



OECD Network on Fiscal Relations across Levels of Government

**FISCAL POLICY ACROSS LEVELS OF GOVERNMENT
IN TIMES OF CRISIS**

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FISCAL POLICY ACROSS LEVELS OF GOVERNMENT IN TIMES OF CRISIS

Introduction

1. The world is recovering from the worst economic and financial crisis since the Great Depression. The recovery will probably be shallow and government deficits could remain very large over the next few years in a number of countries. The crisis has a negative impact not only on central governments, but also on sub-national governments. While the situation varies from country to country, depending on the institutional environment, types of revenue sources and spending responsibilities, an increasing number of sub-national governments are facing budget imbalances, as the economic slump is putting upward pressure on spending, while pushing down tax revenues.

2. The sub-national dimension of the crisis has been rather neglected, in spite of having major implications. Most central governments have adopted large stimulus programmes which amount to about 3.9% of OECD weighted area-wide 2008 GDP¹ to support activity and employment.² But sub-national governments are often important providers of essential public services (such as social protection, health care or education), and are responsible for 66% of public investment on average in the OECD. Their policy reactions can therefore not be ignored. As central governments, sub-central governments have faced three policy options to respond to the crisis: (i) to cushion the impact of the crisis on demand and employment, by sustaining or increasing expenditure, especially on investment, and/or lowering taxes; (ii) to take no active policy action and let the automatic stabilisers operate; or (iii) to decrease expenditure and investment, and raise taxes to balance their budget. Given their weight in the economy, sub-central governments' policy reactions are therefore important, as they can either reinforce or, on the contrary, neutralise, or even offset, central governments' stimulus efforts.

3. The type of sub-central government reaction (counter-cyclical, automatic stabilisers or pro-cyclical) greatly depends on each country's institutional arrangements and the degree of autonomy of sub-central governments. The first section of this paper highlights past trends in the reactions of sub-central finances to economic cycles. The second section provides projections of how sub-central tax revenues could evolve in 2009 and 2010, if no policy measures were taken, and describes the impact of the crisis on sub-central finances. But this crisis was not a "crisis as usual": the OECD economies were going through their deepest and most synchronised recession in more than 50 years, and most countries have been implementing large-scale fiscal stimulus policies to prevent this crisis from becoming as serious and long-lasting as the Great Depression of the 1930s. The third section therefore analyses the actual policy reactions of both the sub-central and central governments. Part of this paper is based on the information

¹ OECD Economic Outlook, September 2009.

² The United States has the largest fiscal package at about 5.5% of 2008 GDP, and four other OECD countries have introduced fiscal packages that amount to more than 4% of 2008 GDP (Australia, Canada, Korea and New Zealand). Only few countries (Hungary, Iceland and Ireland) have drastically tightened their fiscal stance as the economic crisis threatened to lead to a fiscal crisis.

provided by a questionnaire that 18 countries filled in, in June 2009, and therefore only considers the immediate reactions to the crisis, i.e. until the second quarter of 2009

4. This paper shows that good coordination between central and sub-central governments' reactions is crucial to make sure that the financial stimulus efforts are as effective as possible in terms of stimulating growth and employment. It concludes by examining the possible long-term impacts of the crisis (on reforms and the balance of powers) and future challenges, such as consolidating sub-central governments' budgets and dealing with increased levels of sub-central debt.

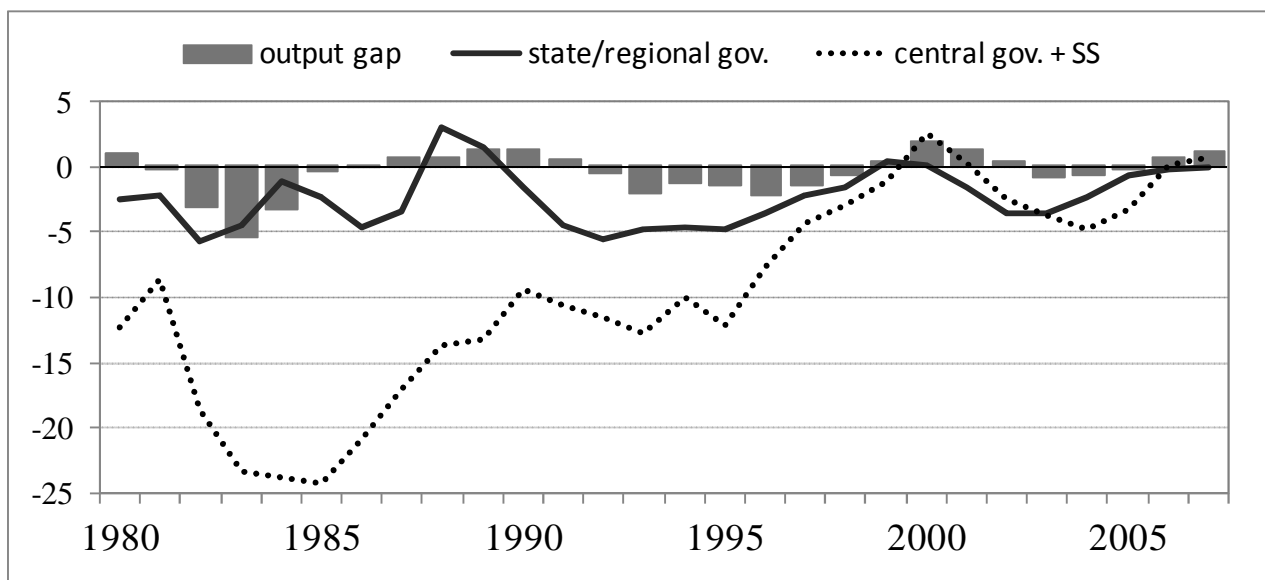
1. Central versus sub-central governments' finances: past trends

SCG budget deficits were lower than those of central government...

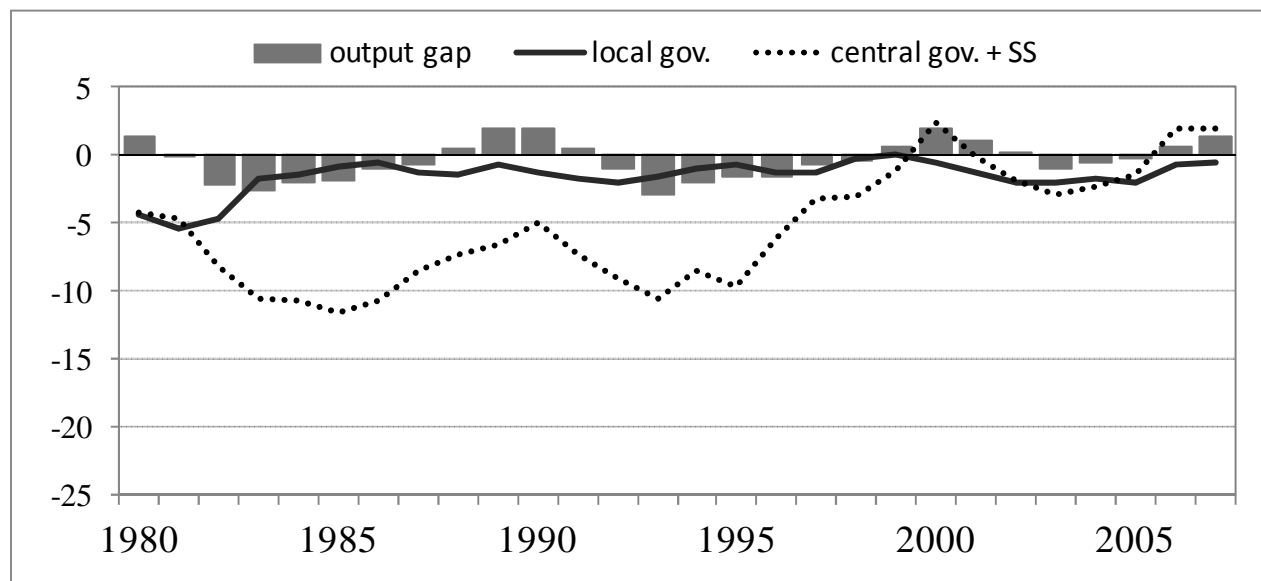
5. Over the past 30 years or so, sub-central governments (SCG) ran lower deficits, and their fiscal balances fluctuated less than those of central governments (Figure 1). While central governments had high deficits in the second half of the 1980s and during the 1990s, reaching up to 25% of total spending in federal/regional countries, SCG deficits hardly ever exceeded 5% at both the state/regional and the local level. Lower deficits could be partly explained by fiscal rules that limit SCG budget discretion in many countries (Sutherland *et al.*, 2006). Deficits of all government levels tended to be counter-cyclical, i.e. they were larger in downturns than in upturns, but the counter-cyclical response of SCGs – especially at the local level – was considerably weaker. Both the deficit levels and the pattern of cyclical movements suggest that in most countries the willingness and the ability to run counter-cyclical fiscal policy are different for central than for sub-central governments.

Figure 1. Central and sub-central fiscal balances

a) State/regional level, net lending as a per cent of spending of that government level³



³ Only countries with a state/regional level of government are included in panel a, hence the average at the central and social security level and the average of output gaps is different in panels a and b (see also Box 2).

b) Local level, net lending as a per cent of spending of that government level¹

Source: OECD National Accounts and OECD Economic Outlook database.

... and also less cyclical

6. A closer look at the correlation between net lending and the size of the output gap confirms that the sub-central budget reaction was generally weaker and less counter-cyclical than at the central level, although the picture varies considerably across countries (Table 1). While the central government budget in most countries reacted quite swiftly and counter-cyclically to economic downturns, the respective SCG budget reaction was much slower. Exceptions to this rule include large federations like Canada and Germany where the state level has large spending responsibilities and appears to conduct counter-cyclical fiscal policy of a considerable scale. Local budgets reacted even less to the cycle than state/regional budgets, as shown by low correlation coefficients. In general, SCGs tend to move quickly towards a balanced budget after a shock – shown by correlation coefficients becoming increasingly negative the longer the time lag, which suggests however pro-cyclicality in sub-central fiscal policy in several countries. There is indeed some evidence that SCG fiscal policy could be pro-cyclical (Wibbels and Rodden, 2008).

Table 1. Correlation coefficients between net lending and output gap

| | | Net lending and output gap | | | | | |
|----------------|-------|----------------------------|---------|--------------|---------|---------------|---------|
| | | no lag | | one year lag | | two years lag | |
| | | sub-central | Central | sub-central | central | sub-central | central |
| Austria | Local | -0.01 | 0.45** | 0.09 | 0.45* | 0.07 | 0.18 |
| | State | 0.01 | | 0.25 | | 0.17 | |
| Belgium | Local | -0.03 | 0.51*** | 0.11 | 0.42** | 0.04 | 0.43** |
| | State | 0.27 | | 0.05 | | -0.29 | |
| Canada | Local | -0.04 | 0.47*** | -0.23 | 0.40** | -0.32* | 0.29 |
| | State | 0.65*** | | 0.30 | | -0.09 | |
| Denmark | Local | -0.15 | 0.64*** | -0.17 | 0.43* | -0.19 | 0.22 |
| Finland | Local | -0.19 | 0.91*** | -0.33* | 0.81*** | -0.39** | 0.48*** |
| France | Local | 0.07 | 0.33* | -0.03 | 0.04 | -0.09 | -0.36 |
| Germany | Local | 0.36 | 0.34 | -0.34 | 0.05 | -0.70*** | 0.11 |
| | State | 0.51** | | -0.16 | | -0.65*** | |
| Greece | Local | -0.60* | -0.10 | -0.61* | 0.35 | -0.06 | 0.75** |
| Hungary | Local | -0.40 | -0.36 | 0.14 | 0.33 | -0.04 | 0.33 |
| Iceland | Local | 0.54* | 0.67** | 0.69*** | 0.82*** | 0.53 | 0.35 |
| Ireland | Local | -0.38 | 0.65*** | -0.63** | 0.48* | -0.49* | 0.15 |
| Italy | Local | -0.45** | -0.08 | -0.55*** | -0.24 | -0.36* | -0.25 |
| Japan | Local | -0.06 | 0.81*** | -0.43 | 0.19 | -0.63** | -0.37 |
| Luxembourg | Local | -0.35 | 0.22 | -0.53* | -0.06 | -0.52* | -0.36 |
| Netherlands | Local | -0.04 | 0.62*** | -0.38 | 0.48* | -0.57** | 0.27 |
| New Zealand | Local | -0.29 | 0.43** | -0.17 | 0.26 | 0.05 | -0.05 |
| Norway | Local | -0.14 | 0.29 | -0.22 | 0.49 | -0.30 | 0.70*** |
| Poland | Local | 0.10 | 0.54** | -0.09 | 0.74*** | -0.23 | 0.74*** |
| Portugal | Local | -0.10 | 0.41 | -0.26 | 0.35 | -0.40 | 0.35 |
| Spain | Local | -0.19 | 0.77*** | -0.45 | 0.71*** | -0.59** | 0.63*** |
| | State | 0.40* | | 0.11 | | 0.04 | |
| Sweden | Local | 0.45* | 0.90*** | 0.23 | 0.81*** | 0.03 | 0.54** |
| Switzerland | Local | 0.22 | 0.73*** | 0.03 | 0.57** | -0.12 | -0.08 |
| | State | 0.34 | | 0.01 | | -0.22 | |
| United Kingdom | Local | -0.28 | 0.45** | 0.15 | -0.03 | 0.44** | -0.46** |
| United States | State | -0.38 | 0.36 | -0.66*** | 0.15 | -0.69*** | -0.11 |
| Average | Local | 0.11 | 0.68*** | -0.28 | 0.51** | -0.55** | 0.24 |
| | State | 0.52** | | 0.14 | | -0.12 | |

***significant at the 1% level, **significant at the 5% level, *significant at the 10% level.

Positive signs mean counter-cyclicality, negative signs mean pro-cyclicality.

