

Dead Ends and Ways Out of the Crisis from a Macroeconomic Perspective¹

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Macroeconomics is going through a delicate period. In itself, that would not be too serious, if we were not expecting so much help from it in terms of economic policy. It cannot, however, give any clear answer to current problems or propose an appropriate solution. At the risk of using arguments that are not always conclusive, I would like to present the main lines of a reflection in progress. This reflection is based on the issues that macroeconomics is now facing, of debt, output gap and growth, to put it in common parlance. Public deficits are high, as are public debts and the rate of unemployment that accompanies the loss of activity. Financial institutions are exposed to risks that become systemic when they are combined, and the euro could explode under the pressure of the sovereign debt crisis.

There are two main, opposing approaches to these issues. The first is a conservative, "liquidationist" approach, so called in reference to the liquidationists of the Great Depression. The second is of Keynesian inspiration.

For the former, we must:

- vigorously reduce public debt and not allow high public deficits to persist;
- combat moral hazard: if debts are too heavy, this must be explained to the borrowers and lenders and the debts must be liquidated, in other words defaulted on. This liquidationist position is currently held by the German finance minister, for example;
- undertake "structural reforms" to speed up growth. This third element appears to have been chosen by default, in a context of heavy constraints where structural reforms are seen as a lever that can stimulate the economy a little.³

For the latter, we must:

- reduce public deficits progressively, above all by making a structural effort that, because of the existence of automatic stabilizers and the impact on gross domestic product (GDP) of the reduction of deficits, may

³ Among other examples, the liberalization of the taxi industry is supposed to help compensate for the loss of growth linked to the reduction of public debts. This measure from the conservative-liquidationists is inconsistent with the principle – which they acknowledge – that if the taxi industry is to be deregulated, the taxi drivers must be compensated by buying back their rent. Given the lack of resources for this buy-back, this operation of deregulating the taxi sector (and other sectors) would be done at least cost and therefore without compensation.

not produce results in the short term. So the structural effort does not necessarily lead to a quick reduction in deficits, but we count on a longer term effect on the public deficit, which in turn reduces the debt;

- pursue a very active monetary policy. This course of action can be seen, for example, in the gift of 500,000 million euros lent at 1 per cent by the European Central Bank (ECB) to European banks, which can then lend at 5.5 per cent, notably to Italy, thus giving the banks an almost risk-free margin of 4.5 per cent and helping to refloat them. Because of the systemic risk threatening financial institutions, this policy has met with little criticism, but it is nevertheless a gift made to the banks, an injection of liquidities, coupled with the temptation to boost the value of assets, in other words to re-inflate the bubble. And the bubbles have followed one another: the bubble of 2000 made way for that of 2007–08. Re-inflating a bubble that will burst in a few years allows the generation in power to solve the problem by bequeathing it to their children, simply gaining a bit of time.

Other courses of action exist, which at present remain rather unstructured:

- strongly reducing wealth gaps, by means of a sort of reset consisting in a huge increase in taxation of the rich and the transfer of a large share of the proceeds to the poor, using the rest to pay off some of the debts. For those who believe the crisis is linked to inequalities, this might be a solution to one of the structural elements of the crisis;
- declaring a general default in order to start again on a sound footing. The advocates of this tactic see it as an opportunity to put an end to capitalism. Public debts are unjustified and by nature non-egalitarian: there is no reason to maintain them in their current state;
- encouraging inflation, which is a softer version of the previous proposition, insofar as it leads to the same result, but only gradually, spreading the operation over time. This idea, however, is in the nature of wishful thinking: inflation is never ruled solely by intention and might not solve any of the problems we are facing;
- adjusting the exchange rate. This method has been little explored in Europe. In the case of a global crisis, adjusting the exchange rate is not

a solution, inasmuch as it amounts to transferring the problem elsewhere. But since this crisis is becoming more and more specifically European, the question of exchange rates may be raised as it gradually becomes less taboo.

Figure 1: From big recession to very big recession

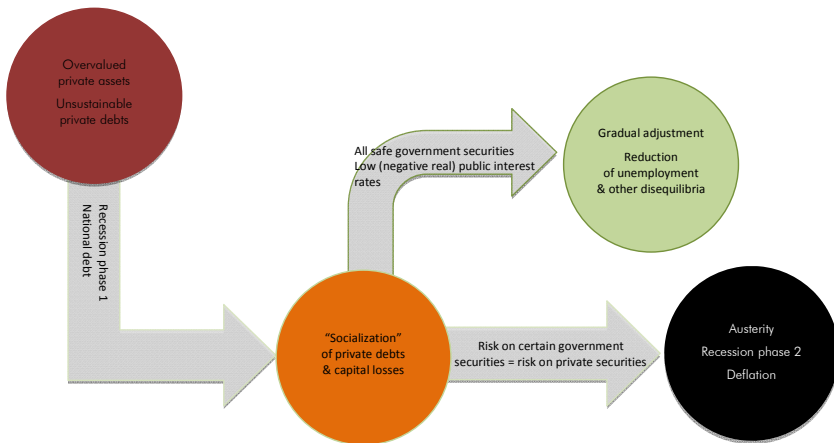


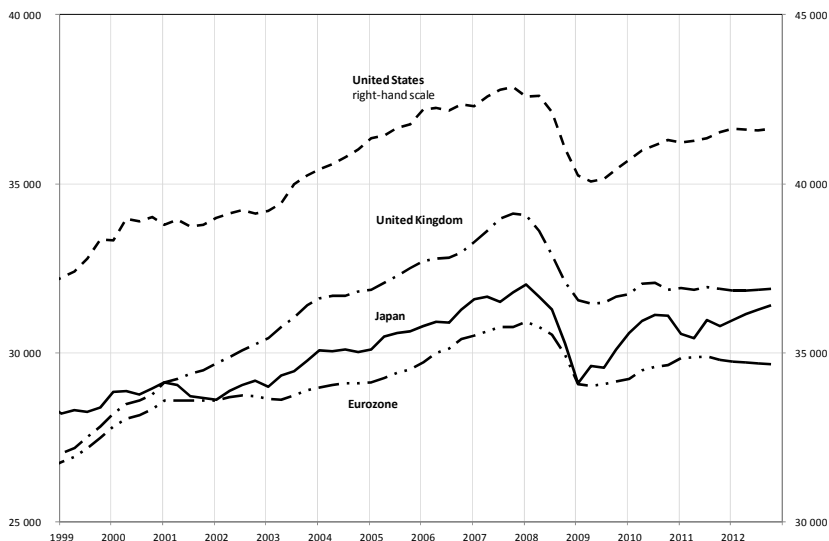
Figure 1 summarizes the causality of the current crisis. To begin with, overvalued private assets and unsustainable private debts trigger the crisis, with all the consequences we have observed, including a recession. Since we have applied Keynesian recipes, public debt rises, which is the way to arrest the free fall of the economy caused by the bursting of the bubble of unsustainable assets and debts. Then, in an intermediate state of the economy – a little less serious than before – we have the socialization of private debts and capital losses. The result is a large mass of public debt that needs to be reduced. There are two possible configurations. Public assets are as uncertain as private assets, in other words they can be defaulted on just like private ones. It is up to the creditor to take into account the potential default when he lends the money (including when he lends to a sovereign borrower); this risk is measured by a rate of interest. When there is a strong rise in an agent's debt ratio (whether the agent is public or private) and there is a risk of default, the

