The impact of fiscal austerity in the Eurozone

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This paper presents a framework to assess the likely impact of fiscal austerity in the Euro area, as a response to the turmoil in the financial markets. We provide some evidence on the sequence of events which generated public deficits and debts, and show that rising debts and deficits were the outcome of the external shock which hit the European economies from 2007 onwards, given the institutional setting, rather than the cause. After reviewing the theory supporting austerity as a solution to the crisis, we discuss the macroeconomics of austerity with the help of a stock-flow-consistent accounting structure in the context of a Keynesian–Kaleckian approach.

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JEL codes: *E12, F41, E62*

1 INTRODUCTION

Some countries in the Eurozone are currently (spring 2012) still suffering a major economic downturn, which can be traced back to 2007, making it the longest period of crisis after World War II. Available statistical data show that the consequences on employment have been dramatic, especially in the periphery of the Eurozone, and media information from individual countries reports that the loss of jobs is continuing in 2012.

The European crisis was triggered by the decline in the housing market and the collapse in the sub-prime mortgages sector in the US, which made it clear that the US financial sector had used, or rather abused, financial innovation to create and distribute financial assets of uncertain value and risk. The sub-prime crisis was, in turn, the outcome of a prolonged period of expansion in private expenditure financed by ever-rising private debt, generating bubbles in the stock market first, and the housing market later, as argued in Zezza (2011) among others.

When the housing bubble burst in the US, and it became clear that many assets in the balance sheets of banks in the US and Europe were possibly worthless, government were called to the rescue to avoid bank runs and financial panic, and bailouts in many countries implied large transfers of liquid assets from central banks and governments to the financial sector, contributing to a generalised increase in public deficits and debt.

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As soon as economies seemed to recover, the origins of the crisis were forgotten, and the 'excessive' level of public deficits was called into question. A 'debt crisis' started in the Eurozone when the newly-elected Greek government announced that the public deficit was much higher than officially reported by the previous government. Suddenly the possibility of default on a sovereign debt in the Eurozone became possible, and was confirmed by the refusal of the leading Eurozone countries to provide low-cost funds for public finances in Greece. When creditors perceive that borrowers may default on their debt, a risk premium is demanded on new loans, and since a higher interest rate increases the cost of servicing the debt, the possibility of default increases, leading to increased premiums, in a perverse spiral. When financial markets saw that Euro institutions were unable to address the Greek crisis appropriately, the possibility of other countries defaulting under stress – notably Ireland, Italy, Portugal and Spain – was put into question, and interest rates on the debt of these countries started to rise, exacerbating the problem of abiding to the Maastricht criteria.

Forgetting the origins of the crisis, leading Eurozone institutions then suggested that an even stricter adherence to the criteria of fiscal austerity, balanced budget and low public debt would be the solution to the debt crisis. Ironically, the role of providing finance to governments was left to the same financial sector which had generated the crisis in the first place, although with increasing lines of credit from the European Central Bank.

It is therefore interesting to assess what is the likely impact of austerity policies in the Eurozone institutional context, which is the main purpose of this paper. We start by reviewing the sequence of events in more detail in section 2, where we will cast doubts on the emergence of a debt crisis due to the profligacy of the Eurozone periphery. We then briefly discuss, in section 3, the main contribution on the topics coming from the existing literature, while in section 4 we suggest an analysis of the consequences of austerity through a stock-flow-consistent model structure. Section 5 summarises and concludes.

2 MAIN CAUSES OF THE 'GREAT RECESSION' IN THE EUROZONE

Some countries in the Eurozone are suffering a major economic downturn. Technically speaking, the recession in Europe started in the second quarter of 2008, when real GDP of the Eurozone dropped by 1.5 percent, and ended in the second quarter of 2009, since real GDP was growing again in the third quarter. However, some countries, notably Ireland and Portugal, where already in recession in 2007 and, although GDP in the US was still growing, European exports to the US started to decrease in 2007 (and continued to fall until 2009).

At the end of 2011, real GDP per capita had fallen in Ireland by 13 percent, in Greece by 15 percent, by 7 percent in Italy and by 5 percent in Spain and Portugal (Figure 1). Even France still has to recover, while Germany, along with Austria and some Eastern European economies, managed to increase output after the shock.

The consequences on employment have been dramatic (Figure 2), with a loss¹ of 500 000 jobs in Greece (or 7 percent of the population of working age), 2 million jobs in Spain, 600 000 in Portugal, and 275 000 in Ireland (or 9 percent of the

1. Job losses have been computed on the basis of the data in Figure 2, multiplying the employment ratio at the last peak of the cycle with the population in working age for the last available data, and subtracting current employment.

Source: Eurostat.

Figure 1 Real GDP per capita in the Eurozone

Source: Eurostat.