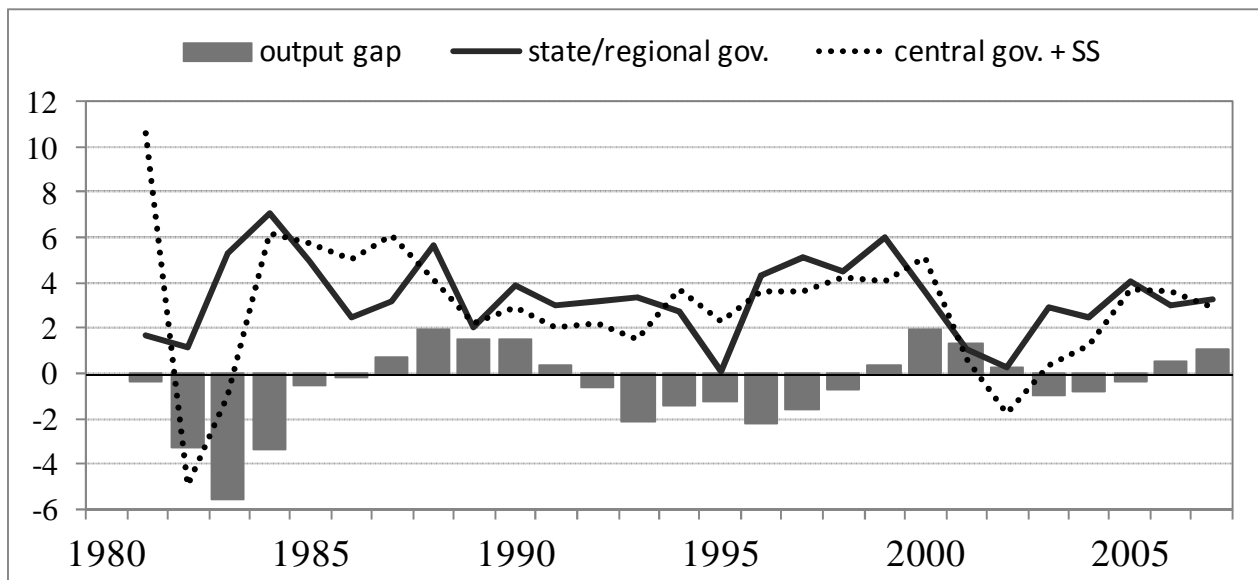
Central and sub-central revenue volatility was quite similar...

7. The cyclical patterns of central and sub-central government revenues were quite similar in the past, with revenues at all government levels growing faster during upswings than during downswings (Figure 2). The amplitude of revenue fluctuations – as measured by the standard deviation – is also similar, with local government revenues fluctuating a bit less than state/regional government revenues. However, the ratio of SCG-to-central-government-revenue fluctuations varies strongly across countries, as shown in Table 2, which is likely to reflect very different SCG tax structures and their reaction to the cycle. In general, SCG revenues seem to react later to economic cycles than those of central government, with a lag

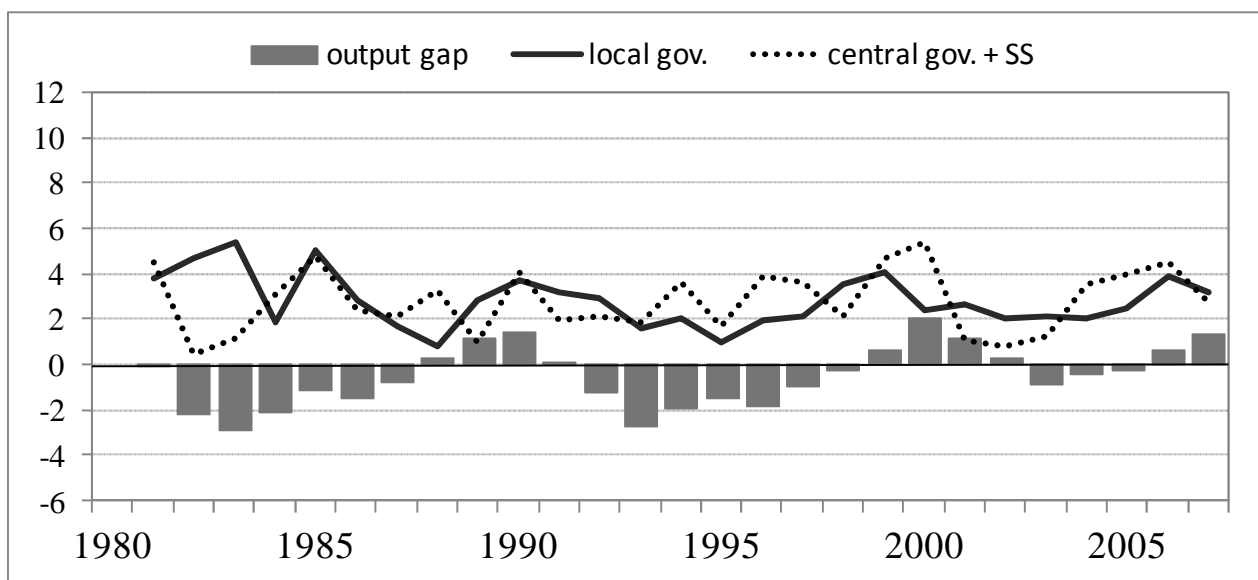
of one or two years, especially at the local level. The lagged reaction of SCG revenues points at differences in the revenue mix between central and sub-central governments, and particularly at the role of intergovernmental grants over the cycle.

Figure 2. Central and sub-central government revenue fluctuations

a) State/regional level, annual growth rates (%)¹



b) Local level, annual growth rates (%)¹



Source: OECD National Accounts and OECD Economic Outlook database.

Table 2. Fluctuations of main fiscal variables
Standard deviations, central and sub-central level⁴

| | | Net lending | | Revenues | | Expenditure | | Tax revenue | | Investment | | Grants |
|----------------|-------|-------------|------------|-----------------------|------------|-----------------------|------------|-----------------------|------------|-----------------------|-------------|-----------------------|
| | | (%GDP) | | (annual growth rates) | | (annual growth rates) | | (annual growth rates) | | (annual growth rates) | | (annual growth rates) |
| | | Sub-central | Central | Sub-central | Central | Sub-central | Central | Sub-central | Central | Sub-central | Central | Sub-central |
| Austria | Local | 2.4 | 3.0 | 3.9 | 1.9 | 4.4 | 3.1 | 3.4 | 2.1 | 8.4 | 10.7 | 10.8 |
| | State | 4.0 | | 4.9 | | 4.5 | | 4.0 | | 13.3 | | 5.4 |
| Belgium | Local | 2.7 | 6.1 | 2.7 | 2.1 | 2.9 | 2.6 | 5.6 | 5.5 | 15.5 | 23.1 | 4.2 |
| | State | 4.2 | | 1.9 | | 2.6 | | 2.7 | | 20.4 | | 3.8 |
| Canada | Local | 2.1 | 13.5 | 2.9 | 3.9 | 2.4 | 3.7 | 2.3 | 4.1 | 6.8 | 12.8 | 5.4 |
| | State | 4.6 | | 2.8 | | 2.7 | | 3.2 | | 7.4 | | 7.2 |
| Denmark | Local | 1.1 | 7.6 | 1.9 | 3.1 | 1.9 | 3.9 | 2.0 | 3.2 | 11.1 | 12.4 | 3.4 |
| Finland | Local | 3.1 | 9.4 | 2.8 | 3.4 | 3.2 | 4.9 | 4.3 | 4.5 | 9.9 | 13.2 | 7.6 |
| France | Local | 5.0 | 3.0 | 1.6 | 1.6 | 2.4 | 1.9 | 4.1 | 1.6 | 5.7 | 5.6 | 5.0 |
| Germany | Local | 2.7 | 4.7 | 2.6 | 2.0 | 2.2 | 3.1 | 5.3 | 2.3 | 6.5 | 12.8 | 3.0 |
| | State | 3.3 | | 3.2 | | 2.3 | | 3.7 | | 9.3 | | 5.3 |
| Ireland | Local | 2.2 | 6.8 | 3.9 | 3.3 | 4.7 | 3.5 | 3.8 | 3.9 | 8.8 | 17.9 | 4.9 |
| Italy | Local | 3.3 | 6.6 | 4.0 | 3.7 | 3.5 | 4.5 | 6.6 | 4.2 | 6.4 | 12.7 | 5.9 |
| Japan | Local | 4.8 | 6.9 | 2.6 | 5.1 | 1.7 | 4.7 | 4.3 | 15.6 | 2.9 | 6.6 | 6.6 |
| Luxembourg | Local | 5.2 | 4.3 | 3.9 | 3.1 | 4.3 | 3.1 | 9.6 | 3.6 | 10.3 | 9.2 | 4.1 |
| Netherlands | Local | 2.0 | 4.8 | 2.1 | 3.5 | 2.1 | 2.8 | 7.1 | 3.3 | 6.8 | 7.8 | 2.8 |
| New Zealand | Local | 3.2 | 9.2 | 3.3 | 4.1 | 3.7 | 4.0 | 4.7 | 4.6 | 12.3 | 12.1 | 11.4 |
| Norway | Local | 2.3 | 3.0 | 4.8 | 4.8 | 6.0 | 3.9 | 8.5 | 3.1 | 10.1 | 9.6 | 7.3 |
| Portugal | Local | 4.6 | 2.2 | 5.4 | 3.2 | 6.4 | 2.6 | 5.9 | 2.5 | 13.9 | 8.5 | 9.5 |
| Spain | Local | 1.7 | 6.9 | 2.9 | 2.7 | 2.7 | 2.8 | 3.9 | 4.4 | 12.6 | 8.3 | 4.1 |
| | State | 2.0 | | 2.2 | | 2.3 | | 4.9 | | 7.1 | | 4.6 |
| Sweden | Local | 1.3 | 9.5 | 2.3 | 2.8 | 2.0 | 5.8 | 2.0 | 4.4 | 6.8 | 6.7 | 7.4 |
| Switzerland | Local | 4.9 | 4.0 | 1.6 | 3.3 | 1.7 | 3.5 | 3.0 | 3.8 | 4.7 | 11.1 | 3.2 |
| | State | 4.6 | | 1.8 | | 1.8 | | 2.9 | | 8.0 | | 3.6 |
| United Kingdom | Local | 1.7 | 6.8 | 4.5 | 2.8 | 3.3 | 4.0 | 3.7 | 3.0 | 8.8 | 24.1 | 5.9 |
| United States | State | 1.7 | 8.6 | 1.5 | 4.5 | 1.7 | 2.9 | 2.8 | 4.8 | 4.4 | 6.2 | 5.2 |
| Average | | 3.1 | 6.3 | 3.0 | 3.2 | 3.1 | 3.6 | 4.4 | 4.2 | 9.2 | 11.4 | 5.7 |