interest rate should rise to warn the agent that his situation is no longer viable. If there is no other solution, default becomes inevitable and the recession is triggered. If a large number of agents are subjected to a temporary income constraint (which may remind some readers of parts of Keynesian theory), there is a real possibility of recessionary chain reactions that, due to an error in the evaluation of assets, can lead to a disastrous contraction in the economy and a depression in the strict sense of the word.

A scenario of gradual adjustment can be envisaged, or the diminution of imbalances following a given order of priorities. For example, one might start by reducing unemployment, and then the other imbalances, or by reducing current imbalances before moving on to tackle public finances. This prioritization makes it possible to perform a gradual adjustment. Moreover, this policy also allows for profound changes to the way we look at things on a long-term or global basis. In this configuration, public interest rates play a crucial role. If there is uncertainty about government securities, interest rates are likely to rise, resulting in strong pressure being exerted on governments to reduce the public deficit and public debt as the cost of the debt rises.

During periods of recession, there is a flight to safety. Securities must be safe if they are to provide pensions in 50 years' time, for example. In a situation of high uncertainty, securities that provide a guarantee are favoured; if a government guarantee is proposed, the guaranteed security will capture all the savings, provoking a collapse in interest rates. *Ex ante* overall savings are too high, which maintains interest rates on the safe securities at a very low level and accentuates the divergence between safe interest rates and higher-risk interest rates, which are very high because of this uncertainty. The safe interest rates are low, because they attract all surplus savings. The advantage of this is that the fall in interest rates influences the time horizon over which one can reduce the debt, in other words the present discounted value of the debt one has incurred at a low rate of interest is in fact very small. It should not be counted at nominal, face value, but at its equivalent long-term interest rate. If one can borrow at 2 per cent instead of 4 per cent, this means implicitly that for each euro borrowed, the present discounted value of the debt on the balance sheet is only 50 cents.

Figure 2: The current situation

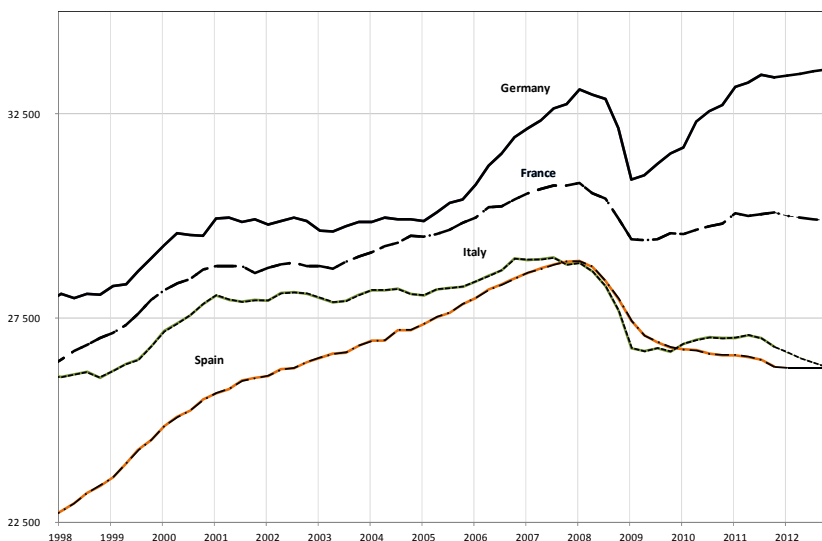


GDP per capita (purchasing power parity), in 2005 dollars. The United States is on the right-hand scale. Source: national accounts (via Datastream), World Bank for PPP indexes, OFCE forecasts March 2012 and calculations by the author.

Figure 2 presents the current situation and gives an indication of the scale of the crisis. It shows the changes in GDP per capita for the United States, the United Kingdom, Japan and the Eurozone. The period of collapse in 2008–09 ended fairly quickly, which prompted the United States to think that it could recover quite fast. There was then a levelling-off, very clear in the United Kingdom and in Japan, which also suffered the tsunami and its consequences and, indirectly, the flooding in Thailand. The same kind of contraction can be observed in the Eurozone, with more contrast between individual countries within the zone.

The slump continues in Spain and Italy, while Germany is showing a clear recovery. Overall, the state of the economies of the developed countries is now much worse than it was in late 2007–early 2008. Far from having recovered, the Eurozone is suffering from high unemployment and a slowdown in activity.

Figure 3: The current situation in the big four Eurozone countries

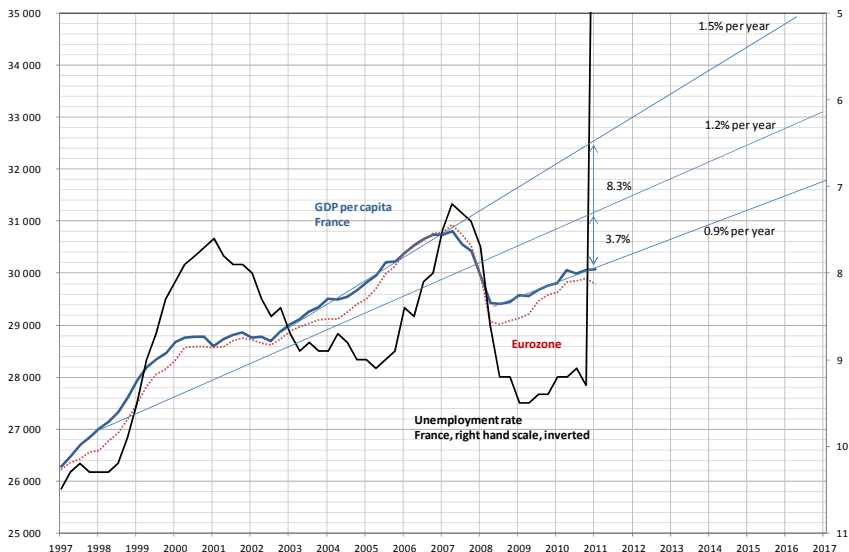


GDP per capita (purchasing power parity), in 2005 dollars. Source: national accounts (via Datastream), World Bank for PPP indexes, OFCE forecasts March 2012 and calculations by the author.