Figure 2 Employment rate in the Eurozone

population of working age), and media information from individual countries reports that the loss of jobs is continuing in 2012, even though statistical evidence is not yet available.

The European crisis was triggered by an external shock, which started with the decline in the housing market and the collapse in the sub-prime mortgages sector in the US, which made it clear that the US financial sector had used, or rather abused, financial innovation to create and distribute financial assets of uncertain value and risk.

American banks and mortgage companies asked for and obtained rescue from the Federal Reserve and the government, and European financial institutions which had acquired a considerable amount of these ‘toxic’ assets did the same, beginning with Northern Rock in the UK, and a large part of the outstanding debt of private financial institutions was backed by governments, with a corresponding increase in public deficits. When the US government decided to let Lehman Brothers go bankrupt, it became clear that this process of transforming private debt into public debt would not always be backed by government actions.

In addition, European treaties regulating the Eurozone prevent the European Central Bank (ECB) from intervening directly to fund the government deficits of participating countries, and consequently governments have to keep their budget deficit below a given threshold. This institutional setting implies that governments have to raise funds on the market at whatever interest rate prevails, and when it became clear that the Greek public deficit was out of control, markets started to demand an ever-increasing premium for acquiring Greek bonds, pushing the country into a Ponzi-finance regime, where additional borrowing is required to cover the cost of servicing the existing debt. A similar story, albeit less dramatic so far, played out for other countries in the periphery: Ireland, Portugal, Spain, and Italy (GIPSI), albeit with different domestic determinants for the recession and/or the increase in public deficit.

In Figure 3 we report the data for the long-term interest rate on government bonds, which shows that all countries in the periphery, sometimes running large government deficits as in Italy, enjoyed considerable gains from joining the Euro, since they were able to reduce significantly the cost of borrowing. With the start of the Euro crisis, interest rates started to rise spectacularly for countries (such as Greece) which were perceived to be unable to service their debt, let alone repay it.

Interest rates should be analysed together with the level of the debt outstanding, to have a simple measure of what this implies for a given country. We report the level of gross public debt in Figure 4.

The public debt of Greece, for instance, was already high before the country joined the Euro, and had not risen dramatically before the crisis. The real problem, therefore,

Source: Eurostat.

Figure 3 Long-term government bond yields in the Eurozone

Source: Eurostat.

Figure 4 General government gross debt in the Eurozone

was not the size of the debt, but the cost of servicing a debt which increased so rapidly. As we will discuss later in more detail, when a country has a public debt of 100 percent of GDP which is a credit of non-residents, as is roughly the case for Greece, and interest rates rise to 20 percent or more, this implies that 20 percent or more of national income has to be transferred abroad every year only to service the debt, which is clearly unsustainable.

The fact that countries under stress were all in the Eurozone periphery, that at least some of them had increased their living standards considerably during the Euro era, and that they all had large public deficits, led the leading countries – Germany backed by France under Sarkozy – to suggest that the origin of the ‘debt crisis’ was ultimately in the fiscal profligacy of both the private sector and governments, and that fiscal austerity, and the reduction of public debt, would be the solution. A new treaty, the so-called ‘fiscal compact’, was proposed, which implied more stringent rules for balancing the budget, and governments of the GIPSI were expected to implement such rules immediately. Where they failed to do so, as in the case of Greece and Italy, new governments were formed which were expected to ‘save their countries’ by abiding to the Eurozone fiscal austerity rules.

Were fiscal deficits really the result of uncontrolled public expenditure? If so, this problem was not new, as shown in Figure 5, which reports the deficit-to-GDP ratio before and after the Euro, and just before the Great Recession.

Data in Figure 5 show that almost all countries had large deficits before the Maastricht treaty was put in place, and in 2006 – before the crisis started – only Greece and Portugal had a deficit larger than 3 percent, while Ireland and Spain were actually running a surplus. With few exceptions – Germany being one of them – all countries had a large deficit in 2011, after the crisis had emerged.

In Figure 6 we report the primary surplus (the overall surplus less interest payments) for the same group of countries as in Figure 5. This latter chart shows even more clearly that before 2007, with the exception of Portugal, and Greece to a lesser extent, government deficits were entirely due to interest payments, and it is therefore difficult to believe that they were the result of ‘profligacy’. After the crisis, in 2011,

Source: Eurostat.

Figure 5 General government net lending in the Eurozone

Source: Eurostat.

Figure 6 General government primary surplus in the Eurozone

most governments had a primary deficit which was therefore – as we will argue in more detail later – the *outcome* of the crisis, and of the inability of governments to handle it, rather than its cause.

