SAVING THE EUROZONE: MODELING AN ALTERNATIVE VISION OF EUROPE

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This Policy Brief tries to envisage a different Europe. It is the second in a series of three in which future macroeconomic scenarios for Europe are analysed using projections generated by the Cambridge-Alphametrics Model (CAM). This Policy Brief explores a scenario in which austerity is reversed and Eurozone countries experience a period of sustained capital investment. An increase in the European Federal Budget allows fiscal flows to offset the imbalances that inevitably occur within a heterogeneous monetary union. Under such a scenario, model simulations project sustained growth and containment of debt-to-GDP ratios.

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Introduction

Seven years after the financial crisis, the global recovery remains fragile and trends for growth and employment are uncertain. In its recent World Economic Outlook, the IMF downgraded the outlook for several major economies. Nonetheless, in the wake of the decision of the ECB to finally embark upon quantitative easing, the euro has undergone a substantial depreciation and macroeconomic indicators have finally begun to improve.

But events following the election of the SYRIZA government in Greece have, beyond any doubt, shattered the illusion of a unified Europe. Greece is in the midst of a depression of unprecedented proportions – a depression caused by the Troika's imposition of a fatally flawed macroeconomic policy programme. Rather than accepting what even the IMF now states as a fact – Greece's debts are unsustainable – Europe's response is to insist upon a package of even more stringent austerity measures – a policy which is certain to fail, which has no justification in economics and which has brought the Eurozone to the brink of rupture.

This Policy Brief tries to envisage a different Europe. It is the second in a series of three in which future macroeconomic scenarios for Europe are analysed using projections generated by the Cambridge-Alphametrics Model (CAM). The first in the series examined a 'conventional policy' scenario. This assumed a continuation of the current macroeconomic policies – in particular fiscal consolidation aimed at reducing public debt and deficits – alongside a mild short-term rise in investment along the lines of the recent Juncker plan. CAM projections suggest that such a policy mix will do little to overcome longer-term stagnationary tendencies in Europe and, as a result, will not produce the desired outcomes in terms of lower public debt and the reduction of deficits. Instead, continued attempts at fiscal consolidation will lead to low growth and rising debt-to-GDP ratios across most of the continent. Such an outcome will do nothing to overcome the deepening European fault-lines.

This Policy Brief explores an alternative scenario in which austerity is reversed and Eurozone countries experience a period of sustained capital investment. An increase in the European Federal Budget allows fiscal flows to offset the imbalances that inevitably occur within a heterogeneous monetary union. Under such a scenario, model simulations project sustained growth and containment of debt-to-GDP ratios.

This scenario may be criticised on the ground that the assumptions are implausibly optimistic. Even under these assumptions, however, growth prospects are shown to be moderate at best and while debt-to-GDP ratios stabilise, they remain stubbornly high over the coming decade. Any more 'realistic' scenario will therefore generate less favourable outcomes in terms of output, employment and debt-to-GDP ratios. Instead of an exercise in excessive optimism, the scenario should be seen as evidence of the sobering reality that no realistic medium-term macroeconomic scenario will produce sufficiently high growth to produce rapidly declining debt levels. In particular, these simulations suggest that projections produced by international organisations such as the IMF significantly over-estimate the likelihood of positive outcomes.

Policy Scenario

As in Policy Brief 1, we divide the countries of Europe into geographical blocs for our analysis. These blocs are the UK, France, Core Eurozone (Germany, Austria and the Benelux countries) and Peripheral Eurozone (the remaining Eurozone countries).

Investment

The primary driver of the projections in the scenario is an assumption of sustained growth in private-sector investment over the ten year period to 2025. The growth in investment is calibrated such that absolute real investment in the Eurozone periphery in 2020 is back to the level achieved in the pre-crisis peak in 2007. We therefore examine a scenario in which, thirteen years after the crisis, the recovery in capital investment in Peripheral Europe is complete. This turns out to be an ambitious target.

While private investment cannot be controlled directly by government, a range of policy options exist - both to provide incentives for higher investment and to assist in financing. These include fiscal tools such as preferential tax treatment for companies undertaking investment projects and financial tools such as use of the European Investment Bank to leverage public capital by issuing securities to fund investment projects.

Table 1 shows the five-year average historical growth rates of private investment in the Eurozone blocs and, from 2015 onwards, projected growth rates in the high-investment scenario. It is clear that, aside from a period at the end of the 1990s, investment has been historically weak and experiences a catastrophic drop in the Eurozone Periphery in the aftermath of the financial crisis: real investment growth contracted at a rate of nearly seven per cent annually over the period 2010-2014. Weak investment in the Core Eurozone acted as a drag on aggregate demand in the decade to 2010: investment growth was either negative or close to zero during this period.

Table 1 Historical and projected growth of investment, average year on year real growth rate; projections from 2015 onwards

	Core	Periphery	France
1980-1984	-1.3%	-0.9%	-1.8%
1985-1989	4.0%	5.1%	4.8%
1990-1994	1.9%	-1.0%	-2.0%
1995-1999	3.2%	5.8%	3.7%
2000-2004	-2.3%	4.2%	2.1%
2005-2009	0.3%	-0.6%	1.2%
2010-2014	1.4%	-6.7%	1.3%
2015-2019	6.5%	8.6%	6.8%
2020-2024	4.9%	4.9%	2.7%

The high-investment scenario asks what the outcome would be if this trend were to be reversed and a major investment drive implemented across Europe. Investment in the periphery is calibrated such that the level of capital investment in 2020 is equal to the pre-crisis level in 2007. This target implies sustained growth of capital investment at a rate in excess of eight per cent per annum growth in the

Eurozone periphery is sustained at a rate above eight per cent per annum for the next five years followed by more moderate, yet still historically high, growth of around five per cent.

