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Restrictive fiscal policies in Europe: what are the likely effects?

Abstract

In Europe, fiscal policy will be distinctly more restrictive from 2011 onwards. The fiscal consolidation efforts scheduled for 2011 represent 1.2 percentage points of GDP in the eurozone and 1.8 percentage points in the UK. Such adjustments hit short-term demand and depress activity by Keynesian effects. However, non-Keynesian mechanisms can attenuate them, not least through expectations and supply effects. The impact of fiscal consolidation is also related to the economic background: in line with the recent developments on sovereign bond markets, fiscal variables are found to have a significant impact on interest rate spreads on euro area public bonds. According to our main result, when debt exceeds 100 percentage points of GDP, the marginal effect on the spread of one additional point of debt would be about 7 to 8 basis points. Accordingly, fiscal consolidation is likely to weigh down on euro area sovereign risk premiums. In this light, the NiGEM international macroeconomic model is used to assess the GDP impact of European fiscal consolidation plans. Overall, euro area's GDP in 2011 is estimated to have been 0.6% lower than in a scenario without fiscal consolidation. This impact may however be an upper bound: these simulations do not take account of the possibility of a sudden increase of financial distress following a major loss of confidence in the sovereign bonds of some euro area countries.

Keywords: Fiscal consolidation, sovereign risk spread, eurozone

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Resserrement budgétaire en Europe : quels effets ?

Résumé

En Europe, la politique budgétaire sera sensiblement plus restrictive à partir de 2011. L'effort de consolidation budgétaire programmé pour 2011 représente ainsi 1,2 point de PIB en zone euro et 1,8 point de PIB au Royaume-Uni. De tels ajustements budgétaires pèsent sur la demande à court terme, et déprime l'activité, par des effets keynésiens. Cependant, des mécanismes non-keynésiens peuvent les atténuer, à travers notamment la formation d'anticipations ainsi que des effets d'offre. L'impact des plans de consolidation budgétaire dépend également du contexte économique : en résonance avec les récents développements sur les marchés de la dette souveraine, nous estimons que la situation budgétaire des États a un impact significatif sur les primes de risque souverain entre les différents pays de la zone euro. Selon nos estimations, lorsque la dette d'un pays de la zone euro dépasse 100 points de PIB, l'effet marginal sur la prime de risque d'une augmentation de la dette d'un point de PIB serait de 7 à 8 points de base. En conséquence, les plans de consolidation budgétaire sont susceptibles de diminuer les primes de risque dont doivent s'acquitter les États de la zone euro pour se financer. En tenant compte de cela, nous utilisons le modèle macroéconomique multinational NiGEM pour chiffrer l'impact des plans de consolidation européens sur le PIB. Globalement, le PIB de la zone euro aurait été en 2011 inférieur de 0,6 % à celui d'un scénario sans consolidation. Cet effet pourrait toutefois être surestimé dans les circonstances actuelles : nos simulations ne prennent pas en compte la possibilité de l'apparition soudaine de tensions financières, qui suivrait une perte de confiance importante dans les obligations de certains pays de la zone euro.

Mots-clés : Consolidation budgétaire, prime de risque souverain, zone euro

Classification JEL : E6, H6

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Non technical summary

In Europe, fiscal policy will be distinctly more restrictive from 2011 onwards. The fiscal consolidation efforts scheduled for 2011, sourced from the national Finance Acts 2011, amount to 1.2 percentage points of GDP in the eurozone and 1.8 percentage points in the UK. This paper examines the impact of all these consolidation measures on growth in Europe.

Fiscal adjustments have an impact on activity via a large number of channels, some of them antagonistic. First, such adjustments hit short-term demand and depress activity by Keynesian effects. Secondly, these negative effects are generally offset to some extent by a fall in interest rates and the depreciation of exchange rates, making economic activity more competitive. In addition, non-Keynesian effects may appear during some periods of fiscal consolidation. These include “Ricardian” effects: if the adjustment in government finances is perceived as being credible, agents may revise their expectations of future taxes downwards and therefore reduce their saving ratio. This fall in the saving ratio can then attenuate, or even entirely offset the negative effects of the consolidation plans. These latter may also induce positive supply effects.

Most of the OECD countries emerged from the recession with high levels of government debt. This unusual deterioration in public finances must be taken into account when assessing the impact of fiscal consolidation plans, as this impact is not necessarily unrelated to the context in which the plans are implemented. Our paper tries to take account of the standard effects of the economic and fiscal situation on the costs of financing public debt. The empirical analysis shows that in recent times, these factors have contributed to changes in risk premiums in European countries. For example, when debt exceeds 100 percentage points of GDP, the marginal effect on the spread of one additional point of debt would be about 7 to 8 basis points. In some countries, however, such as Greece or Ireland where the rise was very sharp and sudden in 2010, the standard effects we estimate do not explain the whole of the increase.

This raises thus an important question: that of the “alternative” scenario, meaning the growth trajectory in the absence of any fiscal consolidation. In the current context, such a scenario would not necessarily be painless if it went hand-in-hand with a sharp rise in risk premiums on sovereign borrowing and increased uncertainty on financial markets. It would go beyond the standard effects which we estimate. This type of scenario is very difficult to define, however.

The impact of the different consolidation plans in Europe has been evaluated using the NiGEM macroeconomic model, enriched to take account of the effects of the economic and fiscal situation on public debt financing costs. This essentially Keynesian model also takes account of the cross-border effects of the different national plans. Compared to a scenario without fiscal consolidation, the mechanical effects of the consolidation plans would have reduced eurozone growth in GDP by about 0.6 percentage points this year. Their effect on French growth would also have been -0.6 points in 2011, with one-third of this effect being down to the fiscal adjustments being made in the other European countries.

This evaluation is based on the hypothesis that there are none of the “Ricardian” effects mentioned above, by which households might offset the restrictive impact of fiscal consolidation plans by a reduction in their saving ratio. If any such effects did emerge today in some countries, the negative impact on growth would be reduced.

I - In 2011, the European countries entered a phase of fiscal consolidation

In most of the OECD countries, public finances have deteriorated considerably since the beginning of the crisis in 2008. Under the effects of the built-in stabilizers, the recession has had the mechanical effects of reducing fiscal revenues and increasing social expenditure, in particular spending on unemployment benefits. The stimulus plans introduced to boost activity have also had a negative impact on the budget balance of the advanced economies. In the eurozone[1] for example, public deficits have increased from 2.2% of GDP in 2008 to 6.3% of GDP in 2010.[2]

To get their public finances back onto a sustainable course, most European countries have decided to implement fiscal consolidation plans from 2011 onwards (see Graph 1). In the eurozone, such is the case of Germany, France, Italy, Spain and the Netherlands. The UK has also scheduled large-scale fiscal efforts for the coming years. In addition to this, some Euro-Zone countries also faced sovereign debt crises in 2010: the financing difficulties they encountered in this respect may have accelerated their consolidation efforts. For example, Greece, Ireland and Portugal pursued particularly restrictive fiscal policies in 2011.

The evaluation of the fiscal consolidation plans in this paper is based on a certain number of conventions. First of all, the evaluation of the size of the plans is based on national budget proposals[3]: we took the different public finance measures as presented in the national budgets, their amounts were classified by their nature (in different categories of revenue and expenditure, see below) and their sum was calculated. From a macroeconomic point of view, one alternative would have been to take directly the evolution in the structural balances of the different European countries for 2011, calculated by the OECD or the European Commission, for instance. However, structural balances are a less-than-perfect measurement of actual fiscal impulse (IMF, 2010), and the composition of the consolidation plans must be examined in addition to their scale in order to evaluate their macro- economic impact. In practice, however, the fiscal effort presented here is close to the expected improvement in the structural balance in 2011.

Next, we take only into account the measures having an *additional* impact in 2011. Some of the Euro-Zone countries, notably Spain, had already started their fiscal adjustment process in 2010. These measures represented a fiscal effort in 2010, but are not taken into account here.

Finally, our method implies treating the withdrawal of the stimulus measures as consolidation measures, given that the end of these stimulus plans does contribute to a more restrictive fiscal policy on the whole in 2011.

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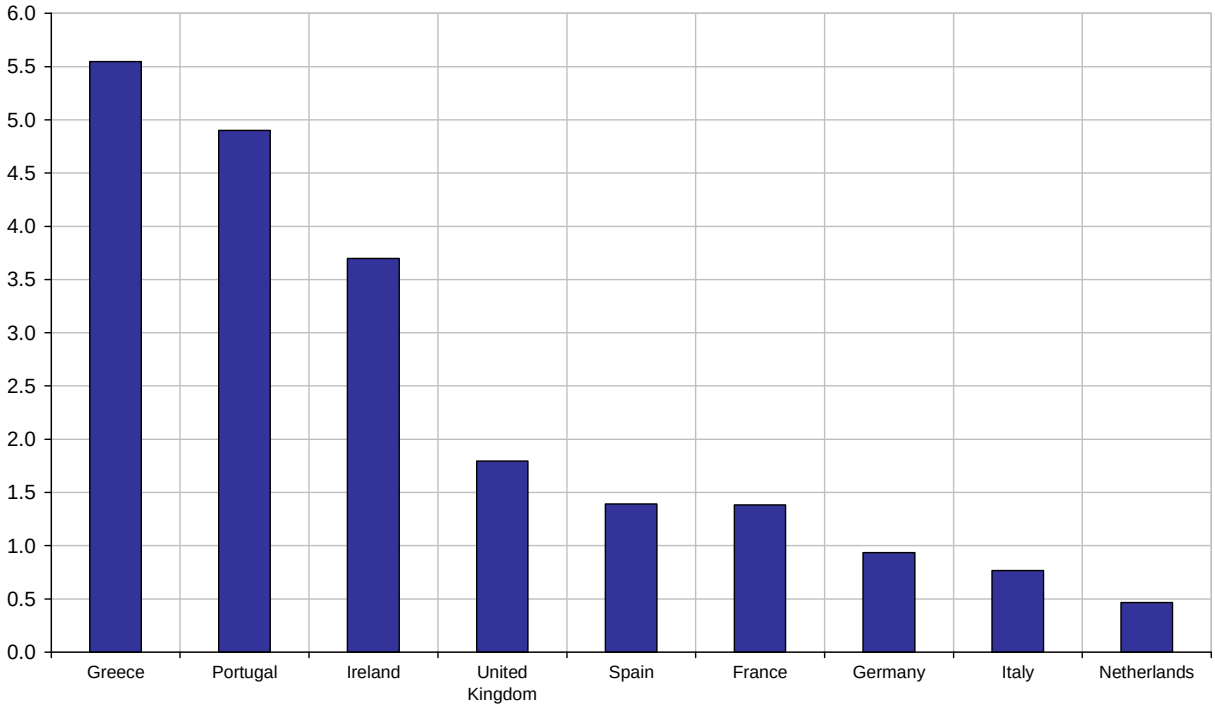
[1] Here and in the rest of the paper, the “eurozone” refers only to the eleven main historic countries in the zone: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal and Spain.

[2] Source: Eurostat

[3] The plans taken into consideration in this report are sourced from the countries’ national Finance Acts 2011 dated end of 2010. For the eurozone, we use those of Germany, France, Italy, Spain, the Netherlands, Portugal, Greece and Ireland. The report also took account of the fiscal policy conducted in the UK. The other consolidation plans are smaller and of less importance on the European scale and therefore were not taken into account. The new adjustments decided during the year 2011 are not included in this report.

Graph 1 - Scale of fiscal consolidation plans in Europe in 2011
(in GDP percentage points)



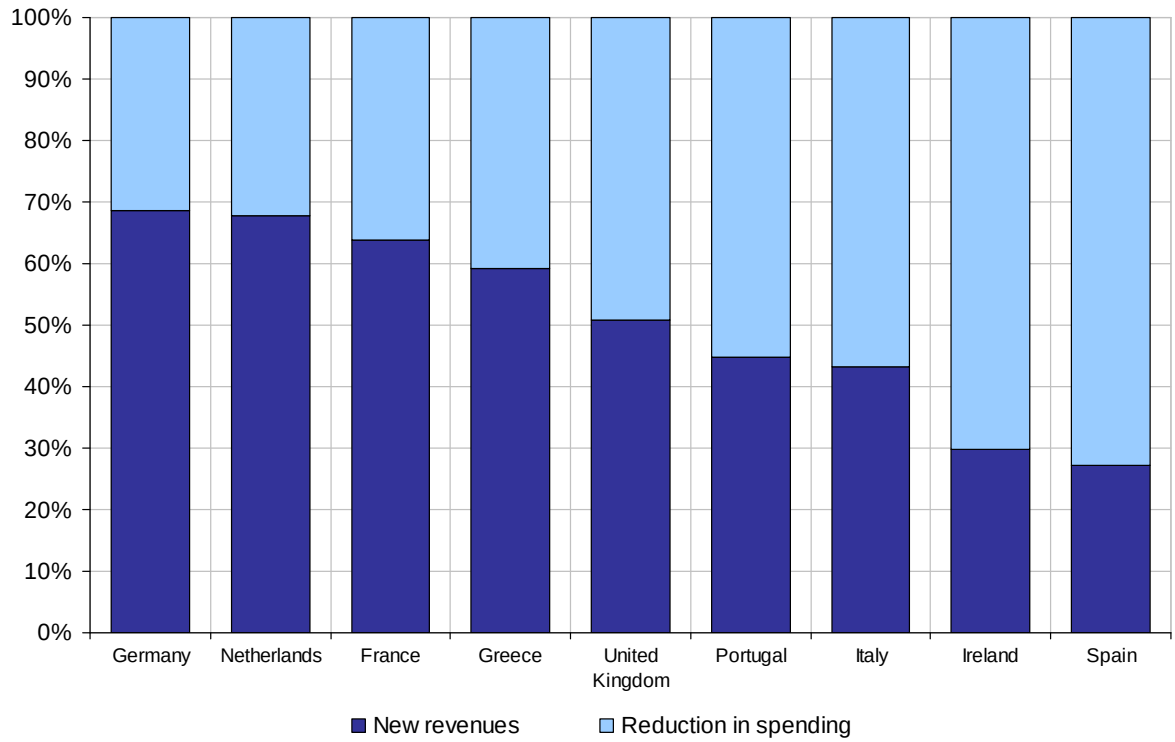
Source: national budget bills, calculations by the authors on the basis of announcements in each country

In 2011, for the eurozone as a whole, the fiscal consolidation measures represented an amount of about 1.2 percentage points of the eurozone's GDP. In addition, the measures taken in the UK amounted to about 1.8 points of the UK's GDP. For the following years, this exercise would have been more difficult: public finance forecasts for the next few years in all the European countries see a continuing improvement in the public finance situation through to 2013-2014, but they are unevenly documented.[4] It is thus difficult to forecast the details of the various measures required to make this adjustment. In this paper, we therefore focus exclusively on the decisions made for 2011.