3 THE IMPACT OF AUSTERITY: STATE OF THE ART

As governments around the world contemplate slashing budget deficits, the ‘expansionary fiscal consolidation hypothesis’ is back in vogue. (Perotti 2011)

The economic literature about the impact on the economy of a fiscal austerity program is extremely large, since it is closely related to the size of the Keynesian multiplier of

public expenditure, which was believed to be large when the neoclassical synthesis of Keynesian economics prevailed up to the 1970s, and was suggested to be zero or negative with the monetarist counter-revolution, so much so that fiscal policy disappeared from the macroeconomic models of the 'New Consensus' (NC) before the Great Recession.² The main argument for the ineffectiveness of fiscal policy may perhaps still be traced to the 'Ricardian equivalence' proposed by Barro (1974), which assumes that in a world of rational, forward-looking agents, any increase in government deficits is perceived to generate higher taxes in the future, so that the private sector immediately increases saving. Under this hypothesis there will be no increase in aggregate demand, but a shift in its composition, and if this reduces private investment, it may be harmful to growth, leading to a negative multiplier in the medium/long term. Although the empirical relevance of this theory in a world of persistent public debts (which are not paid back so often) should be minimal, the principle of Ricardian equivalence still permeates the academic debate on fiscal policy.

A survey of the literature conducted before the Great Recession shows, in our view, that after 30 years from the original Barro paper the issue is largely unresolved. Briotti (2005) concludes the survey by saying:

From a policy perspective (...) there seems to be broad agreement about the basic factors influencing the size and sign of fiscal multipliers. These factors can be summarised in the following way: a crucial condition for a fiscal expansion having multiplier effects on aggregate demand, and thus output, is that there be slack in productive capacity. The composition of the fiscal expansion is also important, with higher government spending giving a stronger impulse to demand than tax cuts, particularly in the case of high-quality spending, such as spending that increases the productivity of labour and/or capital. Tax cuts, however, can also be expansionary, should labour supply and/or investment increase in response to them. In general, the larger the responsiveness of consumption and investment to current income, the larger the multiplier. (Briotti 2005, p. 23)

So the reader is inclined to believe that all the standard Keynesian arguments are still valid. But Briotti continues with:

The initial expansionary impact of the public budget could, however, be crowded out, in full or in part, by induced changes in market interest rates and exchange rates. (...) A number of conditions make crowding-out more likely. In particular, fiscal expansions that generate uncertainty about the future course of budget policies, and even jeopardise the sustainability of public finances, may generate negative expectations among consumers about their future income, therefore adversely affecting private consumption. (Ibid.)

And Ricardian equivalence is rescued. Finally:

it can be concluded that there seems to be evidence of positive, but small, or even negative, fiscal multipliers in Europe. (Ibid.)

So the reader is left with some confusion, since it would seem that during a recession, when there is slack capacity, fiscal expansion is very effective, but the last sentence implies that in Europe fiscal policy would not really work.

On the contrary, however, when the Great Recession hit in 2007, and monetary policy was proven to be ineffective, fiscal policy came back into fashion. Even then, most mainstream authors suggested that it could have a temporary effect on output when the interest rate had hit the lower bound, and should be abandoned immediately

2. A good reference for the simple NC model is Blanchard (2008).

after the recession was over, since it was now conceded that a public deficit would have a positive effect in the short run, but would still have an adverse impact on growth in the medium term.

Several studies published after the recession include Ramey (2011), which finds a positive multiplier for public expenditure between 0.8 and 1.5 for the United States. Ilzetzki et al. (2010) find that the size of the multiplier varies across countries. Corsetti et al. (2012) investigate the size of the multiplier during a financial crisis and conclude that ‘Our results (...) suggest that the response of consumption and output to a fiscal expansion is positive and large, once we condition on the occurrence of a financial crisis’ (p.24). Guajardo et al. (2011) challenge the notion of ‘expansionary austerity’ and suggest that ‘estimates based on conventional measures of the fiscal policy stance used in the literature support the expansionary fiscal contractions hypothesis but appear to be biased toward overstating expansionary effects’, while in their work ‘estimation results based on fiscal actions identified directly from contemporaneous policy documents provide little support for the expansionary austerity hypothesis’ (p. 29). Parker (2011) suggests that the impact of fiscal policy may be different in different parts of the business cycle, and that an expansionary fiscal policy is likely to be effective in recessions.

In short, empirical estimates of the impact of fiscal policy are extremely varied, and the hypothesis of an expansionary effect of austerity measures does not seem to have a strong empirical support.

An interesting, recent meta-analysis is that of Gechert and Will (2012), which compare multiplier estimates from different studies, finding among other things that the size of the reported multiplier depends significantly on the theory or model adopted, with real business cycle models reporting lowest multipliers.

It is therefore not so useful in this paper to add yet another estimate of the size of fiscal multipliers in European economies, to evaluate the impact of austerity; but it may be more fruitful to address the problem from the analysis of a simple model strongly grounded in consistent dynamic macroeconomic accounting, in the spirit of Godley and Lavoie (2007a).

