II.1. Fiscal decentralisation and fiscal discipline

This section analyses the relationship between fiscal decentralisation to the subnational level and fiscal outcomes for general government. ([26]) The purpose is to assess whether devolving expenditure functions and revenue sources to subnational entities, as has generally occurred across the euro area, may have adverse consequences on overall government fiscal balances. Such consequences might be due to loss of central government control over subnational fiscal behaviour and to weaker incentives for fiscal discipline at that level.

Some theoretical considerations on the impact of fiscal decentralisation on fiscal outcomes

The literature on fiscal federalism provides some theoretical priors regarding the effects of different aspects of fiscal decentralisation on the main fiscal aggregates of the general government. ([27]) However, in most cases, the net impact is *a priori* ambiguous.

Decentralising expenditure could have either positive or negative effects on the fiscal balance. The government balance may improve, with lower expenditure due to efficiency gains, as public services can be tailored to subnational needs and preferences. Furthermore, competition and sharing best practices among decentralised entities regarding the provision of public goods and services may result in savings. On the other hand, decentralising expenditure might harm the government balance by reducing economies of scale and by leading to work being duplicated at national and subnational levels. Ties between subnational authorities and constituent interest groups may also be more direct, possibly giving the latter more lobbying power, leading to more expenditure.

Theoretical considerations are thus inconclusive and the impact may not even be particularly significant in either direction. A significant part of subnational government expenditure is likely to be mandated by national directives and legislation, so local influence on spending may in any case be limited.

Decentralising sources of revenue may also affect fiscal balances. Subnational revenue has two main components. First, subnational authorities manage ‘own revenues’, taxes and fees levied at the subnational level, though the extent to which they can influence tax rates and the tax base varies. Second, transfers from central government can make up part of subnational revenue. Although the amount of such revenue is often beyond subnational control, it is classed as subnational revenue and is thus considered as part of fiscal decentralisation.

Theoretical arguments are quite clear-cut as regards decentralising revenue. On the one hand, the literature makes clear that if subnational government can finance most of its spending with its own sources, it has strong incentives to behave in a fiscally responsible way. This has positive effects on the fiscal balance of the general government. This occurs because subnational government is more directly accountable to its constituents regarding spending, as there is a direct link between locally-levied taxes and locally-provided public goods or services. Moreover, if subnational government’s own resources are sufficient in principle, central government can more easily resist pressure to cover revenue shortfalls.

On the other hand, if transfers from central government are a relatively large part of subnational budgets, the constraints on subnational government are ‘soft’, with adverse effects on the general government’s fiscal balance. This may occur because subnational government can justify substantial unfunded spending with the lack of own revenue sources. It may even threaten to scale down public services, eventually obliging central government to intervene with a bailout. In short, theoretical considerations alone cannot settle the fiscal case for decentralisation (especially on the expenditure side), hence the need for an empirical investigation.

([26]) For a more detailed analysis see Part IV of European Commission (2012), ‘Report on Public finances in EMU’, *European Economy*, No 4-2012 http://ec.europa.eu/economy_finance/publications/european_economy/2012/public-finances-in-emu-2012_en.htm

([27]) See among others Oates, W. (2006), ‘On theory and practice of fiscal decentralisation’, *IFIR Working Paper Series*, 2006–05 (Lexington: Institute for Federalism & Intergovernmental Relations); Blöchliger, H. and O. Petzold (2009), ‘Taxes or grants: what revenue source for sub-central governments?’, *OECD Economics Department Working Papers* 706, OECD Publishing; IMF (2009), ‘Macro policy lessons for a sound design of fiscal decentralisation’, Paper prepared by the IMF Fiscal Affairs Department.

Testing the impact of decentralisation with a regression analysis

The rest of this section discusses the results of an econometric analysis of the impact of fiscal decentralisation on fiscal outcomes of the general government. ([28])

The model used is the fiscal reaction function, an equation which tests the impact of the outstanding government debt ratio on the primary balance, after controlling for a number of macroeconomic and institutional variables.

The basic underlying assumption is that governments are fiscally responsible and hence react to increasing (or decreasing) levels of accumulated debt by increasing (or decreasing) the primary balance. This methodology has become quite widespread in the empirical literature on fiscal policy ([29]) and has also been used recently to investigate the budgetary impact of fiscal decentralisation. ([30])

The regressions in Table II.1.1 alternatively use the primary balance, primary expenditure and total revenues of the general government as the dependent variable. In each case, the sample includes all 27 EU Member States and covers the years 1995–2010.

The preceding discussion of the effects of fiscal decentralisation on fiscal behaviour suggests a number of hypotheses based on theoretical considerations that can be tested empirically.

