FISCAL POLICY AND EXTERNAL IMBALANCES UNDER A DEBT CRISIS: THE SPANISH CASE

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In this paper we reflect on the role that fiscal policy could play in the resolution of the crisis in Eurozone countries crippled by both public and private debt, and beset by growth and competitiveness problems. As an illustration, we revisit the Spanish case, a paradigmatic example of the economic difficulties created by high debt and internal and external imbalances. After describing the build-up of fiscal and macroeconomic imbalances in Spain during the period 1995-2007, we first discuss how the correction of macroeconomic imbalances conditions progress on the fiscal consolidation front and, secondly, how fiscal consolidation affects the correction of imbalances. We conclude that the role that national fiscal policies can play in these countries to expand demand and reduce the costs of solving external and internal imbalances seems limited. Also, overall, the best contribution that fiscal policy can achieve under these constraints is through a better targeting of government expenditures and tax reforms, aimed at introducing permanent measures to stabilise debt ratios. These could then be combined with productivity-enhancing structural reforms and with improvements in product market regulation to increase competition, so that the short-term costs of the internal devaluation required are reduced.

Introduction

We live in unprecedented times. The economic and financial crisis has brought public debt-GDP ratios to historically high levels in advanced countries, and population ageing is expected to lead to significant pressures to increase public spending in the near future. In parallel, private households remain highly indebted, which together with the large fiscal consolidation needs limit short-term growth prospects. With a more medium-term perspective, projections for potential growth are also subdued, due to a demographic scenario marked by low fertility rates and population ageing, and to the meagre possibility of intense productivity growth after the technological developments of the ICT revolution have been fully exploited.[1]

In the Eurozone, the situation is even more complex, as a significant part of these debts are mostly cross-border, intermediated by banking sectors that have been weakened by the financial crisis and, in some cases, by the bursting of housing bubbles. In addition to these events, the reaction of financial markets has led to a situation marked by financial fragmentation within the euro area with market participants reacting abruptly to weaknesses in the economic and financial positions of individual countries. Furthermore, persistent inflation differentials since the start of EMU, in a context of an appreciating euro, resulted in serious competitiveness losses in southern European countries. Hence, these countries are in a conundrum in which both public and private deleveraging and relative price adjustments have to take place against a backdrop of low (nominal and real) growth and very adverse financial conditions.

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[1] Potential productivity growth in advanced countries is a highly contentious issue. Gordon (2012) argues that the rapid progress made over the past 250 years could well turn out to be a unique episode in human history and that most countries face six headwinds that are in the process of exerting a drag on long-term growth (demography, education, inequality, globalisation, energy/environment, and the overhang of consumer and government debt). Bartelsman (2012), on the contrary, argues that much higher growth is technologically feasible, but it requires a considerable amount of churn and reallocation across firms in the market sector, and that, conditional on the policy environment, labour productivity growth in the EU of 3 per cent per year for the next 20-30 years appears attainable.

The debate about what fiscal policy can and cannot achieve under these difficult macroeconomic conditions has gained relevance. The empirical literature on fiscal multipliers, which has expanded significantly by making use of new data sets and methodological approaches (see, for instance, Kraay, 2012; and Mian and Sufi, 2012), now provides a wide array of estimates, based on sample periods, macro covariates, identification procedures, and characteristics of the fiscal measures (Ilzetki, Mendoza and Vegh, 2011; Baum, Poplawski-Rivero and Weber, 2012). Some recent papers also look at how the values of the fiscal multiplier condition public debt dynamics (e.g., Boussard, de Castro and Salto, 2012).

Unfortunately, progress on the theoretical front has been scarce. There is burgeoning literature on optimal public debt in models with heterogeneous agents (Werning, 2007, Golosov, Tsyvinski and Werning, 2007), but these papers are more of a normative nature and have little to say about the current policy debate on how to deal with predetermined debt. Some papers have argued that the effects of stabilising fiscal policy are very powerful when monetary policy is constrained by the zero lower bound on nominal interest rates and there are agents whose borrowings are also constrained (Eggertsson and Krugman, 2012). To what extent this is relevant to guiding policy under the current deleveraging scenario is, however, highly controversial. Moreover, there are no reasons to expect symmetric effects of fiscal policies when debt is at such a high level that a different policy stance may have very significant effects on financing costs (Corsetti *et al.*, 2012). Finally, as Andrés *et al.* (2012) argue, less attention has been paid to the effect of households' financial conditions on the fiscal multiplier, which can also give rise to non-linear effects of fiscal policies (documented empirically, for instance, in Afonso, Baxa and Slavik, 2011). And, since the ultimate effects of fiscal expansions on the economy crucially depend on the reaction of employment – and southern European countries also have high unemployment rates – more evidence is needed on the effects of a government spending shock on vacancies, employment, and unemployment, including the persistence of unemployment and the possibility of it becoming structural (Brückner and Pappa, 2010, and Monacelli, Perotti and Trigari, 2010).

In this paper we first reflect on the role that fiscal policy could play in the resolution of the crisis in Eurozone countries crippled by both public and private debt and beset by growth and competitiveness problems. As an illustration, we revisit the Spanish case, a paradigmatic example of the economic difficulties created by high debt and internal and external imbalances.

Fiscal policy under a debt crisis

The current scenario

Most empirical papers about the output and employment effects of fiscal policy cited in the introduction have an Anglo-Saxon bias. Thus, when focusing on the situation of some country members of the euro-zone, it seems that some important considerations are neglected in this literature. First, a significant part of the recently accumulated debt in UEM countries that is now being deleveraged is external, not between savers and borrowers of the same closed economy (as in Eggertsson and Krugman, 2012). Hence, issues like real exchange rate misalignments, home bias in tradable goods and assets, and risk premia are relevant to the analysis of the potential impact of fiscal policy. Moreover, there is an excess of accumulated debt as a result of either overoptimistic expectations or a sudden permanent drop in potential growth over the long run , both phenomena neglected by rational expectations models and/or models without long-run trends (as usual in the DSGE camp). Thus, most recent papers on fiscal policy still consider risk-neutral households involved in smoothing income fluctuations under a debt constraint and analyze the consequence of the debt constraint becoming more binding. However, one may think that the current scenario in Southern Europe resembles, instead, one in which risk-averse households are in a deleveraging

process caused by a correction of overoptimistic expectations on potential growth, while the main source of demand has to come from abroad, and external funding is scarcer and more costly.

Asymmetric effects of fiscal policy

In this situation, the usual transmission mechanisms of fiscal measures need to be reconsidered. First, using expansionary fiscal policy to transfer resources to households so that their borrowing constraints are somehow relaxed, and, hence, increasing consumption, may not work if debt-constrained private agents are involved in a deleveraging process in which consumption is determined, not by current income, but by the new desired level of debt. On the contrary, reducing public expenditures may not have the well-known expansionary Ricardian effects if expectations about future income growth remain subdued. Moreover, at the current debt levels, it is very likely that fluctuations in public debt are associated with changes in financing costs, so that the negative short-run effects on output of reducing public debt may be compensated by lower interest payments, while increasing public debt may raise financing costs and, hence, produce smaller short-run positive output effects. Thus, "fiscal multipliers" seem, more than ever, very dependent on the fiscal measure implemented, on its impact on financing costs, and on expectations on future growth, so that it is very likely that using a single number to characterize the short-run impact of fiscal policies could be very misleading.

These considerations raise two types of asymmetries or non-linear effects of fiscal policy. One is the dependence of the value of the fiscal multiplier on the state of the economy or on the level of some particular macroeconomic and/or financial variable that, beyond some thresholds, exert strong influence on the effect of fiscal policies. This is a possibility that has been extensively researched in recent empirical work (see, for instance, Baum *et al.*, 2012 and Afonso *et al.*, 2011). The other type of asymmetry that has not received so much attention, in neither the empirical nor the theoretical literature, is the possibility that the effects of a positive fiscal shock may not be of the same magnitude, albeit different sign, than those of a negative shock, when those effects depends very much on the response of financing costs, the state of expectations about potential growth, and the ongoing deleverage process in the private sector.

Debt, external imbalances, internal and fiscal devaluations

Together with high public and private debt, Southern European countries have a competitiveness problem, which needs to be resolve by price adjustments that shift resources from non-tradable to tradable sectors and that depreciate their real exchange rates. Obviously, these adjustments are the less costly, the higher productivity growth and the increase in external demand are. It is often argued that depreciating the real exchange rate by means of an "internal devaluation", achieved by nominal wage reductions, is a non-starter since this would increase the private debt burden, lower public revenues and, hence, worsen the public debt dynamics, a way of thinking that is reminiscent of the Fisherian debt deflation dynamics (Fisher, 1933). This has led to some authors (Farhi *et al.*, 2012) to suggest an alternative route, namely, a "fiscal devaluation", consisting of reducing non-wage labor costs (e.g., social security contributions) and increasing consumption taxes, to cheapen the prices of domestically produced goods with respect to goods produced abroad.