4 A MODEL FOR EVALUATING THE IMPACT OF AUSTERITY

Current European policies are aimed at reducing the public deficit-to-GDP ratio, ultimately aiming at reducing the public debt-to-GDP ratio. Simple accounting shows that the former effect does not necessarily imply the latter result. If we don’t consider capital gains/losses, end-of-period public debt D grows according to:

$$D(t) = D(t-1) + DEF(t) \quad (4.1)$$

using lower-case letters to denote ratios to GDP ($d = D/\text{GDP}$ etc.) and assuming that output grows at rate g , so that $\text{GDP}(t) = \text{GDP}(t-1) \cdot (1 + g)$, we have:

$$d(t) = d(t-1) \cdot (1 + g) + def(t) \quad (4.2)$$

so that the debt-to-GDP ratio grows when:

$$\Delta d(t) = -g \cdot d(t-1)(1 + g) + def(t) > 0. \quad (4.3)$$

In other words, with a balanced budget, a positive growth rate in nominal GDP will lower the debt-to-GDP ratio since the denominator is growing while the numerator is stable. Splitting the deficit into the primary surplus ps and interest payments measured on the opening stock of debt as $r \cdot d(t-1)$, equation (4.3) becomes:

$$\Delta d(t) = (r - g) \cdot d(t-1) / (1 + g) - ps(t) > 0 \quad (4.4)$$

which shows that if a country has a primary surplus of zero, its debt-to-GDP ratio will increase when the implicit ex-post interest rate on its debt is larger than the growth rate in nominal output.

The above debt accounting is quite consolidated in the literature and in textbooks and can also be used to evaluate which part of the debt originated from primary deficits, and which part from interest payments increasing more rapidly than national income. A simple implication would be that if we want the debt-to-GDP ratio to fall, we need a primary surplus which is more than enough to cover for interest payments.

However, this accounting assumes that the growth rate in GDP is invariant to the size of the fiscal surplus, or to interest rates. If, on the other hand, the fiscal multiplier is large, an increase in ps may lower g so that the debt-to-GDP ratio increases, rather than falling. However, this simple accounting does not consider the implications of the fiscal surplus on the net financial position of the other sectors in the economy.

We therefore need a consistent model to identify all major channels of transmission from public expenditure, interest payments on government debt and tax rates to GDP, which can be firmly grounded in the balance sheet and flows accounting of a simple representation of an open economy in the Eurozone framework.

Since we believe that a relevant aspect of the analysis of the current situation needs to be linked with the role of the distribution of income, we choose to split the household sector – as in Zezza (2007) – into a group which receives only wage income and government transfers, and has a simplified portfolio, holding only money – in the form of cash and bank deposits – and real assets. We assume this sector can receive bank mortgages for residential investment. The other household sector is the ultimate owner of financial and non-financial corporations, and therefore receives all property income in the forms of dividends, and will diversify its financial portfolio by acquiring public debt and foreign financial liabilities. Given the increasing concentration of real and financial wealth in the personal sector, this simplified representation of the economy may not be far from the reality of many European countries, including Greece.

A simple, but useful, set of balance sheet accounts can therefore be represented as in Table 1, where we consider, along with the two household sectors, non-financial firms F, financial firms B, the central bank CB, the public sector G, and the rest of the world W.

In this simplified economy we allow for real wealth (housing, productive capital, public infrastructures, etc.); central bank liabilities denoted as ‘cash’ which also represent bank reserves; deposits of households with the banking system; loans provided by the central bank to the financial sector through refinancing operations; debt issued by the government to finance a deficit, which the CB can acquire/sell from/to the financial sector; loans provided from the domestic financial sector to firms and households (mortgages); foreign assets that are domestic liabilities, which will measure the amount of funds obtained by the domestic financial sector from the foreign financial sector; and foreign liabilities which are assets of domestic sectors. We assume that successful domestic firms may sell on credit to foreign firms, acquiring financial assets that can

Table 1 *Balance sheet of a simplified economy*

	HW	HC	F	B	CB	G	W	T
Real assets	$+K_w$	$+K_c$	$+K_f$			$+K_g$	$+K_w$	$+K$
'Cash'	$+H_w$	$+H_c$		$+H_b$	$-H$			0
Deposits	$+DEP_w$	$+DEP_c$		$-DEP$				0
CB ref.				$-A$	$+A$			0
Public debt		$+B_c$		$+B_b$	$+B_{cb}$	$-B$	$+B_w$	0
Loans	$-L_w$	$-L_c$	$-L_f$	$+L$				0
Foreign assets				$-FA$			$+FA$	0
Foreign liabilities		$+FL_h$	$+FL$	$+FL_b$			$-FL$	0
Total	V_w	V_c	V_f	V_b	0	V_g	$-V$	$+K$

