9.2	8.8	2.2	3.1	4.6
United Kingdom	-1.0	-4.0	1.8	1.0	0.3	0.8	1.5
United States	-0.3	-3.1	2.4	1.8	2.2	1.9	2.8
Euro area (15 countries)	0.3	-4.3	1.9	1.5	-0.5	-0.6	1.1
OECD - Total	0.2	-3.6	3.0	1.9	1.4	1.2	2.3

Source: OECD Economic Outlook No. 93

1. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Table A2: Change in the tax revenue share of headline taxes from 2000 to 2007, in percentage points

	Income and profits	Social security and payroll	Property	Goods and services	Other
Australia	1.7	0.2	0.2	**-2.1**	0.0
Austria	1.6	-0.5	0.0	-1.0	-0.1
Belgium	**-2.6**	0.1	**2.7**	-0.3	0.0
Canada	-1.0	0.7	1.1	-0.3	-0.5
Chile	**22.4**	-1.7	**-2.1**	**-20.0**	1.4
Czech Republic	2.0	-0.6	-0.2	-1.6	0.0
Denmark	-0.3	-1.5	0.6	1.2	0.0
Estonia	-1.2	-1.9	-0.6	**3.0**	0.0
Finland	**-3.8**	**2.4**	0.2	1.1	0.0
France	-1.0	1.4	1.1	-1.0	-0.5
Germany	1.1	**-2.4**	0.2	1.1	0.0
Greece	**-4.0**	**3.6**	-0.9	1.2	0.0
Hungary	0.9	1.3	0.3	**-2.7**	-0.1
Iceland	**5.5**	-0.1	-1.7	**-3.7**	-0.1
Ireland	**-3.0**	**2.1**	**2.6**	-1.5	0.0
Israel	**-3.1**	0.9	0.4	1.8	0.0
Italy	0.6	1.4	0.2	**-2.6**	0.4
Japan	1.5	1.3	-1.5	-1.3	0.0
Korea	**3.0**	**4.1**	0.4	**-7.1**	-0.4
Luxembourg	-1.2	1.9	-0.9	0.4	0.0
Mexico	0.4	-0.9	0.3	0.1	0.1
Netherlands	**2.9**	**-4.2**	-0.6	1.8	0.1
New Zealand	**2.9**	0.0	0.0	**-3.0**	0.0
Norway	**2.9**	-0.1	0.5	**-3.3**	0.0
Poland	**2.1**	**-4.4**	-0.1	1.5	0.6
Portugal	-1.6	0.4	0.4	1.1	-0.1
Slovak Republic	-0.7	-1.8	-0.5	**2.2**	0.0
Slovenia	**4.8**	**-2.7**	-0.2	**-2.6**	0.0
Spain	**5.1**	**-2.4**	1.8	**-4.5**	0.0
Sweden	**-2.1**	1.1	-1.0	2.0	0.0
Switzerland	**2.2**	-1.0	-1.1	-0.1	0.0
Turkey	**-5.8**	**3.0**	0.6	**5.7**	**-3.4**
United Kingdom	0.5	1.4	1.0	**-2.8**	0.0
United States	-1.7	-0.1	1.1	0.7	0.0
OECD average	0.9	0.0	0.1	-1.1	-0.1

1. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: Revenue Statistics

Table A3: Change in the tax revenue share of headline taxes from 2007 to 2011[1], in percentage points

	Income and profits	Social security and payroll	Property	Goods and services	Other
Australia	**-2.6**	0.5	0.4	1.8	0.0
Austria	-1.1	1.3	-0.1	0.2	-0.2
Belgium	-1.0	1.1	0.1	0.0	0.0
Canada	**-2.4**	1.2	0.8	0.4	0.0
Chile	**-5.6**	0.7	-1.0	**5.5**	0.3
Czech Republic	**-4.3**	0.2	0.3	**3.7**	0.0
Denmark	1.1	0.1	0.2	-1.4	0.0
Estonia	**-3.7**	**3.6**	0.3	0.0	0.0
Finland	**-3.6**	1.2	0.0	**2.5**	0.0
France	-1.1	1.2	0.5	-0.1	-0.5
Germany	-1.7	1.8	-0.1	-0.1	0.0
Greece	-1.2	-1.5	0.6	**2.4**	0.0
Hungary	**-8.0**	**2.1**	1.2	**4.8**	0.0
Iceland	0.2	**4.5**	0.2	**-6.2**	1.3
Ireland	**-3.0**	**4.7**	**-2.6**	0.9	0.0
Israel	**-6.4**	1.7	0.5	**4.3**	0.0
Italy	-1.6	1.3	0.3	1.0	-1.0
Japan	**-6.1**	**4.6**	0.7	0.7	0.0
Korea	-1.5	**2.8**	-1.4	0.2	-0.1
Luxembourg	0.8	**2.1**	**-2.7**	-0.2	0.0
Mexico	0.1	0.1	-0.1	-0.5	0.3
Netherlands	-0.3	1.5	-0.9	-0.2	-0.1
New Zealand	**-9.8**	0.0	1.6	**8.2**	0.0
Norway	0.8	1.3	0.0	**-2.1**	0.0
Poland	**-2.6**	0.6	0.3	1.9	-0.2
Portugal	-1.2	**2.5**	-0.5	-1.2	0.4
Slovak Republic	-1.5	**2.9**	0.1	-1.5	0.0
Slovenia	**-3.5**	1.5	0.0	**2.2**	0.0
Spain	**-4.5**	**5.2**	**-2.1**	1.1	0.4
Sweden	**-3.4**	1.0	-0.1	**2.5**	0.0
Switzerland	-0.7	1.0	-0.6	0.3	0.0
Turkey	-0.3	**-2.0**	0.6	**2.9**	-1.1
United Kingdom	**-3.2**	0.5	-1.0	**3.5**	0.0
United States	-1.7	-0.6	0.8	1.5	0.0
OECD average	**-2.5**	1.5	-0.1	1.1	0.0

1. Data for 2011 are provisional. Change from 2007 to 2010 for Australia, Ireland, Japan, Mexico, Netherlands, Poland, Portugal. The OECD-Total change is calculated by using 2010 figures for the countries where 2011 figures are not available.
2. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: Revenue Statistics.

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