Both arguments, the relevance of Fisherian debt deflation dynamics and the convenience of a fiscal devaluation, might not fit well with the current situation in Southern Europe. As for Fisherian debt deflation dynamics, it is based on a logic that applies to closed economies without unemployment, in which changes in real wages necessarily imply lower demand and disposable income. However, the impact of real wage cuts on demand and household disposable income in

open economies with unemployment depend on the implied real exchange rate depreciation and on the wage-elasticity of employment, which may be small in the short run, but surely it is non negligible, in particular if structural reforms to increase product market competition and enhance productivity are implemented simultaneously. Regarding a fiscal devaluation, while this proposal may deserve some consideration since in particular it might help in the transition to a new equilibrium, it should be taken into account that in the long run this type of measures are only neutral on employment. Moreover, to have a significant impact on the short run, the reduction in non-wage labor costs and the commensurate increase in consumption taxes may need to be large and it requires not to be translated into higher wages or margins. Finally, in countries where pension systems are under pressure and are mainly financed by social security contributions, their reduction will require a clear plan for either reducing pensions' expenditure or raising additional revenues.

Hence, it seems that the competitiveness adjustment has to come from the two usual channels: i) nominal wage cuts, in the short run, and ii) productivity growth, in the medium to long run. How in the current high debt/low growth context fiscal policy has to be designed to smooth this adjustment is a real challenge, more so if structural reforms are not also designed and implemented to make prices more flexible, eliminate barriers to the creation of new firms, and laying out a labor legislation that favors changes in work organization within firms and make job creation and job destruction patterns more conducive to productivity growth.

Fiscal policy and macroeconomic imbalances: The Spanish case

Spain is a perfect case study for analyzing fiscal policy under the constraints imposed by high debt – public, private – and macroeconomic imbalances – internal and external. The path to this weak current situation started from a positive apparently healthy fiscal position prior to the crisis; and continued with a rapid deterioration in the budget and debt dynamics, and a negative spill-over from the ongoing consolidation of public debt sustainability to the growth outlook in a context of long-term adjustment of the economy, and a mild adjustment of the imbalances (see Figure 1).

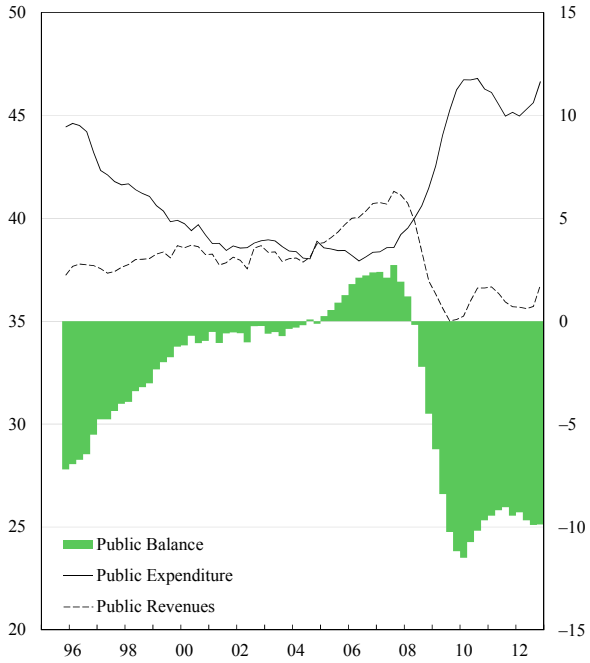
How macroeconomic imbalances were originated in the Spanish case has been documented in many papers (see, for instance, Gavilán *et al.*, 2011a and 2011b). Upon entry in the UEM, the fall in interest rates and the expansion of credit gave impulse to a large expansion in demand and to a housing bubble. Lack of a supply response, despite large immigration flows and because of low productivity growth, generated a real exchange rate appreciation, large current account deficits, and the build up of external debt.

As to the fiscal domain, in late 2007, after a long period of high growth, Spain had a fiscal surplus of close to 2 per cent and a public debt/GDP ratio of 36 per cent (against a deficit of 7 per cent and a debt to GDP ratio of 70 per cent in 1995). However, beneath this healthy position lay some worrying public revenue and spending dynamics. Of the total reduction in the deficit recorded between 1995 and 2007 (8.4 percentage points (pp) of GDP), almost 5 pp were attributable to the business cycle and to the decline in the interest burden, associated above all with the reduction in interest rates (see Figure 2). The rest of the adjustment was due to an exceptional increase in tax revenues – with a significant temporary component – linked largely to the excessive real estate expansion, which more than offset the reduction in revenue of approximately 3 pp of GDP arising from discretionary changes in the tax system, while primary public expenditure (excluding interest payments on public debt and net also of unemployment benefits), grew at an annual rate of more than 7 per cent, clearly above trend economic growth.

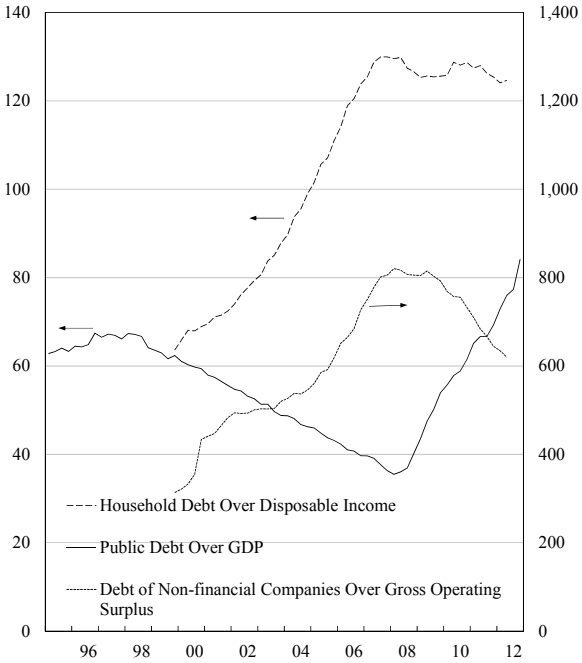
Figure 1

Main Macroeconomic Variables of the Spanish Economy

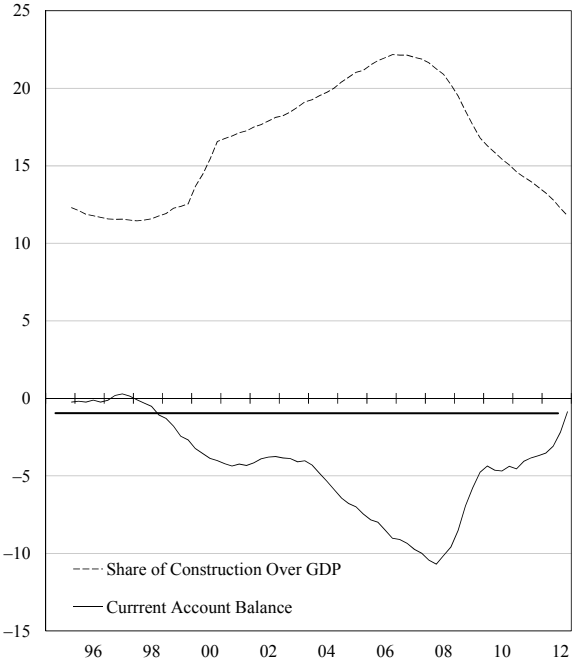
Public Balance, Revenues and Expenditure
(percent of GDP)



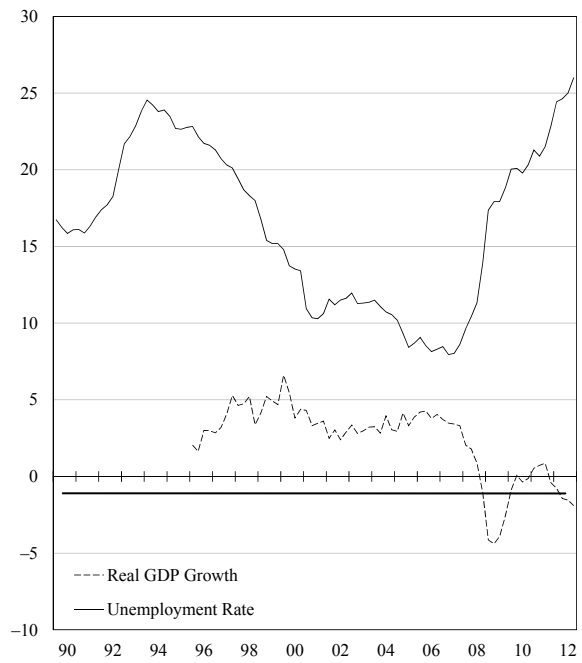
Indebtedness
(percent)



(percent of GDP)