The composition of the European plans shows significant differences between countries (see Graph 2). For example, Germany, Greece and France based a large part of the fiscal adjustment on an increase in revenues.[5] Spain, Ireland and Portugal, meanwhile, have focused more on reducing public expenditure.

[4] This raises the issue of the consolidation strategy. To foster their credibility, governments may announce specific consolidation measures several years in advance, as the UK does. This issue is not studied in this paper.
[5] Notably the reform of Professional Tax and the reduction in tax loopholes in France.

Graph 2 - Composition of fiscal consolidation plans in Europe in 2011



Source: national budget bills, calculations by the authors on the basis of announcements in each country

II - Fiscal adjustments generally have a negative impact on activity, but they do involve a large set of antagonistic mechanisms.

II.1 According to the "traditional" Keynesian mechanisms, fiscal adjustments can lead to a considerable fall in activity...

In the short term, according to Keynesian mechanisms, fiscal consolidation measures slow down aggregate demand. For example, a reduction in government consumption or investment has a direct effect on GDP.[6] A reduction in social benefits, an increase in tax or in employee social contributions lead to a fall in the disposable income of households and, in general, in their consumption. Finally, a reduction in grants to companies or an increase in their taxation can affect company profitability, leading them to reduce their investments or increase their prices. In all these cases, GDP is reduced in the short term, all other things being equal.[7]

The decline in demand for the products and services of companies affects their production levels and leads to a reduction in investment and employment. This leads to a fall in household income which in turn leads to a further decline in demand for the products and services of companies, and so on: this is the Keynesian multiplier mechanism. Its scale depends notably on the lever used to reduce the deficit. In particular, the multiplier effect is generally high in the short term in cases of reductions in government consumption or investment. It tends to be a little lower for fiscal adjustment measures that affect household income or those affecting companies, as the multiplier effects in these cases take longer to appear. Over the longer term, however, these measures do not have the same economic outcomes: measures making direct reductions in current expenditure would have little impact on activity, while tax increases can have an impact on labour supply or capital stock, for example, and reduce potential output (see below).

The fall in activity leads to a fall in interest rates that can be interpreted in two ways. On the one hand, it corresponds to a reduction in demand for loanable funds on financial markets, as the financing needs of the government decrease. On the other hand, it can be directly implemented by the Central Bank, seeking to counter the slide in activity by reducing its rates. Monetary "support" for fiscal consolidation policies is therefore possible and can attenuate their negative effects on activity (*crowding out by interest rates*). In addition, adjustment plans are generally accompanied by the depreciation of the exchange rate, buoying up domestic activity by increasing exports (*crowding out by foreign trade*). According to the IMF (2010), a fiscal consolidation of 1 percent of GDP would decrease the short-term interest rate by about 20 basis points and the exchange rate by about 1.1% on average.

This exchange rate depreciation following a fiscal consolidation can be related to the *uncovered interest rate parity*: investors must be compensated for the decrease in the interest rate in the respect to foreign ones by an expected appreciation of the exchange rate; this means that the exchange rate must depreciate at the impact. However, given the current situation in Europe, the absence of consolidation might actually lead to a sharper depreciation, especially due to rising uncertainties about the Eurosystem itself.[8]

In a monetary union like the eurozone, where monetary policy is conducted for the zone as a whole, this monetary policy response will be stronger when fiscal adjustments are handled in a coordinated manner. Conversely, when a consolidation plan is conducted by a country in isolation, the monetary policy response and its positive effects on activity are reduced. Similarly, an inflation-adverse central banker will provide less stimulus for consolidation

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[6] Except in cases where the corresponding goods or services were imported.

[7] This paper does not discuss the possibility of reducing debt service costs by improving debt management practices (improve transparency, financial techniques...). Nor do we consider non-tax income of governments (income from property and production, respectively 2% and 7% of total income of France public administrations in 2010) for it is relatively small compared to total public income. Finally, we do not consider possible impacts of privatizations. They reduce the gross debt *de facto* but with ambiguous effects on deficit.

[8] Our study does not take account of this possibility. Though, this issue deserves further investigation.

plans including important indirect tax hikes that raise inflation, such as VAT. This is because she faces the dilemma between fighting resulting inflation (by increasing base rates) and limiting their depressive effects on activity (by decreasing base rates). This point is also confirmed by the IMF's (IMF, 2010) empirical analysis.

In the current context, the attenuating mechanisms may come into play to a lesser extent. They might be hindered by the current low nominal interest rates: it is indeed difficult to imagine a much more accommodative monetary policy than that applied since the beginning of the financial crisis. Also, with fixed exchange rates in the eurozone and simultaneous consolidation plans in a large number of OECD countries, the positive effects of exchange rate depreciation are limited. The "traditional" mechanisms therefore suggest that the combined impact of the fiscal consolidation plans in the OECD or in Europe have slowed down growth in the advanced economies in 2011. However, other economic mechanisms based on agents' expectations and supply effects do not necessarily have a negative impact on activity. They might result, on the contrary, in *expansionary fiscal consolidations*.

II.2 …but there are some positive effects based on agents' expectations.

"Non-Keynesian" or even "anti-Keynesian" effects can be observed in some periods of fiscal consolidation, most of which concern consumption and labour supply (Alesina and Perotti, 1996, Ardagna, 2004), supporting the theory of expansionary fiscal consolidation. These different effects vary in scale according to the nature of the consolidation.

These are notably effects linked to anticipation of future reductions in taxation, known as *Ricardian effects*. For instance, when faced with a fiscal adjustment effort that is deemed to be credible, households might reduce their savings right away, thereby supporting growth. Such anticipations would be stronger when the fiscal adjustment relies on a reduction in expenditure that is likely to be sustained and is signalling strong political will.[9] Symmetrically, a poor public finance situation might incite households to build up their savings as a precaution, in preparation for future fiscal adjustments. Implementation of a fiscal consolidation strategy could therefore allow reducing excessive *precautionary savings*.

These Ricardian effects are said to be complete when the consolidation effects are entirely offset by the fall in private savings, leaving the level of activity unchanged. Econometric studies generally show that these effects are only partial but can be significant.[10] A recent study by Röhn (2010) evaluated the fall in private saving at 40% of the amount of government fiscal consolidation, on average.

The reduction in the weight of government spending in the economy can also have expansionary effects if agents anticipate that the reduction in tax will reduce economic distortions, thereby increasing productivity and, ultimately, national income (Romer, 2006, p.579 and IMF, 2010). Stabilisation of taxation rates over time is also likely to minimise the cost of economic distortions.

Finally, the composition of fiscal consolidation plans is important. When the fiscal adjustment is made by a reduction in public-sector employment, labour supply is transferred towards the private sector, reducing wage costs and therefore improving competitiveness. In contrast, a

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[9] For Alesina and Perotti (1996) for example, fiscal adjustments made by cuts in social transfers and civil service wages are more credible than those based on cuts in investment spending, as the former are often deemed to be more durable than the latter.

[10] The Ricardian effects would not be complete given, notably, the existence of liquidity constraints on some households (Romer 2006): certain households who anticipate a rise in income and would like to borrow to smooth out their consumption are unable to do so because they cannot provide the banks with assurances of their future repayment capacities. Other mechanisms can reduce ricardian effects, such as demography (see Faruquee (2003) and Buiter (1986)). According to some authors, Ricardian effects during consolidation would be strengthened when government debt is high, as a consolidation makes the possibility of a crisis less likely (Heylen Everaert, 2000).

rise in taxes on labour can lead to a fall in labour supply; depending on the formation of wages, this may lead to a rise in unit labour costs and have a negative impact on competitiveness (Alesina and Perotti 1996). Looking into the medium-term supply effects, fiscal adjustments based on reductions in government expenditure are generally considered to be more effective than those made by increasing taxes (IMF 2010, Ardagna, 2004).

II.3 The effects of fiscal adjustments also depend on the situation of public finances

The traditional effects of fiscal adjustments, Keynesian and anti-Keynesian alike, have been the focus of much attention since the beginning of the economic crisis. Most of the OECD countries emerged from the recession with deteriorated public finances and historically high levels of government debt. For the eurozone as a whole, the context in which fiscal consolidation is being carried out is therefore a relatively new one. In these conditions, the efficiency of a fiscal consolidation strategy is related to the context in which it is implemented: the position of public finances at the outset and the imbalances that emerge must be taken into account.

This highlights a very crucial question: that of an alternative scenario in the absence of fiscal consolidation. In the current context, this scenario is not necessarily painless in terms of growth. Imbalances in public finances can weigh down on growth via increases in risk premiums on sovereign bonds.

The traditional vision according to which the sovereign debt of industrialised countries is a risk-free asset is today challenged as industrial countries come out of the recession. When a State's public finances are in a poor situation, its public debt may be perceived as being unsustainable; in this case, government borrowing may be financed at a significantly higher risk premium on new bond issues. The rise in the rates on government securities increases debt costs and adds further to the deficit. In the most critical situations, it may even force the State to default on its debt by a *snowball effect*.[11] Transmission of the crisis to the private sector then becomes possible.

More generally, empirical indications suggest that high public debt can have costs in terms of growth: Reinhart and Rogoff (2010) indicate, for example, that over the long term, a debt level exceeding 90 percentage points of GDP is generally associated with distinctly weaker growth in developed countries. Aside from the rise in risk premiums, a number of factors can explain this phenomenon: on the one hand, a high level of government expenditure can crowd out private investment, drawing off the supply of loanable funds to the detriment of the private sector; on the other hand, fiscal room for manoeuvre can be narrowed making macroeconomic stabilization less efficient: this can generate irreversible losses in extended periods of weak activity, which then reduce growth potential (Champsaur and Cotis, 2010).

Above which threshold does government debt begin to be considered unsustainable? In practice, this threshold is quite blurred, although sustainability indicators do exist (see Box 1). In 2010, tensions on sovereign debt did emerge in certain eurozone Member States. Against a backdrop of imbalanced public finances, fiscal adjustments can therefore make it possible to ease risk premiums, thereby lowering interest rates not only by the fall in demand for loanable funds, but also by reducing the sovereign risk premium.[12] Their negative effects on activity can therefore be softened.

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[11] This is the scenario that the support mechanisms for countries in difficulty set up in Europe in 2010 are seeking to prevent.

[12] This dichotomy is stressed by the analyses of Ardagna *et al*. (2007) and Faini (2006). Faini (2006) separates the effects of fiscal policies on the euro area-wide interest rate and on each country's spread, echoing the methodology used in our paper where interest rates are the sum of a risk-free long-term interest rate and a country-spread. Though, in Faini (2006)'s pre-crisis dataset, little impact on country-specific spreads was found, compared to the effects on the euro area aggregate interest rate. Ardagna *et al*. (2007) adopt a similar

Also, the rise in risk premiums on sovereign debt issues increases uncertainty on financial markets in general, and could lead to an increase in the risk premiums paid by private investors (Cottarelli *et al*., 2010). It could also have repercussions on the behaviour of households and companies, insofar as it encourages precautionary savings (Romer, 2006, p.579) and discourages risky investments. Likewise, uncertainty as to the composition of the anticipated fiscal adjustment can give rise to additional precautionary savings.[13] Placing public finances on a sound footing could therefore reduce uncertainty, restore household and investor "confidence" and buoy up private consumption and investment.

The economic literature (Ardagna (2009), Heylen Everaert (2000)) also highlights the wealth effect that can result from a reduction in risk premiums on financial markets: the fall in interest rates should increase asset prices and therefore household wealth, which can boost their consumption by a wealth effect.[14] On the whole, a consolidation plan can therefore have less of a negative impact in a period of sovereign default risk (IMF, 2010).

Such a virtual scenario for the whole of the eurozone, combining rising financing costs and growing uncertainty, is obviously difficult to define and calibrate in the usual macroeconomic models built largely on Keynesian mechanisms. In the rest of this paper, however, we will attempt to quantify the relationship between the situation of public finances and the risk premiums for all the Member States in the eurozone. An impact evaluation will then be made using the NiGEM macroeconomic model, incorporating these relationships into the model to take explicit account of risk premium effects.

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perspective studying a larger panel of countries. They separate fiscal policies effects on long term interest rates between, first, crowding out effects through demand for loanable funds in international capital markets, second, inflation and exchange rate expectations, third, sovereign default risk. However, using data on long maturity swap contracts to isolate government's default risk, this latter channel was not found to be significant. Note that omitted variable bias is likely to be better dealt with by focusing on intra-euro area spread.

[13] Even if some fiscal consolidation is widely expected in the near future, economic agents are uncertain about whether the measures will concentrate on taxing high income households or reducing transfers to lower income households, taxing labour or wealth, or impact different generations in a different way. Uncertainty also remains as for the level of social protection or the retirement age.

[14] Wealth effects are known to be important in the UK and relatively weak in France (Aviat *et al*, 2007), but may be greater in other euro area countries and in the euro area as a whole (Kerdrain, 2011).

Box 1: How can we address the notion of government finance sustainability?

Solvency refers to a State's ability to face its commitments to its creditors. In general, sovereign States are solvent because they have the possibility of raising taxes: this ability to raise taxes constitutes a form of implicit financial asset as collateral for the debt raised on the markets. In practice, however, in certain circumstances solvency crises can occur: in economic history, there have been examples of total or partial sovereign States defaults. A solvency crisis generally comes with a liquidity crisis, which is to say difficulties or even the impossibility for a State to finance itself at interest rates that are not prohibitive.

The *sustainability* of government finances is a somewhat broader concept: it refers to the ability of a State to be solvent at any time in the future, through to a more or less distant time horizon. As such, it integrates a prospective and normative dimension. There is no single measure of government finance sustainability, but there are indicators that allow the notion to be outlined.

Most sustainability indicators are based on the dynamics of the debt and the equation of the accumulation of government debt. The variation in the government debt to GDP ratio in year *t* can be written as follows:

$$\Delta d_t = \frac{i_t - \gamma_t}{1+\gamma_t} d_{t-1} - p_t$$

where

- d_t Is the (net) debt in percentage points of GDP and $\Delta d_t = d_t - d_{t-1}$

- p_t is the primary balance in percentage points of GDP, that is the government deficit excluding debt interest charges

- γ_t is the growth rate of GDP at current prices

- i_t is the average nominal interest rate on the debt.