Table 2 *A Social Accounting Matrix for a simplified economy*

	Prod.	HW	HC	Non F.	Banks	CB	Gov.	RoW	KA	Total
Production		C_w	C_c				G	X	I	Q
Households – workers	W				R_d		TR	W_w		Y_w
Households – capitalists				DIV_n	$DIV_b + R_d$		R_b	R_f		Y_c
Non-financial firms	Π							Π_f		Y_n
Financial sector		RM	RM	RL			RB	RFL		Y_b
Central bank					RA		RB			Y_{cb}
Government	IT	TW	TC	TN	TB	$\{ICB\}$		$Trwg$		Y_g
Rest of the world	IM			DIV_w	Rfa		R_b			Y_w
Capital account		S_w	S_c	S_n	S_b	0	S_g	$-CAB$		S
Total	Q	Y_w	Y_c	Y_n	Y_b	Y_{cb}	Y_g	Y_w	I	

be used as a source of finance for investment. As usual, accounting consistency requires that any debt for one sector is an asset for one or more other sectors, so that all row totals equal to zero, with the exception of real assets. The column total will measure net wealth for each sector, possibly a negative number when that sector has accumulated debt over the value of its real assets.

The balance sheets in Table 1 must be consistently integrated with flows accounting, possibly using a Social Accounting Matrix as in Table 2, where payments from one sector are recorded in the columns and receipts are recorded in the rows, in order to fulfil the requirement for accounting consistency.

The accounting structure in Tables 1 and 2 has to be complemented by a matrix for the flow of funds, which shows the allocation of saving for each sector into real and financial assets, and by a matrix of net capital gains for all assets which have a market value, so that the end-of-period value of each stock can be determined from the value of the opening stock, plus the net flow, plus net capital gains. We omit these two matrices for space reasons, but we note that this system of accounts is entirely compatible with the SNA representation of national accounts.³

3. As provided by Eurostat for many European countries, in the 'Sectoral accounts' section of their database, or by the B.E.A. for the United States, in the 'Integrated Macroeconomic Accounts for the US'. Official data do not distinguish, of course, between workers and 'capitalists'.

Our accounting so far is compatible with different institutional settings. In particular, a country with a central bank which accommodates government deficits will intervene in the market for public bonds, and will therefore be able to set the interest rate on such bonds at the target level, and will usually transfer any ‘profits’ obtained from the differences in interest rates on its assets and interest rates on its liabilities⁴ to the government. By contrast, in the current setting of Euro-participating countries, the central bank cannot directly provide finance to the Treasury, but can acquire public debt on the secondary market, and therefore the interest rate on such bonds will be determined by ‘market forces’. Furthermore, where central banks are owned by private companies, ‘profits’ will be transferred to the private sector.

We believe it is quite crucial to discuss the implications of current Eurozone problems, such as the impact of austerity or the results of government defaults, in this complete and consistent setting which shows that, say, an increase in interest payments on public debt will be a source of income for another sector of the economy, either domestically or abroad, and the increase in, say, public debt will represent an increase in the net financial wealth for at least one other sector of the economy, again domestically or abroad.

To assess the impact of austerity, we need to complement our accounting with a model describing the behaviour of all sectors in the economy. Expanding on Zezza (2007) and Palley (2012), and in the spirits of models in the Godley and Lavoie (2007a; 2007b) approach – but without writing down a full model in detail – we can make the reasonable assumption that the propensity to consume out of disposable income will be greater for the ‘capitalist class’ than for workers, so that a redistribution of one Euro of income from workers to capitalists – all else being equal – will reduce aggregate demand. We can further assume that expenditure for both classes of households will depend on the current real value of their wealth, and on their ability to borrow. Residential investment will also depend, for the capitalist class in particular, on expected capital gains on housing, so that it will increase when the market value of homes is rising, and decline when it is falling: a hypothesis clearly consistent with the dynamics observed in the last decade.

Let’s also assume that banks ration credit according to a Minskyan perspective based on perceived risk. When profits are rising, or when banks expect capital gains on real assets, as was the case with the housing market boom, banks will be willing to increase loans; and when the economy contracts, credit will be rationed even for solvent firms. Banks will provide credit to the government at a rate which depends on the available sources of funds, and on the perceived risk of the government defaulting on its debt. In the Euro context, we can assume that the central bank provides liquidity through refinancing operations up to limits fixed exogenously by the European Central Bank.