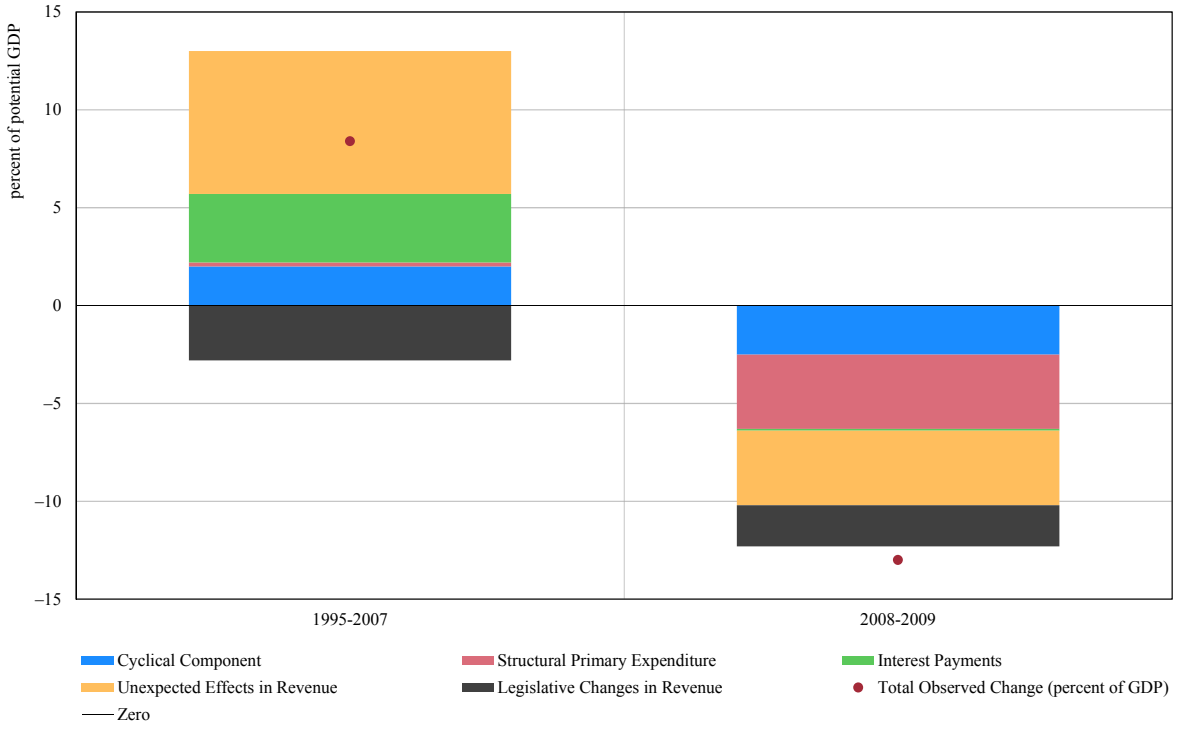
(percent)



Source: INE and Banco de España.

Figure 2

Determinants of Changes in the Spanish General Government Balance
(cumulative percentages of GDP)



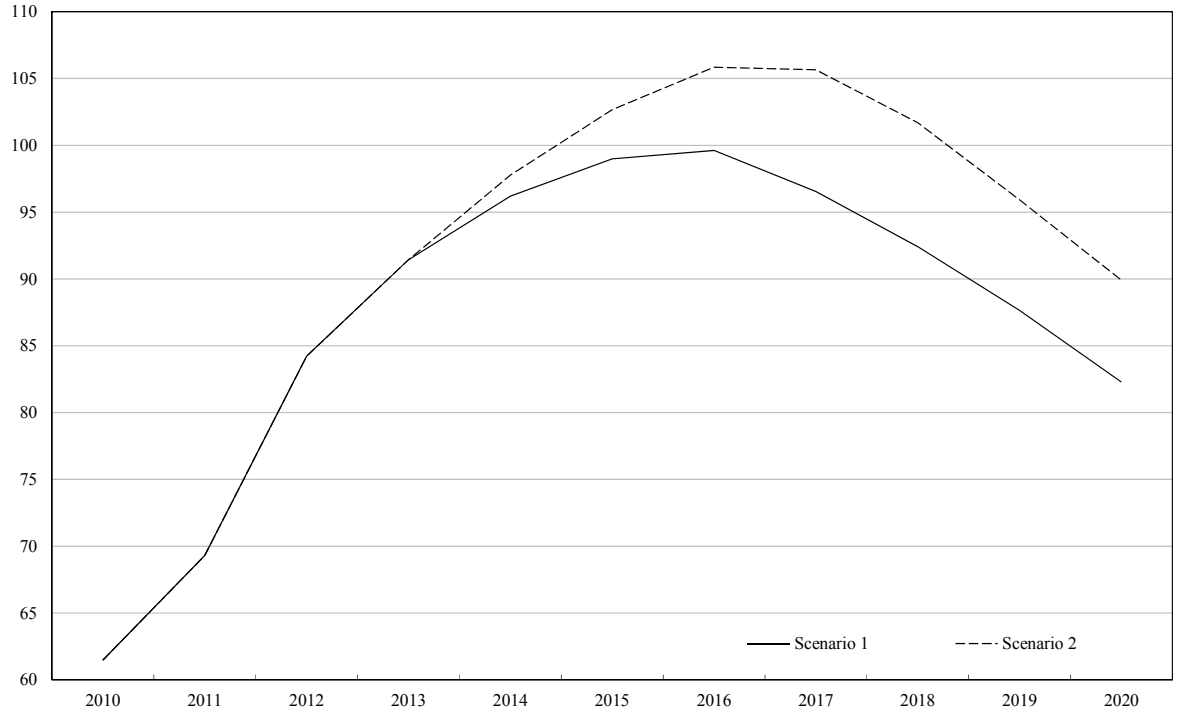
Sources: INE and Banco de España (2011).

The crisis revealed the latent risks in the public finances situation. During the economic crisis (with GDP falling by –3.8 per cent in 2009 after having increase only by 0.9 per cent in 2008), the budget deficit rose by more than 13 pp to a peak of 11.1 per cent of GDP at end-2009. Contributing to the deterioration from 2007 to 2009 was the adverse trend of the business cycle, which added around 2.5 pp of GDP, whereas close to 4 pp of GDP were associated with the drying-up during the crisis of extraordinary revenue. In addition, the measures applied in an attempt to alleviate the effects of the crisis amounted to 3.3 pp of GDP, although more than half of this effect was of a temporary nature. The rest of the increase in the deficit arises from trend growth in expenditure outpacing that of the economy. The rise in the deficit, therefore, had an eminently structural component.

In 2010 the consolidation process started to come up against the enormous difficulties associated with pursuing a reduction of the public deficit while simultaneously undertaking an adjustment of previous macroeconomic imbalances. Despite consolidation, public debt has continued increasing, while private deleveraging is progressing slowly, in a context of a double-dip recession with GDP falling again in 2012 at –1.6 per cent after an almost flat growth in 2010 and 2011 (–0.2 and 0.1 per cent, respectively). We turn to the discussion of these difficulties now. For this purpose, we divide the discussion into two blocks. First, we analyse how the correction of the imbalances is conditioning the fiscal consolidation process; then, we discuss the converse implication, how the fiscal consolidation process is conditioning the correction of the macro imbalances.

Figure 3

Medium-term Debt to GDP – Scenarios for Spain
(percent of GDP)



Source: Authors' calculations.

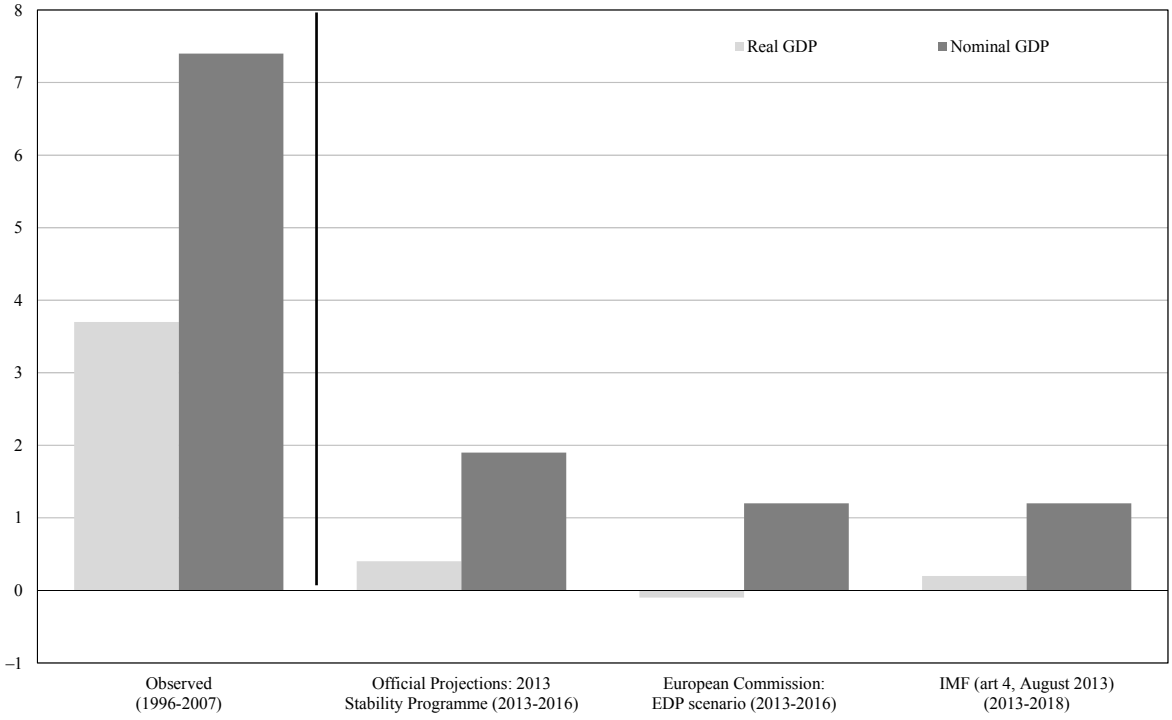
How the correction of macro imbalances conditions the fiscal consolidation process