According to an optimistic view, it is possible to return to the growth trajectory enjoyed up until 2008. In this perspective, one can imagine France, for example, making up the 8.3 per cent shortfall over the coming years. This implies a very dynamic economy with annual growth of 4 per cent (sum of an increase in potential of 0.5 per cent due to population growth, plus 1.5 per cent growth in GDP per capita, plus 2 per cent from closing the output gap), which would represent a scenario of returning to *normal* (with a *normal* situated at the highest level in Figure 4). According to a less optimistic view of the *normal*, the potential curve is flatter (1.2 per cent per year for GDP per capita), and the reference point is no longer the last quarter of 2007, but a point further down. Here, *a posteriori* analysis of the 2000–07 period presents it as a time of excessive growth stimulated by one or more bubbles, which then burst, giving rise to an over-adjustment. In this context, the output gap is of about -4 per cent, which would be consistent with the rise in unemployment, but

which also allows one to hope for an increase in activity and the return to a situation of quasi-full employment.

Figure 4: The new “normal”



GDP per capita (purchasing power parity), in 2005 dollars. Source: national accounts (via Datastream), World Bank for PPP indexes, OFCE forecasts March 2012 and calculations by the author.

A more pessimistic point of view considers past growth as illusory. The economy was based on a system of erroneous prices, of overvalued assets (too many Airbuses were sold to customers who thought they were too rich). The situation then returned to *normal*, with a new valuation of assets. In this perspective, annual growth will now be 0.9 per cent, there will be no catching up to past levels, the unemployment rate will remain high, and the excess will only be reduced by cutting real wages to stimulate employment (restoring a relative price system consistent with the state of technology and society). We must therefore prepare for some difficult years ahead, because the growth potential is low, and there is no solution other than to adapt to it. In the spring of 2012, the Organisation for Economic Co-operation and

Development (OECD) forecast an intermediate trajectory, having abandoned the idea of the most optimistic one.

The dynamics of the public debt derive from a well-known process. There is a primary structural balance s^* that stabilizes the debt-to-GDP ratio. The equation is simple: $s^* = -d(g - r)$. It can be expressed as a function of the output gap, the rate of potential growth, the starting point of the economy, the level of debt and the level of interest rates. One can then calculate the balance that would maintain debt at a stable level, compare this with the actual primary balance, and thus calculate the tax gap corresponding to the extra fiscal effort that would be required to stabilize the debt. In this way, we can assess the structural imbalance of public finances. The tax gap of the United States, for example, is 6 points, meaning that the US must make a fiscal effort equivalent to 6 per cent of GDP to maintain its public debt at a stable level once it has closed its output gap (or returned to full employment), either by increasing taxes by 6 per cent of GDP or by cutting spending by an equal amount. Six points of GDP in the United States corresponds to one and a half times the defence budget or income tax: it is a massive fiscal effort. It is 5 points in the United Kingdom and 9 points in Japan (in fact somewhere between 6 and 10 points depending on the concepts chosen; these various tax gaps correspond to different hypotheses about the output gap and growth potential), while Germany is at equilibrium. France has a gap of about 2 points; Italy actually has a positive tax gap with room for manoeuvre in terms of structural deficit. This is also the case for Greece, Portugal and Ireland, which are at equilibrium. The Netherlands, on the other hand, needs to make a bit of an effort.

The weaker the growth potential, the wider the tax gap. In the case of Italy, the deficit is low, the primary structural balance is positive (1 point of GDP), and the output gap is -1.7. That means that if it recovered 1.7 per cent growth, its primary public deficit would be 0.9, and therefore, even with a rate of growth below the interest rate of 2 per cent (which is the reference rate here), Italy would be able to sustain its public debt and even stabilize it. This is the situation Italy was in over the last decade. It managed to reduce its public debt slightly despite its very weak growth, because the budgetary situation (close to breaking even or even slightly positive) allowed it to reduce the debt. The dynamics of the Italian debt was downwards, and it

only rose by about 10 points of GDP during the crisis, which gives no reason to consider Italy to be in a worrying situation.

Table 1: Dynamics of the debt

	Potential growth in 2011 (OECD)	Output gap	Primary balance	Structural primary balance	Net national debt	s^*	TaxGap 1 gap/pot OECD	TaxGap 2 gap OECD/pot WAP	TaxGap 3 gap UNR/pot OECD	TaxGap 4 gap UNR/pot WAP
USA	1.9	-3.8	-8.0	-6.1	74	0.1	6.1	6.1	6.0	6.0
GBR	1.1	-3.7	-6.6	-4.7	62	0.6	5.3	5.0	5.6	5.3
JPN	1.1	-4.6	-7.5	-5.2	128	1.1	6.3	7.3	8.8	9.8
DEU	1.5	-0.8	0.8	1.2	51	0.3	-0.9	-0.5	-1.0	-0.6
FRA	1.4	-3.4	-3.3	-1.6	63	0.4	2.0	2.0	1.6	1.6
ITA	0.2	-1.7	0.9	1.8	100	1.8	0.0	-1.3	-0.7	-1.9
ESP	1.3	-4.9	-4.6	-2.2	46	0.3	2.5	2.3	-3.3	-3.4
NLD	0.7	-0.1	-2.7	-2.7	38	0.5	3.2	3.0	3.6	3.4
BEL	1.1	-1.5	-0.3	0.5	80	0.7	0.3	-0.3	0.0	-0.6
AUT	1.9	-1.8	-1.3	-0.4	45	0.1	0.4	0.6	1.7	1.9
PRT	-0.2	-2.7	-1.7	-0.3	76	1.7	2.0	1.1	-0.4	-1.3
GRC	0.6	-15.0	-2.1	5.4	133	1.8	-3.6	-4.4	-1.9	-2.7
IRL	0.1	-7.8	12.8	16.7	65	1.2	-15.5	-16.4	-16.2	-17.0

Note: the data are drawn from the OECD (Economic Outlook n°90). The calculations are detailed in Fitoussi and Timbeau (2011).