What about trade and the current account balance? We can assume that trade depends on its standard determinants, given by the real exchange rate between trade partners, which in the Euro area will only depend on the inflation gap, and by differences in the growth of income in the two partner countries so that, for instance, if prices rise more quickly in Greece than in Germany, or if income grows more quickly, this will imply a trade deficit. A trade deficit between two Eurozone countries will of course be possible only if the private sector in the surplus country is willing to provide credit to the private sector in the deficit country. In our accounting framework, this is the reason to include acquisition of foreign liabilities from the non-financial sector.

4. We are assuming for simplicity that the CB does not pay any interest on bank reserves, but changing this hypothesis should not have relevant consequences for our results.

In the accounting framework, a deficit in the current account must be matched by net acquisition of domestic financial liabilities from the surplus country, so that the financial account of the balance of payments matches the current account. Of course, this accounting identity does not imply 'equilibrium' in any sense, since the deficit country – and more specifically, the private sector in the deficit country – has increased its stock of net debt, and will be paying larger flows of interests on such debt in the following periods, contributing to the deterioration of the current account balance and possibly triggering a crisis. Without the ability to devalue the exchange rate,⁵ a deficit between two countries within the Eurozone can only be eliminated by deflation in the deficit country (or expansion in the surplus country).

We can use this model structure for a qualitative analysis of the impact of an external shock, such as the one which hit the Eurozone countries in 2007–2008. A fall in aggregate demand, such as the one that originated in lower exports to the US, will reduce income, and therefore wages and profits. Tax revenues will decrease, and as firms reduce employment, some transfers from the government to the private sector, as unemployment benefits, will increase, so that government deficit will increase both because of higher outlays and a decline in revenues. As we have discussed previously, a financial shock also occurred, with losses in the balance sheets of the financial sector originating from the sub-prime crisis. This called for central bank intervention in an institutional setting where the ECB is willing to refinance only if participating countries contribute to the funding. Therefore, both the real and the financial shock implied an increase in government deficits. The impact on the balance sheet of banks, and therefore on the net financial wealth of their owners, will also decrease expenditure through a wealth effect.

Now, if government deficits can be financed domestically in each country, in the sense that the financial and non-financial sectors are willing to hold an increased number of public liabilities, a higher public debt will imply larger interest payments, ultimately to capitalists in the household sector. If the government is able to sustain a higher deficit, no further contractionary shocks will occur. If, on the contrary, the government has to abide within the limits of a given deficit-to-GDP cap, as under the current Euro treaties, a reduction in government expenditure and/or an increase in taxation will be required, and this will both lower aggregate demand – with the impact of public expenditure being larger – and redistribute income from those who will suffer higher tax rates, or the loss of public services, to the recipients of government interest payments. The impact on the current account balance of the country, in the present case where all public debt is held domestically, will imply a reduction in imports and, if the contraction of the economy slows inflation below the level of trading partners, an increase in net exports (which will somewhat help a future recovery, albeit at the expenses of trading partners). In this case we can conclude, as in Palley (2012), that a negative external shock to aggregate demand will lower output and employment more when the government has a budget deficit limit.

The problem with the Eurozone is more severe than this simplified case, because of the external imbalances within the area.⁶ Since the beginning of the Euro era, Germany

5. We are not claiming that devaluations will be sufficient to eliminate a trade imbalance, but in a regime of free international trade they can provide some policy space for correcting structural imbalances, provided that the devaluation does not have adverse effects on its net foreign asset position denominated in foreign currencies.

6. See Bibow (2012) and Cesaratto (2012), among others. The Euro crisis as a balance-of-payments crisis has been popularised by Wolf (2012).

has pursued what has been defined as a neo-mercantilist policy of keeping wage-growth to a low level and increasing productivity in high quality industries through appropriate policies. Germany's major trading partners have always been the other European countries, which could eventually devalue against the Deutsche Mark to (temporarily) restore their trade balance, but could no longer pursue this policy under the common currency. Besides, while the low-inflation, low-interest-rate environment was beneficial to growth in Germany, in less competitive countries – particularly Spain – the availability of credit at low interest rates favoured the emergence of a bubble in asset prices.⁷ More generally, the availability of credit at low cost in peripheral countries that were usually subject to credit rationing, when coupled with stagnant wages for the median household and a worsening in the distribution of income, implied that growth of private sector demand in these economies had to be financed by a decrease in the saving rate and an increase in borrowing, both of which contributed to a deterioration of private financial net wealth. Lower inflation in Germany relative to the periphery, coupled with more rapid growth in income in the periphery, generated the large and growing trade surpluses of Germany vis-à-vis most other Euro trading partners. As a consequence, the composition of the financial portfolio of the private sector shifted: in order to finance the current account deficit, private sector financial assets were transferred to the surplus country. As an example, the share of the Italian public debt held domestically was close to 100 percent before the year 2000, but is now down to about 60 percent, with the remaining 40 percent mostly held in Germany and France.

