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Restoring Fiscal  
Sustainability in Spain

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**ECONOMICS DEPARTMENT**

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**By Pierre Beynet, Andrés Fuentes, Robert Gillingham and Robert Hagemann**

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## ABSTRACT / RÉSUMÉ

### Restoring fiscal sustainability in Spain

Spain's government has introduced ambitious consolidation measures, which should yield a sizeable improvement in discretionary fiscal efforts. Should budgetary outcomes fall short of targets, the government should stand ready to introduce further measures, as announced. Such measures could include subjecting more goods and services to the standard value added tax rate. They could also be used to fund a reduction in some social security contributions paid by employers. Once sufficient progress towards fiscal consolidation has been achieved, a further reform of the tax system towards more growth-friendly taxes should be contemplated. Spain also faces a dramatic increase in ageing-related public spending, mostly on account of pensions. The pension reform plan is welcome, but further reforms in the pension system will be necessary to contain expenditure growth. Rules on the budget balances for each level of government should be reviewed so as to induce regional governments to run larger budget surpluses when activity exceeds potential.

*JEL classification notes: H20, H21, H53, H55, H60, H77*

*Keywords: Spain, fiscal policy, discretionary fiscal effort, taxation, fiscal sustainability, pension reform, fiscal federalism.*

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### Rétablir la viabilité budgétaire en Espagne

Le gouvernement espagnol a introduit des mesures d'assainissement budgétaire ambitieuses qui devraient produire une amélioration importante des efforts budgétaires discrétionnaires. Dans le cas où les objectifs budgétaires ne seraient pas atteints, les autorités devront se tenir prêtes, comme annoncé, à prendre des mesures supplémentaires, qui pourraient consister à assujettir davantage de produits et de services au taux ordinaire de la taxe sur la valeur ajoutée. Ces mesures pourraient aussi servir à financer la réduction d'une partie des cotisations patronales de sécurité sociale. Une fois la consolidation budgétaire suffisamment avancée, une nouvelle réforme du système fiscal devra être envisagée en vue de mettre davantage l'accent sur les impôts qui favorisent la croissance. L'Espagne se trouve aussi confrontée à une augmentation spectaculaire des dépenses publiques liées au vieillissement, due pour l'essentiel aux retraites. Le plan de réforme des retraites va dans le bon sens mais des réformes plus poussées du système de retraite seront nécessaires pour contenir l'accroissement des dépenses. Il conviendrait de revoir les règles relatives aux soldes budgétaires des différents niveaux d'administration afin d'inciter les autorités régionales à dégager des excédents budgétaires plus importants lorsque l'activité économique est supérieure au potentiel.

*Classification JEL: H20, H21, H53, H55, H60, H77*

*Mots clefs: Espagne, politique budgétaire, effort budgétaire discrétionnaire, fiscalité, viabilité budgétaire, réforme des retraites, fédéralisme budgétaire.*

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## Restoring fiscal sustainability in Spain

Pierre Beynet, Andrés Fuentes, Robert Gillingham and Robert Hagemann <sup>1</sup>

### Spain faces significant fiscal challenges

The government faces two major fiscal challenges. The most immediate is to achieve a rapid fiscal consolidation to foster investor confidence, while mitigating its negative impact on activity. The second is to ensure long-term sustainability of fiscal consolidation by implementing reforms to contain expenditure growth and rebalance the tax system so as to reduce distortions that may be harmful to activity. This chapter starts by examining the extent to which the sizeable fiscal deterioration since 2006 is structural. It then assesses how recent government measures help achieve rapid consolidation and discusses additional measures that could be taken, if needed. Finally, it examines the structural reforms that are needed to ensure the long-term sustainability of public finances.

### A structural deterioration of public finances

#### *Despite an initially favourable fiscal position, a steep and structural fiscal deterioration*

Spain's fiscal position has deteriorated sharply since 2007, which contrasts with the regular and significant improvement since the recession of 1993 (Figure 1). From a surplus of 1.9% of GDP in 2007, the fiscal balance moved to a deficit of 11.1% in 2009. The debt level has also increased significantly from 39.6% in 2006 to 53.2% in 2009, mainly as a consequence of the deterioration of the fiscal balance, but also because of government support to the financial sector, such as the 20 billion euros (2% of GDP) borrowed by the Financial Assets Acquisition Fund in 2008-09 to acquire high-quality financial assets issued by Spanish credit institutions. The central government contribution to the *Fund for the orderly restructuring of banks* (FROB) amounted to 6.7 billion euros (0.6% of GDP). In addition, the FROB issued a five-year maturity bond guaranteed by the Spanish government in November 2009 that also contributes to public debt. The capital injections by the FROB in the savings banks' restructuring processes are expected to be unwound after five years or, exceptionally, after seven years.

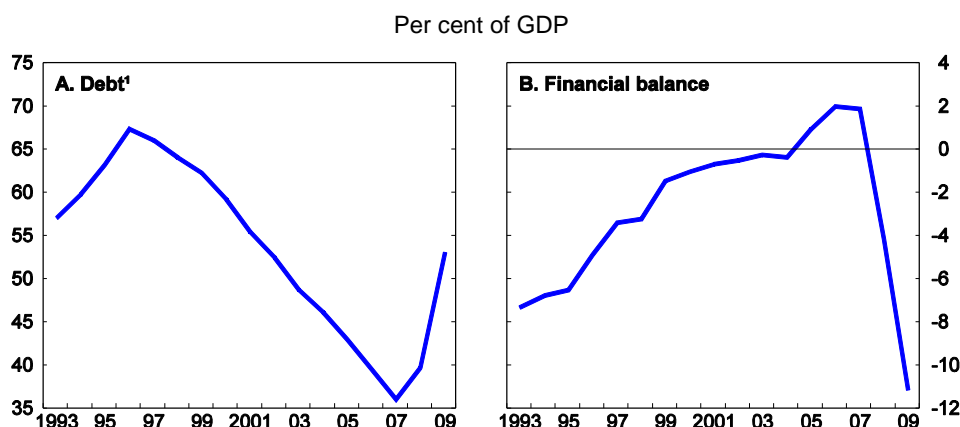
In parallel, contingent liabilities have also increased as the government has granted guarantees to securities issued by credit institutions (48 billion euros in 2009) which is less than the volume of similar support provided by other countries (see Levy and Schich, 2010, for a comparison with data from 2008). This scheme has been extended until the end of this year at least and guarantees issued can last for up to five years.

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1. This paper builds on Chapter 2 of the 2010 Economic Survey of Spain published on 20 December 2010 under the authority of the Economics and Development Review Committee (EDRC). Juan S. Mora-Sanguinetti deserves special thanks for contributing to the boxes on regional funding arrangements and domestic stability rules as well as very helpful research work on other sections. The authors are grateful to Andrew Dean, Bob Ford, Anita Wölfl and other colleagues from the OECD for valuable comments and suggestions. They would like to thank also Desney Erb for excellent statistical assistance and Maartje Michelson for editorial assistance.

The deterioration of Spain’s fiscal position is particularly striking compared to other OECD countries. The cumulative deterioration of the fiscal balance since the last most favourable fiscal position (2006 in Spain) is among the largest in the OECD (Figure 2). The cumulative deterioration of the debt is a bit less marked compared to other countries, in part owing to the fact that Spain did not need to step in massively to support the financial sector, in contrast to some other countries (see Levy and Schich, 2010 for an international comparison). Gross debt remains lower than in the other major European economies.

Figure 1. **General government debt and financial balance**

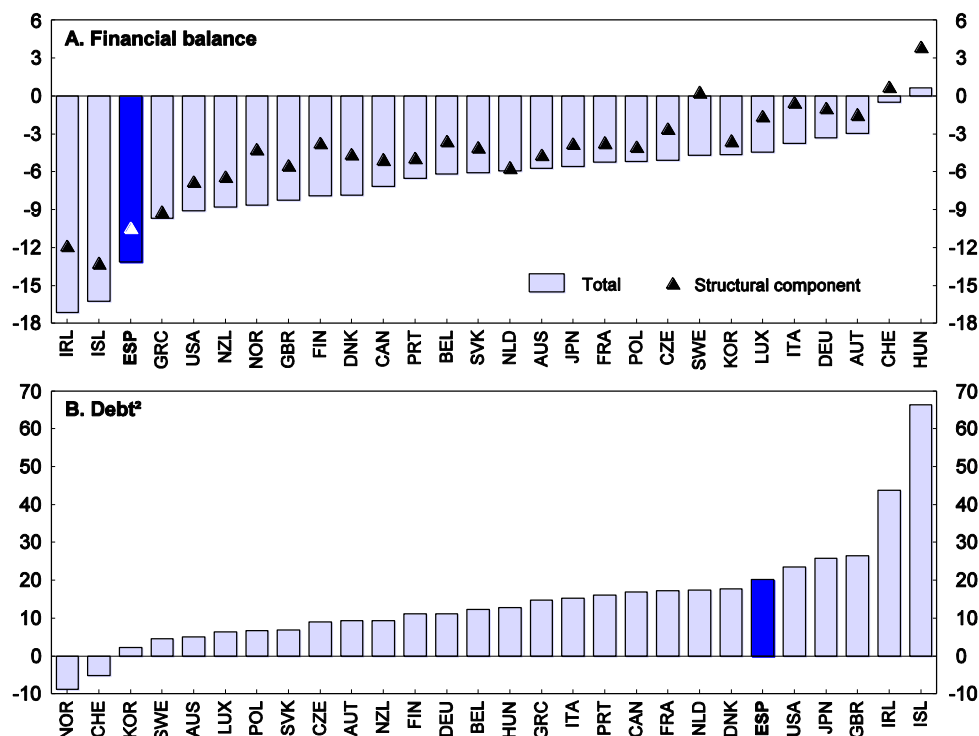


1. Gross debt Maastricht definition.

Source: OECD (2010), *OECD Economic Outlook: Statistics and Projections* (database), September.

Figure 2. **Effect of the crisis on government finances**

In percentage points of GDP, change from pre-crisis year to 2009<sup>1</sup>



1. The pre-crisis year is 2006 or 2007, whichever has the lowest value for debt or the highest value for the financial balance.

2. Gross financial liabilities based on national accounting criteria, which differ from Maastricht criteria.

Source: OECD (2010), *OECD Economic Outlook: Statistics and Projections* (database), October.

### *The bulk of the fiscal deterioration is structural*

Based on the OECD estimate of the cyclical component of the fiscal deterioration of about 2½ per cent (OECD estimate: 3%; EU estimate: 2%), the deterioration of the fiscal position since 2006 appears to be mainly structural (Figure 1). The estimated cyclically-adjusted general government budget balance deteriorated from a surplus of about 1½ per cent of GDP at end-2006 to a deficit of 8¼ per cent (OECD estimates) at end-2009. This does not imply that the full amount of the deterioration of the cyclically-adjusted balance should endure, as part of this deterioration relates to temporary measures taken by the government to support the economy, measures which are to be withdrawn by end-2010. The total amount of discretionary measures supporting the economy taken both in 2008 and 2009 amount to roughly 3½ per cent of GDP (see Box 1). Out of this, about 2¼ points are temporary stimulus measures. Excluding them the structural deficit was roughly 6% of GDP at end-2009. Of the remaining stimulus, most is accounted for by the lagged effects of corporate and personal income tax reductions implemented in 2007, which were not funded by commensurate spending reductions.

#### Box 1. Discretionary fiscal stimulus measures

Substantial budgetary discretionary support was put in place in 2008, mainly in the form of tax reductions. This included support to households through personal income tax reductions (a 400 euro tax rebate), housing-related tax expenditure disbursements and liquidity support to businesses through accelerated value added tax repayments. Some of these measures (amounting to about 1% of GDP in total) have a permanent nature.

In 2009, a further stimulus of roughly 2% of GDP was provided, with the emphasis shifting to spending, mostly public investment undertaken by local governments of which most was funded by the central government. It also incorporated subsidies to businesses, for example on environment-related R&D spending. Table 2.1 summarises the size of the main fiscal stimulus measures.

Table 1. Net impact of discretionary fiscal stimulus measures on the general government budget balance<sup>1</sup>

	Per cent of GDP	
	2008	2009
<b>Expenditure</b>	<b>0.0</b>	<b>-1.1</b>
Public investment	..	-0.8
Other	..	-0.3
<b>Revenue</b>	<b>-1.9</b>	<b>-0.7</b>
Direct taxes	-1.5	-0.1
Personal income tax	-0.8	-0.3
Corporate income tax	-0.7	0.2
Indirect taxes	-0.4	-0.6
VAT	-0.4	-0.6
<b>Total stimulus measures</b>	<b>-1.9</b>	<b>-1.8</b>

1. A negative sign indicates a negative effect on the budget balance (higher deficit).

Source: Banco de España; Spanish Ministry of Economy and Finance and OECD calculations.

Even after excluding the fiscal package, the sizeable deterioration of the structural deficit by about 8% since 2006 remains striking. Part is explained by the permanent tax reduction of the 2007 tax reform (about 1½ per cent of GDP). For the remaining part, one likely explanation is that the improvement of the structural balance prior to the crisis was overestimated because tax elasticities had reached a level above their long-term average while the current deterioration may also be overestimated. To assess the extent to which tax elasticities could explain current and past changes in the structural fiscal balance, an analysis has been made by decomposing the different factors behind the changes in the structural balance (see Box 2 for the main results and Annex 2.A1 for the methodology). As shown in Table 2, significant expenditure restraint was achieved from 2000 to 2005, contributing to the remarkable improvement in the fiscal balance. However, expenditures grew faster than nominal GDP in the last two years of the boom period (2006 to 2007), and the continuing improvement of the structural fiscal balance owed much to non-



discretionary factors. Most likely the strong revenues reflected high tax elasticities, including the impact of the housing boom on revenues from housing transactions and revenues generated by higher asset prices (notably house prices).

### Box 2. To what extent do discretionary fiscal efforts contribute to fiscal sustainability?

An improvement in the structural fiscal balance has different implications for fiscal sustainability depending on whether it originates from new tax measures or from a better control of expenditures. Empirical research shows that consolidation through the control of expenditures tends to be more sustainable (see Guichard *et al.*, 2007). Furthermore, an increase in tax collection does not necessarily reflect a discretionary effort by the government to collect extra revenues. Tax revenue elasticities fluctuate over time and may lead to exceptional – and consequently non-sustainable – tax revenues.

This phenomenon has an important consequence: it blurs the interpretation of the structural balance change. An improvement in the structural balance owing to a higher elasticity may be attributed to government efforts even if it is beyond government control. This fallacious interpretation stems from the construction of the structural balance, which is computed as the “residual” between the actual balance and its cyclical component (hence, the structural balance is usually called the “cyclically-adjusted” balance). Consequently, any factor that does not explicitly appear in the cyclical balance is, by construction, deemed structural.