Table 1 is based on a crucial hypothesis: for simplicity, the real interest rate is fixed at 2 per cent, which is quite close to the growth potential. In Italy, for example, the growth potential is about 1 per cent and roughly corresponds to the golden rule. Two per cent is a desirable level for real interest rates, and is approximately what one can observe on average, over long periods. Table 2 shows more clearly the impact of a different value for interest rates, in this case the average market rate in 2011, denoted IR_m (and which is, for some countries, below the most recently observed rates).

Table 2: The impact of interest rates

	dTax gap/dr	Tax gap pot&gap OECD, IRm	dTax gap (IRm-2%)	TaxGap 1ter OECD&OECD, d=0.5	dTax gap (IRm-2%)
USA	0.7	5.9	-0.2	7.1	0.9
GBR	0.6	5.3	0.0	5.6	0.4
JPN	1.3	4.0	-2.4	8.8	2.4
DEU	0.5	-0.6	0.3	-0.9	0.1
FRA	0.6	2.1	0.1	2.4	0.4
ITA	1.0	2.1	2.2	1.1	1.1
ESP	0.5	3.5	1.1	2.3	-0.1
NLD	0.4	3.1	0.0	2.8	-0.3
BEL	0.8	1.1	0.9	1.2	0.9
AUT	0.5	1.0	0.6	0.2	-0.2
PRT	0.8	8.2	6.1	2.5	0.5
GRC	1.3	17.0	20.6	-1.4	2.2
IRL	0.6	-11.3	4.2	-15.2	0.3

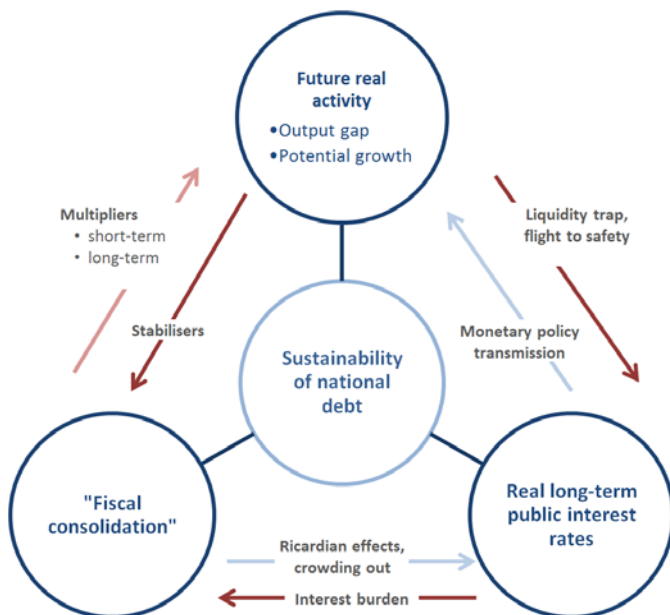
Note: The data are drawn from the OECD (Economic Outlook n°90). The calculations are detailed in Fitoussi and Timbeau (2011).

If we take the current market interest rate (that is, the 10-year public interest rate minus the current rate of inflation), instead of the reference rate of 2 per cent, then the rate for Italy is 5.5 per cent, and the tax gap rises from 0 to 2.1. Whereas Italy was more than breaking even with an interest rate of 2 per cent, a rate of 5.5 per cent places it in a situation where it must make a structural effort of 2 points of GDP. With a market interest rate, Greece, for its part, must make a structural effort of 17 points of GDP – in other words an impossible task. Since the interest rate is an essential determinant of solvency, a positive loop emerges: when the interest rate rises, the debt becomes unsustainable, which justifies the rise in the interest rate, and so on. This is what has happened to Italy, Greece and Spain, and it could happen to any country because of the instability of this positive loop. Because of rumours, European disagreement, or the European Commission refusing to lend money to a country because it has not applied the prescribed plan, a crisis of solvency can arise, throwing the country into an unsustainable situation, from which it would be saved by an interest rate at 2 per cent. So the interest rate is an essential parameter, even more important than the level of public debt.

So what reasoning should we adopt? A debt crisis depends on three main factors: economic activity, the policy of fiscal consolidation and the interest rate. To

begin with, we assume that these three factors are independent and that they correspond to what we observe; then we calculate an instant indicator of sustainability (as above). In reality, however, this indicator is not particularly relevant, because there are interactions between each of these three factors.

Figure 5: The interactions in a debt crisis



Source: by the author

Fiscal consolidation has an effect on economic activity: it improves the capacity for debt repayment but damages activity through a multiplier effect, which in turn affects the capacity for repayment. Reducing activity has the effect of reducing fiscal consolidation, which has an impact on deficits (through the automatic stabilizers), and thereby on the public debt crisis. The interest rates themselves depend on the level of public debt and the expectations of future activity. If the output gap is very wide, this can exert downward pressure on the interest rates through the mechanisms of the flight to safety or the liquidity trap. Fiscal consolidation can have a positive or

negative effect on interest rates (in carrying out fiscal consolidation, governments seek to reduce interest rates to obtain a double effect of improvement on the solvency of the public debt, which could possibly exceed that of activity). Studying the effects of interaction between these three variables, with the future of public debt as our criterion of judgement, we can already observe a complex structure, inspiring a number of controversies about the nature of the relations between the variables. These controversies are the source of errors of analysis and decision making; they are three-fold.

The first controversy is centred on interest rates: what factors influence them? The prevailing view is that the higher the public debt, the higher the interest rates. The crowding-out effect of public debt encourages governments to reduce the debt quickly, failing which interest rates will rise and make the debt doubly unsustainable, because in addition to the high level of the debt itself, the interest rate burden rises. The econometric analysis of structural elements provides us with a number of parameters and brings to light certain links that explain extreme situations like that of Greece, Ireland and Italy. Works published by the OECD in 2012 (Barrell *et al.*, 2012; Sutherland, Hoeller and Merola, 2012) present simulations in which various different relations are postulated and demonstrate that the effects on interest rates more than offset the effects on multipliers. As for the risk of default, the works of Reinhart and Rogoff (2008) assume the existence of a threshold at 90 per cent, beyond which one can no longer exercise any control. Although such a threshold is fictional, and their result is inconclusive, it has entered people's minds and corresponds to a realistic risk. France, for example, will hover around the 90 per cent mark throughout 2012; these results will doubtless be used to generate fear, but the risk of interest rates spiralling out of control does exist.