... while SCG spending was more stable

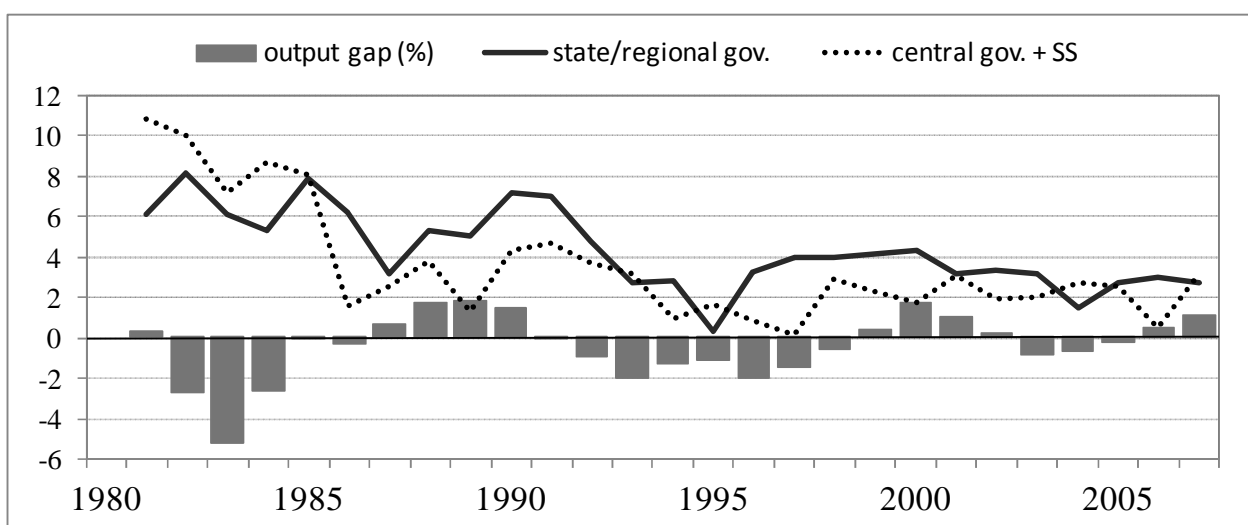
8. Both central and sub-central spending was counter-cyclical, with spending increases usually lower during an economic downturn (Figure 3). However, SCG spending, on average and in around two thirds of OECD countries, fluctuated less than central government spending, and this pattern was similar

⁴ From 1980 for Canada, Finland, France, Netherlands and USA, 1985 Belgium (1989 for regional data), 1986 New Zealand, 1987 United Kingdom, 1988 Austria, 1990 Denmark, Ireland, Luxembourg and Switzerland, 1991 Germany, 1993 Sweden, 1995 Norway, Poland, Portugal and Spain and 1996 Japan

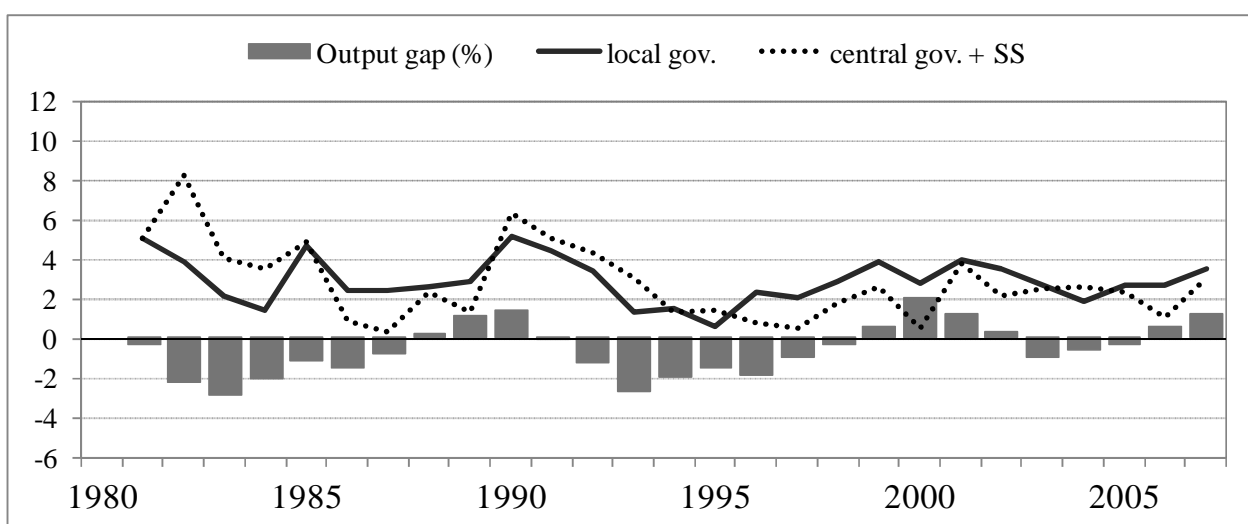
for both the state/regional and the local level (Table 2). Since revenue fluctuations at all government levels were quite similar, the spending side appears to be responsible for the lower budget balance fluctuations at the SCG level. Various factors could explain why spending and budget balance patterns differ between the central and the sub-central level: the institutional set up, the prevalence of fiscal rules, the role of intergovernmental grants, different spending obligations or policy areas across government levels. In a majority of countries the central government is the main responsible for income-related benefits such as unemployment insurance or social welfare, which fluctuate counter-cyclically, while SCGs are often responsible for less cyclically-prone areas like education.

Figure 3. Central and sub-central government expenditure

a) State/regional level, annual growth rates (%)¹



b) Local level, annual growth rates (%)¹



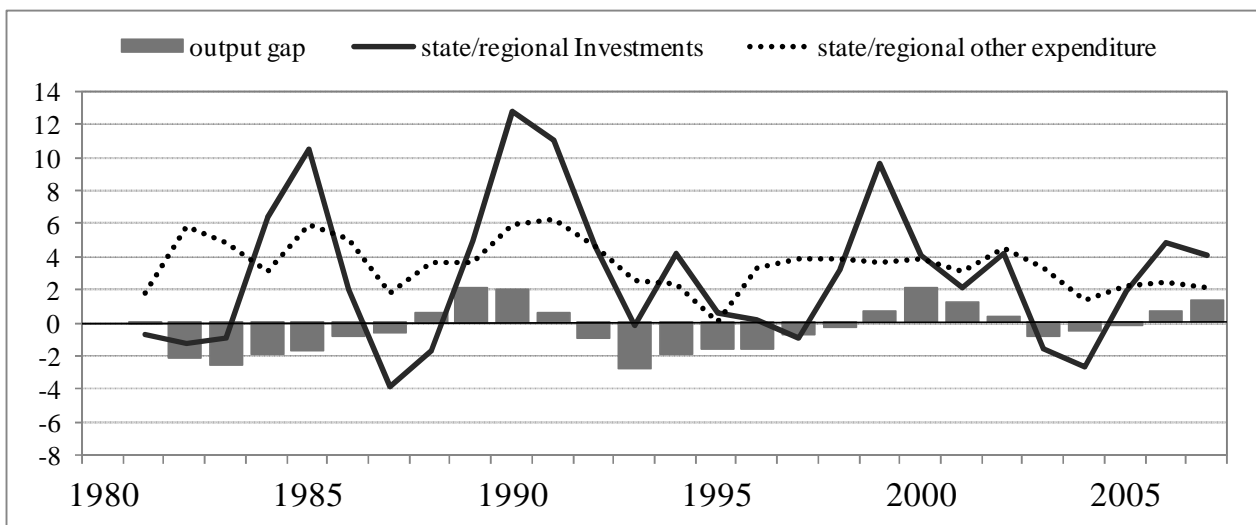
Source: OECD National Accounts and OECD Economic Outlook database

SCG investment tended to fluctuate strongly

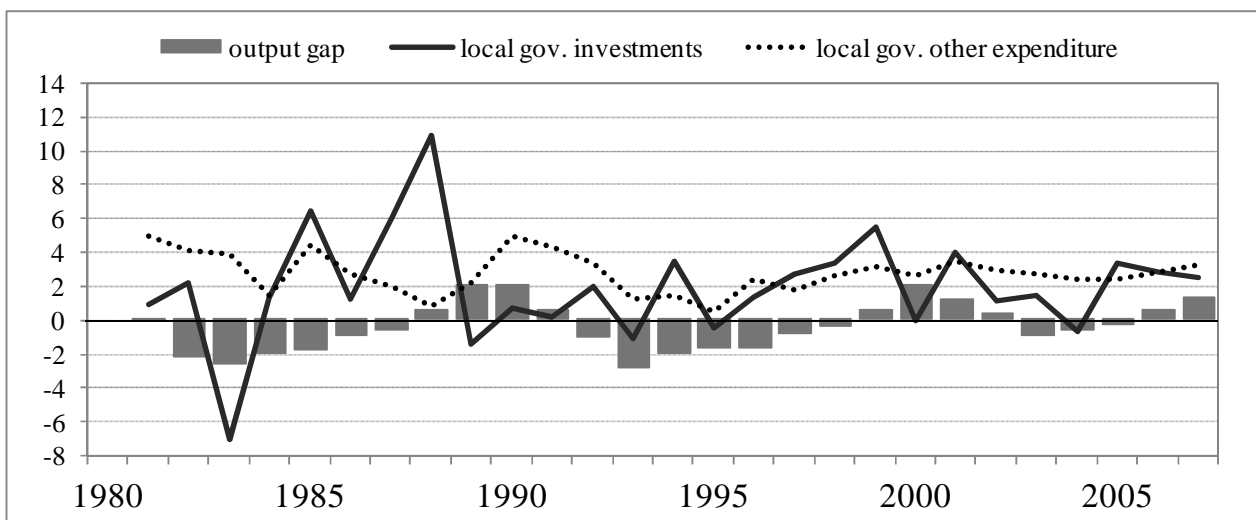
9. Although SCG's spending seems more stable than that of central governments, SCG investment fluctuations tend to be considerable. In some years and some countries, investment even approached values close to zero. It appears that investment is easier to curtail in the face of budget constraints, while current spending is often politically sensitive or mandated and thus difficult to change. However, no overall cyclical pattern with respect to the output gap can be discerned, with only very few countries showing a clear pro- or counter-cyclical investment policy (table A2 in the annex). Individual country experience suggests that investment spending often follows an electoral cycle: Investment spending is highest in the year before an election and the lowest the year after.⁵

Figure 4. Evolution of sub-central investment and other expenditure

a) State/regional level, annual growth rates (%)¹



b) Local level, annual growth rates (%)¹



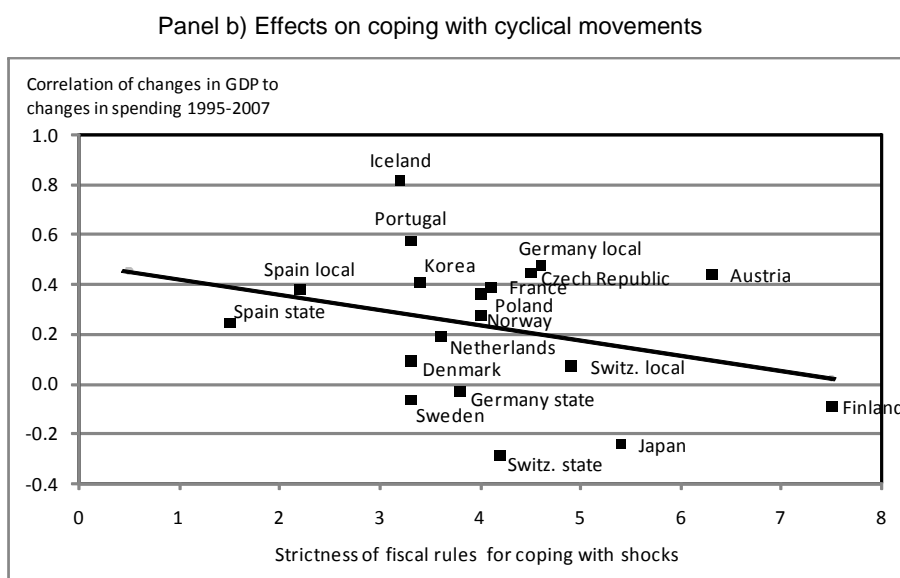
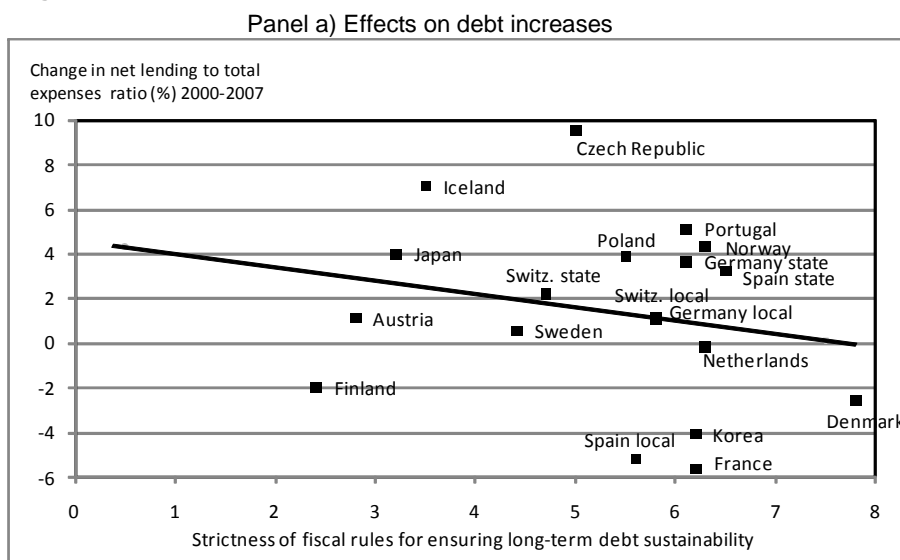
Source: OECD National Accounts and OECD Economic Outlook database

⁵ This is clearly the case for Belgium, Denmark and Spain.

Differences between central and sub-central fiscal outcomes can be partly explained by fiscal rules...