A more satisfactory measure of the discretionary component of public finances has been proposed, among others, by Duchêne and Levy (2003). Their analysis focuses on two “structural effort” factors that explain changes in the structural balance: *i)* the gap between the growth in public expenditure and potential growth, which may be called the “structural expenditure effort”, and *ii)* the new measures affecting the tax burden (compulsory levies collected by the general government). These two factors clearly isolate the discretionary power of the government as limiting the expenditure growth rate or raising taxes can lead to a sustainable improvement in the government balance. The residual part of the change in the structural balance can be attributed to non-discretionary factors as it mainly arises from changes in tax elasticities (and more marginally to non-tax revenues) that do not lead to a sustainable improvement in the government balance. Using this approach (see Annex 2.A1 for a detailed explanation of the methodology), Table 2 below analyses the underlying factors of the change in the Spanish fiscal balance since end-2001. Efforts to control public expenditure were particularly marked up to 2005. Afterwards, expenditure grew faster than nominal GDP and most of the continuing improvement of the structural fiscal balance from 2005 to 2007 seems to be related to non-discretionary factors, most likely higher tax elasticities than assumed. Consequently, the drop in the non-discretionary component is particularly marked in the crisis years (2008 and 2009), reflecting a considerably steeper fall in tax collection than the fall in GDP. While the analysis in Table 2 stops in 2009, a simulation for 2010 and 2011 based on OECD projections and available information shows that the expected improvement of the fiscal balance would largely rest on discretionary fiscal efforts, which are expected to be even bigger than in the early 2000's.

Table 2. Fiscal consolidation since 2000

	Per cent of GDP										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
General government financial balance	-1.0	-0.7	-0.5	-0.2	-0.4	1.0	2.0	1.9	-4.2	-11.1	
Change in the general government financial balance	0.4	0.3	0.2	0.2	-0.1	1.3	1.1	-0.1	-6.1	-7.0	
Cyclical component	0.5	-0.1	-0.4	-0.2	0.0	0.2	0.4	0.3	-0.4	-1.9	
Cyclically-adjusted component	0.0	0.5	0.6	0.5	-0.1	1.2	0.6	-0.4	-5.6	-5.1	
Discretionary fiscal effort	0.1	0.6	0.2	0.0	-0.6	0.4	-0.3	-1.5	-3.0	-3.0	
<i>New measures affecting the tax burden</i>	-0.2	0.0	0.1	-0.6	-0.2	0.1	0.0	-0.4	-1.4	-0.6	
<i>Effort in controlling nominal expenditure growth</i>	0.3	0.6	0.1	0.6	-0.4	0.3	-0.3	-1.0	-1.6	-2.4	
Non-discretionary component	-0.2	-0.1	0.4	0.5	0.5	0.8	0.9	1.0	-2.6	-2.1	

Source: Eurostat, Banco de España and OECD calculations.

In the long-run, the main uncertainty relates to how tax elasticities will behave. The recession is likely to entail a fall in tax elasticity with respect to output. With the recovery of the economy, an improvement is likely, although this will take time to materialise as many sectors have been durably affected by the crisis. Consequently, it is possible that the tax elasticity will durably remain below its pre-crisis level. The economy may also become more tilted toward external rather than domestic demand, as discussed in Chapter 1, and consequently be less tax rich and the housing sector may take many years to recover. This implies that stronger measures to durably cut expenditures or raise taxes are necessary to improve the structural balance.

## **Achieving rapid fiscal consolidation while mitigating its impact on growth**

### ***Recent measures are a positive step towards consolidation***

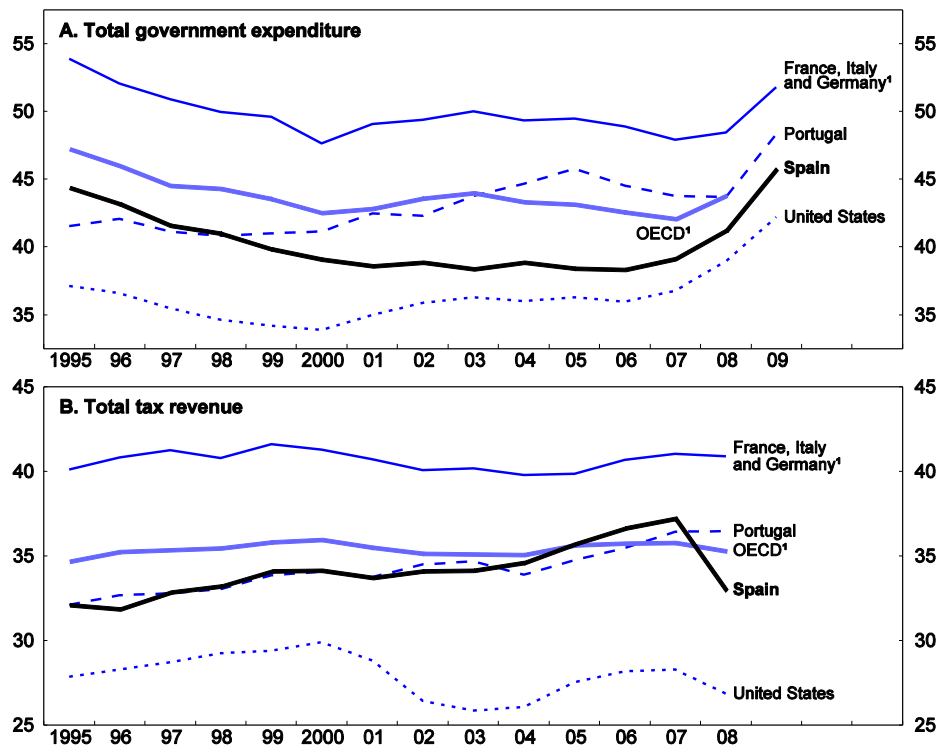
*Consolidation should strike the right balance between expenditure cuts and tax increases*

As evidenced by several studies, expenditure-driven consolidations prove to be more sustainable than revenue driven consolidations. They also tend to have a more favourable impact on economic growth in the long-run. Conversely, they have two drawbacks compared to tax-driven consolidations. *First*, identifying relevant expenditure restraint, and implementing it, which tends to be a lengthy process. As a consequence, rapid expenditure cuts are often *ad hoc* measures that are neither optimal from an economic point of view (such as capital investment cuts) nor sustainable in the long-run (such as public-sector wage cuts). *Second*, expenditure cuts may have a negative impact on growth in the short-run; in particular cuts in infrastructure investment spending, owing to relatively high multipliers, could be problematic in the case of a country with significant risks of falling back into recession.

The trade-offs between expenditure *versus* revenue-based consolidation create a specific dilemma for Spain. On the one hand, the need for rapid consolidation and minimising the risks of falling back into recession calls for a more revenue-based approach. On the other hand, achieving a sustainable consolidation and boosting potential growth, which is critical in Spain, calls for an expenditure-based consolidation. While this dilemma would call for a fine-tuning of measures, it is clear that consolidation should in any case be achieved both from the revenue and the expenditure sides as the deterioration of the fiscal balance arose from both sides (Figure 3). The main challenge for the government is, then, to carefully identify the most relevant expenditure restraint to be achieved in the long-run while raising less distortive taxes when necessary to obtain a rapid consolidation (see below).

Figure 3. **Government expenditure and tax revenue**

Per cent of GDP



1. Unweighted averages. For the OECD aggregate, in panel A Mexico and Turkey are excluded, in panel B 2008 is an estimate.  
 Source: OECD (2010), *OECD National Accounts Statistics and Revenue Statistics* (databases), November.

*Recent measures make substantial progress towards sustainable government finances*

The consolidation strategy laid out in the Stability Programme aims at reducing the deficit to 3% of GDP by 2013. The Stability Programme consolidation strategy was mostly revenue-based in 2010, while it relied on expenditure restraint for later years. The strategy became more frontloaded after additional measures were announced in May 2010 (while the target of a 3% deficit by 2013 was unchanged), which has resulted in a more expenditure-based consolidation in the initial years (see Box 3).

### Box 3. Fiscal consolidation measures

The first element of the fiscal consolidation strategy is the withdrawal of most of the fiscal stimulus package. This will reduce spending by 1% of GDP in 2010 and increase revenues by about the same amount in 2010 (not taking into account other measures that reduce revenues, amounting to roughly –0.3% of GDP).

The main additional consolidation measure on the revenue side is the rise in value added tax rates on 1 July 2010 by 2 percentage points. This measure may raise revenues worth 0.2% of GDP in 2010 and an additional 0.3% in 2011, based on estimates by the Banco de España. Moreover, the 2011 budget introduced changes in the personal income tax code, including a higher top marginal income tax rate for incomes above 120 000 euros, with relatively small expected impact on expected revenues. On the expenditure side, the main immediate measures are the reductions in public sector wages by 5% on average (a total of 0.4% of GDP for 2010 and 2011) and a cut in public investment (0.5% of GDP). Other measures decided include a nominal freeze on most pensions (0.2% of GDP) and reductions in pharmaceuticals' spending (0.1% of GDP). These measures are reflected in the 2011 central government budget, which foresees a reduction of spending by 7.9%, while research and development spending is cut only slightly. The budget includes additional spending reductions of 0.23% of GDP which are not listed in Table 2.3. Half of these reductions concern transfers to regional governments. Table 2.3 does not include measures taken by regional governments individually, which may lead to underestimated spending and revenue measures. Regional governments have to adhere to adjustment programmes to lower their deficits (see also Box 2.4 below). For subsequent years, one of the main expected sources of expenditure restraint is the non-replacement of nine out of ten civil servants going into retirement, both at the national and subnational level. Combined with moderate wage increases and the 5% immediate cut in wages, this measure should save 1.9% of GDP. "The Expenditure Revision Plan" adopted in May 2010 outlines the spending reductions needed from 2011 to 2013 to reach the government's deficit objectives. These cuts concern public investment, intermediate consumption and subsidies. Measures to be taken in 2012 and 2013 will be spelled out in full in the respective annual budgets.

Table 3. **Net impact of 2010 measures on the general government budget balance<sup>1</sup>**

Per cent of GDP

	2010	2011
<b>Expenditure</b>	<b>1.6</b>	<b>1.6</b>
February 2010 Stability Programme Update (mainly withdrawal of stimulus package)	1.0	0.6
May 2010 additional measures	0.5	1.0
<b>Revenue</b>	<b>1.2</b>	<b>0.6</b>
February 2010 Stability Programme Update	1.2	0.6
Direct taxes	0.3	0.2
Personal income tax	0.5	0.3
Corporate income tax	–0.2	–0.1
Other	0.1	. .
Indirect taxes	0.8	0.4
VAT	0.7	0.4
<b>Total impact</b>	<b>2.7</b>	<b>2.2</b>

1. A positive sign shows an improvement of the balance. Only additional impact of new measures for each year.

Source: Banco de España; Spanish Ministry of Economy and Finance and OECD calculations.vvv

Overall, the consolidation path seems appropriate. The government's objective is to reach a general government deficit of 6% in 2011, implying substantial early consolidation. According to OECD estimates, this will require an improvement in the cyclically-adjusted primary balance of around 5% of GDP in 2010 and 2011. The choice of a mainly expenditure based consolidation in the later years should help achieve a sustainable consolidation, while the partial reliance on tax increases in the first years will help speed up the consolidation process. Nonetheless, several risks remain. If they materialise additional consolidation measures may need to be contemplated to reach fiscal targets. Therefore, the government should stand ready to raise taxes further, if needed. Further measures may be required by 2013 for the following reasons:

- While the assumptions concerning tax revenues relative to GDP in the Stability Programme are appropriately cautious, the growth projections are on the optimistic side.
- Public wage cuts can be justified by the relatively high growth of public wages in the past; however, wage cuts may be difficult to sustain politically.
- Concrete measures to restrain public expenditure beyond 2011 are not fully spelled out yet, as they will be specified in annual budgets; they require regional governments' cooperation to reach agreed deficit objectives (see below).

### ***Tax reform could support economic growth while contributing to rapid consolidation***

The structure of the revenue system in Spain varies significantly from others in the OECD, although it is similar to continental European countries. The distribution of revenues was skewed away from taxes on goods and services – for Spain, the value added tax (VAT) – and towards social security contributions (Table 4).<sup>2</sup> VAT has persistently represented a smaller share of revenues in Spain, even if the temporary VAT revenue reductions in 2008 (see Table 1) and the expected tax revenues from the 2010 VAT rate increases are added in (about 0.8% of GDP). Property taxes contribute less to revenues than on average in OECD economies, especially when taking the abolition of the wealth tax in 2009 into account. Social security contributions contribute significantly to a labour tax wedge that is higher than in the OECD area on average. A majority of European OECD economies have higher labour tax wedges, but their overall tax burden (as measured by tax revenues relative to GDP) is also often substantially higher.

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2. These patterns can also be observed if 2007 revenue data are used, although they are less marked..

Table 4. **Structure of tax revenue**Per cent of total revenues, 2008<sup>1</sup>

	Personal income tax	Corporate income tax	Social security contributions	Property tax	Goods and services tax	Other taxes
<b>Spain</b>	<b>21.3</b>	<b>8.3</b>	<b>36.8</b>	<b>6.7</b>	<b>25.1</b>	<b>1.8</b>
Australia	36.7	23.1	0.0	8.9	26.6	4.7
Austria	23.1	5.7	33.5	1.3	27.1	9.3
Belgium	30.2	7.6	31.5	5.1	25.2	0.5
Canada	37.3	10.7	14.5	10.2	23.4	3.8
Czech Republic	11.0	12.4	43.8	1.1	31.3	0.5
Denmark	52.8	7.1	2.0	4.1	32.4	1.6
Finland	30.9	8.1	28.0	2.6	30.1	0.3
France	17.4	6.8	37.2	7.8	24.5	6.4
Germany	26.8	5.2	36.4	2.3	28.9	0.3
Greece	14.7	8.0	36.4	4.3	35.5	1.0
Hungary	19.3	6.5	32.5	2.2	37.2	2.3
Iceland	36.3	5.6	8.1	6.1	35.8	8.1
Ireland	27.8	9.7	17.7	6.5	37.1	1.2
Italy	26.8	8.6	31.1	4.3	24.4	4.8
Japan <sup>2</sup>	32.6	22.8	..	15.1	29.1	0.4
Korea	15.0	15.9	21.9	11.9	31.6	3.6
Luxembourg	21.6	14.3	28.1	7.4	28.4	0.2
Mexico <sup>3</sup>	27.7	..	15.3	1.7	53.1	2.2
Netherlands	20.4	8.7	36.2	3.3	29.9	1.5
New Zealand	41.9	11.0	0.0	6.0	34.2	6.9
Norway	21.7	28.7	21.1	2.8	25.7	0.0
Poland	15.2	7.9	34.3	3.4	38.2	1.0
Portugal	16.0	10.3	32.7	3.6	36.6	0.7
Slovak Republic	9.4	10.4	40.7	1.3	36.6	1.6
Sweden	29.3	6.9	24.8	2.3	27.8	8.8
Switzerland	36.4	10.6	23.1	7.8	22.0	0.0
Turkey	16.7	7.4	24.0	3.7	46.1	2.0
United Kingdom	29.9	9.9	19.2	11.6	28.8	0.4
United States	37.9	8.9	24.5	11.7	17.0	0.0
OECD	25.3	10.8	25.2	5.6	30.9	2.1

1. 2007 for Australia, Greece, Mexico, Netherlands, Poland and the OECD aggregate. Also for the goods and service tax in Belgium.