We also note $p^*_t = \frac{i_t - \gamma_t}{1+\gamma_t} d_{t-1}$ the debt-stabilising primary balance, the balance which stabilises the government debt ratio. It depends on the level of the debt ratio, and on the gap between the interest rate and growth rate: for example, when the interest rate is higher than economic growth (which is generally the case over the long term), a primary surplus is necessary to stabilise the debt ratio, and the higher that debt ratio, the greater that surplus will have to be.

In practice, the current gap between the primary balance and the debt-stabilising primary balance, which gives a signal as to the dynamics of government debt, is the first government finance sustainability indicator.

This is, however, a snapshot indicator that does not take account of forward-looking prospects for government finances. This can be something of a limitation, especially in Europe where ageing of the population is going to give rise to growing social spending in coming decades, combined with lower potential growth (OECD (2010), Table 4.5, chapter 4). The European Commission has therefore developed other sustainability indicators that take account of demographic factors (European Commission, 2009).

Although it is relatively basic, the debt-stabilising balance gap can illustrate the cost of delaying the adjustment of government finances: the more the debt ratio grows, the greater the primary balance required to stabilise it (or begin to reduce it), in particular via larger increases in the tax burden or more drastic public spending cuts.

Koutsogeorgopoulou and Turner (2007) also illustrate the costs of delaying fiscal consolidation. All other things being equal, postponing consolidation efforts increases government debt, which increases the sovereign risk premium (spread). If we include such a premium in the equation (1), such that the interest rate on the debt takes the form $i_t = i_{0t} + s_t$ where the spread s_t grows with the

level of government debt, then the debt-stabilising primary balance becomes:

$$p_t^* = \frac{s_t + i_{0t} - \gamma_t}{1+\gamma_t} d_{t-1}$$

and its growth is not linear with debt.

This additional cost is referred to as the "deadweight cost of debt": in this situation, simply stabilising the government debt to GDP ratio implies an effort on the primary balance that increases sharply the higher the debt level. This situation is even more difficult to turn around if the goal is not merely to stabilise debt in percentage points of GDP, but also to return to a given level of debt, such as the 60% target featured in the European treaties, for example.[a]

The empirical results obtained in our paper (see below) show that one additional percentage point of debt over and above 100 percentage points of GDP can result in an increase of about 8 basis points in the spread. If we take Italy, for example, such an increase in spread would imply an increase in debt service and therefore in the "deadweight" cost of debt of about 2%. Debt service currently represents one-tenth of total government revenues, and offsetting this weight would therefore require a rise of close to 0.2% in government revenue to restore the budget balance.

Koutsogeorgopoulou and Turner (2007) mention other costs of postponing consolidation. To quote them, *"a progressive escalation of cost in terms of: an increased risk premium on government debt; higher deadweight debt service costs; a more unfair inter-generational distribution of taxes; (…); and greater political costs in terms of the sustained effort that would eventually be needed to get fiscal policy back on track, as well as likely negative feedback effects on the rest of the economy".* The work of the European Commission illustrates the cost of delaying fiscal consolidation in terms of sustainability indicators (European Commission (2009), Table III.3.1)

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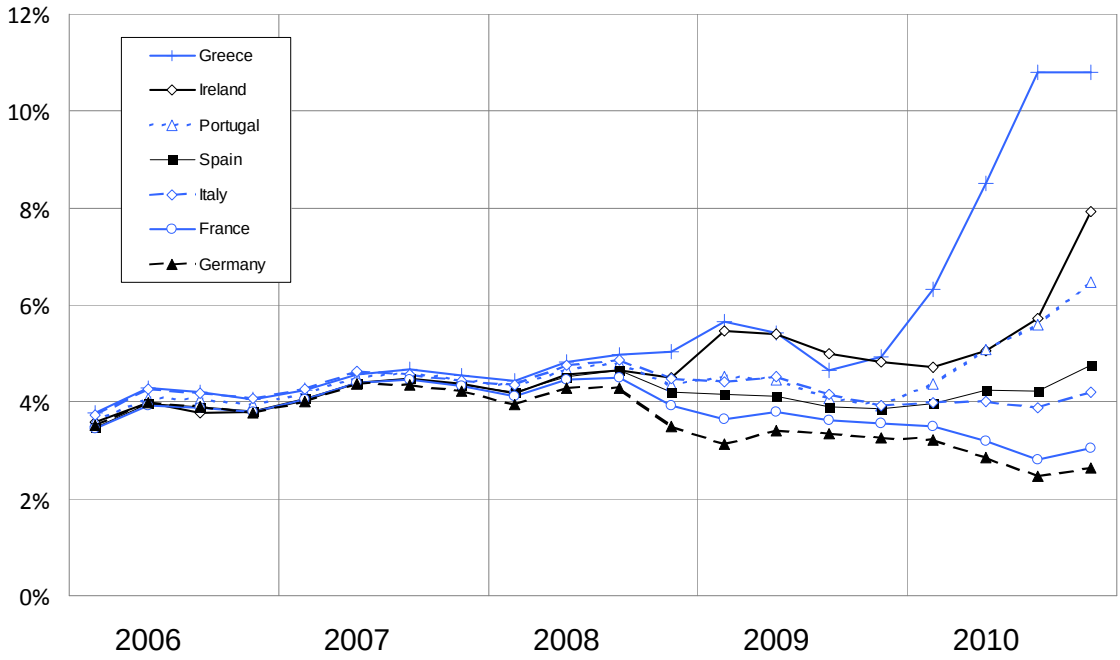
a. However, as only a small part of the debt is refinanced every year, the costs of servicing the whole debt can only increase progressively following a rise in the spread. This is because most of euro area countries debt is euro-denominated and non-indexed. Notably, this avoids the "original sin", that is, servicing debt in a foreign currency and exposing the budget to exchange rate volatility risks.

III - What are the determinants of the risk premiums on sovereign bonds in Europe?

In the eurozone, the risk premiums demanded by lenders on sovereign debt issues can be seen in the gap, or spread, between long-term rates on the government debt of the different countries in the eurozone and that of Germany which is considered to be “risk-free”. In the course of 2010, the range of such spreads widened considerably, notably with a sharp rise in risk premiums in Greece, Ireland and Portugal (see Graph 3). In this part, we seek to identify the economic determinants of risk premiums, and to quantify their effects through econometric estimates. Box 2 provides a detailed presentation of the method used and the results of the estimates.

Graph 3: 10-year sovereign rates in the eurozone (in %)



Note: the graph shows the interest rates on 10-year government bonds. For each Member State of the eurozone, the risk premium on government securities, or spread, is represented by the difference between the interest rate of the country and the interest rate of Germany.
Source: Datainsight, national central banks, OECD

For each Member State of the eurozone, the risk premium on government borrowing interest rates has two different components:

- the liquidity risk premium: when the market size of a given country’s debt is large, it is easier for an investor to buy or sell debt instruments given the number of players present on this market. The investor therefore faces less of a risk of not finding a buyer when they wish to sell these debt instruments. *De facto*, market size effects are confirmed by empirical estimates, with the large countries that issue more liquid bonds paying a lower liquidity premium. Conversely, small countries have more difficulty attracting lenders because of the lower liquidity of their issues.

- the sovereign default risk premium: investors can demand a premium to cover the possible risk of default by a State. The higher the probability of default estimated by lenders, the higher this premium will be. In our estimates, the effects of the default risk premium are captured by two groups of variables: on the one hand, criteria relating to the situation of government finances; on the other hand, more general criteria relating to imbalances, including the private sector (see Box 2).

Regarding the effect of public finances, the economic estimate pinpoints two types of factors: both the level of public debt and its trend through a debt-stabilising balance indicator. More precisely, the level of government debt influences risk premiums, but differently under and above some threshold: when debt is less than 100 percentage points of GDP, the effect on the spread of one additional point of debt would be small, at around one basis point; when debt exceeds 100 percentage points of GDP, the marginal effect would be about 7 to 8 basis points.

Empirical analysis also confirms the pertinence of a sustainability indicator (see Box 1). For example, the government deficit would only cause an increase in the spread if it were large enough for debt to build up beyond the 100 percentage points of GDP mark. A robust implicit reference would seem to be the balance stabilising net government debt at 100 percentage points of GDP. In our empirical analysis, the deficit only has an effect in terms of the gap to this reference. Therefore, those countries where growth is weak and the deficit is high have greater difficulties stabilising the level of government debt. All other things being equal, they therefore pay a higher sovereign risk premium. According to our estimates, for a given growth value, one more percentage point of GDP in their deficit would lead to an increase of about 4 to 5 basis points in the spread (see Box 2, Table 2).

Furthermore, imbalance indicators including the private sector were tested: the empirical analysis confirmed the sensitivity of risk premiums to such indicators. For example, 1 percentage point of GDP of dissaving in the private sector would lead to an increase in spreads of about 2 basis points.

These results offer a clearer understanding of recent developments in European spreads, going some way towards explaining the differences observed between the countries in the eurozone since the start of the financial crisis and the resurgence of sovereign debt risk.

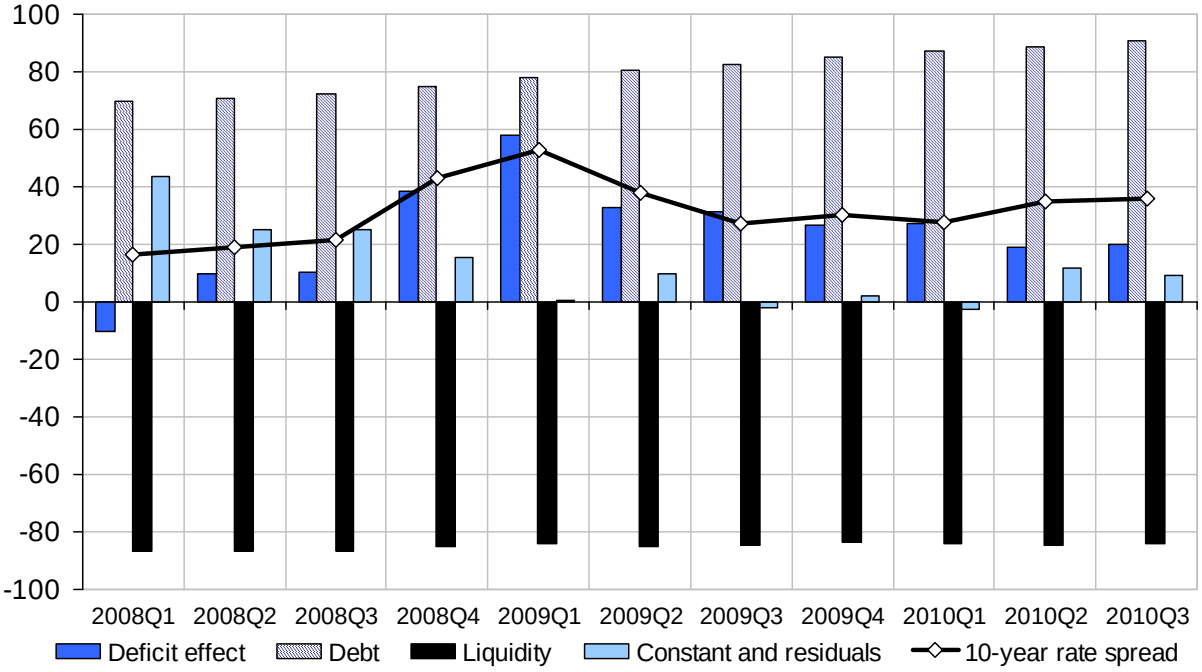
The spreads observed over the period 2008Q1-2010Q3 between Germany and the other large countries in the eurozone (see Graphs 4 to 7) can be explained in different ways according to the characteristics of the countries in question. For example, the spread of Italy mainly comes from the high level of its debt, notably because it exceeds 100 percentage points of GDP. It has been contained, however, thanks to the good liquidity of the Italian debt market. France benefits from comparable liquidity effects to those of Italy, but also from a lower level of debt. During the crisis, however, the deficit effects placed stronger upwards pressure on French risk premiums because of a greater public deficit. In France and Italy, risk premium determinants account very effectively for their trends, including in 2010 during the sovereign debt crisis.

Spain went into the crisis with a lower government debt level than France and Italy, but the deterioration in the sustainability of its public finances contributed greatly to the rise in spreads from mid-2008. However, since Q2 2010, almost half of the rise in Spanish spreads remains unexplained by their economic determinants. It is true that the model does not capture the possibility of a sudden and massive loss of confidence as occurred with Greece and Ireland, that prompted the eurozone to activate solidarity mechanisms in their favour. For Greece in particular, a very large part of the rise in the risk premium in 2010 is thus unexplained by the model.

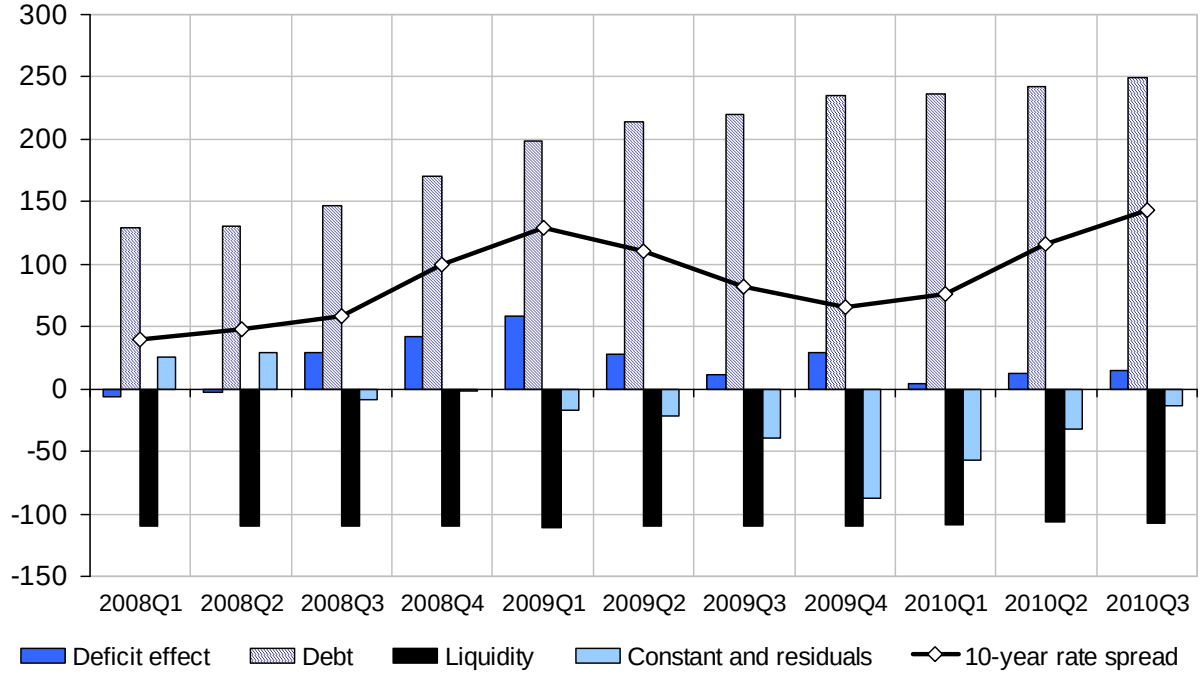
Next, we will evaluate the impact of fiscal adjustments in the eurozone, incorporating these risk premium determinants into the NiGEM macroeconomic model. For a given fiscal adjustment effort, the impact on the long-term rate spread will therefore differ according to the economic and fiscal situation of the different eurozone countries.