Today, this line of reasoning is the object of a regrettable consensus. Savers and investors are presently in a state of panic, prompting them to avoid risky assets and to pay dearly to hold safe assets: this is indeed a liquidity trap situation, pushing public interest rates downwards. Instead of the usual relationship suggested by the historical analysis of certain specific episodes, the link between economic activity and interest rate is positive. Despite a high public deficit (and partly in connection with this public deficit), the flight of private savings from risky productive investment to public debt results in a fall in interest rates. This is the case for the United States,

Japan and the United Kingdom. The downgrading of the US credit rating last summer did not lead to an increase, but to a fall in interest rates in the United States, as Paul Krugman has amply shown (this effect is dominant, as long as the central bank guards against the self-fulfilling risk of spiralling interest rates). The liquidity trap has numerous other consequences: the inefficacy of monetary policy, the expectation of deflation with a negative effect on activity, a positive direct effect on the solvency of debt holders but a negative effect on all the other elements that influence it, which prevails over the positive effect.

Figure 6 gives an idea of the scale of the divergence in interest rates between the Eurozone and two developed economies. If the rates in the Eurozone are high, this is because the essential institution is lacking: the central bank, which, through its role as lender-of-last-resort, ensures that government securities do not default, or at least not until the end of the world, and in any case, they will be the last securities (as national currency) to default. The Eurozone has a very particular arrangement, because there is no ultimate guarantee – in the current and actual interpretation of the treaties – and a “beauty contest” has emerged between the different issuers of public debt in euros. Since the summer of 2011, it has been demonstrated by example that a country in the Eurozone can default – whether the default is partial or total is irrelevant. As a consequence, sovereign interest rates represent the feelings of investors as regards the risk of default in the Eurozone. Thus, Spain or Italy are subjected to high rates (see below), which has serious repercussions. France must pay a rate that would be “normal” if we were in a “normal” situation, but which is about 1 point above the interest rate for the UK, although the UK is in a much more delicate situation. Finally, Germany, the winner of the beauty contest, benefits from a particularly low sovereign interest rate (1.5 per cent per year at 10 years), because German sovereign securities have become the least risky support in the whole Eurozone.

In Figure 6, up until December 2011, the debt crisis resulted in a peak. There was then a respite in early 2012, followed by a slight rebound provoked by the renewal of the crisis in Greece. Despite the respite in early 2012, interest rates are up at 3.36 per cent in the Eurozone, compared with 1.5 per cent in the United States and the United Kingdom. In the US and the UK, real interest rates are zero or negative.

Figure 6: Controversy 1 – interest rates and the influence of institutions



Note: Public rates at 10 years, average weighted by the gross public debt in 2010, in the Eurozone.

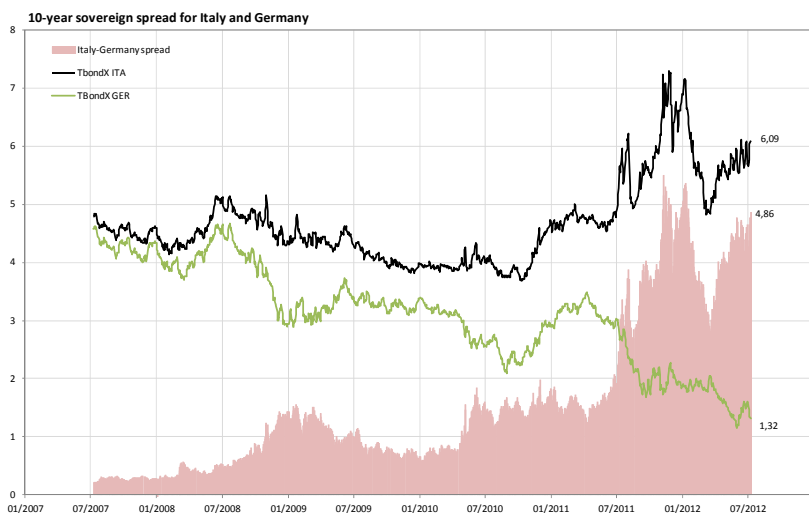
Sources: Central banks for the rates; Eurostat for the debts. Calculations by the author.

In other words, by waiting – holding on to a public deficit or public debt – these countries make a profit. For the Eurozone as a whole, on the contrary, waiting costs money. If, as in the US, the UK or Japan, the Eurozone were to make government securities safer by announcing that any risk of public default is impossible, because the central bank is there as a last resort to guarantee the value of government securities, there would be nothing to prevent public nominal interest rates from falling below 2 per cent. The tax gaps would then automatically fall by almost two points. Nevertheless, because of the incompetence of European institutions and the attitude of Germany, the Eurozone finds itself in the exact opposite situation: rather than interest rates being low, they are artificially high.

In mid-2012, Italy is borrowing at 5.6 per cent. In 2011, based on the interest rate differential between Italy and Germany, Italy transferred 54 billion euros in net present value (the surplus compared to what it would have paid with the same interest rate as Germany) towards various unknown beneficiaries – doubtless a few investment banks and other rich investors. If Italian interest rates remain at

5.5 per cent throughout 2012, the extra cost will be 63 billion euros in 2012. Over two years, this will have cost Italy more than 100 billion euros, in other words more than 8 points of GDP. If Italy had captured the savings of its residents and paid 2 per cent interest on them, instead of borrowing at 5.5 per cent on the markets, it would have saved 100 billion euros and would have had no need of the fiscal recovery plans it has had to implement. So the choice facing Italy is the following: apply fiscal restraints of 50 billion euros per year or find a way not to pay an interest rate of 5.5 per cent on its debt.

Figure 7: The risk of leaving the Eurozone: the case of Italy



Note: Sovereign spread for Italy and Germany (10-year treasury bonds). Sources: central banks, author's calculations.

So Italy risks leaving the Eurozone, because it is costing too much. It would gain (in the sense explained here) from closing its borders to capital movements, using its residents' savings to pay off the debt and paying the savers 2 per cent interest. In March 2012, Italian savers were paid less than 1 per cent for "safe" investments (in other words, guaranteed products). The Italian taxpayer borrows at 5.5 per cent; the saver is paid 1 per cent. So where does the delta of 4.5 per cent go?

Some of it probably goes to Goldman-Sachs. How long can the absurdity of this situation persist?