A natural starting point for analysing the difficulties of the fiscal consolidation process in a context of correction of the previously accumulated imbalances is the debt dynamics equation. Figure 3 (scenario 1) plots the course of the public debt/GDP ratio over the coming years under specific assumptions of budget deficit, interest rates and growth rate. Specifically, on the current official estimates, the fiscal deficit stood at around 7 per cent at end-2012 (excluding an additional 3.7 pp due to costs associated to banking re-structuring). With this starting point, we use the growth scenario to 2016 included in the latest Stability Programme of the Spanish government, prolonged until 2020 to match an average nominal GDP growth of 3.5 per cent in the period 2013-20 (1.5 per cent real GDP growth +2 per cent GDP deflator growth), and the assumption of an average nominal interest rate of public debt in the same period of around 3.5 per cent, to show that the stabilisation of public debt at around 100 per cent of GDP in 2017 would require an adjustment in the primary balance of around 6,6 pp of GDP between 2013 and 2017 (see Figure 3).

Admittedly, part of the fiscal deficit observed in 2012 is of a cyclical nature (around 30 per cent of the observed deficit according to most estimates). However, the size of the pending adjustment needed to stabilise the debt ratio is very high by international standards, in particular if one takes into account that the primary deficit has already declined by 5.4 pp of GDP between 2009 and 2012. By way of comparison, in the consolidation period applied in Spain during the 1990s, stabilising the debt to GDP ratio at around 70 per cent required an adjustment of the primary deficit of "only" 3.6 pp of GDP in four years (between 1993 and 1996).

Figure 4

Average Real and Nominal GDP Growth Estimates for Spain
(percent)



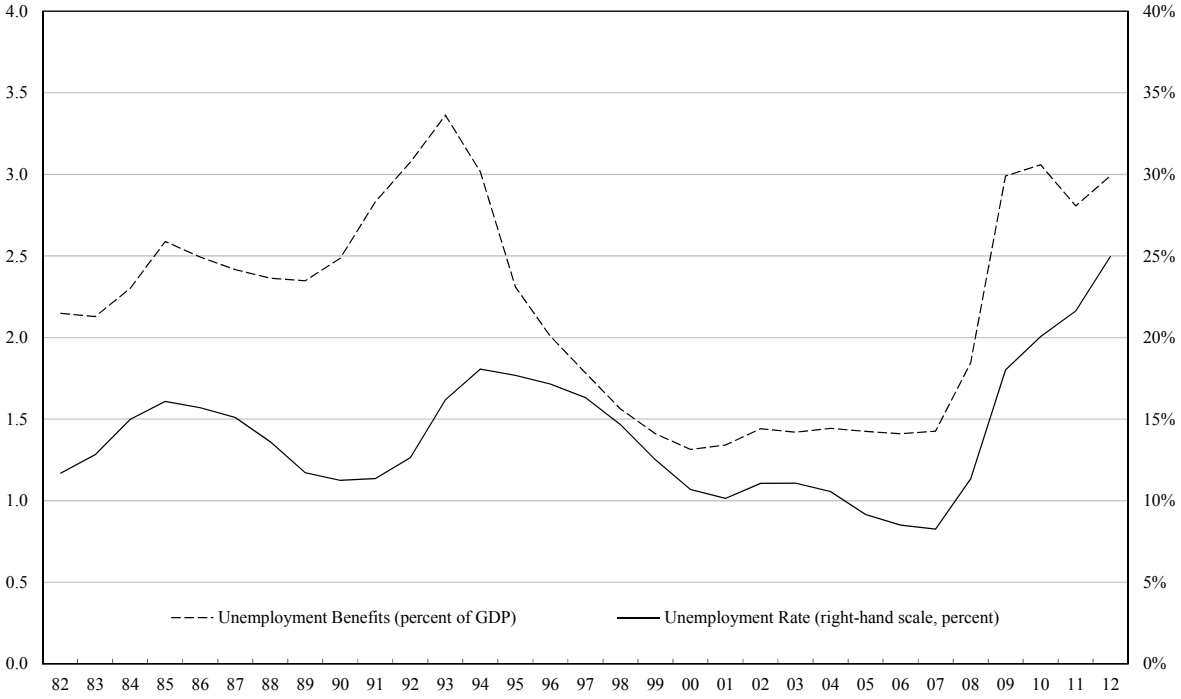
Sources: INE, Stability Programme of Spain (2013-2016), European Commission and IMF.

Moreover, the fact that the fiscal consolidation process is taking place in a macro environment characterised by correction of previously accumulated imbalances is making the fiscal adjustment more difficult. The most obvious consequence of the correction of these imbalances is its impact on growth, which is being negatively affected in particular by the deleveraging process under way in the private sector. Indeed, history suggests that recessions involving financial crises tend to be deeper and have slower recoveries that take twice as long, with deleveraging causing a prolonged period of low internal demand. This is already occurring in the Spanish case: real GDP growth in the Spanish economy was –0.8 per cent on average in the period 2008-12, against 3.8 per cent observed in the earlier 1998-2007 period. Moreover, all available medium-term scenarios for the Spanish economy draw a picture of a significant decline in growth prospects. The Spanish government projects average real GDP growth for the Spanish economy of around 0.4 per cent for the period 2013-16, while the EC scales this growth down to –0.1 per cent in the same period and the EC to 0.2 per cent in the period 2013-18 (see Figure 4). Of course, in our previous public debt dynamics example, if these more pessimistic growth scenarios were to materialize, in the form for example of a 1 pp lower real and nominal average GDP growth in the period 2013-2020 compared to our central scenario, the stabilization of the debt ratio would take place at a higher level and the fiscal effort needed to reach the same target for the debt to GDP ratio would be significantly higher (see Figure 3, Scenario 2).

A related issue refers to the impact of the lower growth prospects on unemployment and, in terms of the public accounts, on unemployment benefits. The unemployment rate has already

Figure 5

Unemployment Rate and Unemployment Benefits



Source: Labour Force Survey.

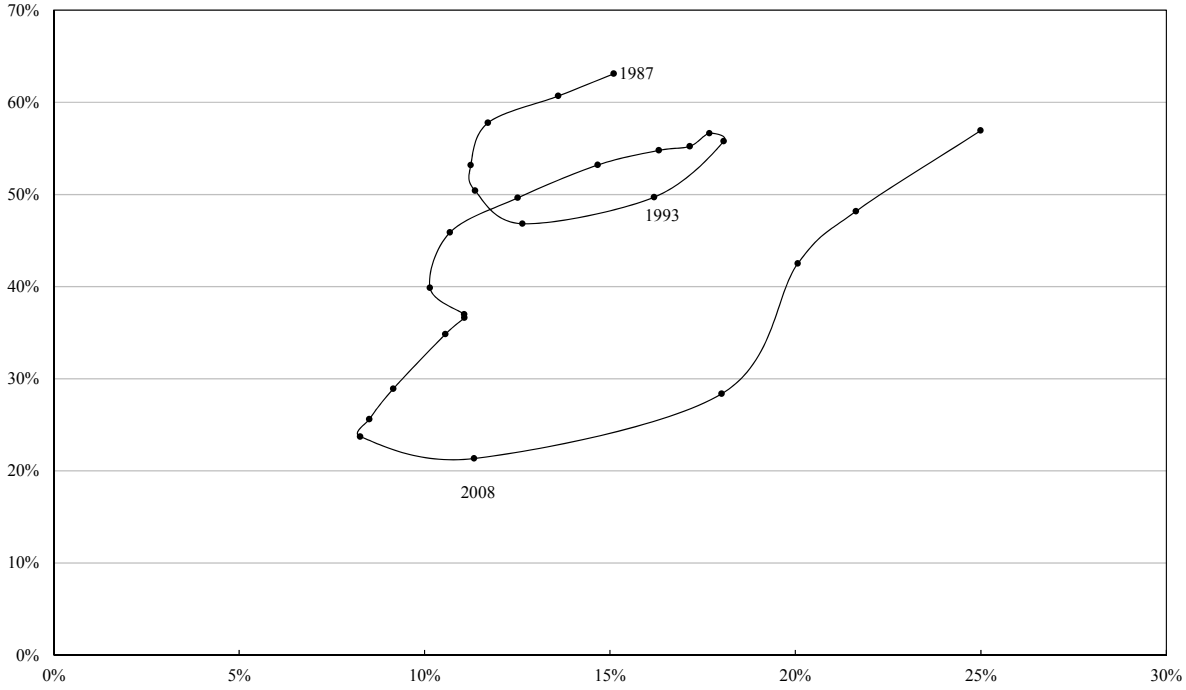
increased in Spain in the period 2007-12 by 17 pp and the related unemployment public expenditure by 1.6 pp of GDP in the same period (see Figure 5). This was also the case during the 1990s, when unemployment benefits increased significantly. However, unemployment declined swiftly in that period allowing for a positive contribution of unemployment benefits to the consolidation process, *i.e.*, this expenditure item declined by 2 pp of GDP between 1993 and 1999. The high unemployment rate is now significantly more persistent (see Figure 6), which, combined with low growth prospects, could lead to the persistence of unemployment benefits at a relatively high level for a longer period of time, unless average benefits and/or the coverage rate are reduced. As a result, the adjustment of other public revenues or expenditure items will have to compensate for these developments making the adjustment more costly.