2. Social security contributions for Japan in 2007 were 36.4.

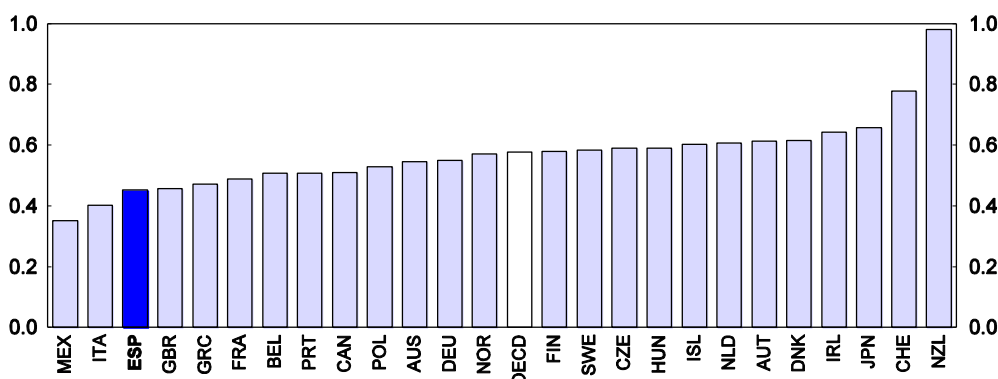
3. Data shown in the first column covers both personal and corporate income tax.

Source: OECD (2010), *Revenue Statistics* (database), September.

### *Higher reliance on consumption taxes could be considered*

Broad-based taxation of consumption is the least distorting tax instrument after taxation of immovable property (Johansson *et al.*, 2008). In that sense, the decision to raise the VAT rates on 1 July was appropriate. The normal rate increased from 16 to 18% and the reduced rate from 7 to 8%. The 4% rate for, *inter alia*, food and drink and prescription drugs was left unchanged. More revenue could be collected by broadening the VAT, as the VAT revenue ratio (VRR) – the ratio of VAT collections to the product of the normal rate and total consumption – is lower in Spain than in other OECD countries (Figure 4). A low VRR can be caused by a low tax base as a result of preferential rates.

Figure 4. VAT revenue ratio<sup>1</sup>  
2008<sup>2</sup>



1. The VAT revenue ratio (VRR) is defined as the ratio between the actual value added tax (VAT) revenue collected and the revenue that would theoretically be raised if VAT was applied at the standard rate to all final consumption. This ratio gives an indication of the efficiency of the VAT regime in a country compared to a standard norm. It is calculated as:  $VRR = \text{VAT revenue} / ([\text{consumption} - \text{VAT revenue}] \times \text{standard VAT rate})$ . In Spain VAT tax revenues in 2008 were affected by changes in repayment schedules which lowered tax revenues temporarily by about 15%. Eliminating this effect would move Spain somewhat closer to the middle in the figure.
2. 2007 for Australia, Belgium, Greece, Iceland, Ireland, Netherlands, Poland and the OECD. The OECD aggregate excludes Korea, Luxembourg, Slovak Republic, Turkey and the United States.

Source: OECD (2010), *OECD National Accounts Statistics and Revenue Statistics* (databases), September.

A restructuring of VAT and an improvement in its administration could yield additional revenue without significant impact on efficiency or equity. These findings call for broadening the tax base. Preferential VAT rates typically are implemented to protect low-income consumers or respond to competitive pressures. The former purpose is meant to reduce or reverse the regressivity of VAT. The latter would apply the preferential rate to services, such as hotel accommodation, that share some of the characteristics of exports. With respect to protecting low-income consumers, preferential rates are subject to notoriously high leakage. Food and non-alcoholic beverages command only a 4% VAT rate, despite the fact the total spending on these products – although not their share of aggregate consumption – is positively correlated with income. Low-income households can be protected far more effectively with targeted transfers and work incentives. From an efficiency point of view, it is also questionable whether specific sectors should benefit from preferential tax treatment.

#### *Tax expenditures should be further reduced*

The government has presented draft legislation to parliament (*Ley de Economía Sostenible*) which aims at putting the treatment of rented and owner-occupied housing in personal income tax on an equal footing, doing away with most of the current tax subsidies for owner-occupied housing.<sup>3</sup> In particular, the draft law limits tax subsidies to gross family incomes below 24 000 euros in 2011<sup>4</sup> and proposes to apply this tax treatment also to rents. This reform is welcome. The favoured status of owner-occupied housing is eliminated and the proposed limits to the tax deductibility of housing-related expenditure reduce the leakage of the subsidies to higher-income families. However, families with the lowest incomes will still benefit relatively little, as they pay little income tax, so a case can be made for eliminating the housing tax credits entirely, especially in view of the fact that implicit rents from owner-occupied housing are not

3. Tax credits are available for 15% of amortisation and interest payments on mortgage debt, subject to an annual maximum. See OECD (2007) for a detailed description of these subsidies.

4. For incomes exceeding 18 000 euros, the deduction is gradually phased out.

taxed.<sup>5</sup> To support housing for low-income households, these tax credits should be replaced by targeted cash-transfers (see Chapter 1). Such transfers could also take demographic characteristics of the household into account.

The draft *Ley de Economía Sostenible* contains a number of additional tax subsidies of questionable value. While these are temporary, narrowly targeted and have a minor impact on budget outcomes, other alternatives may be more efficient:

- Refurbishment of homes to improve energy efficiency and save water would receive a temporary cumulative tax credit of up to 10 000 euros per home and benefit from the reduced VAT rate. Promoting energy conservation is a desirable goal, but the tax credit is unlikely to be the most efficient way to achieve it. First, the improvement may have benefits for homeowners other than energy efficiency, for which owners, rather than taxpayers, should pay. Second and more important, a much more efficient way to provide an incentive to conserve energy or water is to tax their use. Such taxation would be more effective in generating the desired behaviour. For example, some of the favourable impacts of subsidies for energy saving equipment in homes will be offset because households may adjust their targeted ambient temperatures further in response to the introduction of the subsidies. Switching to appropriate taxes would increase rather than decrease revenue.
- The preferential treatment for rental income received when letting housing to individuals up to 30 years of age is likely to encourage the development of the rental market and deadweight loss may be reduced as a result of targeting the young. However, the measure benefits higher-income owners with higher marginal tax rates disproportionately. It also increases the relative attractiveness of investment in housing.
- The deductibility of employer payments for their workers' public transportation expenses from income tax is also regressive. As noted above, taxing the production of pollution is more efficient than providing subsidies for modes of transport which pollute less. It also rewards consumers for being environmentally conscious while raising revenue in the process. A further alternative policy to support the use of public transport rather than cars is to introduce pricing mechanisms for congestion, which fall under regional and local government competency. For instance, calibrating highway tolls according to the degree of congestion could both raise revenue and increase consumer welfare.

### **Policies towards a sustainable fiscal consolidation**

While up-front consolidation is needed to reverse the public debt build-up and allay sovereign risk fears, efforts to ensure a long-term fiscal sustainability need to continue by implementing structural fiscal reforms. One aspect is to pursue a tax reform in a growth-friendly way, in particular by fostering environmentally sustainable growth. Those reforms that would lead to the reduction of taxes should be implemented only once sufficient progress in fiscal consolidation has been achieved. A second aspect is to contain the growth of age-related spending during the coming decades. A final aspect is to ensure that

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5. In principle, taxation of implicit rents of owner occupiers could be seen as the preferred solution to avoid preferential tax treatment, as it is the tax exemption for implicit rent that is the true tax preference (owners with no or limited recourse to mortgage for house purchase still receive preferred tax treatment in the absence of taxation of implicit rents and no interest deductibility). However, the deductibility of mortgage repayment – as incorporated in the owner-occupied tax credit in Spain – is an extreme subsidy that not only reduces revenue, but also seriously distorts behaviour



fiscal arrangements between the different levels of government provide the right incentives for fiscal sustainability at all levels.

***A reform of the tax structure could foster growth once sufficient consolidation has been achieved***

*A shift from labour to consumption taxes could reduce economic distortions*

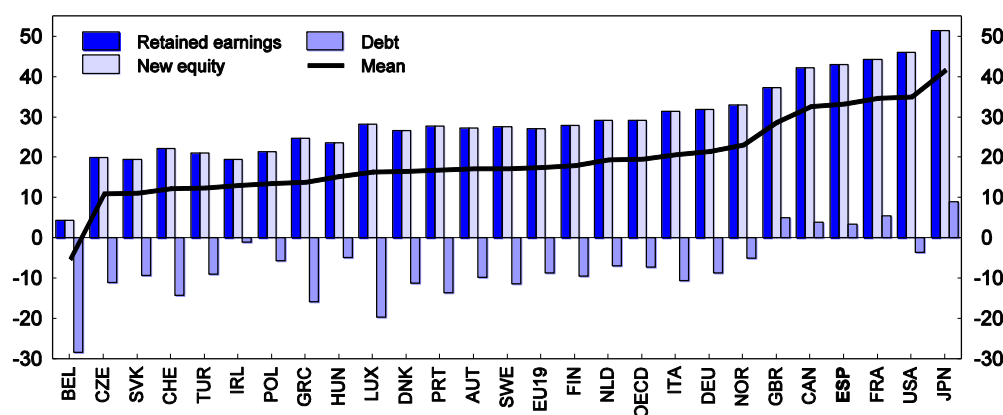
A reform option would be to shift some of the tax burden from labour to consumption. For instance, a decrease in some social security contributions could be financed by a broadening of the VAT base or raising the lower statutory rates. An option would be targeted reductions in the tax burden on low-skilled workers, for example, by reducing employer-paid social security contributions for all workers with low earnings. This option may be particularly attractive in view of the large supply of workers with modest qualifications and the deterioration in their job prospects following the downturn of the residential construction industry.<sup>6</sup>

*Corporate taxes could be lowered*

Corporate taxes can distort business decisions and retard growth. The corporate-level marginal effective tax rate (METR) on investment in Spain is among the highest in the OECD according to a recent study calculating such rates on the basis of tax code parameters (Figure 5).<sup>7</sup> This reflects both corporate taxation at the national level as well as local profit taxes on firms with a minimum turnover of 1 million euros per year. According to the Spanish tax authorities, the contribution of the local profit tax to the marginal effective tax rate may be overestimated by around 4 percentage points in this study. Moreover, according to the results of a study comparing average effective tax rates in European Union countries on the basis of data from individual incorporated firms' profits and tax payments, the average tax burden of Spanish corporations was lower than in most of 19 countries compared in 2005 (Fernández Rodríguez *et al.*, 2008) even before the corporate tax reductions introduced in Spain in 2007.<sup>8</sup> According to tax collection data, which are not comparable internationally, the average effective corporate tax rate dropped from 25% in 2004 to 18% in 2008. Removing the preferential rate applying for small corporations as well as the threshold for the local profit tax would avoid disincentives for small businesses to grow. According to the 2011 budget law, the preferential corporate tax rate will continue to apply to those small and medium-sized companies that grow above the threshold beyond which the normal corporate tax rate applies. However, this rule only applies until 2013.

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6. Unlike the existing hiring subsidies, which are already in place (see Chapter 3), these social security reductions would also not be limited to newly hired workers and would not be limited to an initial period following the hiring of a worker. As pointed out in Chapter 3, hiring subsidies generate incentives for firms to hire workers benefitting from the hiring subsidies and to dismiss them once the subsidy expires, adding to excessive worker turnover, which could by itself raise unemployment.
  7. A comparison of average effective tax rates yields similar results.
  8. Other European countries that have since lowered corporate tax rates include Denmark, Germany, Italy and Netherlands.

Figure 5. Corporate marginal effective tax rates

Per cent, 2009<sup>1</sup>

1. The OECD aggregate is an unweighted average of the 24 countries for which data is available.

Source: Devereux, M.P. *et al.* (2010), "Effective Tax Levels Using the Devereux/Griffith Methodology", Project for the EU Commission, TAXUD/2008/CC/099, Intermediate Report, Center for European Economic Research (ZEW).

### *Reforming taxation of real estate could raise economic efficiency*

Spain relies primarily on the taxation of real estate transactions which has accounted for revenue of 1.5 to 2% of GDP in recent years, whereas taxation of real estate property values is relatively low (Table 5). In view of necessary budgetary adjustments, local governments have recently raised real estate taxes (this development is not reflected in the data of Table 5). Real estate taxes have the least distortive effects on activity (Johansson *et al.*, 2008). Taxation of transactions is an impediment to the transfer of ownership and the allocation of property to its best use. Moreover, transaction taxes reduce the geographic mobility of workers, creating obstacles for workers to move to those geographic areas where suitable jobs can be found, especially in Spain, where most workers are owner-occupiers. The absence of taxation of implicit rents of owner-occupied main residences also reinforces the case for higher taxation of real estate property values.

Table 5. **Property taxes**Per cent of GDP, 2008<sup>1</sup>

	Recurrent taxes on immovable property	Taxes on financial and capital transactions	Other	Total
United Kingdom	3.3	0.7	0.2	4.2
France	2.2	0.6	0.6	3.4
Canada	2.8	0.2	0.4	3.3
Korea	1.0	1.9	0.3	3.2
United States	2.9	0.0	0.2	3.1
Luxembourg	0.1	0.6	2.1	2.8
Australia	1.4	1.4	0.0	2.7
Japan	2.0	0.3	0.3	2.6
Switzerland	0.2	0.6	1.5	2.3
Belgium	0.0	0.0	2.2	2.2
<b>Spain</b>	<b>0.7</b>	<b>0.9</b>	<b>0.6</b>	<b>2.2</b>
Iceland	1.7	0.0	0.5	2.2
New Zealand	2.0	0.1	0.0	2.1
Denmark	1.2	0.5	0.3	2.0
OECD	0.9	0.7	0.3	1.9
Italy	0.6	1.1	0.1	1.9
Ireland	0.7	0.9	0.2	1.8
Greece	0.1	1.0	0.3	1.4
Portugal	0.7	0.7	0.0	1.3
Netherlands	0.0	0.9	0.3	1.2
Poland	1.2	0.0	0.0	1.2
Norway	0.3	0.2	0.7	1.2
Finland	0.5	0.3	0.3	1.1
Sweden	0.8	0.3	0.0	1.1
Hungary	0.3	0.5	0.0	0.9
Turkey	0.2	0.7	0.0	0.9
Germany	0.4	0.2	0.2	0.9
Austria	0.2	0.3	0.1	0.5
Czech Republic	0.1	0.3	0.0	0.4
Slovak Republic	0.4	0.0	0.0	0.4
Mexico	0.2	0.1	0.0	0.3

1. 2007 for Australia, Greece, Mexico, Netherlands, Poland and the OECD aggregate.

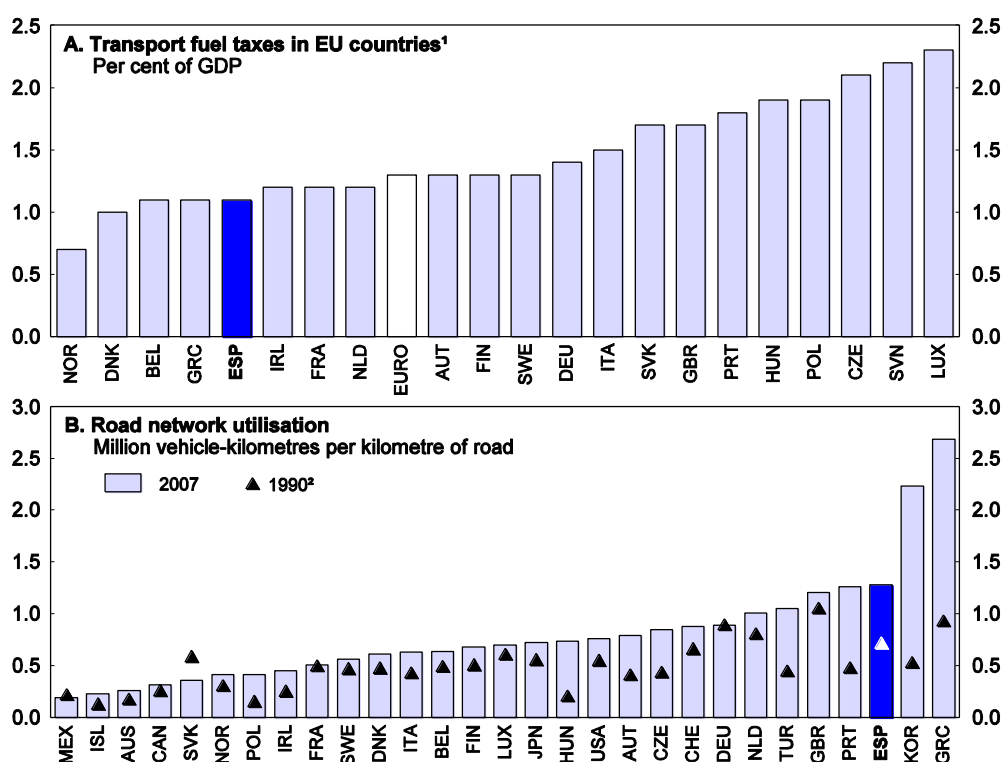
Source: OECD (2010), *Revenue Statistics* (database), September.