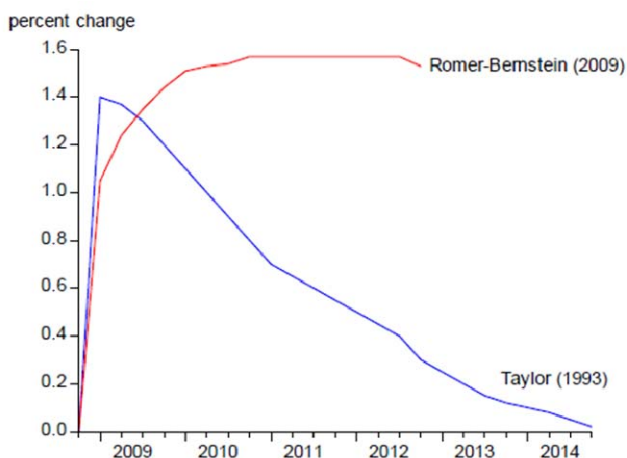
A second controversy concerns the fiscal multiplier (also explored in Creel, Timbeau and Weil, 2012), with similar arguments. A few years ago, some authors developed the concept of expansionary fiscal consolidation (Alesina and Perotti, 1996; Giavazzi and Pagano, 1990), based on the idea that during a period of budget restriction, agents are satisfied to see that public finances are being sorted out, and growth recovers as a result. It is the prospect of paying lower taxes in future that unblocks the (intertemporal) consumption capacity and allows for a higher level of economic activity. In the simplest version (Barro, 1974), public expenditure is neutral with respect to economic activity. In the anti-Keynesian version, a reduction in the government's role in the economy increases the influence of individual incentives – less disturbed by taxation or by the free distribution of goods and services – and leads to an increase in productivity. This is said to have worked in Canada, Sweden and Denmark.

Today, this illusion no longer holds. At least over the short term, multipliers are positive, or even very positive. An article co-written by thirteen authors and published in the *American Economic Journal* in 2012 (Coenen *et al.*, 2012), studies seven different dynamic stochastic general equilibrium (DSGE) models and the same number of simulations, with a view to finding some kind of consensus. All the models studied lead to the conclusion that short-term multipliers are higher than 1 for all countries and all zones. Cogan and his co-authors (2009) arrive at the same conclusion as the historical empirical work conducted at the International Monetary Fund (IMF) (Devries *et al.*, 2011; Guajardo, *et al.*, 2011).

A multiplier higher than 1 means that in the event of fiscal restraint, the impact on growth is so great that it can cause the public deficit to rise. And this is indeed the case with a multiplier of about 1.5 or above. So the controversy no longer concerns the value of the short-term multiplier. Figure 8, drawn from the study mentioned above (Cogan *et al.*, 2009), perfectly encapsulates the sticking point: the multiplier of Taylor's canonical model (a DSGE model that is quite old but close to the current consensus) is high over the short term, then decreasing to zero at the medium term. Romer and Bernstein (2009), on the contrary, present a multiplier that climbs quickly and then remains high. In Figure 8, it produces a permanent shock of 1 point.

According to Taylor, the initial positive effect subsequently disappears; over the long term it resembles a Ricardian effect, fundamentally related to the hypothesis of rational expectations assumed in the models. Why this hypothesis? Over the long term, when some share of expenditure is socialized, agents will realize this and stop consuming whatever is being consumed for them, which may even have negative effects because of the bad incentives that may lie in the background.

Figure 8: Short- and long-term multipliers



Source: (Cogan *et al.*, 2009)

The aim of Romer and Bernstein’s analysis was to assess and, above all, justify the recovery plan. It therefore presents a multiplier that is constant over a permanent shock, in other words, constant during a given period of time without knowing when it will start to decline. This justifies fiscal stimulus measures, because they have a positive effect with a strong multiplier (nearly 1.6) and, above all, an effect that persists over time. The difference (and the dissensus) is not over the value of the short-term multiplier (the current consensus being that it can really be very high), but over the value of the long-term multiplier, or the medium-term multiplier over a horizon of 4 or 5 years.

Dominant macroeconomic theory admits the possibility that fiscal shocks can persist over time. When the shock is temporary and not expected by the agents, its

impact can be positive over the medium term. When the event is expected, announced and of a long-term nature, on the contrary, the agents adapt their behaviour and the multiplier tends to zero. Nevertheless, in standard theory, the macroeconomic equilibrium is determined by the fundamental parameters, and the effect of fiscal policy is *assumed* to be null. This last remark is important, because this is the point of divergence, the nodal point of the analysis.

There are no convincing empirical or solid theoretical elements to justify this assumption that the long-term multiplier is zero. The choice of this hypothesis leads to conclusions that are radically different to those one would draw from a more agnostic approach to the value of the multiplier. When the long-term multiplier is zero, fiscal restraint no longer has any impact on the trajectory of economic activity after a certain time. Budget restraints, on the contrary, lead to a lasting reduction of the public deficit. Ultimately, economic activity remains stable (or equal to what it would have been without the restraint) while the public deficit is reduced. The public debt and the debt-to-GDP ratio are reduced by the same stroke. If, on the contrary, the multiplier is 1.5 over *both the short and the long term*, then fiscal restraint reduces economic activity on a lasting basis and the public debt increases. To make public debt sustainable, what is needed is not fiscal contraction but fiscal stimulus!

So the consensual value of the short-term multiplier is of little importance. What matters is the long-term multiplier. How does one justify the assertion that the long-term multiplier is zero? The canonical DSGE models, based on a set of hypotheses that some authors have sought to establish as the foundation of macroeconomics (Blanchard, 2009), appear to provide a demonstration. This is the message conveyed by the article cited above (Coenen *et al.*, 2012). This type of general equilibrium model has a strict theoretical framework, with explicit optimizing behaviour derived from reasonable microeconomic hypotheses. Depending on the model, it is calibrated and estimated on data (whatever can be estimated is estimated and whatever needs to be calibrated is calibrated, based on additional empirical analyses that cannot be incorporated into a maximum likelihood approach, but which do show a desire for comparison with the data) and adopts the rational expectations hypothesis (REH). Basically, this concerns the belief that there exists a predetermined, unambiguous trajectory. These models are qualified as *stochastic* and yet their framework is fundamentally deterministic. The trajectory is determined twice over

due to the presence of rational expectations: agents correctly anticipate a predetermined trajectory, which doubles, in a way, the “fixed” nature of the trajectory and endows it with great stability and independence in the face of economic policy shocks. These models are gravitational, in the sense that an irresistible force brings the economy back to its fundamentals. The only way to change the trajectory is to change the structural parameters (technology, preferences, and so on), which is (by another hypothesis) inaccessible to economic policy.