10. Sub-central fiscal rules – either self-imposed or imposed by central government – may partly explain differences in central and sub-central fiscal outcomes. SCG budgets in most OECD countries are subject to balanced budget rules or to borrowing constraints, and often SCG power to increase spending or taxes are restricted. The OECD Fiscal Network has made a comparative analysis of sub-central fiscal rules and their potential effect on fiscal outcomes (Figure 5). Results suggest that fiscal rules indeed restrain debt increases and lead to counter-cyclical policy, albeit the relationship between the strength of the rules and sub-central fiscal outcomes – as shown by the straight lines – is rather weak.

Figure 5. How sub-central fiscal rules affect sub-central fiscal outcomes



Source: Sutherland et al (2006) and OECD National Accounts

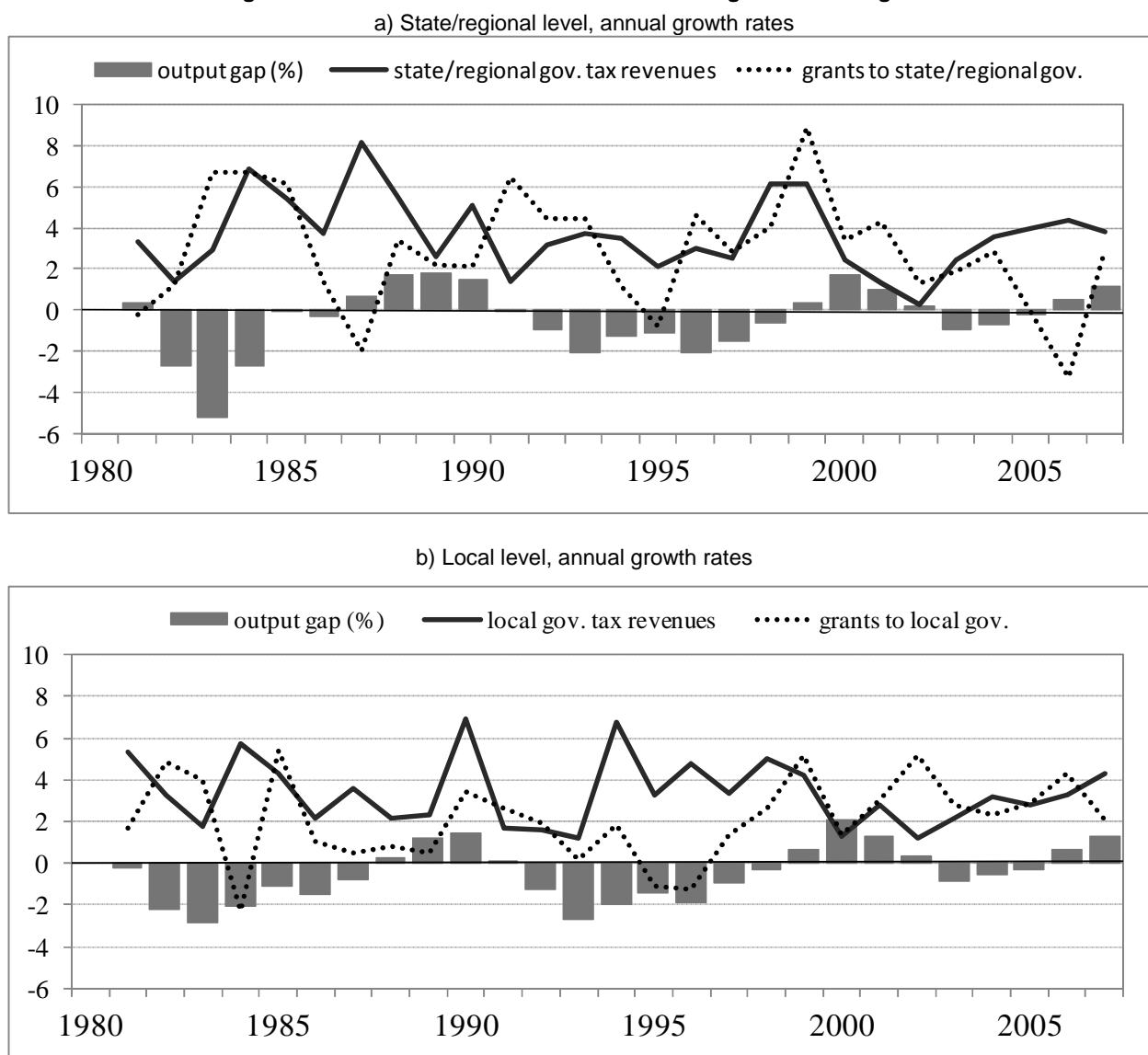
11. This analysis does not compare the strength of fiscal rules at the central and at the sub-central level and, hence, cannot directly relate differences in central and sub-central fiscal outcomes – such as lower deficits or less cyclical fluctuations – to differences in the bite of the rules. However, SCG fiscal rules tend to be more stringent and to cover more budget items than the rules central government imposes

on itself. Moreover enforcement tends to be stricter at the sub-central than at the central level. Fiscal rules and ensuing differences in fiscal policy could hence explain at least some differences in fiscal outcomes between central and sub-central government.

... and by intergovernmental grants

12. Own taxes and intergovernmental grants are the two main revenue sources of SCGs, and differences in the cyclical pattern of the two could be responsible for different fiscal outcomes at the central and sub-central level. Indeed, intergovernmental grants were more volatile and also more procyclical than SCG own tax revenue, making them the most volatile of all sub-central fiscal variables (Figure 6). This holds true for both state/local government and for around two thirds of countries (Table 2). Intergovernmental grants did not smooth SCG own tax revenue fluctuations but often exacerbated them. In many countries the grant system reacted with a lag of one or two years to the cycle, which points at delayed spending decisions at higher government levels.

Figure 6. Sub-central own tax revenue and intergovernmental grants



Source: OECD Revenue Statistics, OECD National Accounts and OECD Economic Outlook database

13. The OECD Fiscal Network carried out a country-by-country analysis revealing that intergovernmental grants often exacerbate rather than attenuate SCG own tax revenue fluctuations (Blöchliger and Petzold, 2009). Although there is no clear country pattern, the destabilising and pro-cyclical effect is particularly strong in countries with large transfer systems, little SCG taxing power and a relatively stable tax base like the property tax. Pro-cyclical transfer systems make sub-central budgeting difficult, particularly if fiscal rules limit SCG power to run deficits, and they are likely pushing SCGs into pro-cyclical fiscal policy. During this crisis, however, grants appear to have been disbursed rather fast, making them more counter-cyclical and hence relieving sub-central budgets.

2. Impact of the crisis on sub-central governments' finances: the "scissors effect"

Sub-central governments' revenues are expected to fall...

14. The likely decline in sub-national governments' revenues depends on the type of revenue source (grants or own taxes) and on the sensitivity of these revenue sources to the economic cycle (type of taxes, level of discretion over the use of central government transfers, and sensitivity of the redistribution formula to economic fluctuations). Besides, the fall in sub-central revenues will probably be mostly felt with a lagged effect, as most taxes are based on the previous year's activity, and many equalisation formulas smooth developments over several years. In some countries the value of sub-central assets has also been reduced by the financial crisis. For example, about a quarter of British municipalities had heavily invested in assets issued by Icelandic banks (a total of £929.3 million), and have thus suffered heavy losses and depreciation of the value of these assets.

15. Tax revenue losses will be large in 2009, but will vary across countries owing to their tax mix (Table 3). In general, sub-central tax revenue is likely to shrink slightly less than that of central government, and both the state and the local level are affected alike. The impact depends strongly on the sub-central tax base, however: SCGs where business taxes play an important role fare worse than those where property taxes make up the main tax revenue. Also sub-central personal income taxes are more prone to the downturn than indirect taxes. In a similar vein, the extent to which central and sub-central tax revenue is affected over the cycle much depends on the tax mix, and a pattern of countries with respect to how their levels of government are affected can be discerned (Table 4).⁶ Sub-central tax revenue is expected to fluctuate more than central tax revenue in countries where the sub-central tax base consists of income taxes, while the opposite is true for countries with a strong SCG property tax base. Readers should be reminded that this is not a revenue projection, but shows the mix effect of a hypothetical decline in revenue categories.⁷

⁶ This mechanical exercise does not take into account changes in the revenue mix. For example, in Finland, the share of the corporate tax received by local governments has temporarily been increased by 10 percentage points, from 22% to 32% for the period 2009-2011. Other measures taken by central governments may on the contrary decrease sub-central tax revenues. In France for example, in an effort to sustain economic activity, the central government has repealed the business tax, which represents almost 50% of the resources of the *départements* and 80% for the municipalities.

⁷ The methodology to calculate future tax revenues is explained in annex 2.

Table 3. Tax revenue projections for different levels of government

Annual growth rates, 2008-2010

| | 2009 | | | 2010 | | | 2011 | | | Average | | |
|-----------------|--------------------------------------|---------------------------|------------------|--------------------------------------|---------------------------|------------------|--------------------------------------|---------------------------|------------------|--------------------------------------|---------------------------|------------------|
| | Central gov. (including social sec.) | State/regional government | Local government | Central gov. (including Social Sec.) | State/regional government | Local government | Central gov. (including Social Sec.) | State/regional government | Local government | Central gov. (including Social Sec.) | State/regional government | Local government |
| Australia | -7.7 | 0.4 | 0.7 | 1.2 | 3.1 | 1.5 | 7.7 | 4.5 | 1.9 | 0.4 | 2.7 | 1.4 |
| Austria | -2.5 | -2.9 | -2.7 | 0.9 | 0.7 | 0.9 | 2.3 | 2.3 | 2.3 | 0.2 | 0.0 | 0.2 |
| Belgium | -3.8 | -2.2 | -2.2 | 1.8 | 2.3 | 2.1 | 3.2 | 2.6 | 2.8 | 0.4 | 0.9 | 0.9 |
| Canada | -6.6 | -3.6 | -0.3 | 2.3 | 2.3 | 1.4 | 4.7 | 4.0 | 2.2 | 0.1 | 0.9 | 1.1 |
| Czech Republic | -1.7 | | -3.3 | 3.2 | | 4.8 | 5.0 | | 6.0 | 2.2 | | 2.5 |
| Denmark | -5.4 | | -3.2 | -0.2 | | -0.9 | 5.4 | | 4.0 | -0.1 | | 0.0 |
| Finland | -4.6 | | -4.4 | 0.1 | | 2.1 | 2.2 | | 2.7 | -0.7 | | 0.1 |
| France | -6.0 | | -8.6 | 1.1 | | 2.9 | 2.8 | | 3.1 | -0.7 | | -0.9 |
| Germany | -2.6 | -4.2 | -8.2 | -1.5 | -4.6 | -7.3 | 2.5 | 4.6 | 7.1 | -0.5 | -1.4 | -2.8 |
| Greece | -5.5 | | -2.7 | 3.8 | | 2.9 | 4.5 | | 3.2 | 0.9 | | 1.1 |
| Hungary | -0.9 | | 2.9 | -0.7 | | 3.2 | 2.7 | | 2.7 | 0.4 | | 3.0 |
| Iceland | -13.4 | | -2.5 | 12.5 | | 12.5 | 9.9 | | 8.5 | 3.0 | | 6.2 |
| Ireland | -18.2 | | -10.8 | 0.2 | | -0.8 | 2.7 | | 1.7 | -5.1 | | -3.3 |
| Italy | -2.7 | | -5.3 | 0.8 | | 0.4 | 1.9 | | 2.1 | 0.0 | | -0.9 |
| Japan | -6.8 | | -8.5 | -0.9 | | -1.1 | 2.2 | | 2.6 | -1.8 | | -2.4 |
| Korea | -1.6 | | -0.5 | 2.1 | | 1.4 | 6.5 | | 3.8 | 2.3 | | 1.6 |
| Luxembourg | -4.7 | | -9.5 | 1.1 | | 1.2 | 4.7 | | 5.6 | 0.4 | | -0.9 |
| Mexico | -5.8 | -1.9 | -0.8 | 2.6 | 1.7 | 1.5 | 4.4 | 3.0 | 2.3 | 0.4 | 0.9 | 1.0 |
| Netherlands | -6.1 | | -1.2 | 1.8 | | 0.7 | 2.6 | | 2.1 | -0.6 | | 0.5 |
| New Zealand | -5.9 | | 1.1 | 1.8 | | 1.4 | 5.1 | | 1.7 | 0.3 | | 1.4 |
| Norway | -10.3 | | 0.9 | 9.8 | | 4.1 | 8.7 | | 4.6 | 2.7 | | 3.2 |
| Poland | -0.7 | | -4.3 | 1.1 | | 0.7 | 2.8 | | 2.5 | 1.1 | | -0.4 |
| Portugal | -4.4 | | -2.7 | 1.4 | | 1.4 | 2.5 | | 2.0 | -0.1 | | 0.2 |
| Slovak Republic | -4.9 | | -5.0 | 0.1 | | 1.4 | 6.5 | | 8.2 | 0.6 | | 1.5 |
| Spain | -3.2 | -4.4 | -3.7 | 4.1 | 8.0 | 7.5 | 1.4 | 1.2 | 1.2 | 0.7 | 1.6 | 1.7 |
| Sweden | -2.5 | | -3.8 | 0.1 | | -1.3 | 4.7 | | 2.9 | 0.7 | | -0.7 |
| Switzerland | -0.7 | -3.4 | -4.2 | 0.9 | 0.9 | 0.9 | 1.3 | 1.2 | 1.2 | 0.5 | -0.4 | -0.7 |
| Turkey | -4.1 | | -4.9 | 2.4 | | 2.2 | 3.9 | | 4.0 | 0.7 | | 0.4 |
| United Kingdom | -7.5 | | -3.2 | 4.2 | | 3.1 | 4.4 | | 2.5 | 0.4 | | 0.8 |
| United States | -10.4 | -8.2 | -3.2 | 7.2 | 5.5 | 2.8 | 9.1 | 7.2 | 3.7 | 1.9 | 1.5 | 1.1 |
| Average | -5.4 | -3.4 | -3.5 | 2.2 | 2.2 | 1.8 | 4.3 | 3.4 | 3.4 | 0.4 | 0.7 | 0.6 |