Nevertheless, the correction of the macro imbalances may also have an adverse effect on developments in public revenues, deriving from the very nature of the adjustment and its impact on the composition of growth. The fact that during the period of adjustment the main source of improvement in economic activity is/will continue to be the external sector means that the prospect of buoyant public revenue is scant, since neither higher exports nor lower imports generate, *per se*, increases in tax revenue. This effect is compounded by the intensity of the real estate adjustment, a sector of the economy that generates significant public revenues both through transaction taxes and the taxation of capital gains. Moreover, the need to gain competitiveness through wage moderation also has an adverse effect (more than proportional) on revenues through income taxes, given the progressive nature of this type of taxation.

A way to illustrate this channel is through the residuals of the revenue equations that relate public tax revenues to the tax bases and discretionary changes in effective tax rates. Usually these

Figure 6

Unemployment Rate (x-axis) and Incidence of Long-term Unemployment (y-axis)
(percent)



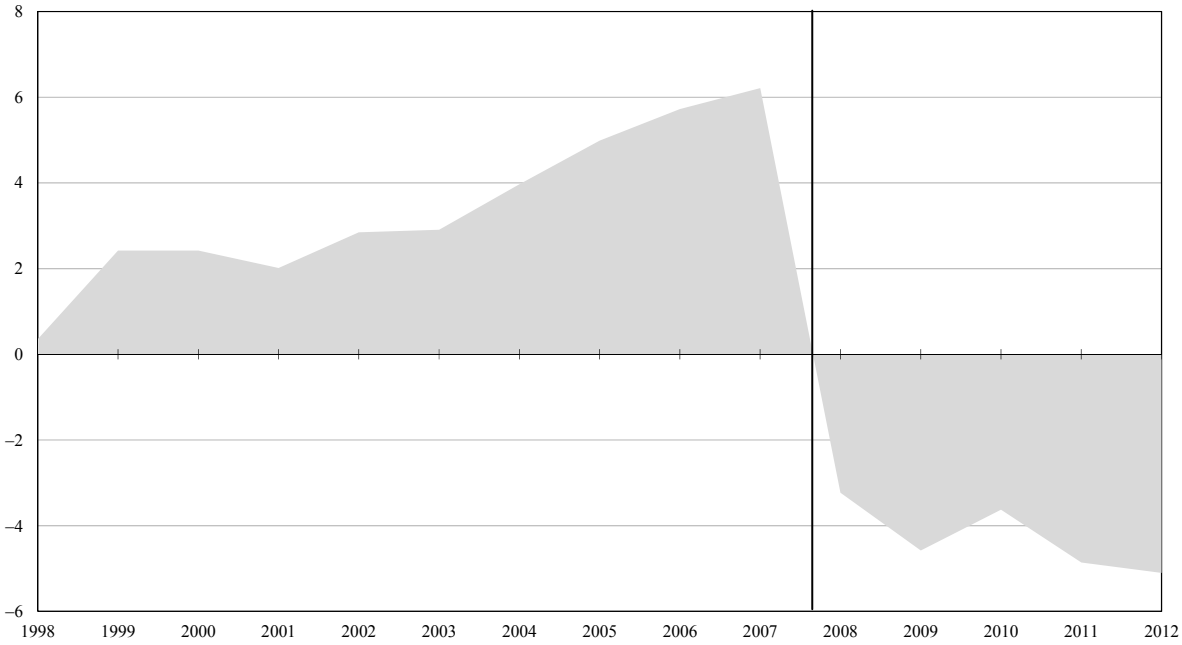
Source: Labour Force Survey.

equations assume a constant average elasticity of tax revenues to the tax bases. Moreover, aggregate measures of tax bases are not able to capture some of the specificities of the tax system. In particular, capital gains are not typically considered as part of the base but, however, they are effectively taxed. As a result, highly positive residuals are often observed in tax revenue equations in boom periods, while the opposite occurs in recessions. Figure 7 plots these residuals for the Spanish case in cumulative terms for two different periods: 1998-2007 and 2008-12. Indeed, the positive residuals during the expansionary period reached, in cumulative terms, more than 6 pp of GDP. The opposite has happened during the adjustment process, with negative accumulated residuals since 2008 of about 5 pp of GDP.

The composition of growth derived from the macro imbalance adjustment will include an additional element of complexity. This is in our view a crucial point that will condition the consolidation process. Figure 8 illustrates how a rule limiting public expenditure growth relative to potential nominal output growth would have worked in the 1998-2007 period. The rule is applied to total general government public spending less the interest burden on public debt and less social benefits (essentially relating to unemployment and pensions). Indeed, the growth of public spending in the 1998-2007 period was significantly higher in Spain than would have been the case with the application of the rule (7 per cent in annual average terms, compared with 4.4 per cent, respectively). Of course, in this context, the fact that public accounts reached a surplus at the end of this period was only possible because of the extraordinary revenue arising from the real estate boom mentioned above. In the same vein, this illustrates that, even once a sound fiscal position has been reached, if the composition of growth in the Spanish economy is going to remain tilted

Figure 7

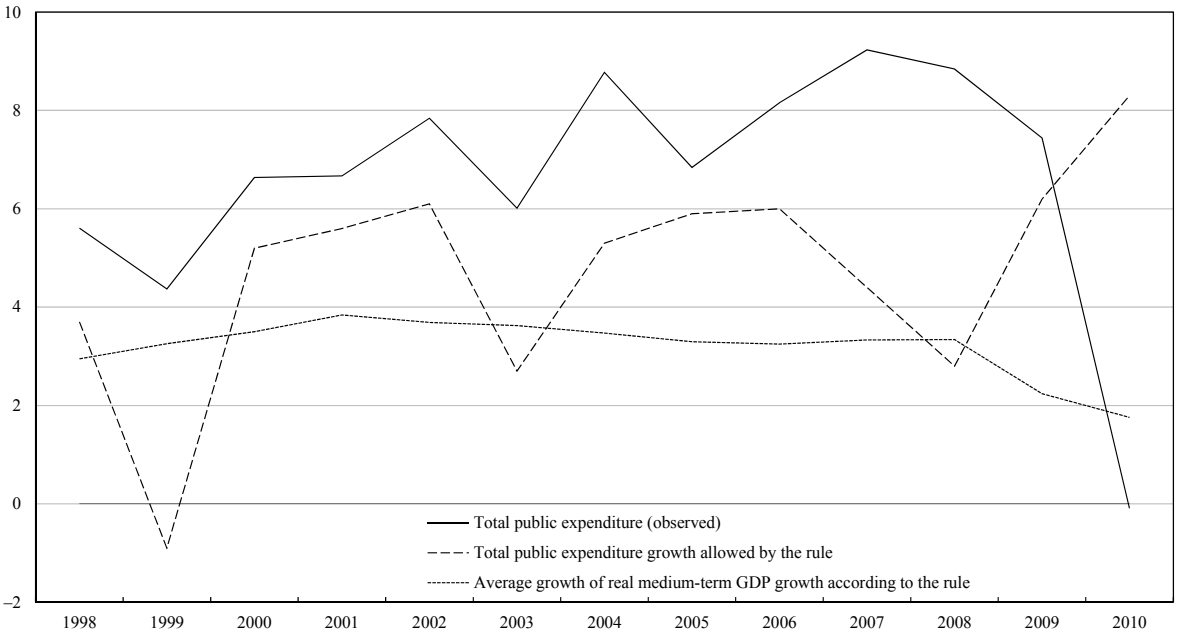
Residuals of Public Revenue Equations
(cumulative residuals for the periods 1998-2007 and 2008-12, percent of GDP)



Sources: IGAE and author's calculations.