In this context, when interest rates on government bonds are determined by the availability of financial markets to provide liquidity against a perceived risk of default, interest rates will rise when public deficits increase and GDP starts falling in a country hit by an external shock, the more so the more the governments are not credible in their ability to raise taxes to service the debt, as was (is?) the case especially in Greece and Italy.

The increase in interest rates will in turn imply larger interest payments from the government. When debt is domestically held, and these payments are met by increasing taxation, we already discussed that aggregate demand will fall because of the effects of income distribution. When debt is held by foreigners, the effect will be much stronger, since interest payments will imply a redistribution of purchasing power from the domestic economy to the rest of the world, with a much stronger contractionary effect on the domestic economy, which makes it even more likely that austerity will lower GDP faster than it reduces public debt, making the target debt-to-GDP ratio out of reach.

Will austerity be beneficial through increased trade competitiveness? It is hard to believe that European policymakers really believe in the possibility of reducing the debt-to-GDP ratio through austerity, and achieve output growth, without effects from the external balance. Rather, policies being prescribed to GIPSI countries seem to suggest that the German strategy of export-led growth through low labour cost should be replicated in the periphery, and their governments are urged to pass reforms which increase competitiveness and reduce wages and labour costs. Of course, if all

7. Cesaratto (2012) notes that since peripheral countries had a higher inflation rate than Germany, but could get finance at the same nominal interest rates, real interest rates in the periphery were lower than in Germany, with a stronger impact on aggregate demand, and with a stronger bias towards over-borrowing.

Europe adopts this beggar-thy-neighbour strategy, relative positions will not change for each country in the area, and an improvement in the trade balance can only be expected against non-Euro countries. Since the share of European exports towards non-European countries is much smaller, and many of our non-European trading partners, such as China and other East Asian countries, rely on price competitiveness, it is hard to believe that austerity will help GIPSI countries to regain growth through net exports. In addition, the impact of austerity on income should be beneficial on trade, if imports are income-elastic. But again, if all Euro members are pursuing austerity simultaneously, exports to intra-Euro trade partners will fall along with imports, and a net effect will only come from trade with countries with higher growth rates in income.

Following the same logic, austerity in the periphery may be effective if balanced by an expansionary policy in a large trading partner which is also a surplus country: Germany. Fiscal expansion in Germany that increases imports from the periphery would help reverse the imbalances, sustain income growth and therefore tax receipts in peripheral countries.

What about the other channels of transmission in austerity-led growth policies? Literature findings, since Giavazzi and Pagano (1990), show weak evidence that austerity implemented to reduce public deficit did not have severe consequences on growth, (1) when the exchange rate devalued before austerity was implemented, or else net exports increased;⁸ or (2) when the adverse consequences of austerity were offset by an appreciation of asset prices which generated a wealth effect; or (3) when austerity was perceived to imply a permanent increase in private sector future income, in the sense that it would imply shrinking the size of the public sector and therefore lowering future tax rates. Giavazzi and Pagano call this latter assumption ‘the German view’, which sounds quite appropriate in this context.

In our view, none of these conditions applies to the current situation in Europe. A devaluation can only be brought about if individual countries exit the Euro agreements, which should not be in the agenda of the Eurozone authorities, while a devaluation of the Euro against other currencies will have negligible effects on aggregate demand in the countries now in trouble.

Many countries, notably Spain, just saw the end of a period of growth driven by an asset bubble, and generally speaking it is not likely that the price of housing, or the stock market, will recover enough under austerity to increase the confidence of the public and stimulate spending.

The ‘German view’ may perhaps be effective in a world of rational agents with forward-looking expectations, with governments raising taxes efficiently and in an equitable way, but models of growth which rely on this approach – which assumes among other things that government expenditure always crowds out private expenditure, so that any decrease in the size of the government will free up resources which will be used for additional private investment – have failed consistently to predict what was happening since before 2008 as well as during the Great recession,⁹ and believing that they can be of guidance to restore growth requires a very strong act of faith.

To conclude, the analysis of financial balances is becoming popular in order to study the inter-relations among the net financial saving of each sector and growth.¹⁰

8. See also Perotti (2011).

9. So that most of these models are now struggling to incorporate the role of fiscal policy, which had disappeared from the mainstream view. See Tcherneva (2010).

10. See Zezza (2009; 2011); Brecht et al. (2011); Hein (2012); among others.

From the GDP accounting identity (row and column 1 in Table 2) it is easy to derive the identity between saving and investment, using the notation of Table 2, as:

$$S + Sg - CAB = I \quad (4.5)$$

where S is the sum of private sector saving, which after rearranging, and using DEF for negative government saving, becomes:

$$(I - S) + DEF + CAB = 0 \quad (4.6)$$

or

$$NAFA = (S - I) = DEF + CAB \quad (4.7)$$

where $NAFA$ in Equ. 4.7 stands for Net Acquisition of Financial Assets by the private sector, a definition which reminds us that any increase in net financial assets for the consolidated private sector is matched by a net decrease in assets, or a net increase in liabilities, either from the government or the Rest of the World.