Graphs 4 to 7 - Contributions of deficit, debt and liquidity to the spreads on 10-year government issues as compared to Germany, for France, Italy, Spain and Greece (in basis points)

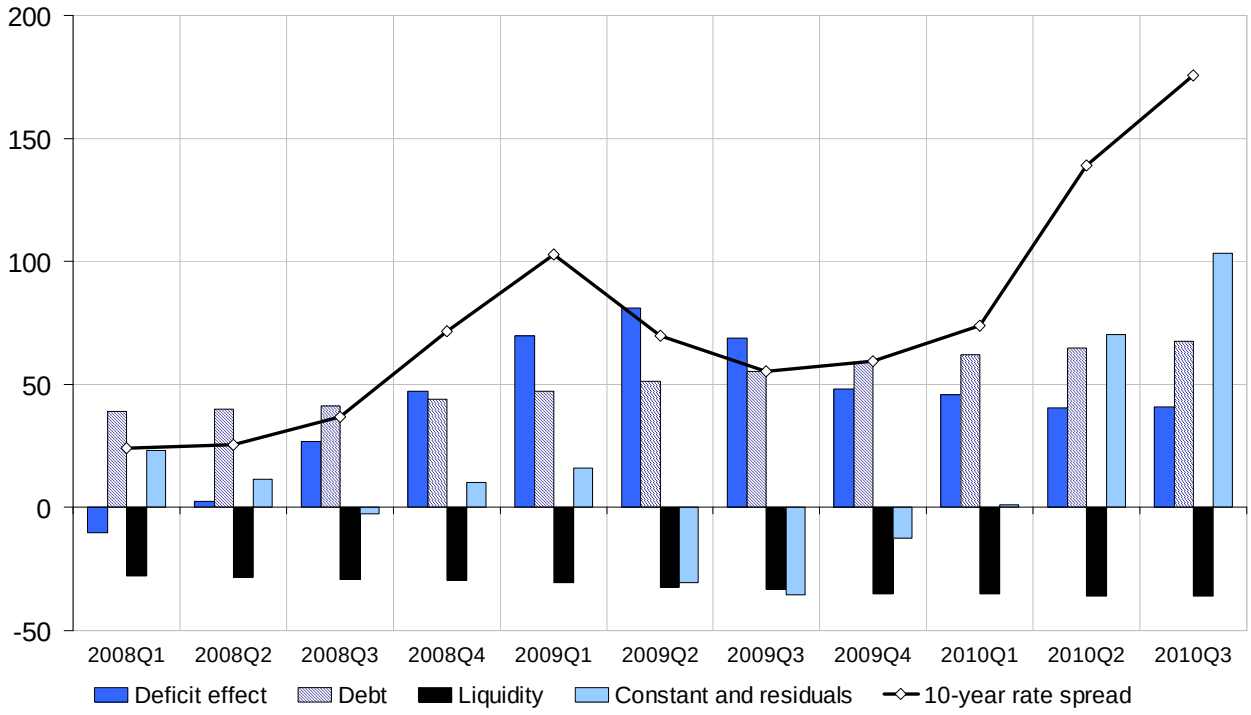
4 - France



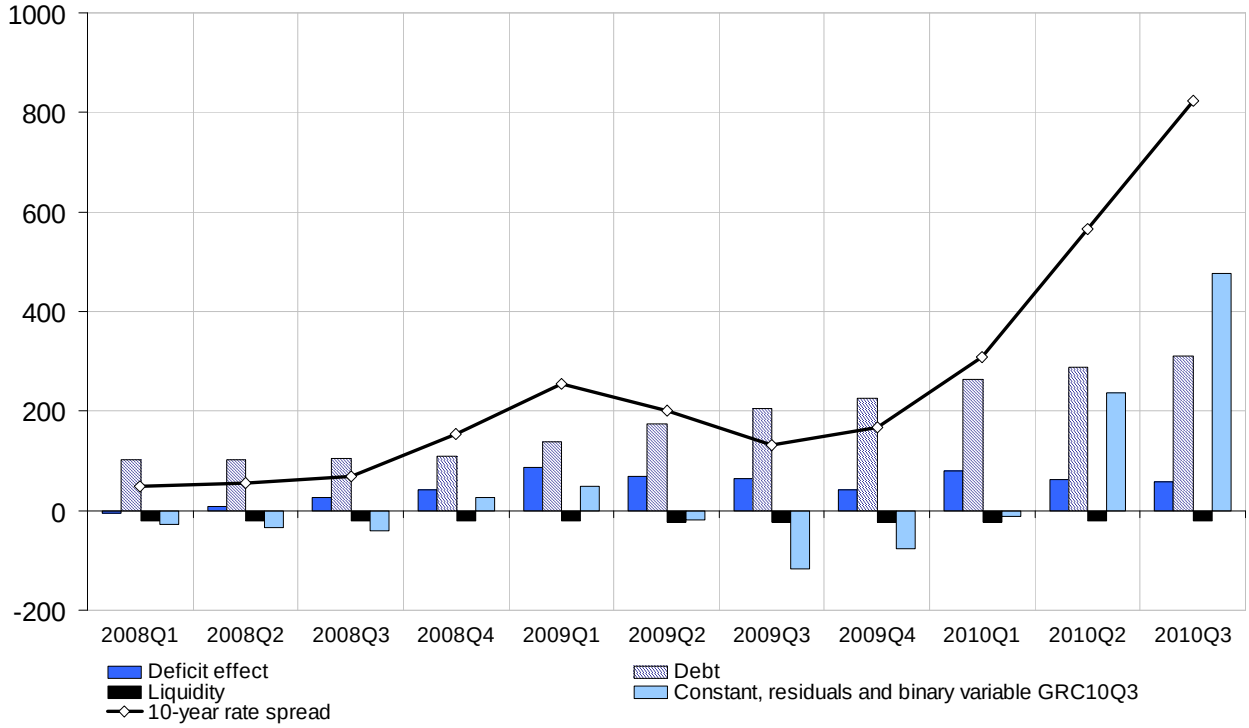
5 - Italy



6 - Spain



7 - Greece



Source: calculations by the authors, according to equation 1 in Table 2, Box 2

Box 2: Estimation of spread determinants

The empirical analysis relies on the following model for sovereign interest rates in the euro area:

$$i^{10}_{kt} = f(euro) + sov\_risk_{kt} + liq\_risk_{kt}$$

where i^{10}_{kt} is the actuarial yield (or yield-to-maturity) of 10-year maturity bonds of a euro area country *k* at quarter *t*. $f(euro)$ refers to all determinants that are common to the euro area: European Central Bank (ECB) rates, money market conditions, inflation and expectations of these determinants, plus all associated risk premiums due to uncertainties. It can include international factors such as uncertainties as of the dollar value of the euro or, through arbitrage, the yield of assets in the rest of the world (generally referred to as the "world interest rate", which influence increases with international financial integration). All these risk premiums depend on bond maturity, so that one has to consider bonds of the same maturity (here, 10 years). sov_risk_{kt} is the sovereign risk premium associated to country *k* at quarter *t*. This risk premium is specific to each individual country, as well as the liquidity risk premium liq_risk_{kt}. Now if we assume that the sovereign risk is zero for Germany, and that the liquidity risk is steady at a low level, then the spreads of other euro area countries, defined as the difference between national and German bonds, only depend on individual sovereign and liquidity risks.

As a result, looking at long-term government rates *within* the euro zone eliminates determinants of interest rates differentials linked to the risks of devaluation of one currency against another (exchange rate risk, inflation rate differential risk, raising the issue of central banks credibility...) that usually come into play outside a monetary union (Haugh *et al*., 2009).

Besides, the spread relative to Germany is assumed to be independent of other euro countries' situation. If we assume that the average world interest rate clears the global capital market, and that bonds of countries exposed to sovereign debt crises are a small part of the world capital market, then a sudden rise in their sovereign risk should not impact other asset prices. In particular, German bonds yield would not change. However, substitutability between world assets is not perfect, so that sellers of euro area countries' bonds with rising risk premium may well buy significant quantities of German bonds instead (*flight to quality*), reducing German bonds yield in turn. They may do so because they do not want to decrease the share of bonds, or euro-denominated assets, or both, in their portfolio. This would partly neutralise the impact of a sudden rise of some country's sovereign risk on the euro area bond market *average* yield. This view relies on the assumption that the relevant capital market "equilibrium" interest rate in the euro area bond market is some country-average of euro area bonds yield (*ie*. the demand for euro bonds remains roughly unchanged). On the contrary, our paper implicitly assumes that the "equilibrium" conditions are better reflected in the risk-free long-term rate, proxied by German bonds yield. In other words, more risk on some euro countries' bonds will reduce total demand for euro bonds, while the risk-free yield lies in market macroeconomic expectations.[a]

Panel regression techniques were used on quarterly data for ten countries in the eurozone (the ten countries in question were Austria, Belgium, Finland, France, Greece, Ireland, Italy, the Netherlands, Portugal and Spain). To understand the divergences in the long-term government rate spreads observed since 2008, it was necessary to take an indicator of government debt market liquidity and determinants of sovereign default risk.

● To capture the liquidity risk premium, we took the share of the country in the total sovereign debt in Euros traded on financial markets as our indicator.

● Regarding perceived default probability, we tested a number of variables concerning the government finance situation, in some cases completed by information on private debt.

The definition of the variables used is specified in the following table (see Table 1).

Hence the estimated equation is:

$$i^{10}_{kt} - i^{10}_{Germany,t} = SPR10a_{kt} = \mu + \sum_j \beta^j x^j_{kt} + \varepsilon_{kt}$$

Where the x^j variables are the explanatory variables reported in Table 2.

Table 1: Definitions of the explanatory variables of the sovereign interest rate spreads

Variable[i]	Definition	Source
SPR10a	Spread between the 10-year interest rate on national bonds and the 10-year interest rate on German bonds, in interest rate percentage points	Datainsight, national central banks, OECD
Debt	Government debt as defined by the Maastricht treaty, in percentage points of GDP	OECD
Gap100	Difference between the government budget balance and the budget balance that would stabilise net public debt at 100 percentage points of GDP, in percentage points of GDP	OECD
Liq	The long-term debt securities of the country as a proportion of the total long-term sovereign tradable debt of the eurozone, as a %	ECB
DebtServ	Debt service to total government revenue ratio, as a % OECD	OECD
CA	Current account balance, situation in Q1 2008, in percentage points of GDP	OECD
CAPriv	Share of the current account balance associated with the private sector, situation in Q1 2008, in percentage points of GDP[ii]	OECD, Eurostat, calculations by the authors
Bin_consolidation	Binary variable corresponding to the ability of a State to significantly reduce its deficit after a period of budget crisis[iii]	OECD, calculations by the authors
Bin_CAPriv	Binary variable equal to 1 if the accumulation since 2000 of the current account balance associated with the private sector is positive, 0 if not[iv]	OECD, Eurostat, calculations by the authors
GRC10Q3	Binary variable capturing the spread for Greece in Q3 2010	

i. Some annual data has been converted to quarterly data. This is not the case of GDP, however. All the quarterly flows have been annualized so that the estimated coefficients are homogenous to annual rates.
ii. Equal to the current account balance less government saving plus government investment.
iii. This variable is used in Haugh *et al*. (2009). It is zero in countries for which a history of sustained deficits can be observed without any large consolidation episode. In concrete terms, this variable is 1 for all the countries in the eurozone except Italy, Greece and Portugal, for which its value is 0.
iv. This is the case of Greece, Ireland, Spain and Portugal.

The use of Gap100 seems to capture the effect of the current government finance situation. Indeed, if we add the deficit or the debt-stabilising balance into the equations in Table 2, neither of them are robustly significant. The results are not modified if an autocorrelation-robust variance-covariance matrix is used, or a matrix which is robust to contemporaneous correlation between the residuals of different countries[b]. Nor are they modified by introducing fixed effects for each quarter. The use of quantile regressions for the median, less sensitive to extreme observations than least squares, also gives very similar results, although the effects found on debt and liquidity risk are slightly reduced. Different types of feasible generalised least squares procedures also provide very similar results, as does use of a sample beginning in 2005. Conversely, the direct introduction of various particular government spending (public consumption and investment, public wages…) or revenue items providing details of economic policies generally did not prove to be robust. Various demographic indicators regarding the sustainability of pensions spending were also integrated into the regressions, without providing a robust result.

The change in the marginal effect of debt was found at 100 percentage points using the following method:

- the 60 percentage points threshold was tested but did not prove significant,

- then the threshold was raised successively by 10 points until the first robustly significant threshold was reached, at 100 percentage points.

Finally, it must be pointed out that these regressions only go some way towards capturing the very large spread gaps between Germany and countries supported by an international aid plan. This is because our linear model is unsuited to capturing a sudden loss of confidence on financial markets in the ability of States to cope with repayment of their debt.

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a. This latter assumption is supported by Faini (2006), who finds some evidence that individual sovereign risk actually *raises* euro area average yield (beyond the mechanical effect in the weighted summation). This *supply* of funds effect adds to the other interest rate spillover effect due to aggregate *demand* for loanable funds, which is the traditional crowding out effect. Though, which of the above-mentioned views is the best depends on many factors including the economic situation. It should not have serious empirical consequences and is beyond the scope of the paper. Note that considering a euro area "equilibrium" interest rate relies on the fact that financial integration between euro area countries is larger than with the rest of the world (Faini, 2006).