First, the net effect of decentralising expenditure on the primary balance should depend on how it is combined with decentralising revenue. If decentralised spending is combined with giving subnational government responsibility for covering spending with its own resources (i.e. taxes and fees assigned to subnational government) and if taxes, rather than transfers, account for most subnational revenue, there should be no adverse effect on the primary balance. There may even be a positive effect if subnational government is encouraged to raise more revenue as it seeks to cover more expenditure.

On the other hand, if spending is decentralised while subnational government relies strongly on transfers from central government, this is likely to affect fiscal balances adversely. Subnational government is less likely to be concerned about balancing spending with revenue in this case.

Overall, as fiscal balances are shaped by trends in both revenue and expenditure, these always need to be analysed in conjunction.

Primary balance

The first set of estimations tests the impact of decentralisation on the general government primary balance (as a share of GDP). The explanatory variables combined in these regressions are shown in Table II.1.1 and include the lagged debt-to-GDP ratio, the lagged primary balance (because of its persistence), the lagged output gap to control for the budgetary effect of cyclical fluctuations, as well as a dummy for the occurrence of a legislative election. ([31]) Additionally, the following indicators are included, which together provide a detailed characterisation of the degree and composition of revenue and expenditure decentralisation:

- Expenditure decentralisation, defined as the percentage of subnational government expenditure in total expenditures of the general government;
- Own revenue decentralisation, defined as the percentage of subnational taxes and fees (i.e. subnational own revenue) in general government revenue;
- Tax revenue as a percentage of subnational revenue; ([32])

([28]) For further details, see Governatori, M. and D. Yim (2012), 'Fiscal decentralisation and fiscal outcomes', *European Economy Economic Paper* 468.

([29]) See for instance Bohn H. (1998), 'The behavior of US public debt and deficits', *Quarterly Journal of Economics*, Vol. 113, pp. 949–63 and European Commission (2011), 'Fiscal reaction functions and debt thresholds for the EU', Public finances in EMU 2011, chapter IV.4, pp. 167-176).

([30]) (Eyraud, L. and L. Lusinyan (2011), 'Decentralising spending more than revenue: Does it hurt fiscal performance?', *IMF Working Paper* 226, International Monetary Fund and Escolano, J., L. Eyraud, M.L. Moreno Badia, J. Sarnes and A. Tuladhar (2012), 'Fiscal performance, institutional design and decentralisation in European Union countries', *IMF Working Paper 45*, International Monetary Fund.).

([31]) This is systematically found to have good explanatory power of the developments of fiscal balances (see among others Mendoza, E.G. and J.D. Ostry (2008), 'International evidence on fiscal solvency: is fiscal solvency 'responsible'?', *Journal of Monetary Economics* 55, 1081-1093, and Gali, J., and R. Perotti, 2003, 'Fiscal policy and monetary integration in Europe', *Economic Policy*, Vol. 18, No. 37, pp. 533–72).

([32]) This does not include fees, which are also part of own resources. .

- Transfers from central government as a percentage of subnational revenue;

- The extent to which subnational spending is covered by own revenue, defined as the percentage of subnational expenditures covered by subnational taxes and fees. ([33])

Moreover, to test some of the hypotheses mentioned previously concerning the impact of varying combinations of decentralisation, the following interactive terms (i.e. the product of two variables) are also included in the regressions:

- Expenditure decentralisation and the share of transfers in subnational revenue;

- Expenditure decentralisation and the share of subnational taxes in subnational revenues;

- Own-revenue decentralisation and the share of transfers in subnational revenue;

- Own-revenue decentralisation and the share of taxes in subnational revenue.

Results of estimates for the primary balance are shown in Table 1. Regarding the control variables, some general features of the fiscal reaction function (i.e. with no direct relationship with decentralisation) are worth noting. A central result is that the lagged debt has the expected statistically significant positive coefficient in all specifications of the model, suggesting that the authorities' desire to ensure debt sustainability influences fiscal policies. The lagged output gap has a negative and mostly significant coefficient, suggesting some degree of pro-cyclicality of fiscal policy across the EU. Elections tend to have a negative impact on the primary balance, but this is not always significant.

- As for indicators of decentralisation, **decentralising expenditure** has a positive and statistically significant effect on the primary balance. Subnational expenditure coverage — i.e. the extent to which subnational expenditure is 'self-financed' via own resources — has a positive and significant effect on the primary balance, as would be expected on the basis of the disciplining effect of reliance on own resources (see Column 7). Similarly, decentralising expenditure has a (further) positive effect if interacted with the share of taxes in subnational revenue (Column 3). This confirms the expectation that decentralising expenditure has a more favourable impact on the primary balance if subnational governments raise a large proportion of their revenue as own taxes.

Conversely, when decentralised expenditure is combined with subnational revenue dependent to a large extent on transfers from central government, the effect on the primary balance is negative (Columns 2, 10, 12 and 13).