A difficulty in the Spanish context arises from the different allocation of these two tax types across levels of government. While regional governments set transaction taxes, local governments set taxes on real estate values. However, an agreement across levels of government to limit taxation of real estate transactions could create more room for strengthening taxation of real estate values as a local government revenue base, improving the efficiency of the tax system overall. Indeed, real estate taxation is a particularly appropriate tax source for local governments. For example, real estate tax revenues accruing to local governments may make them more accountable in their use of the resources to local home-owners.

### Environmental tax policy should promote green growth

Despite an improvement in the ratio of carbon dioxide (CO<sub>2</sub>) emissions to GDP, Spain is still quite far from reaching its goal to hold the growth of CO<sub>2</sub> emissions in 2008-12 to a 15% increase relative to 1990; in fact emissions in 2009 were 43% higher. Reduced consumption of fossil-based fuels would reduce local externalities, including not only energy related externalities such as air pollution, but also externalities such as road congestion. Increased fossil fuel taxes could provide needed revenue in a relatively efficient manner as such taxation is not particularly high in Spain in per cent of GDP as compared to other countries (see Figure 6, panel A) and this should still be the case after the increase in fossil fuel tax in 2009. At the same time road network utilisation has significantly increased (Figure 6, panel B). Compared to road network utilisation, the revenues raised from tolls are not particularly high: the level of revenue per kilometre is relatively low, suggesting room to increase toll revenues further (see Figure 7). Some recent steps to raise private sector funding of infrastructure investment projects will lead to the introduction of further road tolls. In addition, calibrating road tolls according to the degree of congestion would improve the efficiency of road use. Such a policy can simultaneously raise revenue and increase consumer welfare. Other examples include improved market incentives to manage other scarce resources, such as clean air and water and uncontaminated soil (see Chapter 4 for a discussion on water issues).

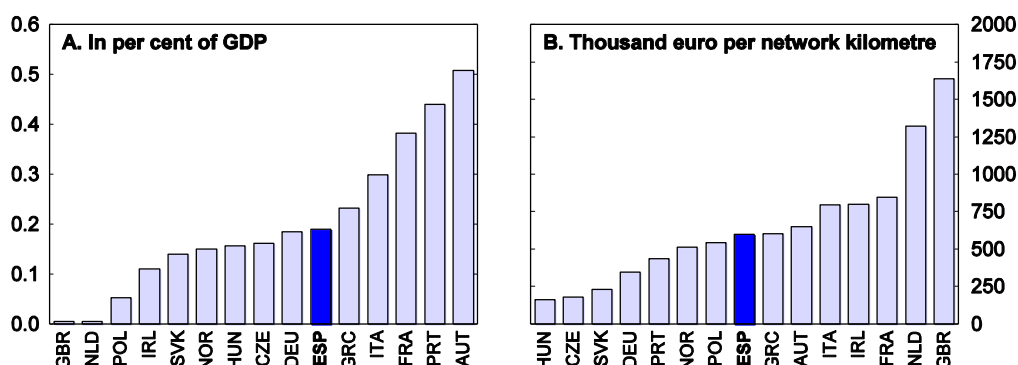
Figure 6. Transport taxes and road utilisation



1. Aggregates are GDP-weighted averages.
2. Data refer to 1991 for Germany and to 1992 for Slovak Republic.

Source: Based on OECD environmental data, OECD calculations and European Commission (2010), "Taxation trends in the European Union: Data for the EU Member States, Iceland and Norway".

Figure 7. Toll revenues

Net revenues, 2009<sup>1</sup>

1. Preliminary value for Austria and provisional figure for France.

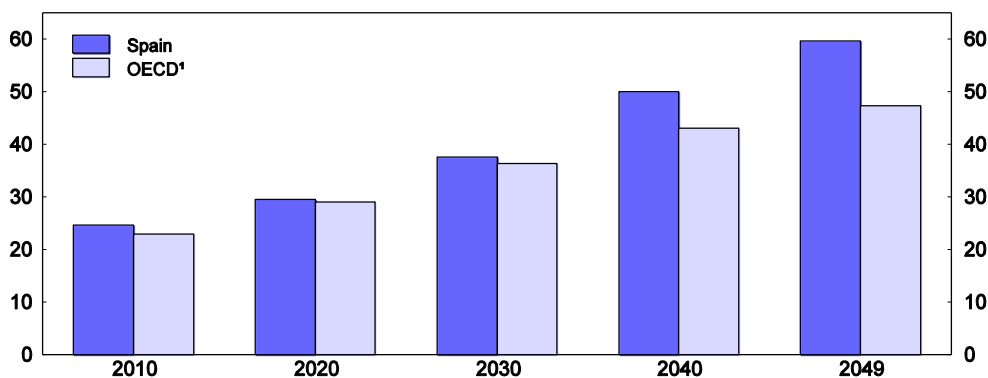
Source: ASECAP (2010), *Statistical Bulletin*, Association européenne des concessionnaires d'autoroutes et d'ouvrages à péage and OECD (2010), *OECD Economic Outlook: Statistics and Projections* (database).

### *Sustainable consolidation requires containing ageing expenditures*

Population ageing will be particularly strong and rapid in Spain (Figure 8), reflecting the low total fertility rate and high life expectancy, as well as a somewhat later baby-boom than in other countries. By the middle of the century, Spain could have 1.7 person of working age per elderly, compared to 2.2 on average in other OECD countries.

Figure 8. Projected old-age dependency rates

Population aged 65+ as a percentage of population aged 15-64



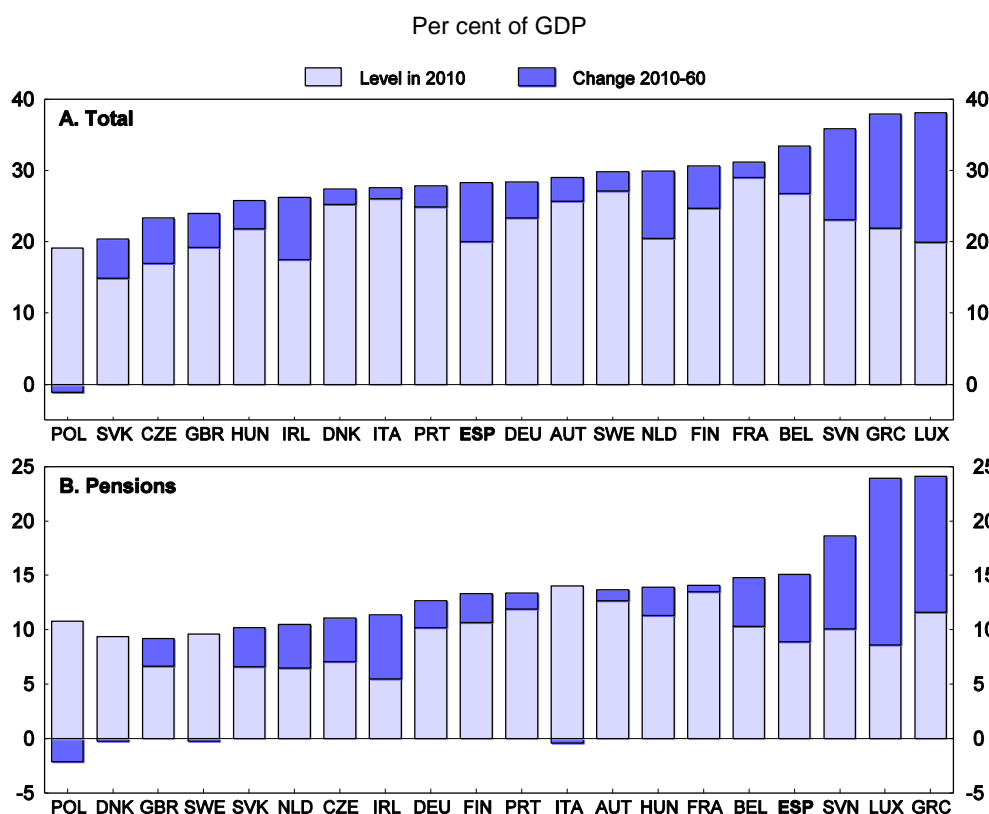
1. Unweighted average.

Source: INE (2010), "Proyecciones de población a largo plazo 2009-2049", *INEbase* (database), Instituto Nacional de Estadística and OECD (2010), *Demography and Population* (database), July.

The growth of public age-related spending places Spain among the EU countries facing the strongest pressures over the coming decades (Figure 9). The projected growth of such spending of 8.4 percentage points of GDP between 2010 and 2060 is almost double the increase anticipated for the EU as a whole. Absent reforms, public pension spending would increase by 6.2 percentage points of GDP during the projection period, more than two and a half times faster than in other EU countries, albeit from a lower initial level. Furthermore, public health-care spending is likely to grow much more rapidly than shown in Figure 9 if allowance is made for the impact of technological advances in health care. While they improve

diagnostic and curative effectiveness, not to mention life expectancy and the quality of life, technological advances are an important determinant of rising health care spending, public and private (Newhouse, 1992). Allowing for this factor could more than double the projected increase in public health-care spending (European Commission, 2009a).

Figure 9. Projected age-related spending<sup>1</sup>



1. After elaboration of this report some countries, such as Greece, have introduced pension reforms that reduce the expected increase in pension spending. These reforms are not reflected in the projections.

Source: European Commission (2009), *Sustainability Report 2009*, European Economy, No. 9.

Reforms enacted during the past decade had offsetting impacts on pension growth; the lengthening of the minimum contribution period and the increased penalties for early retirement reduced prospective spending, whereas the increased generosity of survivor pensions, notably in terms of a widening of benefit entitlements, and the extension of early retirement rights to all cohorts in 2002 had the opposite effect (Sánchez Martín and Sánchez Marcos, 2009). The most recent reforms – initiated in 2007 – centred mostly on further lengthening the effective minimum contribution period, including for early retirement pensions, and broadening eligibility for postponing retirement beyond age 65. The reforms also tightened eligibility for disability and survivor pensions. On balance, these reforms do not change the picture of the long-run outlook for public pension spending. This can be gleaned from a comparison of the contribution of each of the key factors impacting long-term pension spending growth, as estimated in the European Commission's 2009 *Ageing Report*, with the estimates in the 2006 report (Table 6). Looking at the period 2007-50 that overlaps both reports, the projected growth in the pension/GDP ratio remains unchanged, as the positive impacts of the recent reforms have been offset by more pessimistic assumptions in the latest report.

Table 6. Projected change in public pension/GDP ratio and contributing factors

Per cent of GDP, 2007-50

	Public pension expenditure, 2007 (% of GDP)	Impact of changes (% points) in:				Change (%)
		Dependency ratio <sup>1</sup>	Coverage ratio <sup>2</sup>	Employment rate <sup>3</sup>	Benefit ratio <sup>4</sup>	
2006 Ageing Report	8.4	12.4	-2.3	-1.8	-0.8	7.0
2009 Ageing Report	8.4	10.6	-1.0	-0.9	-1.1	7.0

1. Population aged 65 and over / population aged 15-64.
2. Pensioners / population aged 65 and over.
3. Population aged 15-64 / number of employed persons (inverse employment rate).
4. Average pension / average income.

Source: European Commission (2009), *2009 Ageing Report: Economic and Budgetary Projections for the EU-27 Member States (2008-2060)*, European Economy, No. 2.

Further reforms are thus needed to curtail the growth of public pension spending over the coming decades. Identifying reforms will require a holistic approach. Pension programmes are highly complex, and changes to any of the key parameters will have intra and inter-generational impacts that warrant careful study. It would be appropriate to undertake such an exercise by elaborating a white paper, as has been done in a number of OECD countries during the past few decades.<sup>9</sup> There are a number of ways in which reforms to Spain's public pension system would be consistent both with conceptual underpinnings of social insurance and with international best practices (Whiteford and Whitehouse, 2006).

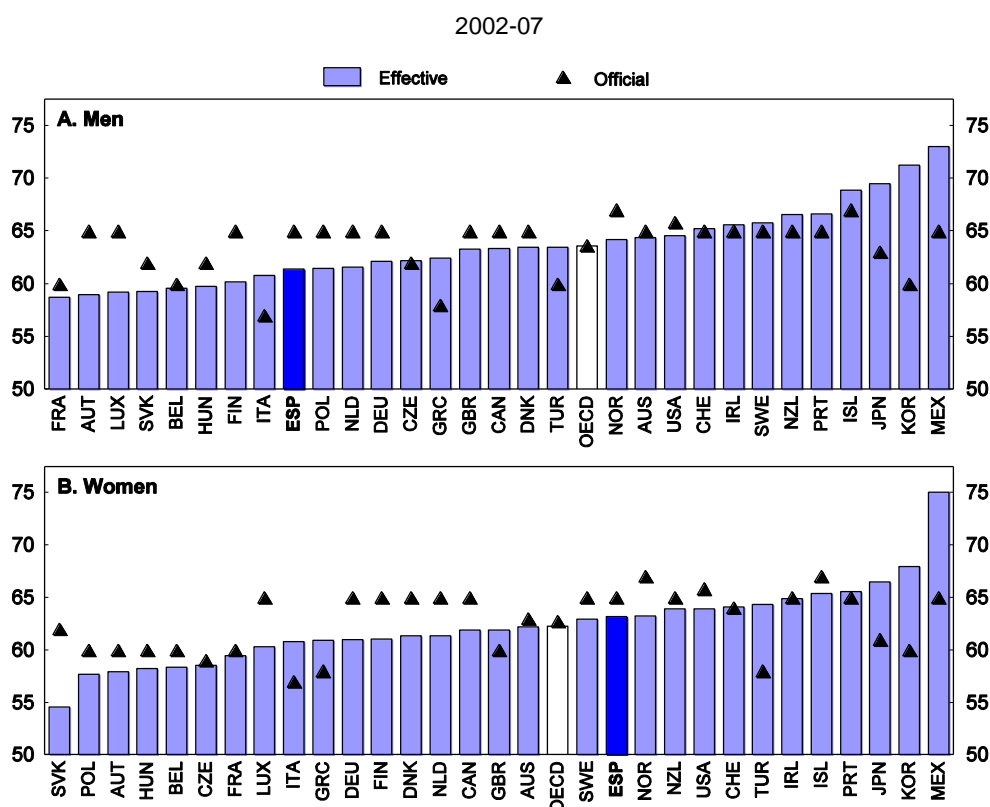
#### *Raising and sustaining increases in the effective retirement age*