Source: OECD Economic Outlook database and own calculations

Table 4. Central and sub-central tax revenue reactions to the cycle: country patterns

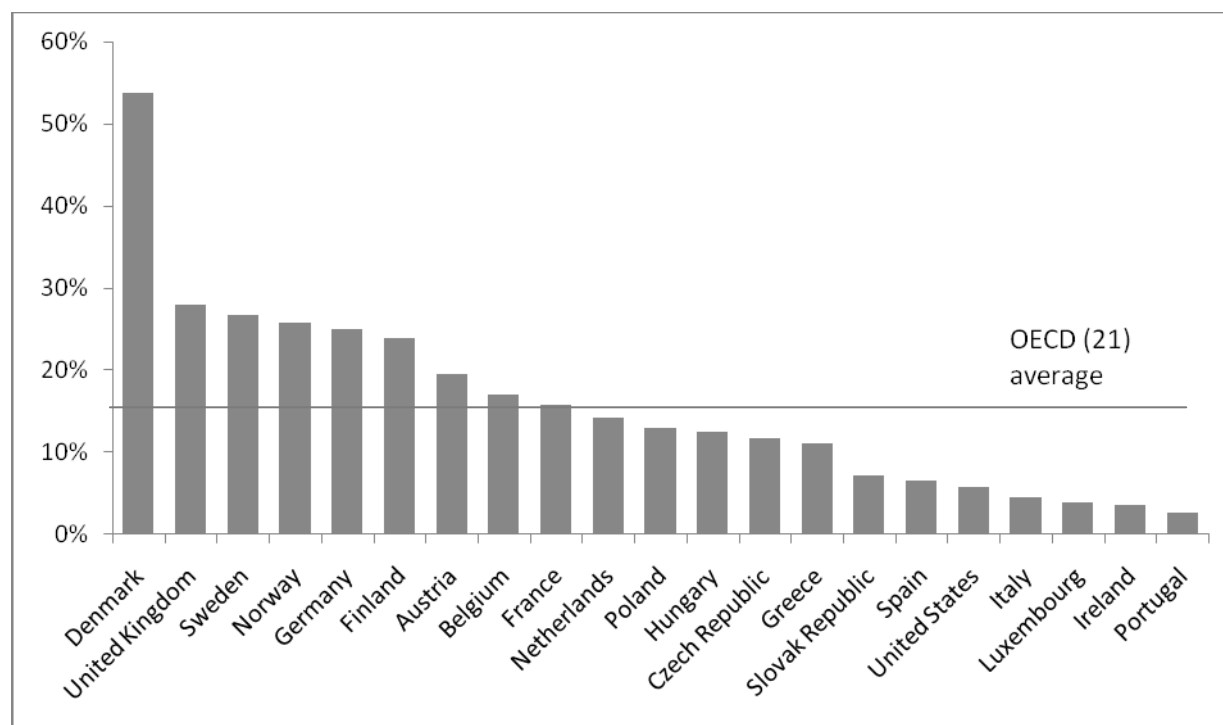
| Level of government | SCG tax revenue reacts less to the cycle than CG's | Similar reaction of SCG and CG tax revenues | SCG tax revenue reacts more to the cycle than CG's |
|-----------------------------------|--|--|--|
| State/regional governments | Australia Belgium Canada Mexico Spain United States | Austria | Germany Switzerland |
| Local governments | Australia Belgium Canada Finland Hungary Iceland Ireland Mexico Netherlands New Zealand Norway Slovak Rep. Spain United Kingdom | Austria Czech Rep. Denmark France Greece Portugal Turkey | Germany Italy Japan Korea Luxembourg Poland Sweden Switzerland United States |

Source: OECD Economic Outlook database and own calculations

... while their spending is expected to rise...

16. In many countries sub-central governments are responsible for welfare services and social transfers. Sometimes their involvement is limited, but it can also be on a large scale. Given the large impact of the present crisis on unemployment, social protection and welfare expenses will increase. On average, welfare transfers represent about 16% of sub-national expenditure, but they range from less than 5% in Portugal to over 25% in Norway and the United Kingdom, with a record at more than 50% in Denmark (Figure 7). The rise in sub-central expenditure might come with a lag, as people who lost their jobs will first benefit from unemployment insurance, which is a central government responsibility, before moving to social welfare programmes, which is often weighing on sub-central finances.

Figure 7. Share of social protection in sub-national expenditure (2007)



Source : OECD National Accounts database

... thus increasing fiscal imbalances

17. The crisis has a large negative impact on most sub-central governments' finances due to a "scissors" effect: revenues are falling sharply as a consequence of the fall in activity, while expenditure soars. Besides, both the fall in revenues and the rise in expenditure are likely to get worse, implying that sub-central governments' balances might continue to deteriorate, despite the recovery. This widening gap between sub-central governments' revenues and expenditure is sometimes covered by increased transfers from central governments (as in Denmark, for instance), but in most cases, it leads to increases in sub-central government deficits and debt levels (as in 11 out of the 19 countries which completed the OECD questionnaire). Finland for example is expecting local governments' debt burden to increase by around €1 billion 2009/2010 and the Spanish autonomous communities debt stock already increased by 14.7% in 2008.

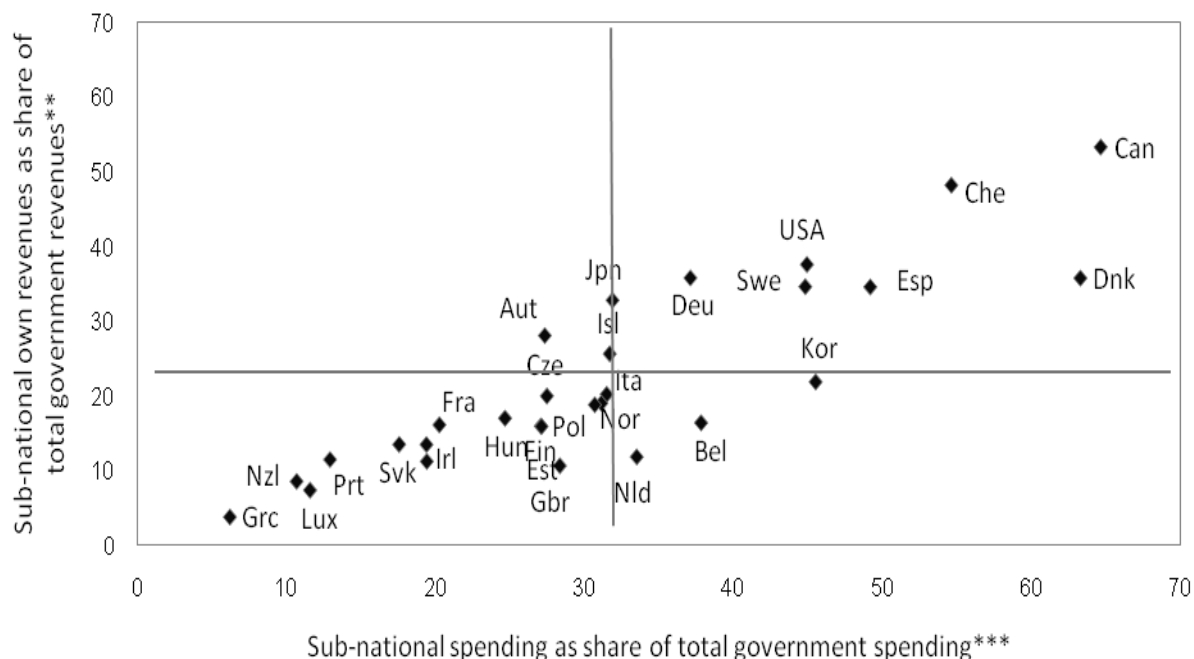
3. Central and sub-central governments: Reactions to the crisis

Sub-central governments cannot be ignored

18. Most national stimulus plans have a tax component, whereby central governments aim to support business and private consumption by lowering taxes, and most feature an increase in public investment (both in soft and hard infrastructure) to support employment and long-term productivity growth. On average, sub-central governments represent 15% of GDP, 31% of public spending, 22% of public revenues, and are responsible for about 66% of public investment (Figures 8 and 9). Given sub-central governments' weight in the economy, their decisions will have a great impact on the chances of success of

any recovery plan. If sub-central governments reduce their spending in order to balance their budgets, this would necessarily hamper central governments' efforts to stimulate the economy.

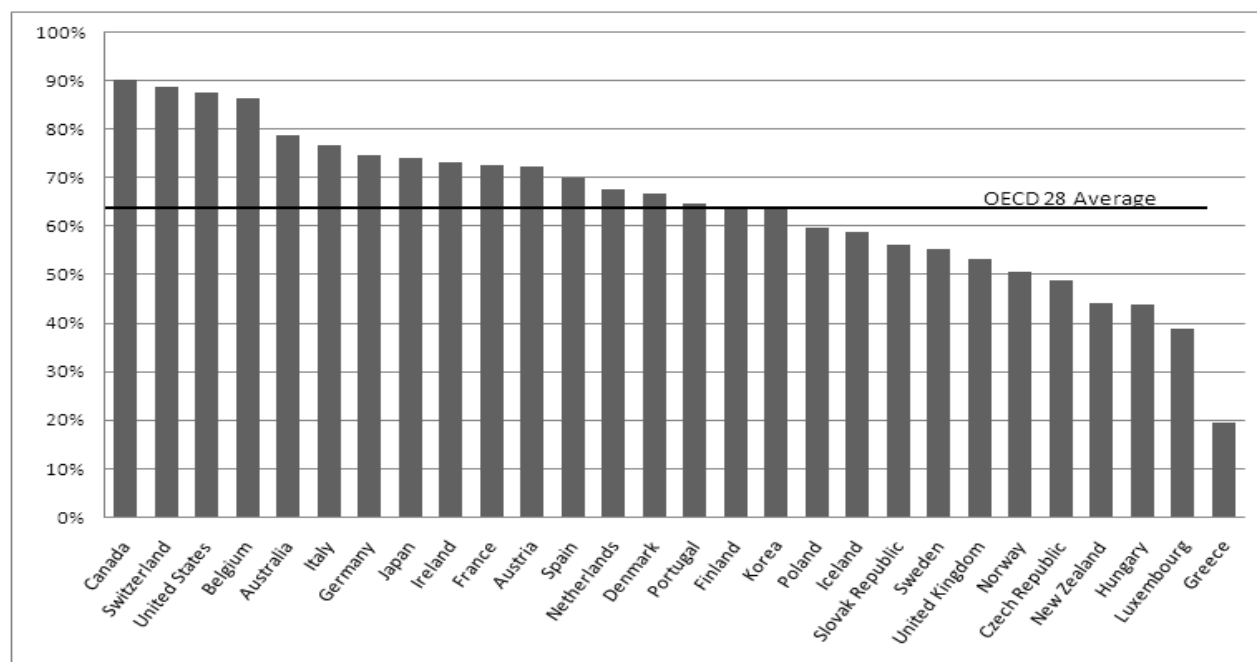
Figure 8. Sub-central governments' share in general government revenues and expenditure (2006*)



Source: OECD National Accounts; US Bureau of Economic Analysis

*Or latest year available; **Excluding transfers received from other levels of government; ***Excluding transfers paid to other levels of government.

Figure 9. Share of sub-central government in public investment (2007)



Source: OECD National Accounts - This figure uses gross fixed capital formation as the measure of public investment..