Table 2: Empirical results. Explained variable: SPR10a

	Eq1	Eq2	Eq3	Eq4	Eq5	Eq6
Constant	-0.060	0.010	-0.033	-0.163	0.036	0.085
	(0.147)	(0.139)	(0.128)	(0.143)	(0.130)	(0.157)
Gap100	-0.046***	-0.043***	-0.030***	-0.037***	-0.069***	-0.042***
	(0.005)	(0.005)	(0.004)	(0.005)	(0.015)	(0.009)
Debt	0.011***	0.001	0.010***	0.012***	0.009***	0.011***
	(0.003)	(0.004)	(0.002)	(0.003)	(0.002)	(0.002)
(Debt-100)*$1_{I(Debt>100)}$	0.069**	0.062**	0.059**	0.064**	0.059*	0.060**
	(0.030)	(0.030)	(0.029)	(0.030)	(0.031)	(0.030)
DebtServ		0.094**				
		(0.039)				
CA			-0.012			
			(0.008)			
CAPriv				-0.020*		
				(0.011)		
CA*Gap100			0.002***			
			(0.001)			
CAPriv*Gap100				0.002		
				(0.001)		
Bin_CAPriv						-0.313**
						(0.145)
Bin_consolidation *Gap100					0.027	
					(0.016)	
Bin_CAPriv *Gap100						0.021**
						(0.010)
Liq	-0.042***	-0.035***	-0.035***	-0.041***	-0.037***	-0.030***
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.009)
GRC10Q3	4.827***	4.873***	4.814***	4.836***	4.910***	4.829***
	(0.706)	(0.717)	(0.706)	(0.714)	(0.722)	(0.715)
Nobs	110	110	110	110	110	110
Period	2008Q1 - 2010Q3	2008Q1 - 2010Q3	2008Q1 - 2010Q3	2008Q1 - 2010Q3	2008Q1 - 2010Q3	2008Q1 - 2010Q3
R^2	0.766	0.776	0.792	0.783	0.772	0.795
SE	0.535	0.527	0.509	0.521	0.531	0.506
BIC	1.789	1.789	1.754	1.799	1.805	1.743

Source: calculations by the authors (ordinary least squares method); robust standard errors in brackets; ***, ** and * indicate coefficients that are significant at the 1%, 5% and 10% significance level, respectively.

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b. In the presented table, a “diagonal” robust estimator is used, robust to observation specific heteroskedasticity. Different variance estimators always brought similar results, showing that neither serial correlation nor contemporaneous correlation in the residuals really matter for parameter inference (see appendix A2). Hence, the diagonal estimator was used. Though a bit more restrictive, it still allows fairly general conditions and uses averages over more terms, enhancing efficiency. These robustness checks are supportive of the robustness of the empirical approach.

IV - An evaluation of the impact of consolidation plans in Europe

IV.1 The NiGEM multinational model can take account of several mechanisms, but is essentially Keynesian by nature

We used the NiGEM macroeconomic model of the National Institute of Economic and Social Research (NIESR) to assess the impact of the consolidation plans in Europe, focusing on the measures decided on for 2011. This model mainly takes account of the "Keynesian" mechanical impact of the plans via their short-term impact on demand, and enables a distinction to be made between consolidation by reducing government expenditure or by increasing revenues, affecting households or companies, these being components for which the multiplier effects may differ (see Appendix A1).

The model also takes account of the cross-border impact of the fiscal adjustment plans via the trade links between the different European countries: a restrictive fiscal policy in one country has a negative impact on demand there, therefore on its imports of products and services from the other European countries.

However, the model does not include some of the other "anti-Keynesian" effects mentioned previously. Although such behaviours have rarely been observed in Europe in the past, the novel situation of European public finances could lead to a modification in the behaviour of private agents.

The model also takes account of the response of the European Central Bank (ECB) and the Bank of England (BoE) to the adjustment plans through a reduction in base rates to boost activity. Depreciation in the exchange rate can also occur. Finally, a sovereign risk spread has been included in the dynamics of the long-term rates on government debt, which is reduced with the implementation of fiscal consolidation policies. Its effect on GDP is a modest one, however, to the time horizon of this analysis.

The "alternative" scenario in which there are no fiscal consolidation efforts does not include any major financial tensions. The impact of the adjustment plans presented in this paper is therefore measured against a situation in which uncontrolled debt would be relatively painless for the economy, as was observed during the period of "great moderation" that preceded the financial crisis. It includes only the "average", possibly non-linear effects on the costs of financing government debt, which are related to the economic and fiscal situation of each country, in line with the empirical estimates presented earlier (see Box 2). In the current context, however, the absence of consolidation might prove to be more costly that envisaged here. Such would be the case if risk premiums were greater than those forecast by the estimated models, as was observed in certain European countries in 2010, or if major financial tensions were to appear and have an impact on the financing of private agents via the banking system.

IV.2 The consolidation plans should have a negative impact on activity in Europe...

The evaluation was focused on 2011, but also studied a 5-year time window to illustrate the effects transmitted via the different channels. In 2011 in the eurozone as a whole, fiscal consolidation plans are estimated to have weighed down on activity by about 0.6 percentage points of GDP (see Table 1). Their impact should have been relatively uniform from one country to another. In France, the adjustment measures are also estimated to have had a negative effect on GDP of -0.6 percentage points in 2011.

In each country, the relative fall in activity is explained both by domestic adjustment measures and by the effects of consolidation strategies in neighbouring countries imported via international trade. In France notably, the fiscal consolidation plans in the rest of Europe

is estimated to have weighed down on activity by about 0.2 percentage points of GDP in 2011.

The UK introduced a particularly restrictive plan which is estimated to have slowed down the activity by about 0.8 percentage points of GDP in 2011 as against a scenario without consolidation. The impact on GDP should then ease, however, from the following year under the effect of the gradual response of base interest rates.

Table 1: Total effect of European plans on GDP in 2011 (as a % of GDP)

	Effect on GDP	of which: foreign trade effect due to foreign plans
Germany	-0.4%	-0.2%
Spain	-0.6%	-0.1%
France	-0.6%	-0.2%
Italy	-0.4%	-0.1%
Eurozone	-0.6%	0.0%
United Kingdom	-0.8%	-0.2%

Source: calculations by the authors using the NiGEM model

IV.3 ...despite the reaction of the ECB and BoE

This evaluation of the consolidation plans includes a reaction from the ECB and BoE, which are supposed to conduct a more accommodative policy than in the scenario without fiscal consolidation in order to support activity.[15] Exchange rates of the Euro and Sterling should also depreciate compared to the scenario without fiscal adjustment, in accordance with the reaction in base rates (to respect the uncovered interest rate parity), with a positive impact on the trade balance and, ultimately, on GDP.

Although ECB base rates appear to have been little influenced by fiscal adjustment in 2011[16], they should react more thereafter. From 2012 onwards, ECB base rates should therefore be some 50 basis points (bp) lower than in the scenario without consolidation. In France, the long-term rates (10-year government bonds) should also be lower by over 30 bp to a five-year time horizon, again compared to the scenario without consolidation, thanks to the progressive transmission of the fall in base rates and a slight reduction in the spread on French sovereign debt of about 10 bp points over this period (see Table 2).

These lower interest rates should have a positive influence on GDP. Although its effect is estimated to have been marginal in 2011, over a five-year period this reaction of base rates should offset the negative impact of the fiscal adjustment plans by 0.7 percentage points of GDP in the eurozone, including the effect of the variation induced in the exchange rate; the effect of monetary policy should be comparable in France and in the other countries studied here (see Graphs 8 to 13). In contrast, the favourable reaction of spreads should have a modest effect on GDP, especially in the short term. That of long-term rates should also contribute to reducing government debt to GDP ratios in all the European countries via the reduction in interest expenditures (see Box 3).

[15] This more accommodative monetary policy is possible because, in the scenario without fiscal adjustment, base rates would rise progressively, in particular due to the continuing economic recovery and the emergence of tensions on commodity prices.

[16] The ECB is faced with increases in indirect taxation, notably VAT in Spain, having a slightly inflationary impact on the whole of the eurozone.

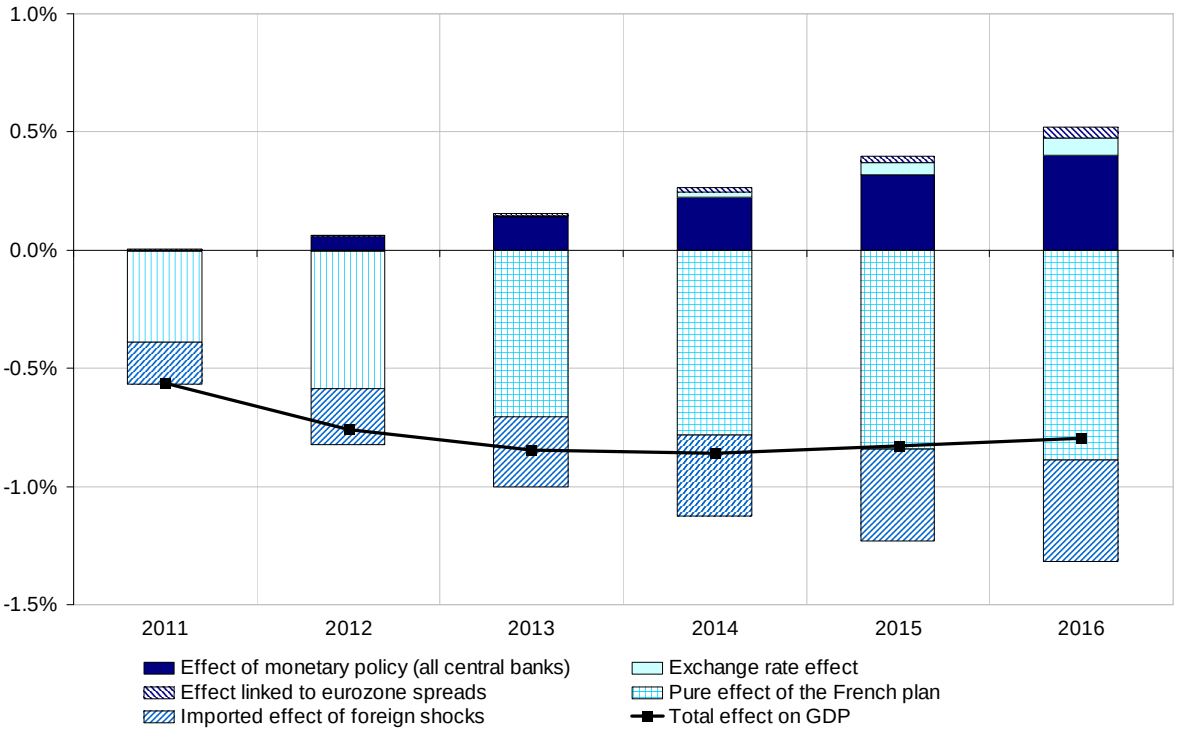
Table 2: Effects of fiscal consolidation plans on ECB and BoE base rates and on the long-term rates of France and the UK (in basis points).

	ECB base rate	Long-term rate France	of which fall in spread	BoE base rate	Long-term rate UK
2011	3	-1	-2	-11	-6
2012	-43	-15	-3	-53	-47
2013	-54	-23	-4	-18	-25
2014	-52	-29	-6	-36	-31
2015	-45	-33	-8	-33	-35
2016	-35	-36	-10	-20	-22

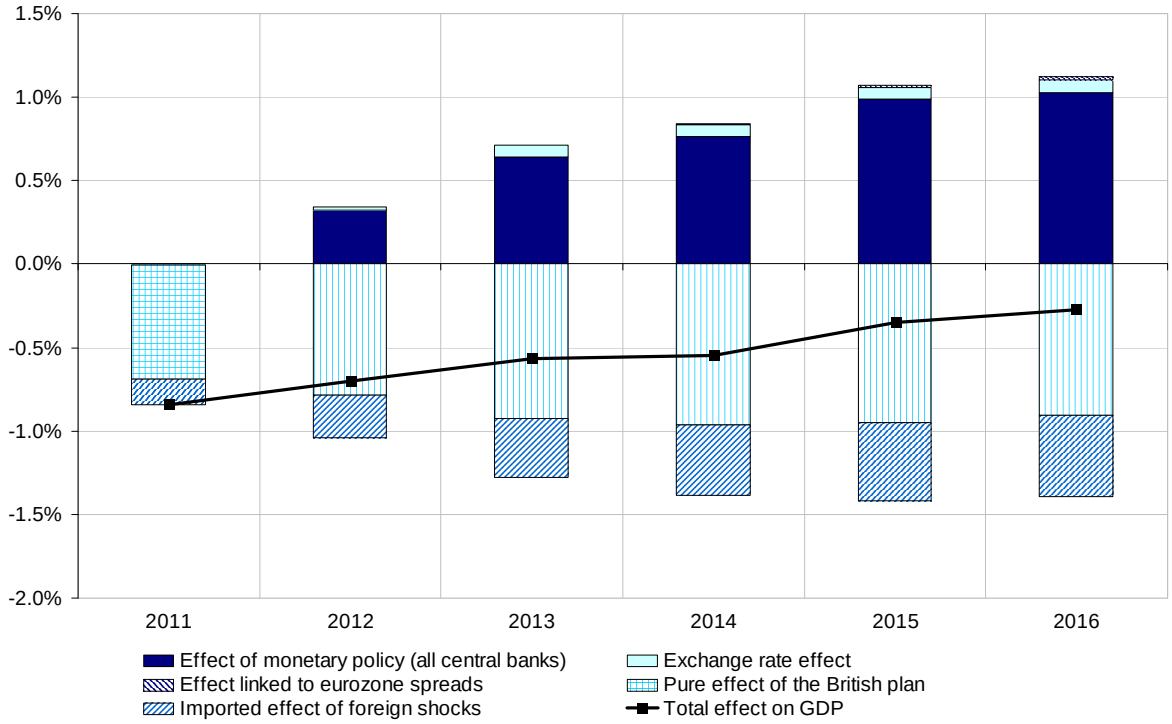
Source: calculations by the authors using the NiGEM model

Graphs 8 to 13 - Effects of the adjustment plans on GDP (as a % of GDP)