One of the most effective policies for reducing the impact of demographic change on government finances, *via* both general revenues and pension spending, is to increase the average age at which workers can retire and draw pensions. Workers exit the labour market on average at the age of 62.6 years (in 2008), which is low among OECD countries (Figure 2.10).<sup>10</sup> The Government has recently announced an agreement with the social partners on a pension reform plan.<sup>11</sup> The gradually phased-in two-year increase in the statutory retirement age to 67 as announced in the pension reform plan is thus a welcome policy adjustment. *First*, the policy will help to rebalance the relative sizes of the retired and working age populations. *Second*, by slowing the growth of pension outlays and boosting the labour force participation

9. A similar proposal was recently put forward by the Fundación de Estudios de Economía Aplicada (FEDEA, [www.crisis09.es/pensiones](http://www.crisis09.es/pensiones)).
10. As of May 2010, only 7.2% of old-age pensioners were under the age of 65. This would imply that the average effective age of first pension benefit receipt has risen, since 27.5% of old-age pensioners were between 65 and 69.
11. The pension reform plan was made public after the preparation of this working paper. The key provisions of the pension reform plan, still to be approved by Parliament, are the following: (i) Workers will have to contribute 38.5 years to retire at the age of 65 with a full pension. Workers with 37 years of contributions will be able to retire with a full pension only at the age 67; (ii) The accrual rate of the contribution periods after the first 15 years in the calculation of pensions will be reduced; (iii) Full pension benefit entitlements will be assessed on the basis of the last 25 years of earnings; and (iv) Access to early retirement will be further limited and subjected to higher discounts. Subsidies provided to early partial retirement, which are particularly costly to the social security system, will be reduced. Incentives to defer retirement beyond the legal age will be improved.

of older workers, the reform will limit the increases otherwise needed in pay-as-you-go contribution rates to some extent, providing some measure of inter-generational sharing of the adverse impact of the transition to a permanently older population. Overall, government estimates suggest that the measures that have been adopted would reduce pension spending by 2 ½ % of GDP by 2050. *Third*, the higher legal retirement age is warranted to mirror improvements in longevity.<sup>12</sup> *Fourth*, by lengthening required contribution periods for full pensions, and by extending the period over which pension benefits are assessed, it improves work incentives throughout the working life and reduces incentives to work in the black economy.

Figure 10. Average effective age of retirement versus the official age<sup>1</sup>



- The average effective age of retirement is defined as the average age of exit from the labour force during a 5-year period. Labour force (net) exits are estimated by taking the difference in the participation rate for each 5-year age group (40 and over) at the beginning of the period and the rate for the corresponding age group aged 5-years older at the end of the period. The official age corresponds to the age at which a pension can be received irrespective of whether a worker has a long insurance record of years of contributions. For Belgium and France, workers can retire at age 60 with 40 years of contributions; for Greece, at age 58 with 35 years of contributions; and for Italy, at 57 (56 for manual workers) with 35 years of contributions.

Source: OECD (2010), Ageing and Employment Policies – Statistics on average effective age of retirement, available at [www.oecd.org/document/47/0,3343,en\\_2649\\_34747\\_39371887\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/47/0,3343,en_2649_34747_39371887_1_1_1_1,00.html).

Rising life expectancy is a major contributor to growing pension spending. An increase of one year in life expectancy at birth is estimated to add 0.3 percentage point of GDP to the ratio of public pension spending to GDP in Spain by 2060 (European Commission, 2009b). Against the backdrop of an increase of close to 11½ years in life expectancy at birth between 1960 and 2007, and prospects for continued gains

- With an unchanged retirement age, increased longevity increases the net wealth of retirees, and the internal rate of return on contributions. It is, therefore, an implicit benefit *increase*. Increasing and then maintaining the ratio of working life to time spent in retirement limits this intergenerational redistribution.



during the next half-century, a solid case exists for linking the normal retirement age to life expectancy. Indexing the statutory age for a full pension to improvements in life expectancy, as practiced in a number of other countries, would formalise the relationship and ensure durable improvement in the pension system's finances.

Workers exit the labour market on average about one year before they begin to receive pension benefits and extended unemployment benefit payments for older workers are used in the transition period to retirement. Unemployed workers above the age of 52 can receive an extension of the regular unemployment benefits if their regular entitlement (up to almost two years depending on the unemployment insurance contribution record) is exhausted. The extended benefit is modest: a flat rate of currently about 480 euros per month. Workers receiving this benefit are not exempt from search requirements, but they can receive it without limitation in duration until early retirement pension entitlement sets in at the age of 61. While the discounts that apply to the early retirement benefits are sufficiently high to ensure actuarial neutrality of pension benefit payments in early retirement on average, the very long duration of unemployment benefit payments for older workers raises their reservation wages, thereby reducing their likelihood of employment. As a result, some businesses are likely to be prompted to dismiss workers prematurely at the expense of public finances. Moreover, weaknesses in enforcing search requirements for unemployment benefits (Chapter 3) generally generate the risk that benefit recipients may not be encouraged to look for a new job effectively, reinforcing such effects. The extended unemployment benefit payments for workers should be gradually shortened and eventually phased out. Special early retirement rules also apply to some groups of civil servants with long careers, who can retire at the age of 60 without any discounts. The discounts applied to early retirement pensions in the general social security scheme should be applied to all civil servants.

A further *de facto* avenue into early retirement is the partial retirement scheme, available from age 61 onwards, though subject to a minimum contribution record of 30 years. This allows workers to work part-time provided the reduced working time is offset through replacement hiring (see Annex A1). Pension benefits are calculated *pro rata* without any discounts with respect to the pension that the worker would receive at age 65 with the same earnings record. This scheme, which was taken up by 13% of each retiring cohort in 2009, entails substantial subsidies from social security, estimated at 126 000 euros for each beneficiary (see Ferreras Alonso, 2010). Subsidies to partial retirement should be abolished.

Further disincentives to working longer result from the current procedure for determining benefit replacement rates. Workers can get a 50% replacement rate after only 15 years of work and reach the maximum replacement rate of 100% after only 35 years. In other words, a worker who starts his or her career at age 25 receives no benefit increase for working past 60, other than the phase-out of the early retirement penalty. To redress this problem, the accrual pattern should be redesigned to provide additional incentives to work longer. A higher accrual rate in the final years leading up to retirement can provide a strong incentive to remain active and postpone pension take-up. Incentives for postponement of retirement beyond the statutory age are also weak and could be increased from the current 2-3% per year premium in addition to the increase in the legal retirement age.

At the same time, policies seeking to maintain the relative durations of working life and retirement need to reflect the lengthy careers of some workers whose working lives begin at an early age. One option to reward long working lives directly would be to provide a full pension on the basis of an index defined on the basis of contributory years and age at retirement.

*Reducing the generosity of benefits relative to contributions*

The poverty rate (without taking into account the implicit rental income derived from home-ownership) among Spanish elderly is comparatively high (OECD, 2009), reflecting in part the low level of some actual pensions. At roughly 880 euros, the average old-age retirement pension in May 2010 was 58% of average earnings in 2009. The average old-age retirement pension for relatively young beneficiaries, between 65 and 70 years of age, however, was 1 000 euros, or roughly two-thirds of average earnings, reflecting both better earnings records and price indexation of pensions during retirement. The moderate average replacement rate is due to several factors that have been highlighted in previous *Economic Surveys*. *First*, due to low labour market participation of the cohorts of women currently in retirement, average female pensions are lower. With the employment rates of women rising steadily, the importance of this factor can thus be expected to diminish. *Second*, the pension system includes special schemes for the self-employed; workers in the fishing, farming, and mining sectors; and domestic help. As noted in previous OECD *Surveys* (2001, 2005), participants in several of these special schemes – representing a bit more than one third of retirement pensioners in September 2010 – contribute on low incomes and, as a result, pensioners tend to be bunched at the minimum pension. While these workers earn low pensions, the fact that they tend to contribute over relatively short periods results in very high internal rates of return (OECD, 2001). Reforms should continue to phase out these special schemes and integrate the participants into the general contributory and self-employed schemes, as recommended in the *Pacto de Toledo*. In the case of the self-employed, who can choose the earnings base which is subject to contribution payments (within defined limits), it is particularly important to improve the link between contributions paid and benefit entitlements obtained. Where special work risks exist, such as in mining, workers could be compensated, including by the age at which a worker qualifies for a pension.

Still, benefits of the Spanish public pension scheme are by design comparatively generous in relation to contributions paid. The average benefit accrual rate of 2.9 percentage points per year<sup>13</sup> generates an OECD estimate for the average theoretical gross replacement rate of slightly over 81% for workers earning the median income, the 7th highest in the OECD (Table 7). Potential gross pension wealth (*i.e.* the total lifetime value of pensions), at over 12 multiples of the average wage, is the 6th highest.<sup>14</sup> One way of assessing the generosity of Spain's contributory scheme is from the angle of the internal rate of return (IRR), that is, the rate of return that equalises the present value of lifetime contributions and lifetime pensions. Estimated at around 4%, the IRR is well above Spain's rate of potential output growth. Nonetheless, the public pension scheme has been able to run surpluses, even in recent years, because of the massive expansion of labour supply, reflecting rising female participation and immigration, combined with the fact that these workers have not yet reached retirement age. Against a backdrop of an unsustainable growth of old-age spending, reducing the statutory generosity of the public pension scheme appears to be warranted. The increase in the legal retirement age from 65 to 67 is a welcome step in this direction. While it is projected to generate a significant reduction in the projected spending, assuming that this measure is accompanied by other steps to raise the effective retirement age, it is unlikely to be sufficient.

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13. The average benefit accrual factor of 2.9% is the maximum replacement ratio divided by the contribution period for a full pension (OECD, 2001).

14. Spain's ranking is somewhat lower when account is taken of taxes paid on pensions; net replacement rates are the 9th highest, while net pension wealth is the 7th highest.

Table 7. Theoretical gross pension replacement rates by level of earnings

Per cent

	Median earner	Individual earnings, multiple of mean				
		0.5	0.75	1	1.5	2
<b>Spain</b>	<b>81.2</b>	<b>81.2</b>	<b>81.2</b>	<b>81.2</b>	<b>81.2</b>	<b>66.7</b>
Australia	45.7	67.0	50.0	41.6	33.1	28.9
Austria	80.1	80.1	80.1	80.1	76.4	57.3
Belgium	42.4	58.1	43.1	42.0	32.5	24.3
Canada	50.2	76.5	55.2	44.5	29.7	22.2
Czech Republic	54.9	79.2	59.6	49.7	36.4	29.0
Denmark	88.0	124.0	94.9	80.3	67.5	63.7
Finland	56.2	66.5	56.2	56.2	56.2	56.2
France	53.3	61.7	53.3	53.3	48.5	46.0
Germany	43.0	43.0	43.0	43.0	42.6	32.0
Greece	95.7	95.7	95.7	95.7	95.7	95.7
Hungary	76.9	76.9	76.9	76.9	76.9	76.9
Iceland	91.7	108.3	93.0	90.2	87.5	86.1
Ireland	39.8	68.4	45.6	34.2	22.8	17.1
Italy	Men	67.9	67.9	67.9	67.9	67.9
	Women	52.8	52.8	52.8	52.8	52.8
Japan		35.7	47.1	38.3	33.9	29.4
Korea		45.1	64.1	49.4	42.1	33.6
Luxembourg		90.1	99.4	91.9	88.1	84.3
Mexico	Men	36.9	55.3	37.6	36.1	34.5
	Women	32.5	55.3	36.8	29.9	28.6
Netherlands		88.9	93.4	90.0	88.3	86.6
New Zealand		45.6	77.5	51.6	38.7	25.8
Norway		59.6	66.2	61.0	59.3	49.8
Poland	Men	61.2	61.2	61.2	61.2	61.2
	Women	44.5	49.0	44.5	44.5	44.5
Portugal		54.1	63.0	54.3	53.9	53.1
Slovak Republic		56.4	56.4	56.4	56.4	56.4
Sweden		61.5	76.6	64.6	61.5	75.6
Switzerland	Men	62.0	62.5	62.1	58.3	40.5
	Women	62.6	62.8	62.6	59.0	41.0
Turkey		86.9	86.9	86.9	86.9	86.9
United Kingdom		33.5	51.0	36.6	30.8	21.3
United States		40.8	50.3	42.6	38.7	34.1
OECD		60.8	72.2	62.7	59.0	54.3

1. The replacement rate is calculated for hypothetical workers. It is equal to the ratio of the initial gross pension, which for Spain is a price-indexed annuity, divided by gross, lifetime-average earnings. Earnings before the last year of employment are re-valued in line with economy-wide earnings growth. Given the assumptions used in the calculation, this is equivalent to the initial pension as a share of final earnings. Under these assumptions, workers earn the same percentage of economy-wide average earnings throughout their career. In this case, lifetime average revalued earnings and individual final earnings are identical. For countries where the pension adjustment during retirement follows a different type of indexation (for example to wage growth), the initial pension used in this calculation is adjusted accordingly.

Source: OECD (2009), *Pensions at a Glance 2009: Retirement-Income Systems in OECD Countries*.

Several reforms would reduce the growth of total pension outlays over the long run, improve incentives for labour market and system participation, and make the system more actuarially fair:

- *First*, the average accrual rate has to be reduced and the accrual method should avoid disincentives for working longer. A lower, constant accrual rate would be useful.
- *Second*, pension benefits should be based on a longer contribution history. At present, initial pension benefits are calculated as a proportion of the average earnings over the final 15 years before retirement.<sup>15</sup> Beyond these 15 years, the proportion varies with years of service, but not the earnings base to which it is applied. One of the likely consequences of the shortness of the earnings history used to calculate the initial pension is to weaken the link between social security contributions and pension benefits for workers who have not yet reached the last 15 years of their active working life. Indeed, for these workers, the amount of their earnings assessed for social security contributions is irrelevant for their future pension. This raises the extent to which social security contributions are perceived as pure taxes, damping incentives to supply labour and to declare revenues to social security and for taxation. The rule also results in unjustifiable differences in internal rates of return among workers depending on their labour market performance in the last years of their working lives.
- The need to lengthen the earnings base for pensions has long been acknowledged in Spain, as early as in the *Pacto de Toledo*, but change has remained elusive after the 1997 reform that increased it gradually from 8 to 15 years. The government has commendably indicated, however, its intention to consider this in the context of ongoing broader reforms to public pensions.<sup>16</sup>
- *Third*, the procedure for indexing the earnings history should be revised. Price indexation discriminates against workers with a flat wage profile relative to workers whose wages increase rapidly at the end of their careers. Indexation by the trend rate of growth in covered wages – the sustainable, steady-state rate of return on contributions in a pay-as-you-go pension scheme – provides a greater degree of intergenerational equity than price indexation, but also reduces the capacity to rely on future productivity gains to offset the falling support ratio (*i.e.* workers/retirees) as the population ages.