While some sub-central governments have implemented policies that reinforce central government's stimulus measures, others have implemented policies that neutralise them

19. Like central governments, sub-central governments have three main fiscal options to face the crisis (Table 5):

- (i) *Pro-cyclical policy*: to balance their budgets by reducing spending (cutting jobs and investment) or by increasing revenues (raising taxes, when politically feasible),
- (ii) *Passive policy*: to take no active policy measure, letting the automatic stabilisers act. This policy can result either from a lack of sub-central autonomy to implement active policies (as in Korea), or from an institutional framework which allows for the automatic stabilisers to act without explicit policy decision (as in Denmark).
- (iii) *Counter-cyclical policies*: to increase investment and/or lower tax rates, eventually exposing themselves to increased levels of deficits and debt.

Table 5. Sub-central governments' reactions to the crisis*

| Pro-cyclical reactions (such as raising tax rates, cutting expenditure or investment, etc.) | Automatic stabilisers (no explicit policy measure) | Counter-cyclical reactions (such as decreasing tax rates, increasing investment, etc.) |
|---|--|--|
| Finland France Slovak Republic Sweden United Kingdom United States | Australia Denmark Korea | Austria Belgium Canada Germany Japan Norway Portugal** Spain Switzerland |

Note: In Italy, sub-central governments had little room for manoeuvre to increase expenditure due to the Internal Stability Pact, but have redirected resources towards support measures. In Portugal, sub-central reactions consist of reductions on the rates of some local taxes and/or the definition of lower minimum and maximum rates limits of other local taxes, both decided by central government and approved by National Parliament. In addition to the automatic stabilisers, central and sub-central government in Denmark agreed to increase SCG investment.

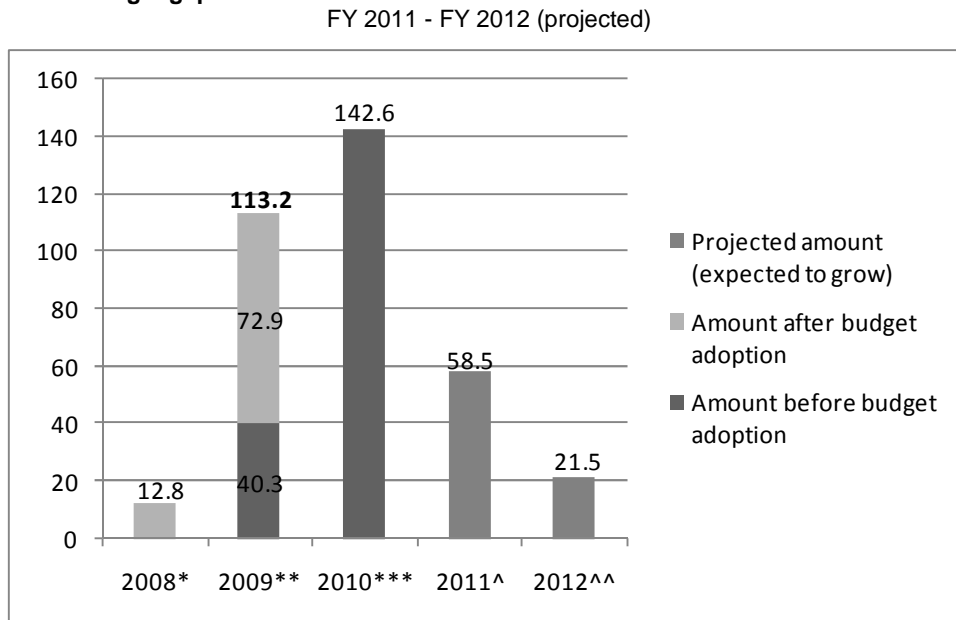
Source: Country responses to a questionnaire prepared by the OECD Network on Fiscal Relations across Levels of Government, June 2009 [COM/CTPA/ECO/GOV(2009)5/ANN].

20. The United States is probably the most notable case of pro-cyclical reactions by sub-central governments (Box 1). In Canada on the contrary, provinces have historically had large, counter-cyclical reactions to economic fluctuations (Table 5). The present crisis is no exception, as the provinces have implemented very early on their own stimulus packages, which include both tax reductions and spending increases. These represent 2.1% of GDP over the 2009-2011 period (CAN\$ 33 billion in total), and will be mainly spent on infrastructure (70%) (Annex 3 provides individual country information).

Box 1. American states, balanced budget rules and fiscal packages in the crisis

In the United States, 49 states have balanced budget rules (stated in their own constitutions). Any reduction in revenues must therefore be compensated by an equivalent reduction in spending. The crisis has considerably reduced states' revenues, and state budget gaps have reached unprecedented levels (Figure 1). As lawmakers [assembled/assessed/passed?] their 2009-2010 budgets in July 2009 (FY 2010 budgets),⁸ they faced a cumulated gap of over \$142 billion. These gaps, though shrinking rapidly, are projected to last at least until FY 2012, as historically, sub-central tax revenues take longer to recover in the United States than GDP growth (Figure 2).

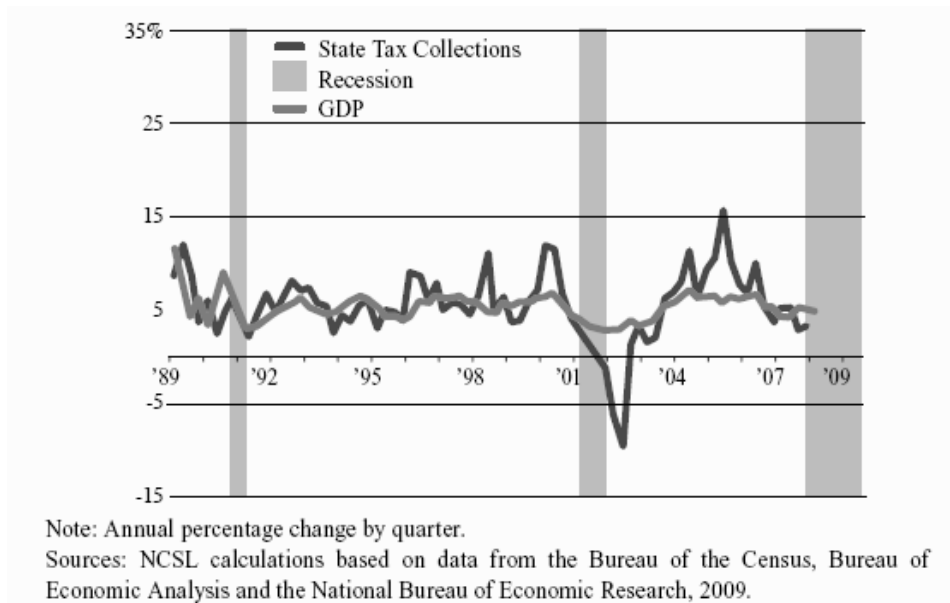
Figure 10. State budget gaps⁹



Source : NCSL. * 20 states reported budget gaps after the adoption of the budget (includes Puerto Rico), ** 44 states reported budget gaps after the adoption of the budget (includes Puerto Rico). The ex-post budget gap was much larger than the budget gap estimated at time of budget adoption, *** 46 states report budget gaps in the adoption of the budget (includes Puerto Rico). Ex-post gaps are expected to be larger, ^ 31 states and Puerto Rico forecast FY 2011 gaps, the amount for FY 2011 indicates the 24 states that have provided estimations, ^^ 15 states forecast FY 2012 gaps, the amount for FY 2012 indicates the 9 states that have provided estimations.

⁸ In most US states, the fiscal year runs from 1 July to 30 June or from 1 October to 30 September. Fiscal Year 2010 (FY 2010) thus starts in 2009.

⁹ The difference between the amounts before budget adoption and the amounts after budget adoption show that no matter how pessimistic revenue forecasts have been, actual collections came in even lower. In FY 2010 to 2012, the fiscal gaps after budget adoption are also expected to be larger than those estimated in the budget.

Figure 11. State tax collection as a percentage of GDP (1989-2009)

Because of the balanced budget rules, sub-central governments had to take measures to balance their FY 2010 budgets. Given the weight of sub-central governments in the American economy (they represent 20% of GDP, 38% of general government revenues, 45% of general government spending, and 88% of public investment), these measures ran the risk of amplifying the effects of the crisis. These measures include: spending cuts (across the board cuts, education, hiring and salary freezes, layoffs and early retirement, health care, etc.), raising taxes, increasing fees, using other revenues (such as requiring early tax remittances), tapping their rainy day funds or other reserves and other one-time solution (such as delaying payments on school districts, etc.).¹⁰

In February 2009, the Federal administration voted the American Recovery and Reinvestment Act (ARRA). The objectives of this plan were: to preserve and create jobs and promote economic recovery; to assist those most affected by the recession; to provide investment needed to increase economic efficiency by spurring technological advances in science and health; to invest in transportation, environmental protection, and other infrastructure that provide long-term economic benefits; and finally, to stabilize State and local government budgets, in order to minimize and avoid reductions in essential services and counterproductive state and local tax increases.¹¹

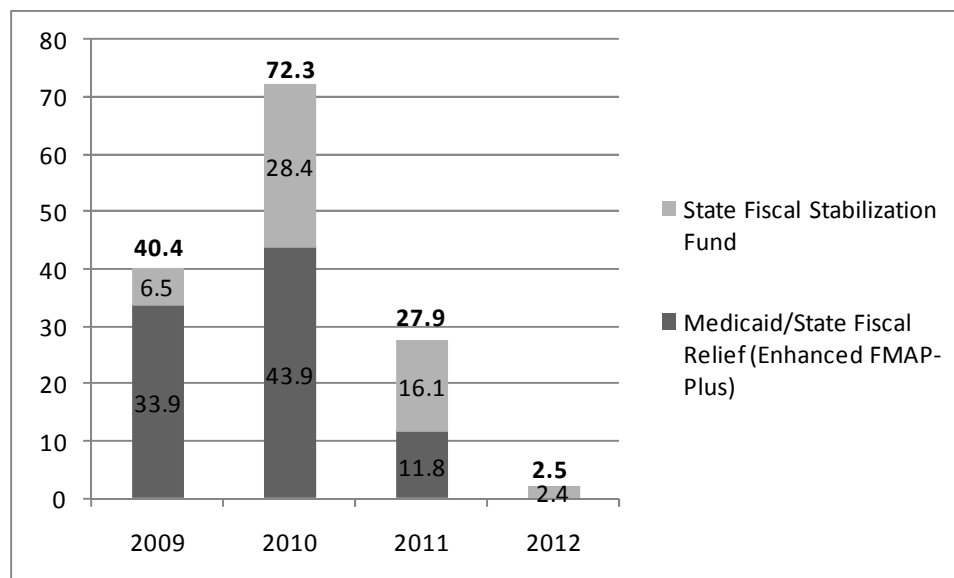
Out of the \$787 billion of the stimulus plan, \$286 billion affect sub-central governments, either by substituting their expenses (as increased federal participation in Medicaid), or by directly providing stabilization funds (Figure 3). In the FY 2010, these funds have helped offset some of the planned spending reductions, and covered about 40% of the states' budget gaps. It is too early to evaluate whether the stimulus plan reached all its objectives, but according to some experts, it did help preserving existing jobs.¹² Yet, the situation of the states is still worrying, as the lagged effect of the crisis will cause further budget gaps in FY 2011 and 2012 (Figure 1), while they will no longer be able to count on the ARRA funds to bridge these gaps.

¹⁰ For a detailed state by state description of the measures taken to balance FY 2010 budgets, see: <http://www.ncsl.org/?tabid=17255>

¹¹ www.recovery.org

¹² See www.recovery.org or "Breathing Room: October/November 2009", by Jeff Hurley and Carl Tubbesing, NCSL, Oct./Nov. 2009

Figure 12. Federal outlays for major provisions of ARRA affecting state and local governments
(in \$ billion)



Source : Congressional Budget Office

21. In general, the immediate reactions of sub-central governments to the crisis (Table 5) are quite consistent with their historical pattern (Table 1). In only two cases, countries where sub-central governments have run counter-cyclical policies in the past have cut expenditure and increased taxes as an immediate reaction to the present crisis (Sweden and, to some extent, France), and in three countries, sub-central governments are implementing counter-cyclical policies while they usually had a pro-cyclical pattern (Austria, Japan and Norway).

In most countries, CGs have implemented short-term measures that had impacts on SCGs

22. Central governments are aware of the financial difficulties faced by sub-central governments. These difficulties could lead to a reduction in the quantity and/or quality of public goods and services, as well as to cuts in planned investment. As a result, central government efforts to underpin economic growth and employment would be hampered. Therefore, the great majority of central governments have introduced discretionary, transitory measures to help sub-national governments. These comprise a wide variety of instruments, ranging from general purpose and earmarked grants to less conventional incentive mechanisms, regulatory measures, etc.

Increasing discretionary grants

23. In a context of falling own tax revenues, exceptionally increasing discretionary grants is an instrument that was largely used to stabilize sub-central revenues and to avoid a decrease in the level of public investment (Table 6). In most OECD countries, grants to sub-central governments represent a large share of the national stimulus spending, but earmarked grants (for public investment) are much more widely used than general purpose grants (which would leave more autonomy to sub-central governments).