Macroeconometric models constitute an older approach to the same question, based on an equivalent view of the fixed dynamics of the economic system. Barrell *et al.* (2012) uses a model of this type to analyse the question of the “right” economic policy. These models are based on structural econometrics. They therefore contain fewer theoretical foundations and are constructed without calibration. Today, however, like the DSGE models, macroeconometric models either partially or fully adopt the REH. In England, for example, this is what the National Institute of Economic and Social Research (NIESR) has done with its global econometric model (NIGEM). There is a fixed trajectory and an absence of multiple equilibria, as in the macroeconomic models. These two approaches have an empirical vocation insofar as they take into account estimation, likelihood and parameters calibrated on possibly different sources. This is a very particular theoretical framework, of which the central idea is that the trajectory is fixed, after which one defines the form of the multiplier.

Figure 8 presents the result of this process of estimation on data (the curve produced by the Taylor model). We can therefore consider that a multiplier of 1.4 does indeed result from an estimation of the reaction (complete, at equilibrium) of economic activity to a variation in fiscal policy. On the other hand, a long-term value of zero does not; it corresponds to the hypothesis (necessary for identification) that the trajectory is deterministic. Likewise, the medium-term evaluation of Romer and Bernstein is based on a hypothesis, whereas the short-term evaluation results from a procedure of comparison with the data. So there is nothing surprising about the short-term consensus (same data, equally realistic procedures) and the long-term dissensus (based on hypotheses).

The recent empirical analysis by the IMF converges towards the same result for the short term. Guajardo, Leigh and Pescatori (2011) propose a historical analysis, sometimes called a narrative, generalizing the work of Christina Romer, in

which they seek to identify periods of fiscal restraint in a flow of data and to observe whether economic activity has increased or decreased concurrently with these periods of restraint. There is a problem, however: we can never be sure that fiscal restraint is the sole policy pursued. Other measures are taken at the same time, and it is therefore practically impossible to distinguish the different determinant factors correctly. Nevertheless, the following result is obtained: economic activity is invariably reduced during periods of fiscal restraint. There is therefore a convergence with the DSGE models, which shows that this methodology has some pertinence, at least over the short term. Unfortunately, one can only answer this question for the short term. For the long term, in the absence of structural analysis and the impossibility of reconstructing it, the historical method provides us with very little information, because the further off we move in time, the more the factors accumulate to confuse the message, and the less information we can obtain. The only thing we can be sure of is that the value of the short-term multiplier is positive, or even very positive.

What we cannot know with this method, on the other hand, is what happens after a few years. This is what gives rise to the controversy, and it will continue to do so as long as macroeconomics is not an experimental science. In most DSGE models or most of today's models, hypothesis is excluded *a priori*. And yet many arguments contradict these models: it is perfectly possible to have persistent multiplier effects because agents are subject to liquidity constraints (they consume their whole income), because there are no rational expectations, or because of hysteresis related to unemployment, research and development (R&D), the location of productive capital or the accumulation of capital. There may be multiple equilibria (a little like hysteresis but with more complexity): they may come from the interrelation between expectations and rationality, since in the case of an undetermined trajectory, expectations and rationality can lead to self-fulfilling equilibria that are, by definition, multiple.

The example of the restaurant that is either full or empty when the number of customers is taken as a basis for estimating the quality of the restaurant is useful here: these are rational and totally self-fulfilling equilibria. They are multiple and stable: both of the equilibria (empty restaurant / full restaurant) are stable. And yet this illustration of equilibria with expectations and rationality does not lead to a fixed trajectory. As Paul de Grauwe (De Grauwe, 2010, 2011) or Giovanni Dosi (Dosi *et al.*,

2012) have shown, it is then possible to introduce heterogeneous agents, which leads to roughly the same result.

A third controversy concerns the *new normal* and it includes an almost comic element that says a lot about conformism in economics: the DSGE models, with their fixed trajectory and rational expectations, lead to the conclusion that no economic policy can do anything to change the situation. But certain economists, while affirming this idea and inflating the assumption into a universal rule, believe that the great crises, like the contemporary financial crisis, have an enduring effect on economic activity. By virtue of the hypothesis of rational expectations, economic policy has no impact over the long term and one always returns to a baseline trajectory imposed by the microeconomic foundations where coordination is fundamentally stable. In the event of a crisis, on the contrary, this baseline trajectory ceases to exist, the microeconomic foundations no longer justify anything and the trajectory jumps. Needless to say, this hypothesis is equally debatable and its habitual use is particularly specious. According to the historical analysis of which the IMF is particularly fond (and which gives a pertinent result for the short-term multiplier), a financial, banking or more general debt crisis costs 10 per cent of economic activity, forever.

When debt crises occur, there is no return to the baseline trajectory. Thus, some agents anticipate a baseline trajectory that is always stable except when debt crises arise and spread disorder. "Truth on this side of the Pyrenees, error beyond." What struck Pascal for a distance of a few kilometres is illustrated here between one region of the brain and another.

To sum up, according to the standard view:

1. the multiplier quickly falls to zero, whether the shock is permanent or persistent (in the long term it is zero by assumption);
2. the effect of public debt on interest rates is persistent and positive, so the longer the debt runs, the higher the risk of default;
3. full cost-pricing must be applied to public debt (because of moral hazard);
4. the effect of the crisis on economic activity is persistent.

To control public debt, it is therefore necessary to reduce the public deficit through fiscal restraint, which will be painful over the short term but which is the only

solution when we take the long term into account and consider the persistent impact of the crisis. Simulations indicate, however, that even if we must prevent debts from accumulating, one has a period of a few years in which to act, because the short-term multipliers are positive. Other elements may come into play and modify the analysis: the zero limit on interest rates or the risk of deflation (not to mention the risk of depression).

This standard view is mistaken because of the following four points.