#### *Tightening eligibility for survivors' pensions*

Survivors' pensions account for over 25% of total pensions. In effect, survivors pensions are payable not only to a surviving spouse and dependent children, but also to other family members (parents, grandparents, siblings) dependent on the deceased, so long as the total amount of the pension does not exceed 100% of the insured person's pension base. On prospects of increasing possession of own-retirement pensions among women, as female labour force participation has grown in recent decades, widow's pension spending can be expected to decline. Widow's pension outlays amount to 20% of total public pensions at present. The government is considering introducing measures to tighten eligibility requirements for widows' benefits. Such options include a reduction in eligible recipients as well as tightening requirements for combining survivor benefits with other pensions for example by means testing. Other factors, such as the contribution career of the decedent, the age of the beneficiary and the presence of dependent children could also be taken into account. A more fundamental reform in line with actuarial

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15. The pension calculation for civil servants is based on the whole working life instead of the last 15 years in the social security system.

16. One study estimates that lengthening the earnings history from 15 to 35 years could save 2 percentage points of GDP off the increase in aggregate pension spending by 2050 (Alonso-Meseguer and Herce, 2003).

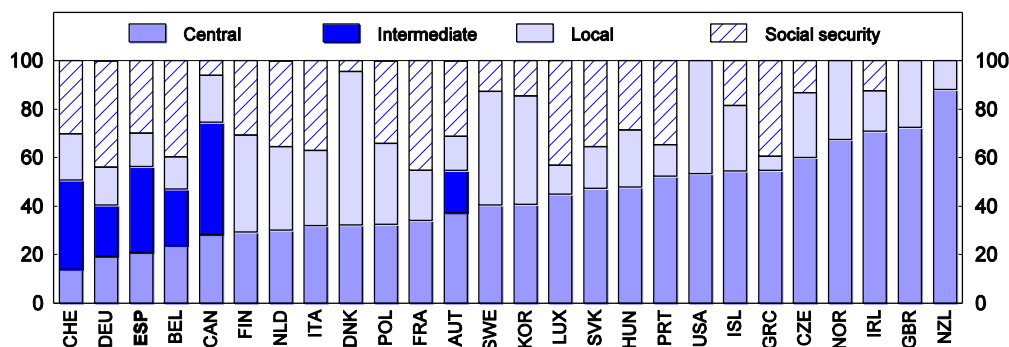
principles underlying private pensions would be to phase in optional two-life annuities for married couples. Under a two-life option, the retirement pension would be reduced (or the pension contribution raised) in exchange for an entitlement to a survivor benefit following the death of the insured.

### *A new internal stability pact is needed*

#### *Regional governments have incurred little debt so far but have conducted a pro-cyclical fiscal policy*

The spending share of subnational governments is among the highest in the OECD (Figure 11). While local governments play a relatively minor role, regional governments account for more spending than the central government. Devolution of spending responsibilities to regional governments was completed only in 2002 and was coupled with the assignment of larger tax revenue shares.<sup>17</sup> Subsequent years have been years of very strong tax revenue growth. Hence, thus far, the contribution of regional governments to the national debt is small, reaching only 8% of GDP in 2009.

Figure 11. **Expenditure by level of government**  
Per cent of total general government expenditure, 2009<sup>1</sup>



1. Excluding transfers paid to other levels of government. 2008 data for Korea and New Zealand. In countries where data on regional government spending is not available it is included in local government.

Source: OECD (2010), *OECD National Accounts Statistics* (database), November.

Regional governments devote most of their spending to education and health care (Table 8). Conversely, they are responsible for most overall government spending in these two policy areas for which they also have important regulatory competencies, although the national government level sets framework conditions. Devolution of spending responsibilities does not appear to have led to spendthrift behaviour: in international comparison, health and education spending as a share of GDP are modest (Figure 2.12).<sup>18</sup> The regional governments also have some social spending responsibilities, such as social assistance, but this has so far played a minor role, in part because of low generosity of such entitlements, although this may change in view of the rise in long-term unemployment, especially among unskilled workers.

17. Among the largest regions, Andalusia and Catalonia obtained these spending responsibilities earlier.

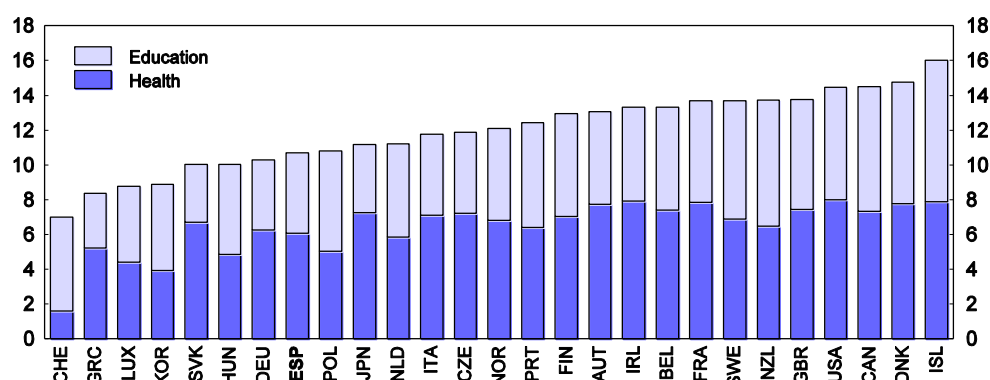
18. In education this result is to some extent explained by demographics, as the share of youth in full-time education in the total population is relatively small.

Table 8. **Regional government expenditure**  
Consolidated expenditure by economic function

	2000		2007	
	Million euros	%	Million euros	%
General public services	4 552	7	7 276	5
Defence	0	0	0	0
Public order and safety	1 839	3	3 972	3
Economic affairs	10 322	15	20 792	14
Environment protection	1 291	2	2 280	2
Housing and community amenities	1 741	2	2 297	2
Health	19 256	28	54 832	37
Recreation, culture and religion	2 673	4	5 297	4
Education	24 486	35	41 779	28
Social protection	3 607	5	8 452	6
<b>Total</b>	<b>69 767</b>	<b>100</b>	<b>146 977</b>	<b>100</b>

Source: IGAE (2008), *Actuación Económica y Financiera de las Administraciones Públicas 2007*, Intervención General de la Administración del Estado.

Figure 12. **Public expenditure on health and education**  
General government expenditure in per cent of GDP, 2008<sup>1</sup>



1. Or latest year of data available: 2005 for New Zealand; 2006 for Canada; 2007 for Iceland, Japan and Switzerland.

Source: OECD (2010), *OECD National Accounts Statistics* (database), November.

A large share of regional government spending is determined by expenditure that is not affected by in-built automatic stabilisers. Spending is largely determined by long-term spending programmes, which are difficult to cut within a short period of time. By contrast their revenues are subject to cyclical variations which are generally as marked as for general government revenues as a whole. Regional governments receive 50% of personal income tax and VAT revenues. While they do not receive corporate tax revenues, they do receive 58% of excise duties and all revenues from own taxes (such as inheritance taxes, transaction taxes, including on housing, vehicle registration and fuel taxes).

A sustainable budgetary stance hence requires that regional governments avoid spending temporary windfall gains on spending programmes which are difficult to reverse. Observed outcomes have been at odds with these requirements (Table 9). While the central government and social security experienced substantial budget surpluses in the boom years, regional governments ran small deficits prior to 2007.<sup>19</sup>

19. The regional governments were also net borrowers in 2007. Most regions had balances close to zero

Deficits deteriorated much less at the regional than at the central government level in 2009, mostly on account of more favourable revenues. While the discretionary stimulus measures, which were fully funded by the central government, explain part of this discrepancy, two other temporary effects played an important role. *First*, regional government received additional transfers from the central government as a result of a new arrangement for the funding of the regions (see Box 2.5 below). *Second*, tax revenue shares due to regional governments are determined according to advance estimates, carried out in 2008, which were higher than final tax revenues. As a result of this gap, regions will have to reimburse this difference from 2012 onwards.

Table 9. **Budget outcomes by level of government**

	Per cent of GDP				
	2000	2003	2005	2007	2009
<b>Budget balance</b>	<b>-1.0</b>	<b>-0.2</b>	<b>1.0</b>	<b>1.9</b>	<b>-11.1</b>
Central government	-1.0	-0.5	0.2	1.1	-9.4
Regional government	-0.5	-0.5	-0.3	-0.2	-2.0
Local government	0.1	-0.2	-0.1	-0.3	-0.6
Social security funds	0.5	1.0	1.1	1.3	0.8
<b>Expenditure</b>	<b>39.1</b>	<b>38.4</b>	<b>38.4</b>	<b>39.2</b>	<b>45.8</b>
Central government	20.3	15.2	14.7	15.1	19.9
Regional government	11.8	13.8	14.5	14.9	17.3
Local government	6.0	6.1	6.0	6.6	7.2
Social security funds	16.1	11.5	11.5	11.5	14.2
<b>Revenue</b>	<b>38.1</b>	<b>38.2</b>	<b>39.4</b>	<b>41.1</b>	<b>34.7</b>
Central government	19.3	14.7	14.9	16.2	10.6
Regional government	11.3	13.3	14.2	14.6	15.3
Local government	6.1	5.8	6.0	6.3	6.6
Social security funds	16.6	12.5	12.6	12.8	15.0

Source: OECD (2010), *OECD National Accounts Statistics* (database), November.

To some extent the different cyclical behaviour of budget deficits at the central and regional government level can be explained by the fact that regional governments are not guided by macroeconomic stabilisation objectives which played a significant role for the central government. The large weight of regional governments makes it difficult for the central government to offset any procyclical spending policies during upturns, reinforcing the need for budget rules that prevent regional governments from spending revenue windfalls during periods of strong economic expansion.

#### *Regional funding rules are too weak in periods of expansion*

Regional governments' finances are subject to controls by the central government when they exceed budget balance limits set in the Budgetary Stability Law (Box 4). As from 2010 regional fiscal frameworks have been reinforced by making the government authorisation for additional regions' indebtedness conditional to the achievement of approved deficit targets (see Box 3). Monitoring is held back to some extent by the late elaboration of regional government accounts following the national accounts definitions. Budget balance requirements vary according to the rate of GDP growth. However, the rules on budget balance give little room for cyclical effects on revenues. For example, when real GDP growth exceeds 3%, regional governments are only required to have a minimal surplus. Moreover, some investment and research and development spending can be deducted, subject to central government approval, which may allow regional governments to run small deficits even when economic growth is very strong. The thresholds are set as a function of growth rates of GDP, whereas revenues are linked to the *level* of economic activity and hence, over the cycle, to the output gap. This characteristic of the budgetary rules

also encourages excessive spending during long economic upturns: regional governments are not required to keep increasing their budget surpluses as positive output gaps keep rising. A further shortcoming of the current rules is that governments are not required to offset the impact of overshooting deficit targets on the level of debt. In addition, the current growth threshold of 3% above which regional governments are required to run surpluses in their budgets now appears high (well above estimated rate of potential growth estimated by the OECD), in view of the slowdown in potential growth (Chapter 1).

#### Box 4. Domestic budgetary stability rules

Regions must comply with the budget stability principles set up by the Budget Stability Law (2007). The law establishes that if GDP growth nationwide is above 3%, all administrations<sup>1</sup> should run a budget surplus, if growth is between 2 and 3%, all administrations should have budget stability; and if growth is below 2%, a deficit is allowed, limited to 0.2% of GDP for the central government, 0.25% for the regional governments and 0.05% for local governments (OECD, 2007)<sup>2</sup>. In addition, allowances for investment and research and development spending, up to 0.5% of GDP, can be deducted, with half of the ceiling applying to regional governments, although such allowances must be approved by the central government. The budget balance requirements are defined in aggregate. Targets for specific regions are agreed through multilateral agreements.

If jurisdictions exceed the deficit limits they must present an adjustment plan to return to budget stability in the medium term (*Plan de reequilibrio económico-financiero*) which needs to be approved by the fiscal and financial policy council (CPFF, *Consejo de Política Fiscal y Financiera*), which comprises representatives from the central and regional governments. Since regional governments have exceeded their deficit limits or are expected to do so, they have had to present adjustment plans. The CPFF has set a deficit path for regional governments, to be reached through such adjustment plans. The corresponding adjustment plans were approved, although in some cases regional governments have been asked to present more ambitious plans with respect to those initially presented. The CPFF<sup>3</sup> meeting of June 2010 established an objective of a 2.4% deficit for 2010 and 1.3% for 2011 for the regional budgets. The CPFF is controlled by the central government: it holds 50% of the votes and only needs the representative of one of the regions to vote in favour or abstain in order to carry a vote.

All debt issuance by regional governments whose budget outcomes do not meet the requirements of the Budget Stability Law must be approved by the central government. This approval will be conditional on the achievement of the targets established in the adjustment plans; if the targets are not reached the central government will recommend additional consolidation measures. Moreover, under all circumstances regional governments can only issue debt of maturity exceeding one year in order to finance investment spending and the servicing of this debt must not exceed 25% of current revenues. All long-term debt issuance must be approved by the central government.

1. In the case of the local administration, this principle only applies to big municipalities, for the others the target is balance or surplus.
2. OECD (2007), *OECD Economic Surveys: Spain*.
3. Some objectives were agreed in the Agreement of the Council of Ministers of 19 June 2009.

These arrangements may induce regional governments to spend revenue windfalls in economic upturns, delaying budgetary adjustments to recession periods. They generate a risk that any spending control occurs primarily in periods of weak growth or during recessions, and that spending cuts affect the most those programmes where spending cuts can be implemented quickly, such as in public investment, but where spending cuts might not be the most desirable. They may also foster overreliance on tax increases. Regional governments have significant tax-setting powers, especially in personal income taxation (Box 4), and some have raised top personal income tax rates or are considering doing so in 2010. Alternatively, regional governments may perhaps raise demands for increased central government transfers.

The budgetary rules across levels of government could be reviewed to ensure that regional governments' spending decisions are aligned with long-term revenue developments. The budgetary rules across levels of government should require larger surpluses in periods in which economic activity is above potential. It may be preferable to set rules concerning budget balances as a function of the nationwide output gap, rather than the growth rate of output. Another reform option is to adjust the transfers the regional governments receive from the fiscal equalisation system (as described in Box 5 below) with a



cyclical factor. In particular, the revenues the regional governments receive could be adjusted as a function of the output gap, resulting in lower transfers received when activity is above potential. The transfers regions pay into the fiscal equalisation system could continue to be based on the development of actual tax bases. This would result in the redistribution funds accumulating positive balances in periods in which activity is above potential. These balances would be drawn down at times of low or negative growth.

#### Box 5. Funding arrangements for the regional governments

A new funding arrangement for regional governments came into force in December 2009, replacing a previous arrangement from 2002 (de la Fuente, 2009a and 2009b). As the previous arrangement, reflecting constitutional provisions, it includes all except two regions (the Basque country and Navarre are excluded). The new system increases resources made available by the central government by 11 billion euros (1% of GDP) and it corrects a main shortcoming of the previous arrangement that did not take demographic changes sufficiently into account.

The arrangement raises the share of revenues accruing to the regional governments according to tax revenues accrued locally from 70 to 90%. They now receive 50% of personal income tax revenues, 50% of value added tax revenues and 58% of indirect taxes on specific goods, such as fuels and tobacco. The new arrangement strengthens regional tax-setting autonomy, especially with respect to the personal income tax: regional legislatures can set regional tax rates, provided a progressive tax structure is maintained. In addition, the regions' regulatory powers regarding own taxes have been increased.