The overall impact of **decentralising revenue** on the primary balance is negative and statistically significant across all model specifications. The overall effect, however, depends on the way in which decentralisation is organised. The shares of taxes and transfers have, respectively, a positive and negative effect on the primary balance when included individually (Columns 4 and 5). These effects are confirmed when combining tax and transfer indicators with the revenue decentralisation indicator (Columns 6 and 8 for taxes and Column 9 for transfers). The effect of the interactive term with taxes and revenue decentralisation more or less offsets the negative direct effect on the primary balance of revenue decentralisation.

Finally, a robustness check of the impact of subnational taxation on the fiscal balance was carried out by estimating the effect of 'true' tax autonomy, i.e. the share of taxes for which subnational governments can change the rate and/or base. ([34]) This is captured via three interactive terms (Columns 13, 11 and 12). ([35])

([33]) This indicator measures the decentralisation of revenues relative to expenditures. A gap between expenditures and own revenues must be covered by transfers or subnational borrowing. A lower gap should indicate a 'harder budget constraint' for subnational governments.

([34]) Figures on the shares of taxes in subnational revenues do not distinguish autonomous taxes, i.e. on which subnational governments are allowed to change main tax parameters, from the assignment of revenues from national taxes to subnational governments. This may prevent to fully capture the 'true' degree of subnational financial autonomy. Hence, robustness checks were carried out with an indicator of 'true' subnational tax autonomy compiled by the OECD Secretariat. The OECD indicator is unfortunately only available for a relatively small sample of countries and for the years 1995, 2002, 2005 and 2008.

([35]) (i) Share of subnational tax revenues on which subnational governments can exert autonomy multiplied by the share of taxes in total subnational revenues (Column 13);
(ii) Expenditure decentralisation times the term (i), in order to test the joint impact of large decentralisation on the spending side and large 'true' revenue autonomy (Column 11);
(iii) Share of subnational expenditures covered by subnational taxes and fees times the share of subnational tax

Table II.1.1: **Regressions on the effect of fiscal decentralisation on the primary balance of general government (LSDVC estimator, EU27, 1995-2010) (1)**

	1	2	3	4	5	6	7	8	9	10	11	12	13
VARIABLES	Pb												
L.D	0.03*	0.03***	0.03**	0.03*	0.03**	0.03**	0.02*	0.03**	0.03**	0.03***	0.04**	0.04***	0.04***
L.og	-0.1**	-0.12***	-0.1**	-0.09*	-0.09**	-0.08*	-0.06	-0.05	-0.06	-0.09	-0.08	-0.1**	-0.1**
Expdec	0.12**	1.19***	0.13**	0.22***	0.28***	0.22***	0.4***	0.47***	0.52***	1.22***	0.57***	1.2***	1.2***
Revdec	-0.12*	-1.15***	-0.43***	-0.36***	-0.45***	-0.81***	-0.73***	-1.27***	-0.5***	-1.48***	-1.34***	-1.7***	-1.7***
Expcov							0.19***	0.18***	0.16***	0.17***	0.37***	0.3***	0.3***
Expdec* trsf		-1.12***								-0.89***		-0.76***	-0.74***
Ele	-0.45*	-0.43*	-0.44*	-0.44*	-0.37	-0.42*	-0.29	-0.28	-0.25	-0.3	-0.31	-0.26	-0.26
Expdec* tax			0.34**								-0.02		
% tax				0.08***									
% trsf					-0.11***								
Revdec* tax						0.87***		0.73***					
Revdec *trsf									-1.15***				
Tax *auton													0.06**
Expdec *tax*auton											0.04***		
Expcov* auton												0.05***	
Obs.	405	405	405	405	405	405	405	405	405	405	297	297	297
Number of panel	27	27	27	27	27	27	27	27	27	27	21	21	21

(1) List of variables: pb = primary balance of general government (% of GDP), L.D = lagged stock of debt of general government (% of GDP), L.og = Lagged output gap (% of potential output), Expdec = expenditure decentralisation, Revdec = own revenue decentralisation, Expcov = coverage of subnational expenditures by own resources, Expdec*trsf = expenditure decentralisation*share of transfers in subnational revenues, Ele = legislative elections (1 if elections occurred in the year, 0 otherwise), Expdec*tax = expenditure decentralisation*share of taxes in subnational revenues, % tax = share of taxes in subnational revenues, % trsf = % of transfers in subnational revenues, revdec*tax = own revenue decentralisation* share of taxes in subnational revenues, revdec*trsf = own revenue decentralisation* share of transfers in subnational revenues, tax*auton = share of taxes in subnational revenues*share of autonomous taxes in subnational tax revenues, expdec*tax*auton = expenditure decentralisation*share of taxes in subnational revenues*share of autonomous taxes in subnational tax revenues, expcov*auton = coverage of subnational expenditures by own resources* share of autonomous taxes in subnational tax revenues.