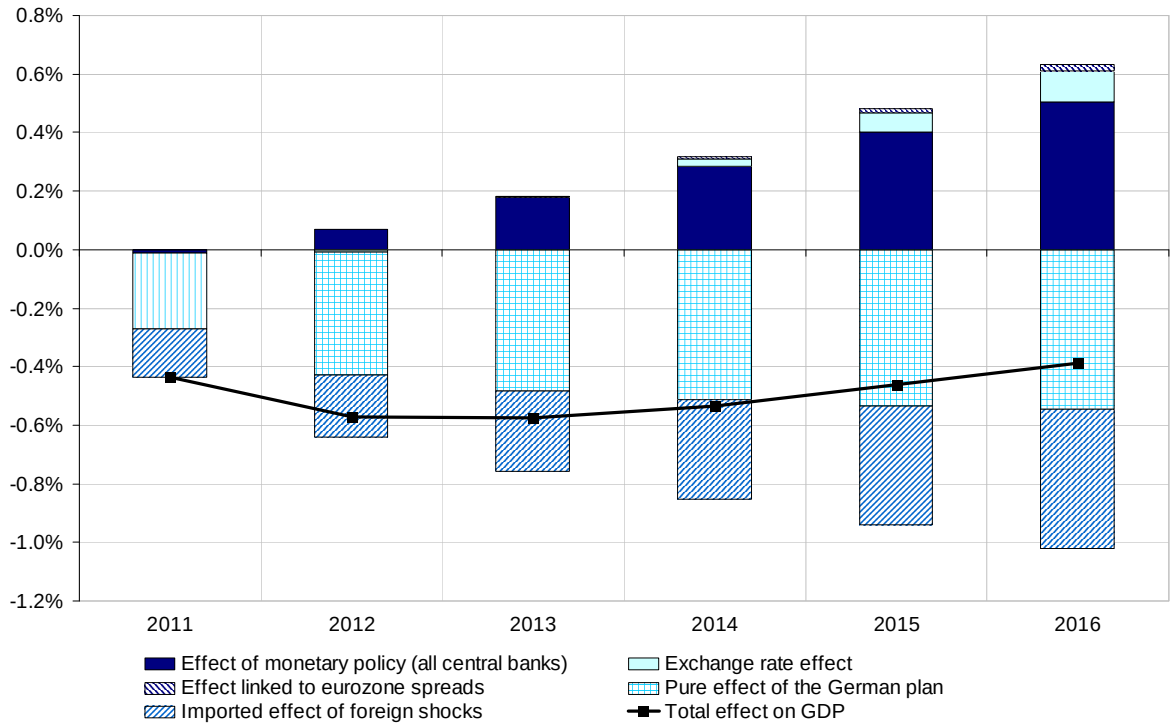
8 - France



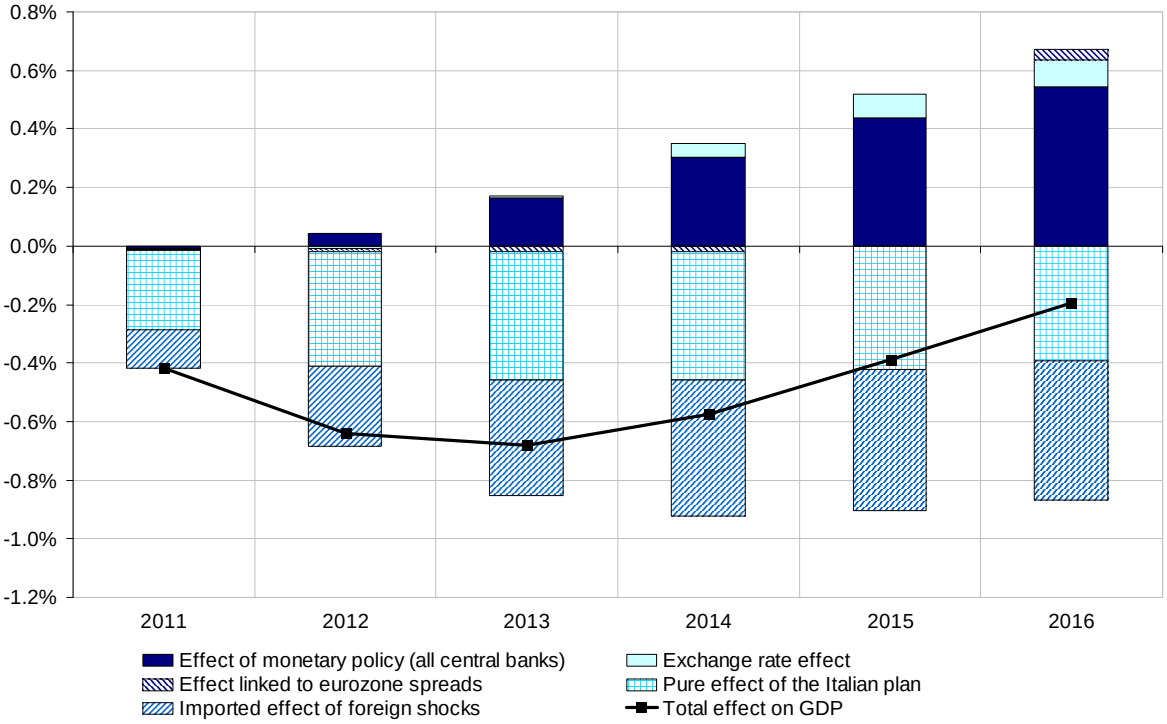
9 - United Kingdom



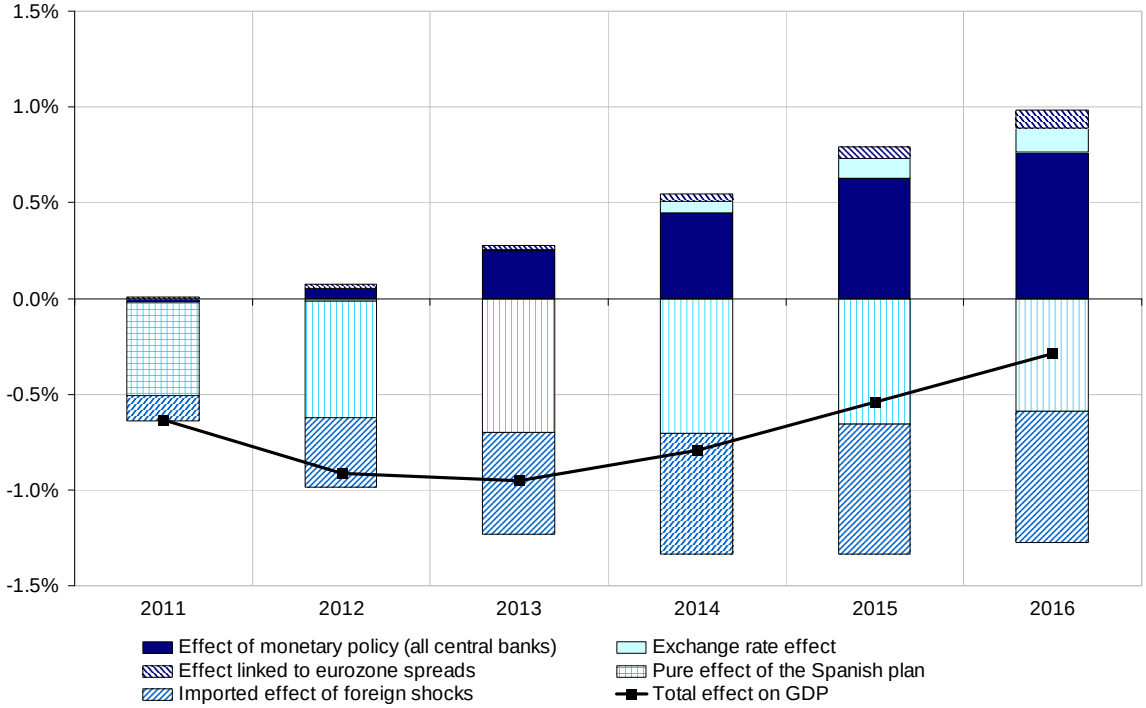
10 - Germany



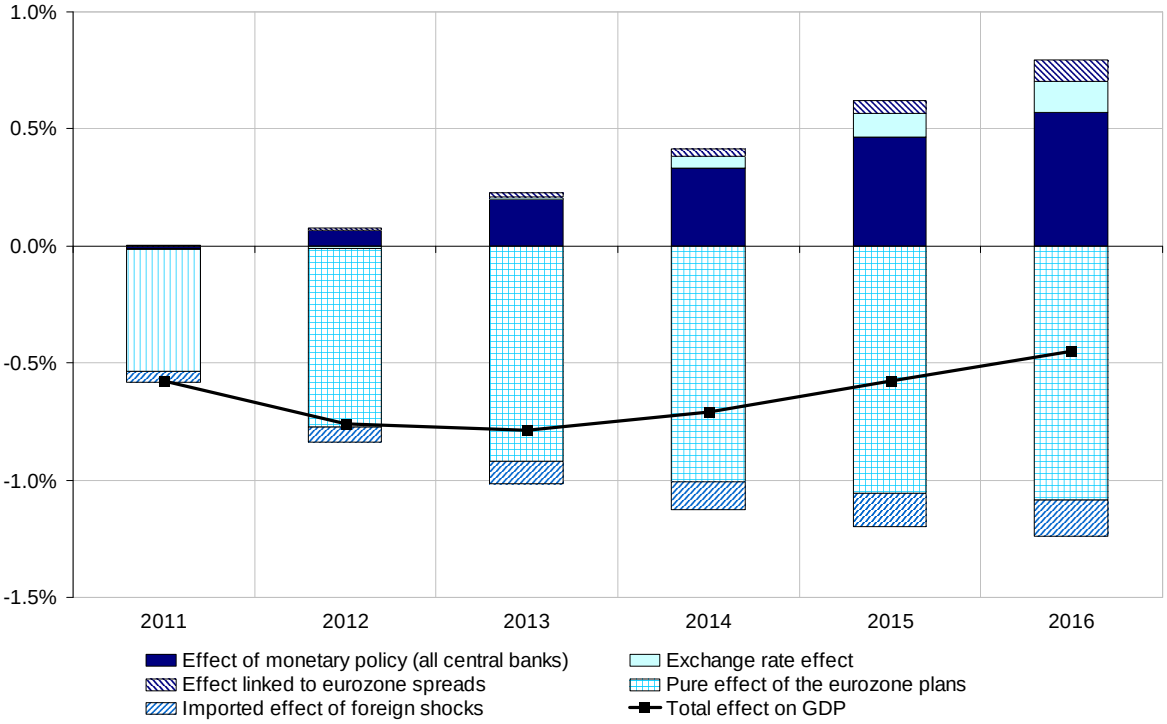
11 - Italy



12 - Spain



13 - Eurozone



Source: calculations by the authors using the NiGEM model

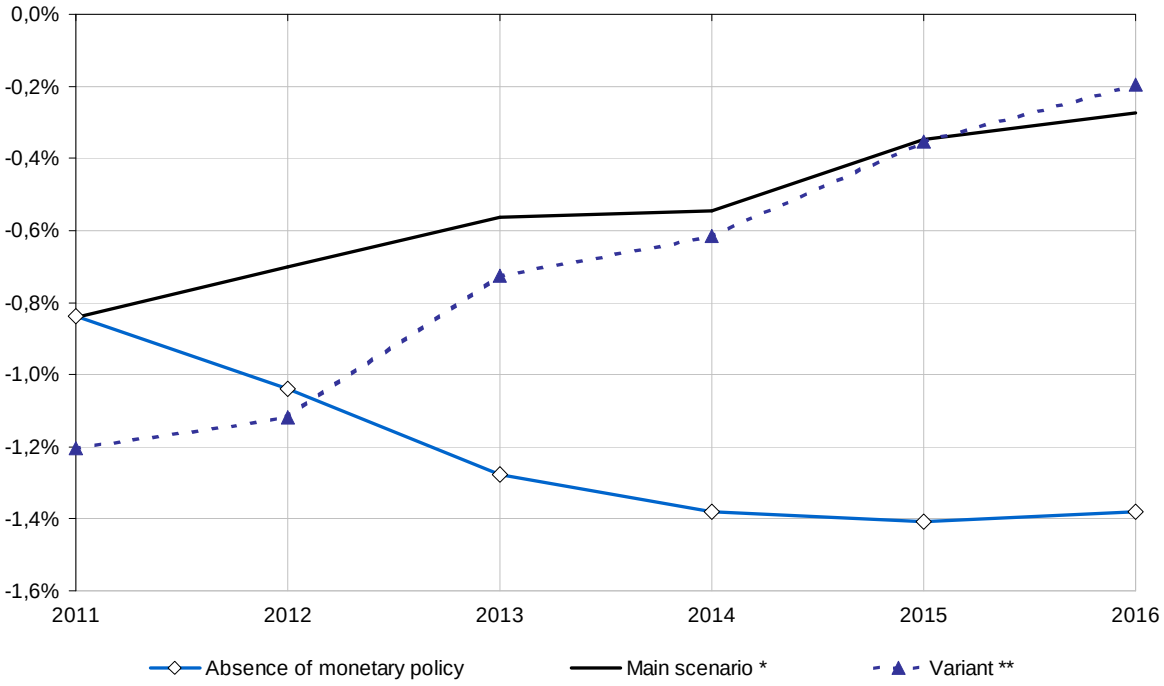
Unlike the situation in the eurozone, the BoE is set to face a sharp increase in inflation due to the rise in VAT in the UK. However, the current standpoint of the BoE is that this shock is of a temporary nature and does not call for a response from monetary policy in the UK.[17] The BoE should then soften the effect of consolidation by reducing its base rates sharply as compared to a scenario without any adjustment in public finances. This fall should be passed on quickly to long-term rates according to the model and then to the British economy which is traditionally responsive to improvements in financial conditions. At a five-year time horizon, the monetary policy response should considerably soften the mechanical negative impact on GDP of the British consolidation plan by more than one percentage point (see Graph 14).

According to the IMF (IMF, 2010), consolidation plans based on rises in indirect taxes have had a particularly negative effect on activity on average in the past. This type of measure creates a dilemma for the central banks, torn between the objective of countering the slide in activity and fighting against the rise in prices. Again according to the IMF, the central banks have had, on average in the past, a restrictive policy following indirect tax hikes.

If, in another scenario, the BoE is modelled to have chosen to increase its base rates in 2011 in response to the VAT shock, the negative effect of the consolidation plans on the UK's GDP would initially have been stronger. Unlike in the main scenario presented above, the Bank of England base rates would have followed the upturn in inflation resulting from the rise in VAT and would therefore have increased in 2011 by about 50 bp. The negative effect of the consolidation plans would then have been 1.2 percentage points of PIB in 2011 in the UK (see Graph 14). However, the BoE would then reduce its base rates sharply. To a five-year time horizon, the consequences on GDP of this initial choice of monetary policy would be small.

[17] Currently, the majority of the BoE monetary policy committee considers the impact of the rise in VAT on inflation to be temporary, and therefore not requiring a rise in base rates.