Japan and Sweden are the only countries where general purpose grant increases are larger than earmarked grants increases.¹³ Earmarked grants for capital investment are much larger: more than 50% of national stimulus spending in Australia, more than 70% in Canada and Spain. Spain for instance created a “State Fund for Local Governments”, which will distribute €8 billion (or 0.7% of GDP) to local councils (on the basis of population), to finance local investment projects, to be completed in the first quarter of 2010.

Table 6. Example of share of grants to SNGs as a percentage of total national stimulus spending^{*14}

| | General Purpose Grants | Earmarked Grants | | TOTAL |
|-----------|------------------------|---------------------|---------------------|------------|
| | | Current Expenditure | Capital Expenditure | |
| Australia | - | - | 56% | 56% |
| Canada | - | 6% | 78% | 84% |
| France | - | - | 27% | 27% |
| Germany | - | - | 29% | 29% |
| Japan | 33% | - | 18% | 51% |
| Korea | - | - | 28% | 28% |
| Norway | 7% | 2% | 30% | 39% |
| Portugal | - | - | 22% | 22% |
| Spain | - | 1% | 72% | 73% |

Source: Country responses to a questionnaire prepared by the OECD Network on Fiscal Relations across Levels of Government; and OECD Interim Report (March 2009). * Finland has introduced grants to sub-central governments in the central government budget proposal to Parliament, September 15th, 2009. These are not included here as information on total national stimulus spending is from March 2009.

24. The aim of these grants is to finance investment projects that would not have been implemented by sub-central governments otherwise. However, such measures run the risk of creating perverse incentives for sub-central governments, which could reduce their investment spending, as they expect the central government to step in and compensate. Co-ordination between levels of government is thus crucial and grants may necessitate complementary measures to make sure that the projects financed by the central government do not crowd out local spending. Using conditionality and monitoring mechanisms is one way to achieve this: in Australia for example, the States are required to prove that they are not reducing their previously planned level of investment (Box 2). Co-funding can also be considered as a tool for reducing moral hazard, as SCGs must commit their own money in order to benefit from CG’s help; co-funding was an important element of investment schemes in Germany and in Canada.

¹³ In Finland, the budget proposal to Parliament of September 15, 2009 includes general purpose grants for municipalities of €30 million. This represents about 20% of the increase in grants to sub-central governments as a response to the crisis.

¹⁴ In OECD (2009), fiscal packages are registered according to the type of investment, and not according to the level of government that receives and manages the funds. This is why the “transfers to SCGs” displayed in OECD Economic Outlook (2009) are not consistent with the answers to the questionnaire, as these reflect the share of the national stimulus packages channelled through SCGs (even if they are earmarked for specific purposes, and thus consolidated under other items in national figures).

Box 2. The monitoring of stimulus measures in Australia

For the Nation Building and Jobs Plan to have the desired impact on the economy, it is essential that the additional stimulus affects aggregate demand quickly. This requires state capital expenditure in each of the targeted areas to be maintained, so that the capital investment under the plan is additional.

New governance arrangements have been implemented to ensure timely delivery and the desired economic stimulus effect. Under the Australian *National Partnership Agreement on the Nation Building and Jobs Plan*, the Ministerial Council for Federal Financial Relations has established expenditure and output benchmarks for each of the sectors to receive additional Commonwealth funding. A coordination oversight group within the Department of the Prime Minister and Cabinet, chaired by the Coordinator-General, has been established to support and monitor the implementation of key infrastructure and stimulus measures. The expenditure benchmarks allow assessment of whether the States have at least maintained their existing and planned level of expenditure during the period of increased Commonwealth expenditure.

Source: Australia's federal relations. Budget Paper no. 3. 2009. Australian Government.

Conditionally accelerating payments due to sub-central governments

25. Accelerating the payments from central to sub-central governments, conditional on the commitment by these to maintain or increase their previous investment levels can also be used as an incentive mechanism for sub-central governments not to decrease their investment. In France for example, the central government made an early payment to sub-central governments in 2009 of the FCTVA (VAT compensation fund) due in 2010, provided these committed to increase by at least one euro their level of investment, as compared to the average of the years 2004-2007.

Accelerating the roll-out of infrastructure projects

26. Accelerating the implementation of already decided projects allows a swift reaction to the crisis, as the studies and procedures which are necessary to implement new investment projects have already been undertaken. In Canada for instance, the Provincial/Territorial Base Funding initiative provides CAD 25 million per year in predictable funding to each province and territory. To expedite infrastructure projects, Budget 2009 is accelerating payments under the Provincial/Territorial Base Funding initiative. Future payments are brought forward by two years to provinces and territories that can demonstrate the ability to put these funds to work quickly. The European Commission is also accelerating the disbursement of funds for already agreed projects, by advancing payments for the 2007-2013 programmes.

Simplifying procedures for approval and disbursements

27. Many countries, such as France, Germany, Spain and Canada, have introduced simplifications to the procedures for approving and disbursing funds to speed up the starting of projects, and have provided liquidity to the private sector (Box 3).

Box 3. Canada: accelerating approval processes

The Canadian government is streamlining federal approval processes so that more provincial, territorial and municipal projects under the Building Canada plan can start earlier. Currently, infrastructure approval processes are subject to duplication and inefficiencies in administration, leading to unnecessary project delays. The government is introducing changes to the federal regulatory framework through legislative, regulatory and administrative actions to reap efficiencies in assessing environmental and other impacts of infrastructure projects without compromising the protection of the environment.

With these changes, the time needed to provide federal approval for major projects will be shortened by up to 12 months, which will allow construction to begin more quickly.

Source: Canada's Economic Action Plan. Budget 2009, January 2009.

Facilitating borrowing

28. Some central governments also help sub-national governments by facilitating their borrowing. This can be achieved either by providing (sometimes subsidized) loans (Canada, Switzerland) or by providing explicit guarantees to sub-national government borrowing (Australia, Korea, Spain).

Temporarily increasing sub-national governments' share of tax revenues

29. Another measure taken by some central governments is to reallocate taxes, for instance by increasing the share of taxes that goes to sub-central governments. This is the case in Finland, where the corporate tax apportionments to local authorities will temporarily be increased by 10 percentage points from 22 to 33% for the period 2009-2011.

Temporarily easing budget constraints

30. Finally, central governments can increase sub-central governments' room for manoeuvre by temporarily waiving balanced budget rules on sub-central governments and allowing borrowing to finance their operational outlays (in exchange for accelerating payments to businesses and suppliers). In Spain for instance, a new law allows municipalities to borrow to finance their 2008 operational deficit, including payments due to suppliers, under the condition of settling outstanding debts with suppliers within one month. In Austria, the "Internal Austrian Stability Pact" has been revised, allowing for higher sub-central deficits and Italy has introduced temporary easing measures on the Internal Stability Pact to allow sub-central governments to increase their investment expenditures.

Coordination between levels of government is essential

31. Given the weight of sub-central governments, coordination between levels of government is necessary to ensure a coherent strategy. This need for coordination has led to the creation or reinforcement of institutions aiming at facilitating vertical dialogue and decision making to promote regionally tailored strategies. In the Slovak Republic for example, the central government and the Association of Towns and Communities of Slovakia have adopted a "Memorandum of cooperation for resolving the impact of financial and economic crisis on the Slovak society" that contains the obligations for central and sub-central governments for the years 2009-2010. In Australia, the existing Council of Australian Governments

has been given new responsibilities to allow the Commonwealth to cooperate with the States and Territories in order to implement an ambitious reform agenda, which aims at boosting productivity, workforce participation and geographic mobility, and deliver better local services. Specific problems caused by the crisis have also pushed some countries to create new institutions. For example, municipal debt mismanagement is leading French local authorities to think about creating new public bodies for coordinating and informing sub-central borrowing. This body could be responsible for negotiating loans at the best possible conditions on behalf of the municipalities, based on the model of the Danish Kommunalbanken or the Dutch Kommuninvest.

32. Regional development policy has for a long time been a way to prioritise public investment in regions through co-funding arrangements. To restore growth, many countries are implementing this type of approach by selecting local investment projects to be supported by the central government.¹⁵ For example in France, the selection of centrally supported projects has been carried out by sub-central governments and registered through contracts with the territorial representative of the central government (the Prefect). The European Commission and EU member states have agreed to reorient cohesion funds towards investment in specific sectors such as energy efficiency, clean technologies, environmental services, infrastructure and interconnections, broadband networks etc. The Government of Australia will transform the former Area Consultative Committees into the Regional Development Australia Network (starting July 2009). This network is intended to align the operations of the Australian State and Territory governments' regional development boards. It will provide high level policy advice to government for delivering a more integrated approach to regional development.

Possible long-term impacts of the crisis and future challenges

33. Beyond the immediate impact of the economic and financial crisis on sub-central government finances, this crisis will also have long-term implications on the relations across levels of governments.

34. The first challenge for both central and sub-central governments will be to consolidate their budgets, as deficits and debt levels are rising to very high levels, due to the effects of the crisis and the stimulus packages. Consolidation might be even harder for sub-central than for central governments, as the discretionary transfers they receive from central governments will most likely be reduced and their other revenues are likely to keep falling (taxes are often based on the economic activity during the past year and equalisation formulas are based on revenues of several previous years). Sub-central debt levels are therefore likely to remain high for some time (at least in those countries where sub-central governments are allowed to borrow).

35. The crisis could also affect the reform agenda. Crises can be catalysts for reforms by highlighting the shortcomings of the existing system. However, in most cases, crises tend to delay or cancel reforms, as reforms tend to be expensive (need to compensate losers, etc.) and increase uncertainty (which might not be acceptable in crisis periods). In the present situation there was a broad consensus on the need to take action quickly, which is not the case of structural reforms, which require a long time for preparation, and for implementation. The crisis seems to have sparked a broad reflexion on the need to reform relations across levels of government in order to increase efficiency (for example by reforming territorial organisation or the fiscal incentives of sub-central governments). Nevertheless, for the moment, its immediate impact has been to delay or to scale down some previously planned reforms (such as the revision of the transfer system in Finland).

¹⁵ See OECD (2009)

36. Finally, the crisis is creating a new balance of power between central and sub-central governments. The result could either be a greater role for sub-central governments in countries where they are key actors in implementing recovery measures (*e.g.* Canada) or, on the contrary, shift the balance of power towards the central government. This is notably the case in the United States, where the states, constrained by their balanced budget rule, have had to rely heavily on federal funds to cover revenue shortfalls.