***, **, *: coefficient estimates statistically significant at the 1, 5 and 10% level, respectively.

Source: Commission services.

Results again confirm expectations, in that greater tax autonomy improves the primary balance.

Expenditure

Further regressions were also estimated, including general government primary expenditure as the dependent variable, instead of the primary balance (results not shown, see Governatori and Yim, 2012). This enables investigation of whether decentralisation has any systematic bearing on the absolute level of spending, as opposed to the balance of spending and revenue. The model is adapted relative to that for the primary balance, with the addition of inflation and trade openness as further control variables. The main results in terms of the impact of decentralisation aspects are as follows:

- Decentralising expenditure *per se* is associated with lower levels of general government expenditure, whereas decentralising tax revenue to the subnational level tends to increase expenditure.

- Decentralising expenditure in combination with higher shares of central transfers in subnational revenue typically increases spending levels, but, if combined with relatively higher shares of taxes, lowers expenditure.

- Similar results are found for the interaction between own-revenue decentralisation and the share of transfers and taxes in subnational revenue, respectively.

These findings support the theoretical argument that decentralising expenditure should increase public sector efficiency, as public goods and services can be tailored to subnational

revenues on which subnational governments can exert autonomy; this would capture the coverage of subnational expenditures by autonomous revenues (Column 12).

When the term (ii) is included the interactive term of expenditure decentralisation and the share of taxes in subnational revenues is no longer significant (Column 11), suggesting that it is the true tax autonomy rather than the share of tax revenues assigned to subnational governments as such which improves fiscal balances.

needs/preferences, while 'healthy' competition and mutual learning take place to find more efficient ways to provide public goods and services. The results suggest that the positive effect of a high level of financial responsibility and high subnational taxes/low transfers on the primary balance stems at least partly from the a restraining effect on expenditure, as the literature would predict.

Revenue

In analogy to the preceding section, the impact of fiscal decentralisation on revenue levels was also estimated through regressions. General government revenue and the tax burden (both as shares of GDP) were alternatively used as the dependent variable as a further robustness check.

The main findings are that decentralising expenditure does not appear to have a significant effect on revenue or on the tax burden. By contrast, own-revenue decentralisation generally lowers revenue and the tax burden. Both for expenditure and revenue decentralisation, the interaction with the share of taxes in subnational revenue is positive and significant. ([36]) Thus, the degree of subnational expenditure coverage through own resources has a positive and significant impact on revenues and the tax burden.

Overall, it appears that the impact of decentralisation is stronger on expenditure levels than on the revenue side. Two particular aspects of these findings complement the initial analysis, based on the primary balance. First, the general result that decentralisation of own revenues lowers the fiscal balance appears to be driven both by higher spending and lower revenue. Second, covering subnational spending to a greater extent from own resources ('self-dependence') positively affects fiscal balances, from both the revenue and expenditure side.

Conclusions

The analysis in this special topic shows that fiscal decentralisation in its various forms can have significant impacts on general government fiscal outcomes.

Decentralising expenditure *per se* is associated with better fiscal balances compared to cases of low decentralisation. This primarily reflects a negative effect on expenditure, lending support to theoretical arguments that subnational government should be more able to tailor public goods and services to subnational needs/preferences and that competition and mutual learning among subnational governments should help them find more cost-effective ways of producing public goods and services.

Furthermore, the interaction between expenditure and revenue decentralisation is crucial in determining overall fiscal performance. A case in point is the combination of decentralising expenditure with revenue arrangements that create perverse effects.

For instance, if own resources finance decentralised expenditure only to a small extent, the fiscal balance tends to suffer. This result reflects effects on both the expenditure side and, to a lesser extent, the revenue side. It also confirms predictions in the literature that the more subnational government relies on central transfers, the more likely it is to experience 'soft' budget constraints that fail to foster responsible, and prudent fiscal behaviour.

Conversely, greater reliance on revenue raised locally makes subnational government more accountable to subnational voters, as the link between subnational taxes and subnational services is stronger. This exerts a disciplining effect on subnational governments' fiscal behaviour. The empirical results further show that having greater subnational autonomy in setting tax rates and tax bases tends to improve the overall fiscal balance even further.

Overall, the analysis clearly shows that fiscal decentralisation matters for fiscal outcomes and that the interplay between expenditure and revenue is crucial to determine the net effect on fiscal balances. Criticisms that general fiscal deterioration across the euro area are being caused *inter alia* by a trend towards fiscal decentralisation do not seem to find support in the data. While such a link may hold in some Member States, the empirical analysis presented here suggests that this is not because decentralisation *per se* is bad. Rather, it is likely to be due to decentralisation being poorly designed, especially if it does not foster a sense of strong fiscal self-reliance at subnational government level.

([36]) In the case of revenue decentralisation only for the tax burden.