Figure 8

Counterfactual Application of Spending Rule to the Period 1998-2010
(growth rate, percent)



Source: Hernández de Cos (2011).

towards the external sector, maintaining a healthy fiscal position will probably require growth of public expenditure that is below potential output growth for an extended period of time.

On the revenue side, however, there could be some scope for improvement. In particular, the level of the tax burden continues to be much lower (34 per cent of GDP in 2012) than the average of the EU (see Figure 9), even after the significant increases in tax rates approved in the last three years. This burden is significantly tilted towards labour taxes while taxes on consumption have a much lower share over total taxation. Moreover, the Spanish tax system continues to show a high level of the so-called "fiscal expenses", arising from the presence of deductions and exemptions on different taxes, representing a major cost in terms of revenue-raising, and adding complexity to the tax structure and in some cases exerting significant adverse effects on efficiency.

In this context, anything short of a fundamental tax reform may not be of much help. For instance, as previously mentioned, there is the recourse to fiscal devaluations (see Farhi *et al.*, 2011) whose main rationale is to achieve a real exchange rate depreciation by means of shifting taxes on labor (and, hence, only on domestic production) to taxes on consumption (which includes also foreign products). At the same time, if wages and firm margins do not react, there would be a reduction of labor costs and a gain in competitiveness that might jumpstart employment creation. Thus, fiscal devaluations may help to reduce the current account deficit at no cost for the public budget and, if successful in the employment front, with additional revenues. The condition of wage setting not reacting to the reduction of non-wage labor costs may be easier to be fulfilled in the current depressed labor market. However, labour and product market reforms should accompany such a measure so as to be certain that wages and margins do not react compensating the initial competitiveness gains obtained with the fiscal devaluation. In any case, such a policy measures would be helpful only in the transition to the new equilibrium of the economy since one would expect its impact to be transitory, so that in the long run the fiscal devaluation would be neutral on employment. Finally, it should be taken into account that in Spain the pension system is mainly financed through social security contributions, thus a significant cut of this type of taxation will require a parallel reduction of pension expenditures or raising additional sources of revenues.

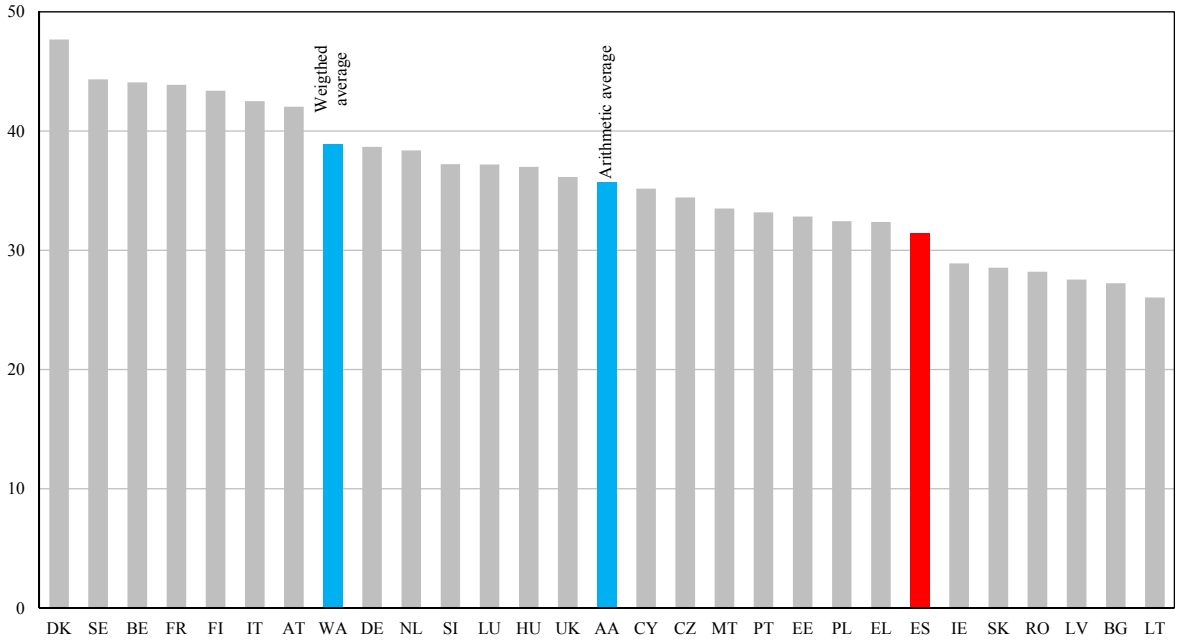
How fiscal consolidation conditions the correction of the macro imbalances

As mentioned previously, there are three main imbalances that are in the process of being corrected in the Spanish economy: excessive private and public debt, the current account deficit, and the excess of capacity in the construction sector. The process of fiscal consolidation can potentially affect the speed and the path of these adjustments through several channels.

Perhaps the most obvious one is the impact of fiscal consolidation on growth. While it is generally acknowledged that fiscal consolidation has a positive impact on growth at medium and the long-run horizons, it is also generally accepted that it may affect growth negatively in the short run, which, if confirmed, will complicate the aforementioned low-growth medium-term scenario associated with the correction of imbalances. The precise sign and size of this short-term negative impact, the so-called fiscal multiplier, remain, however, a challenge. The most recent empirical evidence on this issue points to the general conclusion that the value of the multiplier depends on country- and time-specific characteristics (see Baum *et al.*, 2012). In particular, this literature highlights that the value of the multiplier may be larger in recessions and in financial crises (see Auerbach *et al.*, 2012, Blanchard and Leigh, 2013 and Afonso *et al.*, 2011), while it tends to be lower in periods of fiscal stress, defined as periods of an overly high debt to GDP ratio (see Corsetti *et al.*, 2012). Table 1 presents some empirical evidence on these state-dependent multipliers for the Spanish case that tends to confirm the previous results. Our reading of the implications of these results is twofold. On the one hand, it is obvious that the fiscal effort needed

Figure 9

Total Taxation, EU-27, 2011
(percent of GDP)



Source: Eurostat.

Figure 10

Weights, 2011
(percent of total taxation)

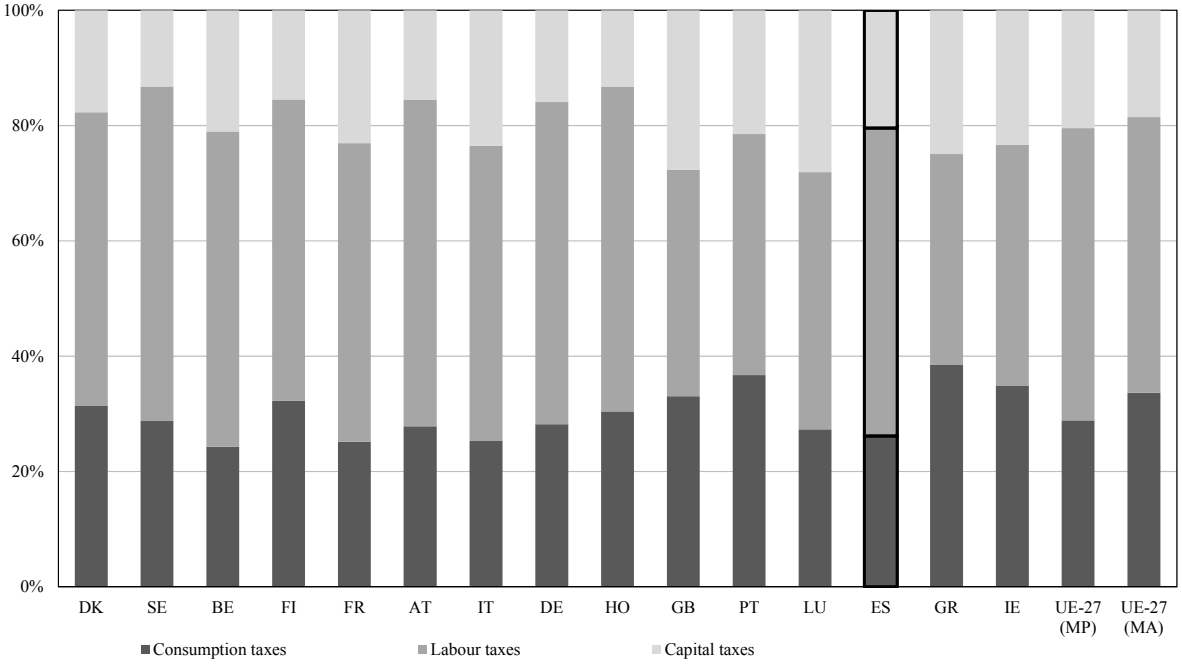


Table 1

Fiscal Multipliers – The Spanish Case
(mm euros)

Regime	Cumulative Multiplier to a Government Spending Shock	
	4 Quarters After the Shock	8 Quarters After the Shock
Expansion	0.47*	0.25*
Recession	1.15*	1.67*
Bad Fiscal Times	0.12	0.16
Good Fiscal Times	0.73*	0.31*
Banking crisis	0.96*	0.89*
No banking crisis	0.61*	0.06

Source: Hernández de Cos and Moral-Benito (2013).
Note: * denotes statistical significance at the 5 per cent level.