ANNEX 1: ADDITIONAL TABLES, GRAPHS AND BOXES

Table A1: Composition of fiscal packages

Total over 2008-2010 period as % of GDP in 2008

| | Net effect | Tax measures | | | | | Spending measures | | | | | |
|---------------------|------------|--------------|-------------|------------|-------------|----------------------|-------------------|-------------------|------------|-------------------------|-------------------------|--------------------------------------|
| | | Total | Individuals | Businesses | Consumption | Social contributions | Total | Final consumption | Investment | Transfers to households | Transfers to businesses | Transfers to sub-national government |
| Australia | -4.6 | -1.3 | -1.1 | -0.2 | 0.0 | 0.0 | 3.3 | 0.0 | 2.6 | 0.8 | 0.0 | 0.0 |
| Austria | -1.1 | -0.8 | -0.8 | -0.1 | 0.0 | 0.0 | 0.3 | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 |
| Belgium | -1.6 | -1.0 | -0.3 | -0.6 | -0.1 | 0.0 | 0.6 | 0.0 | 0.1 | 0.5 | 0.0 | 0.0 |
| Canada | -4.1 | -2.4 | -0.8 | -0.3 | -1.1 | -0.1 | 1.7 | 0.1 | 1.3 | 0.3 | 0.1 | .. |
| Czech Republic | -3.0 | -2.5 | 0.0 | -0.4 | -0.1 | -2.0 | 0.5 | -0.1 | 0.2 | 0.0 | 0.4 | 0.0 |
| Denmark | -2.5 | -0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 1.9 | 0.9 | 0.8 | 0.1 | 0.0 | 0.0 |
| Finland | -3.1 | -2.7 | -1.9 | 0.0 | -0.3 | -0.4 | 0.5 | 0.0 | 0.3 | 0.1 | 0.0 | 0.0 |
| France | -0.6 | -0.2 | -0.1 | -0.1 | 0.0 | 0.0 | 0.4 | 0.0 | 0.2 | 0.1 | 0.0 | 0.0 |
| Germany | -3.0 | -1.6 | -0.6 | -0.3 | 0.0 | -0.7 | 1.4 | 0.0 | 0.8 | 0.2 | 0.3 | 0.0 |
| Greece ¹ | .. | .. | .. | .. | .. | .. | .. | 0.0 | 0.1 | 0.4 | 0.1 | 0.0 |
| Hungary | 4.4 | 0.0 | -0.1 | -1.5 | 1.6 | 0.0 | -4.4 | .. | 0.0 | .. | .. | 0.0 |
| Iceland | 9.4 | .. | 1.0 | .. | .. | .. | .. | -1.8 | -1.7 | -1.7 | .. | .. |
| Ireland | 4.4 | 3.5 | 2.0 | -0.2 | 0.5 | 1.2 | -0.9 | -0.7 | -0.2 | -0.1 | 0.0 | 0.0 |
| Italy | 0.0 | 0.3 | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.3 | 0.0 | 0.2 | 0.1 | 0.0 |
| Japan | -2.0 | -0.5 | -0.1 | -0.1 | -0.1 | -0.2 | 1.5 | -0.2 | 0.3 | 0.5 | 0.4 | 0.3 |
| Korea | -4.9 | -3.2 | -1.4 | -1.2 | -0.2 | 0.0 | 1.7 | 0.0 | 0.9 | 0.1 | 0.5 | 0.2 |
| Luxembourg | -3.6 | -1.7 | -1.2 | -0.5 | 0.0 | 0.0 | 1.9 | 0.0 | 0.7 | 1.0 | 0.2 | 0.0 |
| Mexico ¹ | -1.3 | 0.8 | 0.0 | 0.0 | -0.4 | 0.0 | 2.0 | 0.0 | 1.1 | 0.3 | 0.4 | 0.0 |
| Netherlands | -1.5 | -1.4 | -0.2 | -0.4 | 0.0 | -0.8 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| New Zealand | -4.3 | -4.3 | -4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.6 | -0.6 | 0.0 | 0.0 |
| Norway ¹ | -0.8 | -0.1 | 0.0 | -0.1 | 0.0 | 0.0 | 0.7 | 0.0 | 0.3 | 0.0 | 0.0 | 0.3 |
| Poland | -1.0 | -0.4 | 0.0 | -0.1 | -0.2 | 0.0 | 0.6 | 0.0 | 1.3 | 0.1 | 0.0 | 0.0 |
| Portugal | -0.8 | .. | .. | .. | .. | .. | .. | 0.0 | 0.4 | 0.0 | 0.4 | 0.0 |
| Slovak Republic | -1.1 | -0.6 | -0.6 | -0.1 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 |
| Spain | -3.5 | -1.6 | -1.6 | 0.0 | 0.0 | 0.0 | 1.9 | 0.3 | 0.7 | 0.2 | 0.7 | 0.0 |
| Sweden | -2.8 | -1.8 | -1.5 | -0.2 | 0.0 | -0.2 | 0.9 | 0.7 | 0.3 | 0.1 | 0.0 | 0.0 |
| Switzerland | -0.5 | -0.2 | -0.2 | 0.0 | 0.0 | 0.0 | 0.3 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| Turkey | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| United Kingdom | -1.4 | -1.5 | -0.6 | -0.1 | -0.7 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 |
| United States | -5.6 | -3.2 | -2.4 | -0.8 | 0.0 | 0.0 | 2.4 | 0.7 | 0.3 | 0.5 | 0.0 | 0.9 |

Note: See note on Table 3.1.

Total columns are not the sum of columns shown because some components either have not been clearly specified or are not classified in this breakdown.

1. Data not available for 2010

Source: OECD Economic Outlook 85 (2009)

Table A2. Correlation coefficients between investment and output gap

| | | Investment and output gap | | | | | |
|----------------|-------|---------------------------|----------|--------------|---------|---------------|----------|
| | | No lag | | One year lag | | Two years lag | |
| | | Sub-central | Central | Sub-central | Central | Sub-central | Central |
| Australia | State | -0.10 | 0.14 | -0.32 | 0.07 | -0.22 | -0.14 |
| Austria | Local | -0.28 | -0.18 | -0.10 | 0.00 | 0.02 | 0.00 |
| | State | 0.04 | | -0.23 | | 0.02 | |
| Belgium | Local | -0.28 | -0.14 | -0.09 | -0.05 | 0.04 | 0.43 |
| | State | 0.46 ** | | 0.34 | | -0.29 | |
| Canada | Local | 0.55 *** | -0.03 | 0.43 ** | -0.26 | 0.04 | -0.05 |
| | State | 0.57 *** | | 0.41 ** | | -0.03 | |
| Denmark | Local | -0.02 | 0.05 | -0.15 | -0.26 | -0.04 | -0.19 |
| Finland | Local | 0.06 | 0.14 | -0.32 * | 0.19 | -0.61 *** | 0.09 |
| France | Local | 0.39 ** | 0.01 | -0.06 | 0.04 | -0.30 | -0.01 |
| Germany | Local | 0.66 *** | 0.03 | 0.04 | -0.09 | -0.42 | -0.32 |
| | State | 0.35 | | -0.01 | | 0.06 | |
| Greece | Local | 0.06 | -0.05 | 0.33 | -0.42 | 0.35 | -0.33 |
| Hungary | Local | 0.14 | 0.21 | 0.01 | -0.13 | 0.00 | -0.19 |
| Iceland | Local | 0.42 | -0.31 | 0.20 | 0.10 | -0.18 | 0.93 *** |
| Ireland | Local | 0.45 * | 0.06 | 0.20 | 0.14 | -0.08 | 0.07 |
| Italy | Local | 0.20 | 0.08 | -0.18 | 0.17 | -0.60 *** | -0.08 |
| Japan | Local | -0.03 | -0.27 | 0.83 *** | 0.36 | 0.39 | 0.35 |
| Luxembourg | Local | -0.09 | 0.37 | 0.11 | 0.23 | 0.00 | 0.30 |
| Netherlands | Local | 0.35 * | 0.35 * | 0.33 * | 0.21 | 0.11 | 0.06 |
| New Zealand | Local | 0.12 | 0.19 | 0.06 | 0.11 | -0.33 | -0.14 |
| Norway | Local | 0.20 | -0.26 | -0.15 | -0.34 | -0.04 | -0.42 * |
| Poland | Local | 0.19 | 0.19 | 0.29 | -0.09 | 0.03 | -0.38 |
| Portugal | Local | 0.20 | -0.20 | 0.11 | -0.25 | 0.00 | 0.05 |
| Spain | Local | 0.07 | 0.59 ** | -0.13 | 0.20 | -0.20 | 0.27 |
| | State | 0.31 | | 0.10 | | -0.16 | |
| Sweden | Local | 0.19 | -0.15 | 0.40 | 0.09 | 0.32 | 0.46 * |
| Switzerland | Local | 0.24 | 0.64 *** | 0.00 | 0.32 | 0.22 | 0.14 |
| | State | 0.18 | | -0.09 | | 0.16 | |
| United Kingdom | Local | -0.12 | 0.27 | -0.16 | 0.07 | -0.05 | 0.15 |
| United States | State | 0.15 | -0.33 * | -0.31 | -0.21 | -0.60 *** | -0.26 |
| Average | Local | 0.19 | 0.28 | 0.01 | 0.34 * | -0.27 | 0.18 |
| | State | 0.38 ** | | 0.33 * | | 0.14 | |

Box 4. Methodology for estimating revenue developments at the sub-central level

According to the OECD Economic Outlook No. 86, released in November 2009 the impact of the crisis on various taxes will differ significantly over the coming years. The Economic Outlook forecasts revenue growth rates for four tax categories:

- Direct taxes on business
- Direct taxes on households
- Indirect taxes
- Social security contributions

The Revenue Statistics provide a disaggregated classification of sub-central government revenues that allows matching this classification with the four items above as set out in the table below.

Correspondence between OECD Outlook and Tax revenues categories

| OECD Outlook categories | Tax revenues categories |
|-------------------------------|---|
| Direct taxes on business | Taxes on income, profits and capital gains Other taxes paid solely by business Shared assignation of unallocable taxes on profits and capital gains |
| Direct taxes on households | Taxes on income, profits and capital gains of individuals Other taxes non-paid solely by business Shared assignation of unallocable taxes on income profits and capital gains |
| Indirect taxes | Taxes on goods and services |
| Social security contributions | Social security contributions and payroll and workforce taxes |

Property tax revenue, an important tax revenue source, is not projected in the OECD Economic Outlook. To obtain a guesstimate for the growth of this tax category, a regression has been run between property tax growth rates and GDP growth rates for the seven major countries during the 1991-2007 period. The result of this regression is an estimated elasticity of 1,15.

To provide a more complete view of sub-central government revenues, it is necessary to add grants as another category. As there is no forecast for the evolution of grants as such, a proxy has been used, which is calculated as the average growth of direct taxes on households, indirect taxes, social security contributions and property taxes.

Box 5. Data sources

| Variable | Indicator | Dataset |
|---|---|------------------------|
| Output gap | Output gap of the total economy | OECD Economic Outlook |
| Real GDP | Gross domestic product, volume, market prices | OECD Economic Outlook |
| Government net lending | Government net lending as a percentage of GDP | OECD Economic Outlook |
| Total expenses | Total disbursements, general government, values | OECD Economic Outlook |
| Total revenues | Total receipts, general government, values | OECD Economic Outlook |
| Fiscal balances | Net lending(+)/Net borrowing | OECD National accounts |
| Spending of government level or government expenditures | Total government expenditure | OECD National accounts |
| Government revenues | Total government revenue | OECD National accounts |
| Investments | Gross fixed capital formation | OECD National accounts |
| Rest of expenditure | Total government expenditure – gross fixed capital formation | OECD National accounts |
| Grants | Other current transfers, receivable + other capital transfers and grants, receivables | OECD National accounts |
| Tax revenues | Total tax revenues | Revenue statistics |

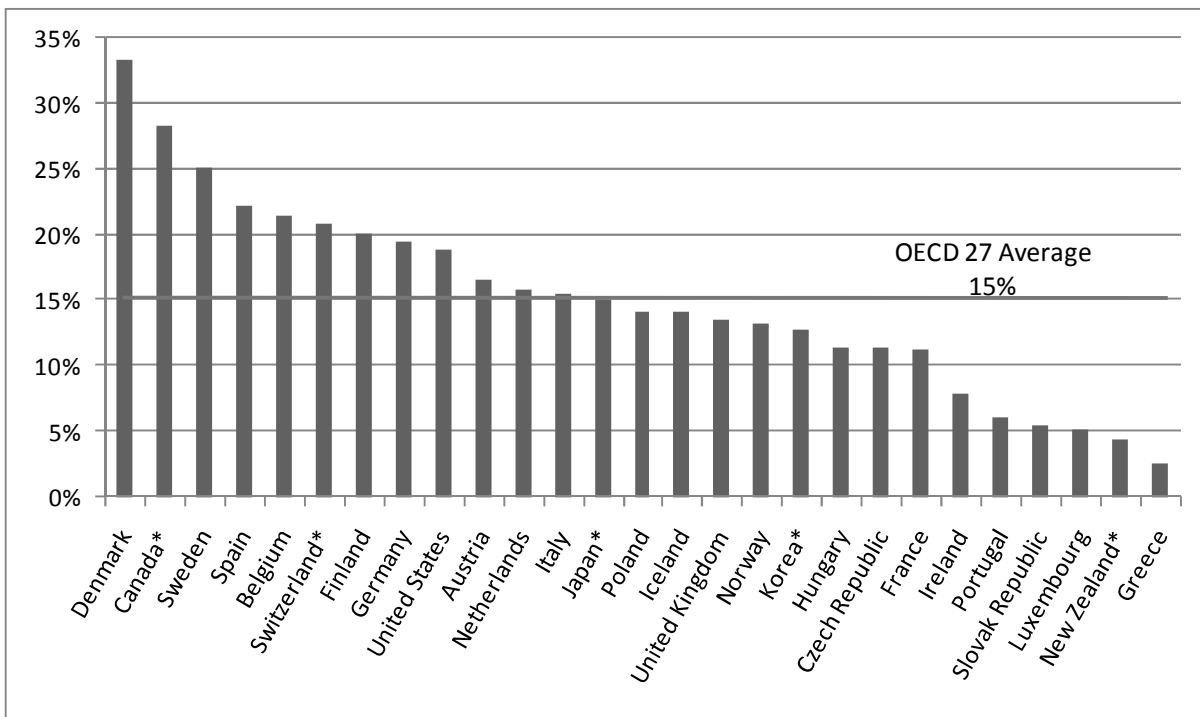
All nominal values have been deflated.

The following data restrictions apply:

- There is no data for Mexico and Turkey.
- There are no data for Australia for some OECD national accounts indicators.
- The USA local data are included in USA state data.
- For most variables, Canada, Finland, France, Netherlands and USA have data from 1980. The starting date for the rest of countries is: 1985 Belgium (1989 for regional data), 1986 New Zealand, 1987 United Kingdom, 1988 Austria, 1990 Denmark, Ireland, Luxembourg and Switzerland, 1991 Germany, 1993 Sweden, 1995 Norway, Poland, Portugal and Spain and 1996 Japan.
- In some cases, annual data have been excluded because of outliers.

ANNEX 2

Figure 13. Sub-central governments' expenditures as a percentage of GDP (2008)



Source : OECD National Accounts (* data for year 2007)

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