The new financing system created several funds to cover different aims:

- **Guarantee fund** (*Fondo de Garantía de Servicios Públicos Fundamentales*). This fund ensures equal per (adjusted) capita financing in each region to provide health, education and social services but does not earmark funds. It will be shared among regions according to their "adjusted population", which is updated every year, with the young children and elderly citizens attracting more funding. Together with additional resources from the central government, regional governments contribute with 75% of their normative tax revenues."
- **Sufficiency fund** (*Fondo de Suficiencia Global*). This fund provides resources for the remaining spending responsibilities.
- **Convergence funds** (*Fondos de Convergencia Autonómica*). These funds aim to reduce remaining disparities in revenues per capita adjusted with population weights (*Fondo de Competitividad*) and channel revenues to the poorest regions and the regions with particularly low population growth (*Fondo de Cooperación*).

\* Normative tax revenues are defined as those tax revenues that would accrue to regions if they exercised no tax setting powers.

Several OECD countries (for example, recently the United Kingdom) have introduced independent Fiscal Councils to provide an assessment about the extent to which governments meet budgetary rules. Such councils can provide independent revenue and expenditure forecasts, which administrations could be obliged to accept as the basis for budgeting. There is evidence that such normative judgments on fiscal policy decisions provided by such councils can be effective in improving fiscal outcomes (Debrun *et al.*, 2009). In Spain, however, there is scope for improvement in the design of budgetary rules and the timely availability of budgetary data at the regional government level, suggesting that these issues are more important. Moreover, over the past decade, central government budgetary projections have not generally been over-optimistic.

#### *A new funding arrangement addresses some weaknesses*

A new regional funding arrangement for the regional governments (Box 5) makes several improvements over the previous arrangement. The new funding rules make the distribution of resources more responsive to ongoing demographic changes, which is important in view of the fact that regional governments fund social services for which the demand is highly dependent on demographic developments. The previous arrangement had been intended to be permanent but only lasted for seven years because it failed to reflect the unequal distribution of demographic pressures resulting from immigration on the different regional governments. The new funding arrangement also widens their taxing

powers with respect to personal income tax considerably and strengthens the extent to which revenues depend on taxes accrued locally.

Since the redistribution of tax revenue across regional governments is strong, incentives for regional governments to foster economic growth, for instance, with education policy are weakened. Geographic externalities resulting from mobility of workers after completion of full-time education may also weaken regional governments' pursuit of effective education policies, especially with respect to non-compulsory education. Moreover, the cost of the higher probability of unemployment that results from early school departure is largely born by the central government, rather than by regional governments, through unemployment insurance benefits. These arguments strengthen the case for benchmarking regional education outcomes. Transfers to poor regions could to some extent be linked to outcomes, notably in education, to offset geographic externalities in the provision of such services. For example, regional governments could be rewarded for raising graduation rates from upper secondary vocational education, which is poorly developed in Spain (see the 2008 *Economic Survey of Spain*).

**Box 6. Recommendations on restoring fiscal sustainability**

**Short/medium-term consolidation strategy**

- Ensure that the consolidation measures are strictly implemented. If risks emerge that fiscal targets may not be reached, further fiscal tightening measures may need to be contemplated.
- Raise the least distortive taxes if needed. Specifically, consider reducing the use of preferential value added tax rates.
- Eliminate or further reduce remaining tax subsidies for households' housing as well as for investment in rental properties.
- Review tax subsidies for energy efficiency. Use the tax system to internalise externalities instead. For instance, consider raising taxes on the use of fossil fuels further. A congestion toll on highways would generate revenues as well as environmental benefits and reduce congestion.

**Making the tax system more growth friendly**

- Consider shifting some of the burden of labour taxes to consumption taxes.
- Consider reducing taxation of corporations. Phase out preferential rates for small businesses.
- Increase the share of revenue obtained from taxing real estate property and lower taxes on housing transactions.

**Reducing ageing costs**

- Implement the increase in the legal retirement age from 65 to 67 years, as proposed.
- In order to maintain a balance between duration of working life and time spent in retirement, begin to index the statutory retirement age (or other parameters of the pension system) to changes in life expectancy, following full phase-in of retirement age to 67 in 2025.
- Base pension entitlements on a participant's lifetime earnings rather than the final 15 years.
- In combination with a lengthening of the earnings history used in calculating the pension base, reduce the average annual accrual rate sufficiently to lengthen the duration of the contribution record needed to obtain a full pension.
- To improve incentives for older workers to remain active, reduce the duration and gradually phase out supplementary unemployment benefits paid to older workers until they reach retirement. Consider increasing the "bonus" for postponing retirement beyond the statutory retirement age. Abolish subsidies for partial retirement.
- Continue tightening eligibility for survivors' pensions through closer scrutiny of employability of beneficiaries under a certain age, phase out benefits to non-immediate family beneficiaries, and integrate survivor benefits more closely with own old-age pension benefits.
- As planned since the 1997 reform, phase out special schemes and integrate them into the general public pension system. Introduce discounts for pensions of all civil servants retiring before the legal retirement age.

**Improving budgetary rules across levels of government**

- The budgetary rules across levels of government should require substantial surpluses in periods in which economic activity is above the national potential.
- Budget outcomes of regional governments should be published in a timely manner.
- Rules concerning budget balances for the regional governments could be set as a function of the national output gap, rather than growth rates of output. Another reform option is to adjust the transfers the regional governments receive from the fiscal equalisation system according to the estimated output gap.
- Consideration should be given to make stronger use of benchmarking of regional government services with respect to quality and cost of services they provide. Transfers to poor regions could be linked to outcomes in education, to offset geographic externalities in the provision of education services funded by regional governments. For example, transfers to regional governments could be linked to graduation rates from upper secondary vocational education.

## Bibliography

- Alonso-Meseguer, J. and J.A. Herce (2003), “Balance del sistema de pensiones y boom migratorio en España, proyecciones del modelo MODPENS de FEDEA a 2050”, *Documento de trabajo*, No. 2003-2, FEDEA Fundación de Estudios de Economía Aplicada, Madrid.
- DeBrun, X., D. Hauner and M.S. Kumar (2009), “Independent Fiscal Agencies”, *Journal of Economic Surveys*, Vol. 23, No. 1, Blackwell Publishing.
- Devereux, M.P. *et al.* (2010), “Effective Tax Levels Using the Devereux/Griffith Methodology”, Project for the EU Commission, TAXUD/2008/CC/099, Intermediate Report, Center for European Economic Research (ZEW).
- Duchêne, S. and D. Levy (2003), “‘Solde structurel’ et ‘effort structurel’ : un essai d’évaluation de la composante ‘discrétionnaire’ de la politique budgétaire”, *Analyses Économiques*, No. 18, Direction de la Prévision et de l’Analyse Économique du ministère français de l’Économie, des Finances et de l’Industrie, Paris.
- European Commission (2009a), *The 2009 Ageing Report: Economic and Budgetary Projections for the EU-27 Members (2008-60)*, European Economy, No. 2, Office for Official Publications of the European Communities, Luxembourg.
- European Commission (2009b), “Pension Schemes and Pension Projections in the EU-27 Member States, 2008-60”, European Economy, *Occasional Papers*, No. 56, European Commission and the Economic Policy Committee, Brussels.
- European Commission (2009c), *Sustainability Report 2009*, European Economy, No. 9, Office for Official Publications of the European Communities, Luxembourg.
- Fernández Rodríguez, E., A. Martínez Arias and S. Álvarez García (2008), “La presión fiscal por impuesto sobre sociedades en la Unión Europea”, *Documentos de trabajo*, No. 407, Fundación de las cajas de ahorros (FUNCAS), Madrid.
- Ferrerías Alonso, F. (2010), “Cambio demográfico y pensiones de la Seguridad Social”, *Documento de trabajo*, No. 161, Fundación Alternativas, Madrid.
- Fuente, Á. de la (2009a), “El nuevo acuerdo de financiación regional: un análisis de urgencia (ADENDA)”, *Colección Estudios Económicos*, No. 09-09, FEDEA, Fundación de Estudios de Economía Aplicada, Madrid.
- Fuente, Á. de la (2009b), “Sobre la puesta en marcha del nuevo sistema de financiación regional: proyecciones para 2009 y algunas reflexiones”, *Colección Estudios Económicos*, No. 11-09, FEDEA, Fundación de Estudios de Economía Aplicada, Madrid.
- Fuente, Á. de la (2010), “Una nota sobre la dinámica de la financiación regional”, *UFAE and IAE Working Papers*, No. 830.10, Unitat de Fonaments de l’Anàlisi Econòmica (UAB) and Institut d’Anàlisi Econòmica (CSIC), Barcelona.
- Government of Spain (2010), “Stability Programme Update Spain 2009-2013”.

Guichard, S., M. Kennedy, E. Wurzel and C. André (2007), “What promotes Fiscal Consolidation: OECD Country Experiences”, *OECD Economics Department Working Papers*, No. 553, OECD, Paris.

Johansson, Å, *et al.* (2008), “Taxation and Economic Growth”, *OECD Economics Department Working Papers*, No. 620, OECD, Paris.

Levy, A. and S. Schich (2010), “The Design of Government Guarantees for Bank Bonds: Lessons from the Recent Financial Crisis”, *OECD Journal: Financial Market Trends*, Vol. 2010/1, No. 98, OECD Publishing, Paris.

Newhouse, J.P. (1992), “Medical Care Costs: How Much Welfare Loss?”, *Journal of Economic Perspectives*, Vol. 6, No. 3, American Economic Association.

OECD (2001), *OECD Economic Surveys: Spain*, OECD Publishing, Paris.

OECD (2007), *OECD Economic Surveys: Spain*, OECD Publishing, Paris.

OECD (2009), *Pensions at a Glance 2009*, OECD Publishing, Paris.

Sánchez Martín, R. and V. Sánchez Marcos (2009), “Demographic Change and Pension Reform in Spain: An Assessment in a Two-Earner, OLG Model”, *Documentos de trabajo*, No. 2009-40, FEDEA Fundación de Estudios de Economía Aplicada, Madrid.

Whiteford, P. and E. Whitehouse (2006), “Pension Challenges and Pension Reforms in OECD Countries”, *Oxford Review of Economic Policy*, Vol. 22, No. 1, Oxford University Press.

## *Annex A1*

### **Assessing discretionary fiscal efforts: a breakdown of the cyclically-adjusted fiscal balance**

#### **The cyclically-adjusted fiscal balance is a rough measure of consolidation efforts**

Changes in the general government balance reflects policy choices but also the impact of economic cycles. At the bottom of the cycle, shortfalls in revenue and additional expenditures, such as social welfare benefits, deteriorate the fiscal balance. Conversely, more favourable periods lead to an improved fiscal balance owing to higher tax revenues. In practice, revenues are more sensitive to economic cycles than expenditure as public expenditure is largely independent of fluctuations in the economy.

To properly assess a fiscal policy stance then, it is desirable to remove the impact of the economic cycle from the changes in fiscal balance. The standard method consists of determining the cyclical component based on the economy's position in the cycle (measured by the "output gap"). The "cyclically-adjusted" balance (frequently also called the "structural" balance) is then obtained by deducting the cyclical component from the observed balance (see Box 1 for a formal presentation).

#### **Box A1.1 Cyclically-adjusted balance and output-gap**

Let us define 'B' the general fiscal balance, 'R' the fiscal revenues and 'G' the fiscal expenditures. Subscript 'c' identifies cyclical values and subscript 'ca' cyclically-adjusted values. Finally, 'Y' represents observed GDP, 'Y\*' potential GDP, 'OG' the output gap and 'α' the theoretical elasticity of a revenue to GDP

##### **The cyclically-adjusted revenues**

For each revenue item R whose tax base is contemporaneous, the cyclically-adjusted revenues are defined as:

$$R_{ca} = R \cdot \left( \frac{Y^*}{Y} \right)^\alpha$$

We deduct from this the cyclical part of revenue, which is:

$$R_c = R - R_{ca}$$

By combining the two previous formula, and after some simplification, we get:

$$R_{ca} = \alpha \cdot R \cdot \frac{Y - Y^*}{Y}$$

As  $\frac{Y - Y^*}{Y}$  is roughly the output gap (OG), we get:

$$R_{ca} = \alpha \cdot R \cdot OG \quad (1)$$

For revenue items with a yearly lag between the actual collection of the tax and the tax base used to compute the tax level, the previous relationship becomes:

$$R_{ca}^{Lagged} = \alpha \cdot R^{Lagged} \cdot OG_{-1} \quad (2)$$

### The cyclically-adjusted expenditures

Most public expenditures are not affected by the economic cycle. Unemployment benefits are one of the main exceptions to this rule. Similarly to above, the cyclical component of unemployment benefit expenditures can be estimated based on the output gap (with  $\eta$  being the theoretical elasticity of unemployment benefit expenditure to the output gap and  $G^U$  the total level of unemployment benefit expenditures).

$$G_c^U = \eta \cdot G^U \cdot OG \quad (3)$$

### The cyclically-adjusted balance

The cyclical balance can then be derived as:

$$B_c = R_c + R_c^{Lagged} - G_c^U$$

Using (1), (2), (3) and dividing by the GDP, we obtain:

$$\frac{B_c}{Y} = \alpha \cdot \frac{R^{Lagged}}{Y} OG_{-1} + \alpha \frac{R}{Y} OG - \eta^U \frac{G^U}{Y} OG \quad (4)$$

And the cyclically-adjusted balance as:

$$\frac{B_{ca}}{Y} = \frac{B}{Y} - \frac{B_c}{Y}$$

### Changes in the cyclically-adjusted balance

Using equation (4) above, changes in the cyclical balance can be written as:

$$\Delta \left( \frac{B_c}{Y} \right) = \alpha \cdot \frac{R^{Lagged}}{Y} \Delta OG_{-1} + \alpha \frac{R}{Y} \Delta OG - \eta^U \frac{G^U}{Y} \Delta OG \quad (5)$$

Changes in the cyclically-adjusted balance can then be deducted from changes in the actual balance by subtracting changes in the cyclical balance, the latter being related to changes in the output gap. After some simplifications (assuming a theoretical tax elasticity equal to one, no lagged revenues, and no impact of the cycle on expenditure), we get a simple relation :

$$\Delta \left( \frac{B_{ca}}{Y^*} \right) = \Delta \left( \frac{B}{Y} \right) - \Delta \left( \frac{B_c}{Y} \right) \approx \Delta \left( \frac{B}{Y} \right) - \rho^* \cdot \Delta OG$$

The formula above implies that changes in the fiscal balance not related to the output gap are *de facto* independent from the cycle. These changes are frequently considered as reflecting changes in the structural balance, i.e. changes in fiscal stance, although this is an excessive simplification, as outlined below.

In practice, the measurement of the structural balance poses several difficulties (see for example Girouard and André, 2005). Two major difficulties can severely blur the interpretation of the fiscal balance. First, it is very sensitive to the measure of the economy's position in the cycle, which is itself very sensitive to the methodology used for estimating the output gap (filter, production function, etc.). Second, the structural balance is calculated as a "residual" between the actual balance and the cyclical component of the fiscal balance: this implies that all factors that do not explicitly appear in the cyclical balance are considered, by construction, as structural. Consequently, the gap between the actual tax elasticity and the theoretical tax elasticity used to estimate the cyclical component of the fiscal balance will implicitly be considered as structural, and thus impact the cyclically-adjusted balance. Implicitly assuming that the nature of the gap is structural is spurious for the following two reasons:

(i) Linking the cyclical sensitivity of all revenue to the output gap rather than to their specific tax bases contains a strong assumption, namely that all tax bases are fully correlated with changes in GDP. In practice, however, the impact of a macroeconomic shock on the public balance depends on the structure of demand. For example, an external shock (a fall in export markets, for example) is transmitted to activity through a fall in exports and has no immediate impact on the fiscal balance as exports are not taxed. Only eventually will the fiscal balance be affected when domestic demand starts slowing down. Conversely, the impact on the public balance of a shock on activity of the same magnitude but through domestic demand (e.g., a fall in consumption) will have an immediate impact in revenues.