Graph 14 - Effects of the consolidation plans on the UK's GDP, according to monetary policy response (as a % of GDP)



*Main scenario: monetary policy with no response by a rise in base rates to address the VAT shock
**Variant: monetary policy according to NiGEM (monetary policy rule) implying a temporary rise in the base rate following the VAT shock
Source: calculations by the authors using the NiGEM model

IV.4 "Non-Keynesian" effects may soften these negative effects

This evaluation of the impact of consolidation plans in Europe does not take account of various "non-Keynesian" positive effects studied in the literature, and notably Ricardian effects. According to these effects, the fiscal plans may lead households to anticipate an improvement in government finances and future tax cuts, thereby reducing their tendency to save. According to the NiGEM model, a fall of 1 percentage point in the saving ratio of households in France leads to a rise in GDP of about 0.5%. The measures announced by France are estimated to have weighed down on activity by 0.4 percentage points in 2011 if the consolidation plans of the other European countries are not taken into account. To offset this effect of France's own consolidation measures, a Ricardian fall in the saving ratio of 0.8 percentage points would have been necessary in 2011.[18]

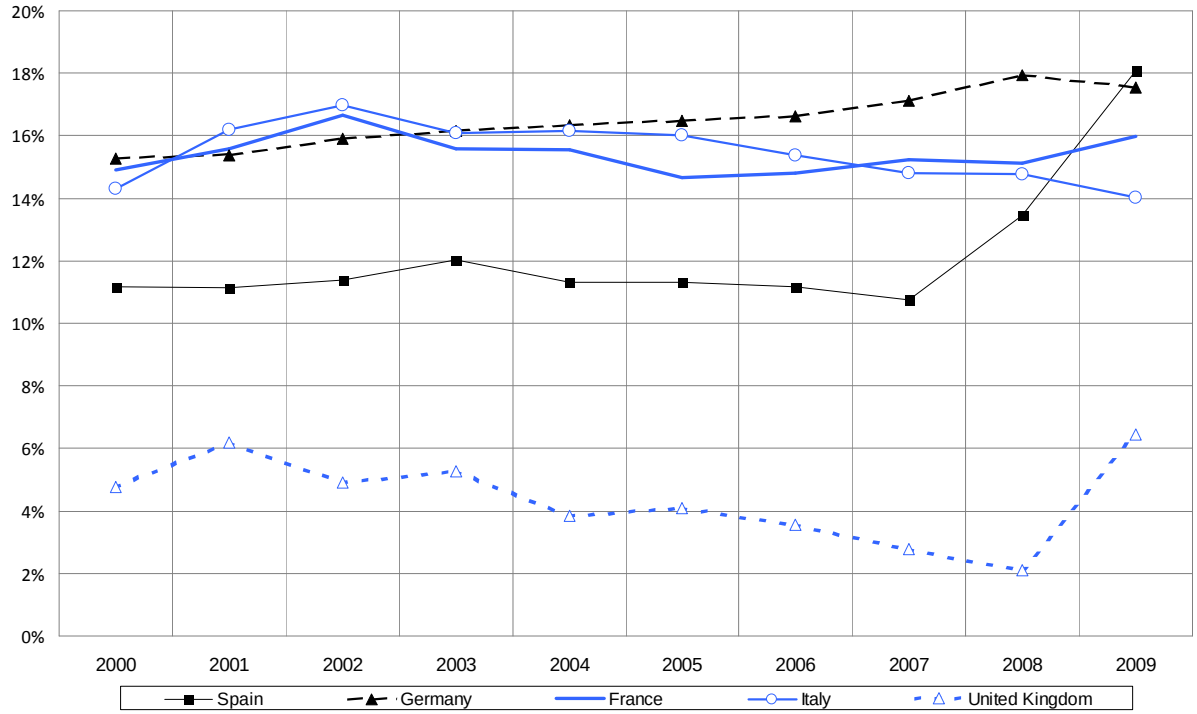
In effect, French households increased their saving ratio from 15% in Q3 2008 to 16.3% in Q3 2010, as a precaution in the face of the economic crisis and possibly, if we take a "Ricardian" view, in response to growing government deficits and the rise in public debt. Also, compared to the main European countries, the saving ratio of households in France is relatively high (Graph 15). This may suggest that a significant reduction in the saving ratio is possible in the medium term, as long as households do foresee an improvement in public finances and take account of this anticipation in their consumer spending. Because they need to reduce their debt levels further, British and Spanish households may have smaller margins for increasing their consumption, however.

[18] Assuming that there is a comparable reaction among European households, the imported effect would then also be cancelled out.

Finally, it should be remembered that the impact of consolidation plans measured here assumes that the scenario without any adjustment would be relatively painless, with moderate risk premiums on the whole. Such a scenario may be acceptable if we take a short-term view, as is the case in this paper, but we cannot rule out the possibility that it might lead to a sharp rise in risk premiums in certain eurozone countries which would weigh down on growth: with such a central scenario, the reduction in risk premiums allowed by the consolidation plans would be greater than that taken into account here.

All in all, if all the "non-Keynesian" factors came into play, carrying out no consolidation in Europe would have a distinctly higher cost for growth than that taken into account here, through a modest effect on interest rate spreads. In this case, the cost of budget adjustment would be less than the 0.6 percentage points of GDP estimated for the eurozone countries and the 0.8 percentage points of GDP estimated for the UK.

Graph 15 - Gross saving ratio of households in some European countries (gross savings as a % of gross disposable income)



NB: the gross saving ratio published by Eurostat is available for all the countries only if non-profit institutions serving households (NPISH) are included.
Source: Eurostat

Box 3: Impact of the consolidation plans on public debt

The consolidation plans should decrease the public debt to GDP ratio (see Table). This should fall by almost 5 percentage points of GDP in France and almost 9 percentage points of GDP in the UK by 2016. In contrast, Italy should see its public debt in percentage points of GDP increase slightly over the short term, because the improvement in the budget deficit is likely to be offset by the negative impact on GDP, notably due to the imported effects of the other plans. The reduction in its debt ratio through to 2016 should thus be around 1 percentage point of GDP.

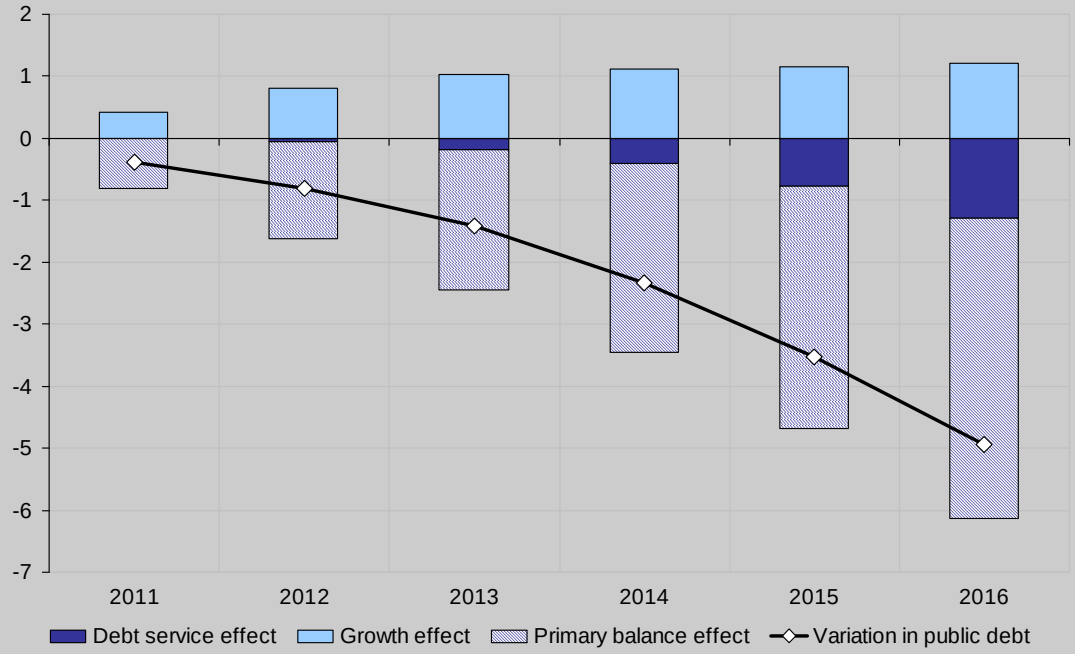
Table: Effect of the consolidation plans on public debt to 2016 (in GDP percentage points)

Germany	-3.5
Spain	-4.2
France	-4.6
Italy	-1.1
Euro Zone	-4.9
United Kingdom	-8.6

Source: calculations by the authors using the NiGEM model

The evolution in debt in percentage points of GDP can be broken down into three factors (see Graph): a "deficit" effect due to the improvement in the primary balance, an effect due to the reduction in the debt burden (decrease in the amount of debt, or "volume" effect, and of the interest rates on that debt, or "rate" effect), and finally a "growth" effect due to the negative shock on GDP, according to the equation (1) in Box 1.[a] This breakdown is presented below for the eurozone. Over the first years, the effect of the improvement in the primary balance is moderated by the negative effect on growth. However, a virtuous circle is then established thanks to the reduction in the debt burden, while the effect due to growth levels out.

Graph: Contributions of debt service, growth and the primary balance to the total effect of consolidation plans on public debt in the eurozone (in GDP percentage points)



Source: calculations by the authors using the NiGEM model

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a. This equation neglects the existence of indexed debt, for instance inflation-linked bonds. Though, looking at the data, this approximation is relevant and does not impact the results.

Bibliography

Alesina A., R. Perotti (1996), “Fiscal Adjustments in OECD Countries: Composition and Macroeconomic Effects,” NBER Working paper 5730, August.

Ardagna, S. (2004), “Fiscal stabilizations: when do they work and why”, European Economic Review 48(5): 1047-1074.

Ardagna S. (2009), “Financial markets’ behavior around episodes of large changes in the fiscal stance”, European Economic Review 53(1): 37-55.

Ardagna S., F. Caselli, and T. Lane (2007), “Fiscal Discipline and the Cost of Public Debt Service: Some Estimates for OECD Countries,” The B.E. Journal of Macroeconomics: Vol. 7: Iss. 1.

Aviat A., Bricongne J.-C. et Pionnier P.-A. (2007), “Richesse patrimoniale et consommation: un lien ténu en France, fort aux États-Unis”, Note de conjoncture de décembre 2007, Insee, pp. 37-52.

Buiter W.H. (1986), “Death, Population Growth, Productivity Growth and Debt Neutrality,” NBER Working Paper 2027, September.

Champsaur P. and J.-P. Cotis (2010), « Rapport sur la situation des finances publiques », april 2010.

http://www.insee.fr/fr/publications-et-services/dossiers_web/finances-publiques/rapport-finances-publiques.pdf

European Commission (2009), “Sustainability Report 2009", European Economy 9/2009, Economic and Financial Affairs.

Cottarelli, C., L. Forni, J. Gottschalk and P. Mauro (2010), “Default in Today’s Advanced Economies: Unnecessary, Undesirable and Unlikely”, IMF Fiscal Affairs Department.

European Commission (2009), "Sustainability Report 2009", EUROPEAN ECONOMY 9/2009, Directorate-General for Economic and Financial Affairs

Faini R. (2006), “Fiscal Policy and Interest Rates in Europe”, Economic Policy, volume 21, Issue 47, pp. 443-489.

Faruquee, H. (2003), "Debt, deficits, and age-specific mortality", Review of Economic Dynamics 6, 300-312.

Haugh, D., P. Ollivaud and D. Turner (2009), “What Drives Sovereign Risk Premiums? An Analysis of

Recent Evidence from the Euro Area”, OECD Economics Department Working Papers, No. 718, OECD Publishing.

Heylen F., G. Everaert (2000), “Success and Failure of Fiscal Consolidation in the OECD: A Multivariate Analysis”, Public Choice, Vol. 105, No. 1/2, pp. 103-124

International Monetary Fund (IMF) (2010), “Will It Hurt? Macroeconomic Effects of Fiscal Consolidation”, World economic outlook: “Recovery, Risk, and rebalancing”, Chapter 3, October.

Koutsogeorgopoulou, V. and D. Turner (2007), “The Costs of Delaying fiscal Consolidation: A Case Study for Greece”, OECD Economics Department Working Papers, No. 582, OECD Publishing.

Kerdrain, C. (2011), “How Important is Wealth for Explaining Household Consumption Over the Recent Crisis? An Empirical Study for the United States, Japan and the Euro Area”, OECD Economics Department Working Papers, No. 869, OECD Publishing.

OECD (2010), OECD Economic Outlook, Vol. 2010/2 (EO-88), OECD Publishing.

Reinhart, C. and K. Rogoff (2010), “Growth in a Time of Debt”, National Bureau of Economic Research

Working Paper No. 15639, January.

Röhn, O. (2010), New evidence on the private saving offset and Ricardian equivalence, OECD Economics Department Working Papers, No. 762, OECD Publishing.

Romer D. (2006), “Advanced Macroeconomics”. Third edition. New York: McGraw-Hill.

Appendix A1 - Shocks and their propagation mechanisms in NiGEM

NiGEM is a multinational model in which all the countries mentioned in this paper are included individually. All the economies in the model are linked to each other by trade and financial flows. The budget balance equation contains three types of fiscal revenues (direct taxes on people, indirect taxes and taxes on companies), three primary public spending items (government consumption, government investment and social transfers) and debt servicing. The impact of the consolidation plans can therefore be calculated according to their composition in terms of these six budget items. It should be noted, however, that shocks on direct taxes and on social transfers have an identical effect on household income.

The endogenous variables of the model were all left endogenous. It should therefore be emphasised that by various crowding-out effects, the variation in the primary balance in percentage points of GDP is not necessarily equal to the scale of the plan that is announced. For example, the reduction in activity resulting from a given shock may reduce tax revenues from households and companies and therefore reduce the impact of the measure on the budget.

Main fiscal policy shock propagation mechanisms in NiGEM

Direct taxes have an impact on the disposable income of households and, ultimately, on their consumption. Social transfers have the same effect; *de facto*, the line is sometimes fine between these

two items in the classification of consolidation measures. In NiGEM, taxes on businesses weigh down on companies through the cost of capital. They also have an effect on the financial assets of households via share prices. Indirect taxes, modelled in the form of a VAT rate, have an influence on the consumer spending deflator, export prices, real wages, the gross operating surplus of companies and, consequently, on share prices and therefore also on household wealth.

A government consumption shock has a direct (accounting) impact on GDP, on national payroll in proportion to the size of the public sector and therefore on household income. A government investment shock has an accounting influence on GDP, but also on public capital stock and therefore on potential GDP. It is therefore the only fiscal shock that has a long-term multiplier effect.

In addition, the simulation exercise excluded certain measures of different nature likely to have a negligible impact on European GDP. These were a variety of minor measures including a reduction in international cooperation (Spain, Netherlands) and the sale of radio frequencies in Italy (positive effect of €2.4 billion in 2011).