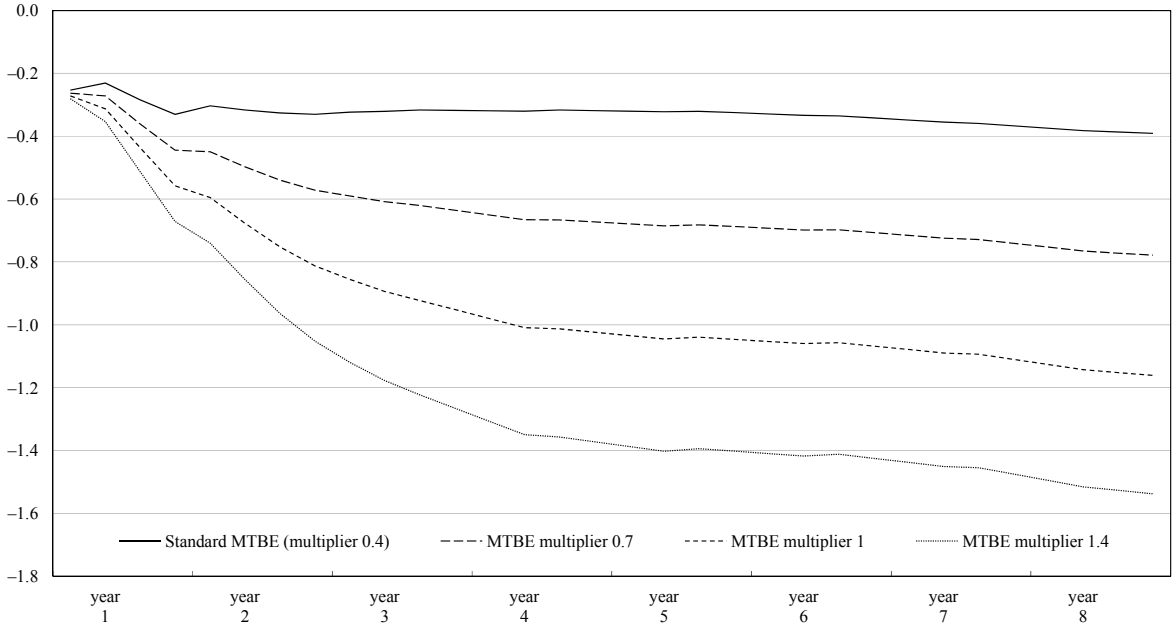
to meet a certain fiscal target is greater in an environment of correction of macro imbalances like that currently faced by the Spanish economy, given that this environment is characterised by low economic growth and a deleveraging process with low access to credit, and that the associated fiscal multiplier will be higher. Of course, if public indebtedness becomes too high, fiscal consolidation may even have a positive impact on growth through higher confidence facilitating the consolidation process. Therefore, the design of the fiscal adjustment strategy should take into account not only the behavior of economic activity, but also the costs of excessive delays in consolidation, in terms of risks to credibility and their impact on agents' confidence. In this respect, it is important to ask how high fiscal multipliers would need to be in order for fiscal consolidation to generate an increase in the public debt-to-GDP ratio, *i.e.*, to have the opposite impact to that intended (known as a "self-defeating consolidation"). For this purpose in Banco de España (2013) a simulation exercise was performed using the quarterly model of the Banco de España (MTBE), in order to analyse the effect of a fiscal adjustment with different assumptions for the values of fiscal multipliers (ranging from 0.4 to 1.5). The results showed that in all cases the debt-to-GDP ratio is reduced in the medium and long-term, although when the ex-ante multiplier reaches 1.5, the public debt ratio may temporarily rise in the short term (see Figure 11). The conclusion of this analysis is that, although multipliers are higher than on average in the past, they are still within reasonable ranges, so that in general self-defeating consolidations should not be expected in the case of Spain.

On the other hand, the negative spill-over of the fiscal consolidation process on growth may also complicate the correction of imbalances. In particular, and closely related to the above discussion on fiscal multipliers, fiscal consolidation programmes may complicate the efforts of the private sector to reduce the debt overhang. The logic follows closely the Fisherian debt deflation argument (Fisher, 1933). As fiscal consolidation has a negative short-run effect on output, depressing further wages and prices, the real burden of the debt increases, making it more difficult for households to reduce their debts, and for the public sector to meet their budget consolidation objectives. Notice, however, that this logic applies to a closed economy with fixed employment, where wages and households' disposable income are equivalent. This is not, of course, the current

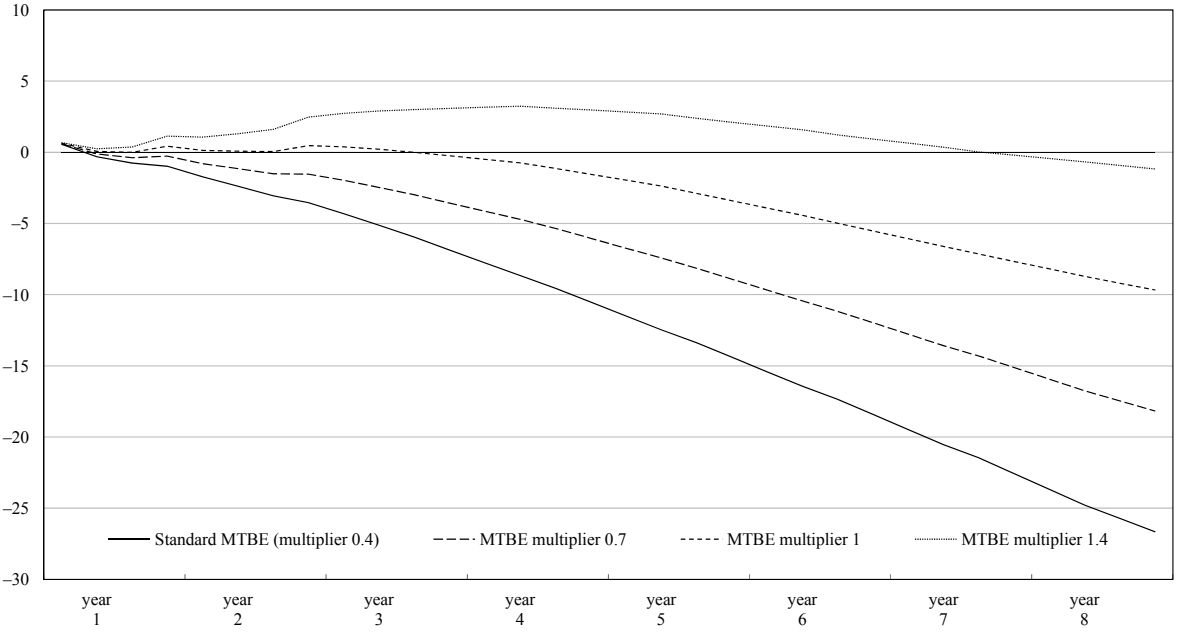
Figure 11

Fiscal Consolidation, Value of the Multipliers and Changes in Public Debt/GDP Ratio
The Spanish Case[(a)]

Multiplier
(GDP response to fiscal shock)



Public Debt Response to Fiscal Shock
(difference percent of GDP)



Source: Banco de España.
(a) Response by GDP and by the GDP/debt ratio to a fiscal shock based on tax increases and spending cuts, simulated with different values for the fiscal multiplier (MTBE standard is the value habitually used, while the remaining results are obtained by adding to this simulation a negative response – of differing intensity – by household and business confidence to the fiscal shock, which generates higher multipliers).

Table 2

Impact of Fiscal Consolidation on Nominal Disposable Income[(a)]

	Change in the Instrument	Percent of Change Compared to Baseline				
		t	*t*+1	*t*+2	*t*+3	*t*+4
Consumption taxes	1.75 pp	–0.32	0.00	–0.46	–0.39	–0.20
Wage taxes	2.18 pp	–1.83	–2.27	–2.89	–3.16	–3.23
Capital taxes	11.83 pp	–0.10	–0.36	–0.59	–0.84	–1.07
Government purchases	–13.23	–0.71	–0.95	–1.05	–1.11	–1.17
Public Wages	–13.52	–2.39	–3.38	–3.70	–3.62	–3.43
Public Employment	–13.52	–0.71	–1.62	–2.22	–2.53	–2.58

Source: MTBE simulations.
(a) Fiscal simulations using the MTBE model.

situation of highly indebted Southern European countries where depreciations are needed to improve external demand and, if employment were created, there is a large buffer of unemployment whose reduction may increase significantly households' disposable income even at lower wages.