(ii) The specific features of the tax system produce a divergence between the spontaneous evolution in revenue (i.e. how revenues would have evolved without any new legislated tax measures) and the evolution in taxable bases: the progressive nature of personal income tax and the time lag between the actual collection of some taxes and their tax base (esp. for personal and corporate income tax) introduce a divergence between the evolution of the taxable base and of the corresponding revenue.

Consequently, the gap between the theoretical elasticity and the actual elasticity has one major consequence: it considerably blurs the interpretation of the structural balance, as changes in the structural balance caused by this gap could be wrongly interpreted as a change in fiscal stance. Moreover, revenue items other than compulsory levies (non-tax revenue collected by the central government, for example) are by their nature not regarded as being cyclical and therefore are implicitly included in the structural balance, although treating them as being entirely discretionary is debatable.

### **A breakdown of the cyclically-adjusted balance could provide a better measurement of the actual discretionary effort**

Better measures of the structural balance proposed to exclude non-recurrent revenue (frequently non-tax revenues), the so-called “one-off”, from the cyclically-adjusted balance (see for example Joumard et alii, 2007 or European Commission, 2006). Another improved measure of the actual fiscal stance has been proposed by Duchêne and Levy (2003). The authors define the "discretionary effort" using two factors: the gap between the actual growth in public expenditure and potential growth, and the new legislated tax measures. The first factor measures what could be called the "structural expenditure effort": if the government is able to control the growth of expenditure below potential growth on a sustainable basis, this will lead to a sustainable improvement in the fiscal position. The second factor reflects the capability of the government to raise new taxes in a sustainable manner. By doing so, the measurement of the discretionary effort is not obscured by changes in tax elasticities or by changes in non-tax measures. Box 2 below gives a formal presentation of the discretionary effort.



### Box A1.2. Changes in the cyclically-adjusted balance and discretionary efforts

Changes in the cyclically-adjusted balance can be decomposed into several components, allowing a more precise distinction between changes that are at the discretion of the government (defined here as “discretionary efforts”) from those which are mainly out of government control.

#### Changes in the cyclically-adjusted balance as a ratio of potential GDP

Changes in the cyclically-adjusted balance as a ratio to GDP can be rewritten using the potential GDP:

$$\Delta\left(\frac{B_{ca}}{Y}\right) = \Delta\left(\frac{B_{ca}}{(1+OG)Y^*}\right)$$

After simplifying, we get:

$$\Delta\left(\frac{B_{ca}}{Y}\right) \approx \Delta\left(\frac{B_{ca}}{Y^*}\right)$$

The changes in the ratio of cyclically-adjusted balance to potential GDP can be decomposed into changes in the revenue ratio to potential GDP and changes in the expenditure ratio to potential GDP:

$$\Delta\left(\frac{B_{ca}}{Y^*}\right) = \Delta\left(\frac{R_{ca}}{Y^*}\right) - \Delta\left(\frac{G_{ca}}{Y^*}\right) \quad (6)$$

Each of the latter components can be decomposed in discretionary and non-discretionary factors (see below).

#### Breakdown, expenditure side

$$\Delta\left(\frac{G_{ca}}{Y^*}\right) = \Delta\left(\frac{G - G_c}{Y^*}\right)$$

Or:

$$\Delta\left(\frac{G_{ca}}{Y^*}\right) = \Delta\left(\frac{G}{Y^*}\right) - \Delta\left(\frac{G_c}{Y^*}\right) \quad (7)$$

Using (3) from Box 1 and simplifying, we can rewrite the second term of (7) as:

$$\Delta\left(\frac{G_c}{Y^*}\right) = \eta \frac{G^U}{Y^*} \Delta OG \quad (7a)$$

The first term of (7) can be written as:

$$\Delta\left(\frac{G}{Y^*}\right) = \frac{G_{-1}}{Y_{-1}^*} \left[ \frac{G}{G_{-1}} \frac{Y_{-1}^*}{Y^*} - 1 \right] \quad (7b)$$

By defining  $y^*$  as the potential growth of GDP and  $g$  the growth of expenditure, (7b) can be rewritten as:

$$\Delta\left(\frac{G}{Y^*}\right) = \frac{G_{-1}}{Y_{-1}^*} [g - y^*] \quad (7b')$$

By combining (7a) and (7b'), equation (7) becomes:

$$\Delta\left(\frac{G_{ca}}{Y^*}\right) = \frac{G_{-1}}{Y_{-1}^*}(g - y^*) - \eta \frac{G^U}{Y^*} \Delta OG \quad (8)$$

The first term is regarded as discretionary as it represents the effort made by the government to control expenditure growth. If during an extended period of time expenditure growth is below potential GDP growth, the improvement of the fiscal balance is the result of a sustainable consolidation. This is not true of the second term, which represents the cyclical expenditure adjustment related to unemployment compensation.

#### **Breakdown, revenue side**

The change in the cyclically-adjusted revenue can be written as:

$$\Delta\left(\frac{R_{ca}}{Y^*}\right) = \Delta\left(\frac{R}{Y^*}\right) - \Delta\left(\frac{R_c}{Y^*}\right) \quad (9)$$

a) The second term of equation (9) is related to cyclical revenue, i.e. tax revenues (as opposed to non-tax revenue). It can be rewritten as:

$$\Delta\left(\frac{R_c}{Y^*}\right) = \Delta\left(\alpha' \frac{R^{Lagged}}{Y^*} OG_{-1}\right) + \Delta\left(\alpha \frac{R}{Y^*} OG\right) \quad (9a)$$

By simplifying the previous equation and noting that  $\Delta OG = y - y^*$ , we get:

$$\Delta\left(\frac{R_c}{Y^*}\right) = \left(\alpha' \frac{R^{Lagged}}{Y^*} + \alpha \frac{R}{Y^*}\right)(y - y^*) + \alpha^{Lagged} \frac{R^{Lagged}}{Y^*} (\Delta OG_{-1} - \Delta OG) \quad (9a')$$

b) The first term of equation (9), which is related to actual changes in revenues, leads to a more complex decomposition of factors. It can first be re-written as:

$$\Delta\left(\frac{R}{Y^*}\right) = \frac{\Delta R}{Y^*} - \left(\frac{R}{Y^*}\right)_{-1} \left(\frac{y^*}{1 + y^*}\right) \quad (9b)$$

Since  $\left(\frac{y^*}{1 + y^*}\right) \approx y^*$ , the previous equation becomes:

$$\Delta\left(\frac{R}{Y^*}\right) = \frac{\Delta R}{Y^*} - y^* \left(\frac{R}{Y^*}\right)_{-1} \quad (9b')$$

The change in revenue,  $\Delta R$ , of first term of (9b') can be decomposed into the following components:

$$\Delta R = \Delta(\text{non-Taxes}) + \Delta(\text{Taxes})$$

Or, by decomposing further:

$$\Delta R = \Delta NT + TM + \varepsilon' T^{Lagged} y + \varepsilon Ty \quad (10)$$

With:

- $\Delta NT$  being the change in the level in non-tax revenue
- $TM$  being the newly legislated tax measures
- $\varepsilon$  being the observed elasticity of tax revenue to activity ( $\varepsilon'$  for lagged taxes). This elasticity can significantly differ from the theoretical one ( $\alpha$ ). It helps measure the spontaneous change in tax revenue due to change in GDP ( $y$ ).

Substituting (10) into (9b') and after some simplification, we get the following equation:

$$\Delta\left(\frac{R}{Y^*}\right) = \Delta\left(\frac{NT}{Y^*}\right) + \frac{TM}{Y^*} + \left(\varepsilon' \frac{T^{Lagged}}{Y^*} + \varepsilon \frac{T}{Y^*}\right) \cdot y - y^* \cdot \left(\frac{T^{Lagged}}{Y^*} + \frac{T}{Y^*}\right)_{-1} \quad (9b'')$$

Combining (9a') and (9b''), equation (9) becomes:

$$\begin{aligned} \Delta\left(\frac{R_{ca}}{Y^*}\right) &= \Delta\left(\frac{NT}{Y^*}\right) + \frac{TM}{Y^*} + y \cdot \left( (\varepsilon' - \alpha') \frac{T^{Lagged}}{Y^*} + (\varepsilon - \alpha) \frac{T}{Y^*} \right) \\ &+ y^* \cdot \left( \alpha' \frac{T^{Lagged}}{Y^*} - \left( \frac{T^{Lagged}}{Y^*} \right)_{-1} + \alpha \frac{T}{Y^*} - \left( \frac{T}{Y^*} \right)_{-1} \right) - \alpha^{Lagged} \frac{T^{Lagged}}{Y^*} (\Delta OG_{-1} - \Delta OG) \end{aligned} \quad (11)$$

The two first terms, which represent the contribution of non-tax measures and the change of the tax level directly attributed to newly legislated tax measures are discretionary by nature. On the other hand, the second and third terms are not discretionary by nature since they represent respectively the contribution of variations in revenue elasticity to the evolution in the structural balance and the impact of lagged taxes (usually personal and corporate income taxes).

#### Full breakdown of the change in the cyclically-adjusted balance:

Combining (8) and (11), we get:

$$\begin{aligned} \Delta\left(\frac{B_{ca}}{Y^*}\right) &= \frac{TM}{Y^*} \\ &- \frac{G_{-1}}{Y_{-1}^*} (g - y^*) \\ &+ \Delta\left(\frac{NT}{Y^*}\right) \\ &+ y \cdot \left( (\varepsilon' - \alpha') \frac{T^{Lagged}}{Y^*} + (\varepsilon - \alpha) \frac{T}{Y^*} \right) + y^* \cdot \left( \alpha' \frac{T^{Lagged}}{Y^*} - \left( \frac{T^{Lagged}}{Y^*} \right)_{-1} + \alpha \frac{T}{Y^*} - \left( \frac{T}{Y^*} \right)_{-1} \right) \\ &- \alpha' \frac{T^{Lagged}}{Y^*} (\Delta OG_{-1} - \Delta OG) \\ &+ \eta \frac{G^U}{Y^*} \Delta(OG) \end{aligned}$$

The first two terms can be defined as the discretionary effort: the first one is the impact of new legislated tax measures while the second one measures the gap between expenditure growth and potential growth.

The four following terms measure non-discretionary factors of the evolution of the cyclically-adjusted balance:

- The non-tax revenues
- The gap between the actual tax elasticity and the theoretical tax elasticity
- The lagged impact of the output gap on taxes
- The impact of the output gap on cyclically-sensitive expenditures (mainly unemployment benefits).

## Bibliography

- Duchêne, S. and D. Levy (2003), “Solde structurel” et “effort structurel” : un essai d’évaluation de la composante “discretionnaire de la politique budgétaire”, *Analyses Économiques*, No. 18, Direction de la Prévision et de l’Analyse Économique du ministère français de l’Économie, des Finances et de l’Industrie, Paris.
- European Commission (2006), *Public finances in EMU*, 2006.
- Girouard, N., and André C (2005), “Measuring cyclically-adjusted budget balance for OECD countries”, *OECD Economics Department Working Papers*, No. 434, OECD, Paris.
- Joumard, I., Minegishi M., André C., Nicq C., Price R. (2008), “Accounting for One-off Operations when Assessing Underlying Fiscal Positions”, *OECD Economics Department Working Papers*, No. 642, OECD, Paris.

## *Annex A2*

### **The public pension system and recent reforms**

The public pension system in Spain comprises both contributory and non-contributory components. The latter consists of a minimum pension financed from general revenues and paid to persons not eligible for a contribution-based pension. The contributory scheme provides old-age, disability and survivors' pensions based on a participant's earnings and the number of years of contributions. The contributory scheme is financed mostly from social insurance contributions paid by workers and employers, plus a subsidy from general revenues to cover supplementary payments to bring the lowest earned pension up to the minimum pension.

There is a minimum required contribution period of 15 years after which the pension benefit is equal to 50% of the earnings base. Pension benefits then accrue at the rate of 3% per year for the subsequent ten years, followed by 2% per year for the final ten years, yielding a maximum statutory accrual of 100% after 35 years. The earnings base is the average of the final 15 years prior to retirement, indexed by changes in consumer prices during all but the final two years. Moreover, the earned pension is capped by an indexed maximum, and is supplemented if it falls below the indexed minimum (the minimum tends to be raised by more than would be required by price indexation). The supplements are increasingly being financed from general revenues.

The full pension is payable at age 65. An early pension is available to an involuntarily unemployed worker from age 61 with at least 30 years of contributions (the unemployed has to have contributed at least two years in the last 15 years before retirement). The Law also requires that the unemployed be registered as a jobseeker at the public employment services for a period of at least six months immediately preceding the date of application of retirement (this requisite can be avoided if the company paid to the worker a certain compensation during the two years preceding the date of the application for retirement). As a result, the pension is reduced by 6-7.5% per year of age below 65, with the reduction depending upon the number of contributory years. A voluntary early pension is available at age 60 if the worker entered the system before 1967 (or 1970 in some cases), with a penalty of 8% per year; if retirement is involuntary, the penalty rates are the same as for persons whose contributions began after 1967. A 2-3% per year additional accrual is provided to compensate for retirement after age 65, together with a waiver of both employer and employee social insurance contributions, which is gradually introduced from age 60 onwards. Early retirement at age 64 is allowed if the position of the retiring worker is filled by an unemployed person (few workers entering retirement in recent years have used this option). Partial pensions can be combined with part-time work, subject to certain conditions: hours worked must be sufficiently reduced and the partial retirement must be offset with the hiring of a younger person. The minimum age is 61 years with a contribution of 30 years. The reduced hours will be between a minimum of 25% and a maximum of 75%.

Disability pensions are payable at replacement rates that vary with the degree of disability, the cause of disability, age, and duration of the contributory period. Early retirement is also available for disabled workers. Survivors' pensions are payable to a widow(er) and/or dependent children at replacement rates

that depend on whether or not the deceased was a pensioner or still working. All survivors' and orphans' benefits must not exceed 100% of the deceased person's earnings base.

Finally, there are five special schemes within the social security system, one for each of: farmers/farm workers, self-employed, seamen, miners and domestic employees. Each has its own contribution scheme and benefit determination. Civil servants from the central administration, the military and the judiciary are covered under special regimes outside the social security system.

Ongoing reforms were introduced in 2007. The principal measures included:

- *Prolonging working life.* Restrictions on access to bonus accrual for remaining employed beyond age 65 were eased.
- *Partial pensions.* Partial retirement pensions were rationalised and qualifying conditions tightened.
- *Lengthening of contribution period.* The effective period of contributions was raised by terminating the granting of extra days in exchange for extra contribution payments.
- *Disability pensions.* Incentives for early exit *via* disability were reduced.
- *Widow(er) pensions.* Eligibility criteria for married couples were tightened under certain conditions but eligibility was extended to other types of union.

In January 2010, and in line with the *Pacto de Toledo*, the government proposed to gradually raise the retirement age from 65 to 67, and to identify parametric and administrative measures to:

- Improve the relationship between contributions and pensions.
- Further tighten eligibility for disability, widow(er) and orphan pensions.
- Restrict access to pensions *via* unemployment routes.

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