The table below indicates the multipliers for several standard fiscal consolidation shocks in NiGEM. Compared to a fiscal shock on the national level, a eurozone-wide shock affects French GDP via two channels. In the short term, the shocks from the other countries reinforce the negative impact on French GDP through international trade. In the longer term, the shocks from the other eurozone countries give rise to a stronger monetary policy response, the positive effect of which exceeds the negative effect due to trade.

Monetary policy response to fiscal consolidation and impact on exchange rates

The base rates react to consolidation plans through their impact on activity and inflation. In particular, in the case of consolidation by a rise in VAT, the central bank is faced with a

dilemma: increase its rates because of the rise in prices, or reduce them to support activity. This problem associated with a rise in indirect taxes has already been noted in the empirical study of the IMF (2010). Our paper did not take account of any unconventional monetary policies that might be introduced by the ECB or the BoE.

The long-term (10-year) interest rate adjusts to the base rate by an error correction mechanism. In the short term, it moves with the quarterly variation in the short-term rate, while in the long term, the long-term rate is equal to the base rate to which a constant is added. This rate is used in the model to calculate interest on government debt and the user cost of capital for companies and households.

The reduction in base interest rates also implies a depreciation in the exchange rate resulting from the uncovered interest rate parity. For example, a fall in interest rates in the eurozone reduces the attractiveness of the Euro against other currencies, all other things being equal.

Table: Multipliers for different consolidation shocks according to the NiGEM model

Multipliers for France	Direct tax burden on households	Government investment	Government consumption
after 1 year	-0.3	-0.7	-0.9
after 5 years	-0.5	-0.9	-0.7

Multipliers for the Euro Zone	Direct tax burden on households	Government investment	Government consumption
after 1 year	-0.3	-0.9	-1.1
after 5 years	-0.2	-0.8	-0.1

Explanatory note: the shock of a permanent rise in the tax burden on households in France improving the general government balance by one percentage point of GDP weighs down on French GDP in volume by 0.3 percentage points after one year and by 0.5 points after five years. An identical shock in all the eurozone countries reduces eurozone GDP in volume by 0.3 percentage points the first year and by 0.2 points after five years.

Incorporation of the spread on long-term interest rates

In the model, the long-term rate does not depend on the sovereign risk premium determinants. This missing spread is therefore incorporated via a shock on the residual of the long-term rates equation. This shock is calculated according to the impact of the consolidation plans on the determinants of the spread, essentially the state of government finances, using one of the regressions (equation 1) referred to in Box 2.

Normally, variations in long-term government rates have an impact on the financing costs of the private sector. Given that the sovereign risk spread is, by definition, specific to public debt, it is not certain that this spread will be passed on in full to the private sector. In this study, we considered that half of it was passed on to the private sector. As the impact of the consolidation plans on the spread is progressive over time, the choice of this repercussion had a negligible effect on the results.

Breakdown of the effects on GDP

It is possible to break down the effects of consolidation according to the four channels mentioned above: the direct effect of fiscal consolidation, the reduction in the spreads on

long-term rates, the effect of monetary policy and its implication on the depreciation of the exchange rate. Initially, the total impact of the consolidation plans was evaluated leaving all variables in the model as endogenous. The three indirect effects of consolidation were then incorporated separately into the model. The “pure”, direct effect of fiscal consolidation on activity was obtained by difference, subject to the hypothesis of linearity of the model.

Similarly, the effects of the consolidation plans for each country were broken down according to whether they came from the national plan or foreign plans. To do this, the effect of each national consolidation plan was calculated separately. The imported effect from foreign plans was then calculated as the difference between this national plan effect and the effect of all the plans, after subtracting the effects of monetary policy and spreads.

Appendix A2 - Additional empirical results on spread determinants

This appendix sheds additional light on the link between sovereign interest rate spreads in the euro area and their explanatory variables. We present here four different specifications of the equations estimated in the Box 2 as a robustness check. Each of them differs with these latter on a particular point:

- Table A2.1 adds period fixed effects: they can capture any effects due to German economic policies, as well as potential impacts of global uncertainty;

- Table A2.2 uses a different estimator for the standard errors. Here, a variance-covariance matrix robust to both serial correlation and heteroskedasticity in the residuals is used;

- Table A2.3 uses the 3-year maturity spreads instead of 10-year. Clearly, this table is not expected to bring the *same* coefficients as is Box 2. What it shows is that the broad conclusions remains consistent with the use of a different measure sovereign spreads. Here, we find that the level of debt is more influential than with a 10-year maturity. unlike the level of deficit. This illustrates that the deficit reflects future debt. Overall, these results indicate that an unsustainable fiscal policy is likely to be reflected on an important part of the sovereign yield curve, though not uniformly;

- Table A2.4 shows the same models as in Box 2, but estimated by a quantile regression. We estimate the *median* of the 10-year spread (instead of the *mean* with ordinary least squares) conditional to its explanatory variables. The relevance of this method as a robustness check is that quantile regressions are known to be less influenced by outliers in the explained variable than ordinary least squares estimates.

In all cases, our results remain broadly unchanged. In general, the main explanatory variables remain significant. Moreover, for the Equation 1, the marginal effects of an increase in the level of debt and deficit remain close to those found in Box 2. This indicates that of the empirical results incorporated in our fiscal consolidation simulations are relatively robust.

Table A2.1 Estimated equations with period fixed effects

	Eq1	Eq2	Eq3	Eq4	Eq5	Eq6
Constant	-0.068	0.271*	0.083	-0.128	0.061	0.260*
	(0.156)	(0.150)	(0.120)	(0.147)	(0.145)	(0.133)
Gap100	-0.054***	-0.036***	-0.027***	-0.042***	-0.086***	-0.036***
	(0.009)	(0.009)	(0.008)	(0.009)	(0.016)	(0.009)
Debt	0.010***	-0.012**	0.008***	0.011***	0.007***	0.010***
	(0.002)	(0.006)	(0.002)	(0.002)	(0.002)	(0.002)
(Debt-100)*$1_{|(Debt>100)}$	0.068***	0.053*	0.059**	0.063**	0.054**	0.060**
	(0.025)	(0.027)	(0.025)	(0.025)	(0.026)	(0.026)
DebtServ		0.193***				
		(0.054)				
CA			-0.016**			
			(0.007)			
CAPriv				-0.019*		
				(0.010)		
CA*Gap100			0.002***			
			(0.001)			
CAPriv*Gap100				0.002		
				(0.001)		
Bin_CAPriv						-0.368***
						(0.115)
Bin_consolidation *Gap100					0.035**	
					(0.016)	
Bin_CAPriv *Gap100						0.029***
						(0.009)
Liq	-0.040***	-0.025***	-0.032***	-0.039***	-0.033***	-0.026***
	(0.008)	(0.009)	(0.008)	(0.009)	(0.009)	(0.009)
GRC10Q3	4.340***	4.507***	4.357***	4.371***	4.441***	4.433***
	(0.682)	(0.700)	(0.674)	(0.686)	(0.685)	(0.697)
Nobs	110	110	110	110	110	110
Period	2008Q1 - 2010Q3	2008Q1 - 2010Q3	2008Q1 - 2010Q3	2008Q1 - 2010Q3	2008Q1 - 2010Q3	2008Q1 - 2010Q3
R^2	0.818	0.840	0.845	0.832	0.827	0.849
SE	0.497	0.467	0.462	0.482	0.486	0.457
BIC	1.965	1.875	1.885	1.970	1.953	1.864

Source: calculations by the authors (ordinary least squares method); robust standard errors in brackets; ***, ** and * indicate coefficients that are significant at the 1%, 5% and 10% significance level, respectively.

Table A2.2 Estimated equations with heteroskedasticity *and* autocorrelation-robust variance-covariance estimator

	Eq1	Eq2	Eq3	Eq4	Eq5	Eq6
Constant	-0.060	0.010	-0.033	-0.163	0.036	0.085
	(0.236)	(0.212)	(0.215)	(0.209)	(0.250)	(0.188)
Gap100	-0.046***	-0.043***	-0.030***	-0.037***	-0.069***	-0.042***
	(0.004)	(0.005)	(0.003)	(0.006)	(0.012)	(0.009)
Debt	0.011**	0.001	0.010**	0.012***	0.009*	0.011**
	(0.005)	(0.007)	(0.004)	(0.004)	(0.005)	(0.004)
(Debt-100)*$1_{|(Debt>100)}$	0.069**	0.062**	0.059**	0.064**	0.059**	0.060**
	(0.027)	(0.029)	(0.024)	(0.027)	(0.025)	(0.026)
DebtServ		0.094				
		(0.065)				
CA			-0.012*			
			(0.006)			
CAPriv				-0.020**		
				(0.010)		
CA*Gap100			0.002***			
			(0.001)			
CAPriv*Gap100				0.002		
				(0.002)		
Bin_CAPriv						-0.313**
						(0.146)
Bin_consolidation *Gap100					0.027*	
					(0.016)	
Bin_CAPriv *Gap100						0.021**
						(0.009)
Liq	-0.042***	-0.035***	-0.035***	-0.041***	-0.037***	-0.030***
	(0.009)	(0.010)	(0.007)	(0.010)	(0.010)	(0.008)
GRC10Q3	4.827***	4.873***	4.814***	4.836***	4.910***	4.829***
	(0.506)	(0.443)	(0.355)	(0.493)	(0.454)	(0.435)
Nobs	110	110	110	110	110	110
Period	2008Q1 - 2010Q3	2008Q1 - 2010Q3	2008Q1 - 2010Q3	2008Q1 - 2010Q3	2008Q1 - 2010Q3	2008Q1 - 2010Q3
R^2	0.766	0.776	0.792	0.783	0.772	0.795
SE	0.535	0.527	0.509	0.521	0.531	0.506
BIC	1.789	1.789	1.754	1.799	1.805	1.743

Source: calculations by the authors (ordinary least squares method); robust standard errors in brackets; ***, ** and * indicate coefficients that are significant at the 1%, 5% and 10% significance level, respectively.

Table A2.3 Estimated equations with the 3-year maturity spreads as the explained variable, instead of 10-year spreads

	Eq1	Eq2	Eq3	Eq4	Eq5	Eq6
Constant	0.001	0.082	0.043	-0.111	0.126	0.216
	(0.182)	(0.166)	(0.173)	(0.177)	(0.157)	(0.214)
Gap100	-0.040***	-0.037***	-0.022***	-0.031***	-0.070***	-0.033***
	(0.006)	(0.005)	(0.005)	(0.006)	(0.020)	(0.010)
Debt	0.009***	-0.003	0.007**	0.010***	0.006**	0.009***
	(0.003)	(0.005)	(0.003)	(0.003)	(0.003)	(0.003)
(Debt-100)*$1_{|(Debt>100)}$	0.113**	0.105*	0.102*	0.107**	0.100*	0.104*
	(0.053)	(0.053)	(0.052)	(0.053)	(0.055)	(0.053)
DebtServ		0.109**				
		(0.050)				
CA			-0.017*			
			(0.009)			
CAPriv				-0.021*		
				(0.012)		
CA*Gap100			0.002***			
			(0.001)			
CAPriv*Gap100				0.002		
				(0.001)		
Bin_CAPriv						-0.398**
						(0.161)
Bin_consolidation *Gap100					0.035*	
					(0.021)	
Bin_CAPriv *Gap100						0.015
						(0.012)
Liq	-0.053***	-0.045***	-0.045***	-0.052***	-0.047***	-0.040**
	(0.017)	(0.017)	(0.016)	(0.017)	(0.017)	(0.016)
GRC10Q3	6.350***	6.404***	6.328***	6.359***	6.459***	6.341***
	(1.285)	(1.299)	(1.284)	(1.299)	(1.305)	(1.299)
Nobs	110	110	110	110	110	110
Period	2008Q1 - 2010Q3	2008Q1 - 2010Q3	2008Q1 - 2010Q3	2008Q1 - 2010Q3	2008Q1 - 2010Q3	2008Q1 - 2010Q3
R^2	0.737	0.745	0.759	0.749	0.743	0.757
SE	0.725	0.717	0.700	0.715	0.720	0.704
BIC	2.396	2.407	2.392	2.433	2.413	2.401

Source: calculations by the authors (ordinary least squares method); robust standard errors in brackets; ***, ** and * indicate coefficients that are significant at the 1%, 5% and 10% significance level, respectively.

Table A2.4 Estimated equations with a quantile regression (median), confidence intervals calculated by X-Y pair bootstrap (10 000 repetitions)

	Eq1	Eq2	Eq3	Eq4	Eq5	Eq6
Constant	0.034	0.100	0.085	0.006	0.121	0.024
	(0.122)	(0.091)	(0.114)	(0.126)	(0.094)	(0.136)
Gap100	-0.038***	-0.036***	-0.027***	-0.030***	-0.076***	-0.054***
	(0.007)	(0.006)	(0.005)	(0.006)	(0.020)	(0.011)
Debt	0.006***	-0.000	0.005***	0.006***	0.005***	0.006***
	(0.002)	(0.003)	(0.002)	(0.002)	(0.001)	(0.002)
(Debt-100)*$1_{|(Debt>100)}$	0.047***	0.046***	0.047***	0.044***	0.028*	0.045***
	(0.016)	(0.015)	(0.014)	(0.016)	(0.016)	(0.015)
DebtServ		0.065**				
		(0.032)				
CA			-0.004			
			(0.007)			
CAPriv				-0.008		
				(0.009)		
CA*Gap100			0.002**			
			(0.001)			
CAPriv*Gap100				0.002		
				(0.002)		
Bin_CAPriv						-0.029
						(0.114)
Bin_consolidation *Gap100					0.048**	
					(0.021)	
Bin_CAPriv *Gap100						0.032***
						(0.012)
Liq	-0.019***	-0.016***	-0.016***	-0.014***	-0.015***	-0.013***
	(0.005)	(0.004)	(0.004)	(0.005)	(0.004)	(0.004)
GRC10Q3	5.839***	5.767***	5.562***	5.865***	5.924***	5.653***
	(0.352)	(0.291)	(0.283)	(0.323)	(0.292)	(0.314)
Nobs	110	110	110	110	110	110
Period	2008Q1 - 2010Q3	2008Q1 - 2010Q3	2008Q1 - 2010Q3	2008Q1 - 2010Q3	2008Q1 - 2010Q3	2008Q1 - 2010Q3
Pseudo R^2	0.474	0.497	0.528	0.503	0.495	0.522
SE	0.594	0.579	0.550	0.590	0.586	0.553

Source: calculations by the authors (quantile regression); robust standard errors in brackets; ***, ** and * indicate coefficients that are significant at the 1%, 5% and 10% significance level, respectively.

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