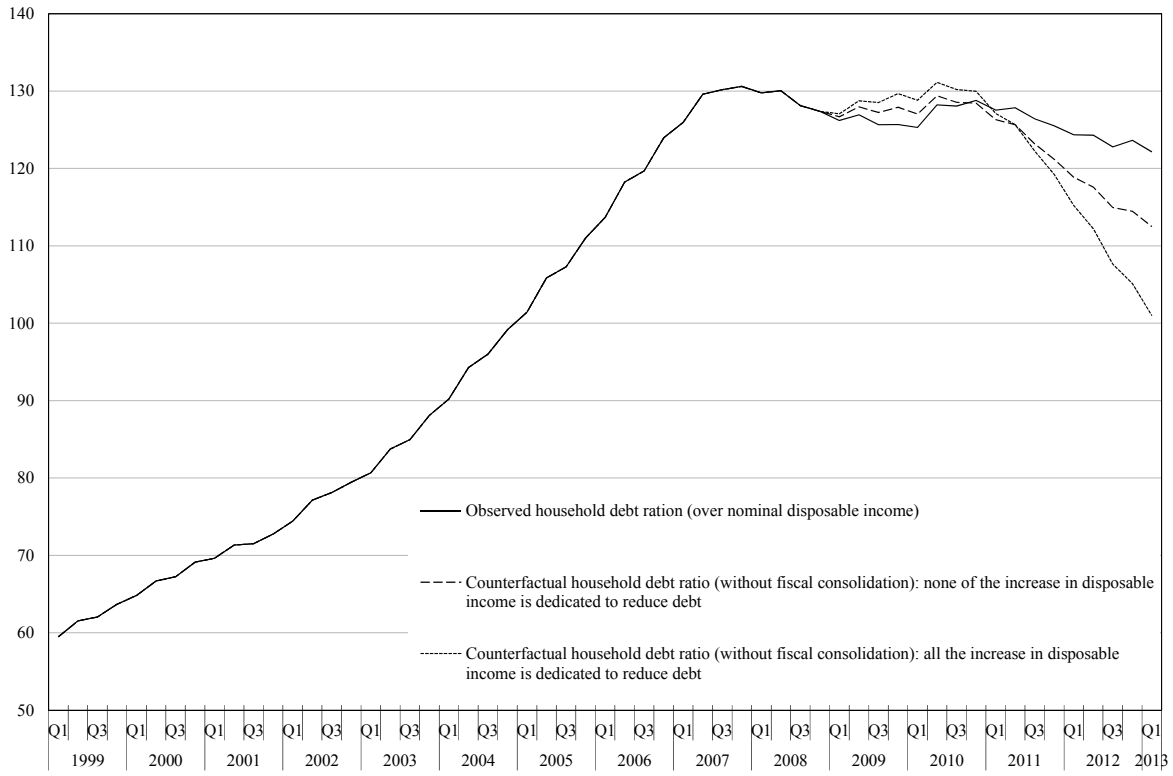
In any case, this potential trade-off between fiscal consolidations and deleveraging needs can be illustrated by means of simulations of different fiscal consolidation measures and by analysing its impact on household disposable income, the denominator of the household debt ratio. As seen in Table 2, the results of these simulations performed with a macroeconomic model estimated for the case of Spain (MTBE) show that in general all consolidation measures have a negative impact on disposable income, thus exerting in the short run a negative effect on the deleveraging process.

An additional way of illustrating this problem is shown in Figure 12, which plots three household debt ratios: the observed one, a second one in which the numerator (nominal debt) is the same but the denominator (disposable income) is obtained by simulating the impact of the consolidation measures applied during the period 2010-12 in Spain on disposable income under the previous model and adding this (negative) impact on disposable income to the observed series so as to a obtain a new (lower) series of household debt. Under this scenario no amount of the increase in disposable income under no fiscal consolidation is assumed to be devoted to pay debt. Finally, under the third scenario, we simulate the impact on the denominator (disposable income) of eliminating the consolidation but in addition the numerator (nominal debt) is also reduced because it's assumed that all the increase in disposable income is "spent" on reducing household debt. These two counterfactual scenarios can be taken as extreme examples of what would have really happened. The differences between the first series and the other two can be attributed to the (negative) impact of the consolidation process on the deleveraging process which, as can be seen from the figure, is not negligible.

Of course, the previous analysis is incomplete in that it does not incorporate the potential impact of fiscal consolidation on the asset side of the balance sheet of households (and firms), so that even if fiscal consolidation has a negative effect on the debt ratio in the short run, the impact on net debt is subject to a higher degree of uncertainty. An important channel through which fiscal

Figure 12

Impact of Fiscal Consolidation on Household Deleveraging



consolidation could affect the prices of financial and non-financial assets is interest rates. This channel may be particularly relevant in the current environment of financial instability which has prompted greater investor sensitivity to fiscal imbalances. In this regard, the estimates available show that an increase of 10 pp of GDP in the debt ratio gives rise to an increase of 50 basis points in long-term interest rates. These effects may, moreover, be greater if specific levels of public debt are exceeded. A sharp reduction in the budget deficit and the stabilisation of debt would therefore have a significant effect on interest rates with a similarly significant impact on asset prices.

Finally, fiscal consolidation can also have an effect on the current account, thus facilitating or hindering the necessary adjustment of this imbalance. There is, however, no clear consensus regarding the impact of fiscal consolidation on the current account. In general terms, a fiscal contraction could lead to a depreciation of the real exchange rate and an accompanying fall in the current account deficit. This is indeed the theoretical argument behind the so-called twin-deficit hypothesis. In this regard, several studies find that a 1 per cent of GDP fiscal consolidation reduces the current account deficit-to-GDP ratio by 0.1-0.3 percentage points, although there is also empirical evidence for twin-deficit divergence in the case of the US (Kim and Roubini, 2008). More recently, Bluedorn and Leight (2011) provide evidence that, using an action-based definition of fiscal shock, a 1 per cent of GDP fiscal consolidation raises the current account balance-to-GDP ratio by 0.6 percentage point within two years and the improvement is long lasting. They also find that the effect of fiscal consolidation on the current account has not declined for euro area countries since the adoption of the euro and that the improvement in the current account is both through a contraction in investment and through higher saving. Table 3 sets out the response of the current account to different fiscal consolidation measures using the aforementioned macroeconometric

Table 3

Impact of Fiscal Consolidation on Current Account Balance[(a)]

	Change in the Instrument	Percentage of Change of GDP Compared to Baseline				
		t	*t*+1	*t*+2	*t*+3	*t*+4
Consumption taxes	1.75 pp	0.16	0.46	0.7	0.83	0.87
Wage taxes	2.18 pp	0.08	0.41	0.71	0.84	0.82
Capital taxes	11.83 pp	0.02	0.11	0.22	0.31	0.37
Government purchases	–13.23	0.42	0.61	0.67	0.65	0.61
Public Wages	–13.52	0.02	0.37	0.64	0.71	0.63
Public Employment	–13.52	0.02	0.29	0.64	0.89	1.00

Source: MTBE simulations.
(a) Fiscal simulations using the MTBE model.

model estimated for the case of Spain. The results generally support the results given above. The current account generally improves after the fiscal consolidation shock. The size of this improvement is between 0.6 and 0.7 pp of GDP three years after a 1 pp of GDP fiscal consolidation measure, although the precise size differs depending on the composition of the adjustment.

Concluding remarks

Solving macroeconomic imbalances within the euro area requires instruments to shift aggregate demand from surplus countries to deficit countries, together with productivity-enhancing structural reforms in the latter to make the adjustment process less painful. However, the role that national fiscal policies can play in these countries to expand demand and reduce the costs of solving external and internal imbalances seems limited. First, given the high levels of private and public debt, there are doubts as to whether the traditional transmission mechanisms of government spending or tax reductions, either in Ricardian or Neokeynesian models, would operate as such, when households adjust consumption to appreciably lower their debt and public debt financing costs might respond significantly to changes in the fiscal stance. Secondly, asymmetric and non-linear effects of fiscal policy are very likely to arise in this context. However, changes in the composition of government expenditures and in tax structures would be very welcome to increase efficiency and redistribute the costs of the adjustment process more fairly, but they cannot meaningfully untie the knots between macro imbalances and fiscal policy that we have illustrated in this paper by looking at the Spanish situation. Overall, it seems that the best contribution that fiscal policy can achieve at the current juncture is through a better targeting of government expenditures and tax reforms, aimed at introducing permanent measures to stabilise debt ratios. These could then be combined with productivity-enhancing structural reforms and with improvements in product market regulation to increase competition, so that the short-term costs of internal devaluation are reduced.

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