We have tried to show that these identities, like all accounting identities, cannot be used by themselves to infer causal relation from the behaviour of one sector, but instead need to be backed by a model for a full interpretation.¹¹ However, ex-post accounting consistency must hold for these balances, and since each balance is linked to a component of aggregate demand, it must be the case that any decrease in government deficit DEF will have no impact on growth only if it is matched by an equivalent increase in one or both of the other balances. For given $NAFA$, therefore a decrease in DEF of the amount required by austerity must be matched by an equivalent increase in the current account balance relative to GDP, which is unlikely in many peripheral countries. If a lower deficit will be balanced by an increase in private investment, as in the ‘German view’, this must be financed by additional borrowing from the private sector as a whole, and this seems to be what the ECB is allowing for by providing an unlimited amount of credit. However, you cannot push on a string, and if profit prospects remain bleak, the availability of credit (given that banks are convinced or forced to end credit rationing!) is a necessary but insufficient condition for investment. It remains to be seen whether wage restraint, rather than fiscal austerity, will imply a sufficient increase in competitiveness and profitability to stimulate enough investment to counterbalance the negative impact on consumption from the fall in disposable income.

5 CONCLUSIONS

In this paper we have examined the sequence of events which generated the current ‘debt crisis’ in some Eurozone countries. Starting with the sub-prime crisis of 2007 in the United States, the fall in international trade and the value of financial assets held by European banks has generated large and growing public deficits. The

11. We are not claiming that a Keynesian–Kaleckian model is the only one consistent with current developments; on the contrary, we find many points of convergence with the analysis of R. Bellofiore and A. Shaikh based on a Marxian framework, but we will not pursue this point further in this paper.

perceived inability of some countries to manage such deficits, along with the ineffectiveness of the Eurozone institutions, prompted financial markets to bet against the solvency of some sovereign debts. This in turn increased interest rates on countries with already high debt-to-GDP levels, exacerbating the problem.

Fiscal austerity seems to be the proposed solution to the crisis, with new treaties proposed and already signed by some Eurozone member states, to increase their commitment to a balanced budget and a reduction in public debt.

After briefly reviewing the literature on the impact of fiscal policy on the economy, we have set out a model structure to analyse the impact of austerity on both income and aggregate demand, and through balance sheets and wealth effects.

Our analysis suggests that fiscal austerity in the presence of large public debts will have strong implications for redistributing income from taxpayers to the owners of such debt, who are likely to save a larger share of their disposable income. When public debt has been financed by financial markets in foreign countries, interest payments on the debt will redistribute income to foreigners, thereby exacerbating the contractionary impact of austerity on domestic growth and making a lower debt-to-GDP ratio an impossible target. Since public debt is held abroad when a country has been running a current account deficit, it becomes clear that the real problem of the Euro area is the lack of mechanisms for correcting, or at least financing, trade imbalances within the area.¹²

From further implementation of fiscal austerity we can therefore expect either a long agony of stagnation in the Eurozone periphery, or a breakdown of the Euro. If countries in trouble are 'rescued' using funds coming from other Eurozone countries which are already under stress, as is the case with Spain (which will be financed with funds coming from other Euro countries including Italy), the 'debt problem' will bounce from one country to another but will not really be solved.

What are the alternatives? The easiest way to avoid the European debt crisis would have been to finance public deficits directly at low interest rates from ECB intervention, or by other available mechanisms through financial intermediaries. After all, the Bundesbank has on at least two occasions intervened to defer the sales of public bonds which had not been demanded by the market at the target interest rate, and it is not clear why similar mechanisms were not possible for other countries. Instead, the ECB is financing the financial sector which in turn finances government debts at sometimes unsustainable interest rates, thereby amplifying the size of deficits. A drop in interest rates on public debt would immediately end the crisis for countries, such as Italy, which are already running a primary surplus.

On the other hand, providing finance to governments would not address trade and current account imbalances, and would do nothing to correct the drift in the distribution of income which is one important ultimate cause of the Great Recession. Since remedies to avoid the current Euro crisis were, and possibly still are, readily available, it is becoming more and more evident that the problem is not in the size of public deficits, but in the conflicts of power between those who gained from this model of growth and are possibly now gaining from the crisis, and those who are bearing the cost.

12. More recently, as the ECB announced its intentions to refinance the financial sector at low rates, current account and financial imbalances are increasingly mirrored in the TARGET2 funds of domestic central banks. See Bindseil and König (2011), among others.

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