1. Admittedly, there is no clear proof of the long-term effects of macroeconomic policy, but neither is there any proof of the absence of effects. We lack the empirical answers to this question. The theories concluding that there is a long-term effect are more convincing and more elaborate than those that reject the idea. They are based on mechanisms that correspond more faithfully to what we can observe historically and what we can deduce from the variance between countries. Furthermore, numerous features suggest the existence of a form of dependence on the trajectory, of which the future growth is radically uncertain. One can also reasonably imagine, without having absolute proof, that some elements of economic policy, especially macroeconomic, that is, monetary, can cause a shift from one trajectory to another; in other words there can be multiple equilibria.
2. Anticipated real interest rates do not depend on the public debt in crisis situations. This idea is completely false: they do depend on the public debt, but in the other direction. In other words, they decrease with the public debt, not because as the public debt increases this causes the interest rates to fall, but because the more fear the crisis provokes – and the more public debt is increased in an attempt to allay the panic – the more investors will turn to safe assets, insofar as they are presented as such. It is therefore necessary to sustain a form of self-conviction: if one does not say that the public assets are safe, then public interest rates will in effect no longer be safe, and they will start to climb. But if one says that they are safe – and saying so is sufficient, although some kind of institutional undertaking helps – then interest rates will settle at a low level. It is not necessary for the central bank to intervene; it is

enough for it to say that it will. On the contrary, the less it says that it will intervene, the more it will end up having to do so. There is also another, very dangerous trap: that of deflation, because in the event of deflation, real interest rates rise because of the zero limit on nominal rates, and this in turn increases the public debt and fuels the process of deflation. The chain of cause and effect is the following: the effort to reduce public debt leads to a reduction in economic activity, which induces deflation, which in turn generates a rise in long-term real interest rates and consequently, the insolvency of the holders of public debt. So the trap of deflation is a positive loop from which one cannot escape, suggesting, in this case, a positive relation between a rise in anticipated real interest rates, a fall in activity and an increase in public debt.

3. Full cost-pricing of the public debt is necessary because of moral hazard: once again this is false because it is simply not possible to use a mechanism of market rates to allocate capital between different countries. We cannot send the Greeks to live in Germany on the pretext that Germany is managed better; one cannot tell the Greeks to pay a high interest rate because their country is poorly managed. When one works in a badly-managed company, that company pays higher interest rates and ends up going bankrupt while its employees go to work in a well-run company. In this way, the market mechanism allocates labour and capital to the well-run company, which is socially useful. Unfortunately, one cannot transpose this type of mechanism to the allocation of capital for the public expenditure or public investment of countries. We must therefore stop applying this pricing mechanism to public debt, which leads to incalculable catastrophes in political terms, and find other means to combat moral hazard. Up until now, what has been used is called "democracy", whereby the management of public debts is entrusted to a parliament in order to avoid the problems mentioned above. We should apply this same method at the European level: have an accountable parliament that manages public debt at the

European scale, even if that means a loss of sovereignty for member countries;

4. Why should the crisis have a permanent impact on economic activity if economic policy has none? One might equally well say that the crisis will have no persistent impact, the economy will return to its baseline trajectory and the unemployment rate will come back down. The key conclusion to be drawn here is this: we must stop thinking of models in terms of baseline trajectories, because this is in fact an untenable hypothesis, admittedly very handy for building models, but unacceptable when it comes to deciding what economic policy to pursue. It would be better to adopt a Bayesian approach to the concept of trajectory, that is to say wait until things are revealed and make decisions *a posteriori* rather than burdening oneself with absurd hypotheses and acting as if they were the right ones, at the risk of seeing them become self-fulfilling, at least over the medium term.

So macroeconomics is far from providing us, at least in its basic equipment, with the appropriate avenues to develop the strategies to get out of the crisis. This is both unsurprising and dangerous.

References

- Alesina, A. and R. Perotti (1996), "Fiscal Adjustments in OECD Countries: Composition and Macroeconomic Effects", NBER Working Paper (5730).
- Barrell, R., D. Holland and I. Hurst (2012), "Fiscal Consolidation: Part 2. Fiscal Multipliers and Fiscal Consolidations", OECD Economics Department Working Paper (933).
- Barro, R.J. (1974), "Are Government Bonds Net Wealth?", *The Journal of Political Economy*, 82(6), 1095–117.
- Blanchard, O. (2009), "The State of Macro", *Annual Review of Economics*, 1(1), 209–28.
- Coenen, G., C.J. Erceg, C. Freedman, D. Furceri, M. Kumhof, R. Lalonde, D. Laxton, J. Lindé, A. Mourougane, D. Muir, S. Mursula, C. de Resende, J. Roberts, W. Roeger, S. Snudden, M. Trabandt and J. in't Veld (2012), "Effects of Fiscal Stimulus in Structural Models", *American Economic Journal: Macroeconomics*, 4(1), 22–68, International Monetary Fund.
- Cogan, J.F., T. Cwik, J.B. Taylor and V. Wieland (2009), "New Keynesian versus Old Keynesian Government Spending Multipliers", NBER Working Paper (14782).
- Creel, J., X. Timbeau, and P. Weil (2012), "Lettre au Président de la République française", François Hollande, Blog de l'OFCE: <http://www.ofce.sciences-po.fr/blog/?p=1937>.
- De Grauwe, P. (2010), "Top-Down versus Bottom-Up Macroeconomics", CESifo Working Paper (3020).
- De Grauwe, P. (2011), "Where Do Booms and Busts Come From?", *Prisme*, n°22, Cournot Centre Series, Paris, October.
- Devries, P., J. Guajardo, D. Leigh and A. Pescatori (2011), "A New Action-Based Dataset of Fiscal Consolidation", IMF Working Papers.
- Dosi, G., G. Fagiolo, M. Napoletano, and A. Roventini (2012), "Income Distribution, Credit and Fiscal Policies in an Agent-Based Keynesian Model", OFCE Working Papers, (2012-06).
- Fitoussi, J.-P. and X. Timbeau (2011), "Financial Sustainability of an Economy: Exploratory Remarks", OFCE Working Paper.
- Giavazzi, F. and M. Pagano (1990), "Can Severe Fiscal Contractions Be Expansionary? Tales of Two Small European Countries", NBER Working Paper (3372).
- Guajardo, J., D. Leigh and A. Pescatori (2011), "Expansionary Austerity: New International Evidence", IMF Working Paper.
- Reinhart, C. and K. Rogoff (2008), "This Time Is Different: A Panoramic View of Eight Centuries of Financial Crises", NBER Working Paper.

Romer, C. and J. Bernstein (2009), "The Job Impact of the American Recovery and Reinvestment Plan", *Council of Economic Advisers Report*, 0-13.

Sutherland, D., P. Hoeller and R. Merola (2012), "Fiscal Consolidation: Part 1. How Much Is Needed and How to Reduce Debt to a Prudent Level?", OECD Economics Department Working Paper (932).