Again, the objection may be raised that such growth rates of investment are implausible. Even after five years of growth at these rates, however, capital investment in Peripheral Europe would still not have recovered to the level of the pre-crisis peak in 2007.

A five-year period of high investment growth is also assumed for the remaining Eurozone blocs, followed by a reversion to more moderate trends. The high-investment period in France and the Core Eurozone sees investment growth approximately two percentage points lower than in the Periphery, reflecting the fact that investment declines were not so severe in these blocs. Investment growth in these countries has, however, undergone a period of continuously weakening growth since the 1990s. The scenario therefore asks what would happen if both medium-term trends and the effects of the crisis were to be reversed by the implementation of a private-sector-based European 'Marshall Plan'.

Government expenditure

The next major element in the scenario is a proposal to reverse the collapse in the growth of government spending arising from the imposition of austerity.[1] This collapse is most pronounced in the Eurozone Periphery where real government expenditures contracted in real terms over the period 2010-2015; in the remainder of the Eurozone expenditure stagnated. The simulations assume a policy scenario in which the growth of government expenditure returns to pre-crisis long-term trends in the Core Eurozone and France. But, around 3.5 per cent annually, growth exceeds the long-run trend in the Eurozone periphery.

The historical data and simulated values are shown in Table 2.

Table 2 Historical and projected growth of government spending, average year on year real growth rate; projections from 2015 onwards

	Core	Periphery	France
1980-1984	1.3%	2.9%	3.0%
1985-1989	2.1%	4.4%	2.3%
1990-1994	2.7%	0.7%	3.1%
1995-1999	1.7%	2.1%	1.6%
2000-2004	0.9%	3.4%	2.4%
2005-2009	2.8%	3.0%	1.7%
2010-2014	0.5%	-2.6%	0.3%
2015-2019	2.1%	3.8%	1.4%
2020-2024	2.9%	3.1%	1.8%

[1] The measure used here refers to government spending net of transfer payments, i.e. the sum of government consumption and investment.

Government revenues at the domestic and Federal level

Rather than relying on fiscal consolidation – austerity – in an attempt to constrain public deficit and debt ratios, the scenario relies on a combination of higher activity and output and moderate increases in government revenue. Further, we posit a deepening of the fiscal links between the states of the Eurozone such that the total Federal Budget rises from its current level by an additional three per cent of total Eurozone GDP. It is assumed that this increased Federal Budget is confined to the Eurozone members only: non-euro Scandinavian countries and the UK are assumed not to participate.

Such an outcome is hard to imagine given the current state of European politics. The intention of this Policy Brief, however, is to examine the macroeconomics – and in doing so one cannot be constrained only to think in terms of the immediate political realities.

The scenario posits a system of tax contributions to the European Federal Budget based on income per capita and stocks of private wealth. Such a system is in line with proposals made recently by high-profile economists such as Piketty and Atkinson. Federal disbursements are made on the basis of the level of unemployment in each bloc, allowing domestic governments in those regions to increase investment expenditures and raise employment and productivity. This is straightforward Keynesian macroeconomic policy: targeted investment programmes in those areas suffering most from insufficient aggregate demand.

Table 3 Simulated increase in Federal budget, billions of 2005 PPP dollars and % of GDP.

		2015	2017	2019	2021	2023	2025
Eurozone Total	Total Eurozone GDP	12,903	13,025	13,358	13,831	14,510	15,367
	Budget	129	216	334	415	435	461
	Budget, % of total GDP	1	1.7	2.5	3	3	3
Core	Contributions	61	107.2	171.4	219	233.5	249.1
Eurozone	Receipts	29.9	52.7	85	108.5	114.9	120.9
	Balance, % of bloc GDP	-0.7	-1.2	-1.8	-2.2	-2.2	-2.2
Peripheral	Contributions	15.4	27.2	43.5	55.2	58.2	61.3
Eurozone	Receipts	51.1	88.4	138.8	173.9	182.5	191.5
	Balance, % of bloc GDP	1	1.6	2.4	2.8	2.8	2.8
France	Contributions	21.3	37.1	58.3	72.3	74.5	76.7
	Receipts	19.7	34.7	55.6	71.1	75.5	80.2
	Balance, % of bloc GDP	-0.1	-0.1	-0.1	-0.1	0	0.1

When simulated, our model produces bloc-level Federal Budget contributions and receipts as shown in Table 3 (these in turn rely on projections for GDP, which will be described shortly). The EU Federal Budget is assumed to grow from its current scale by an additional three per cent of projected Eurozone GDP by 2020 and remain at this level until 2015, as shown in the top row. It is assumed, however, that only Eurozone members participate in the expanded Federal Budget.

The remaining rows of the table depict the contributions and receipts to the budget for each of the three blocs. The aggregate effect of the budget is to produce cross-border fiscal outflows from the

Core Eurozone of around two per cent of bloc GDP. These flows are matched by net fiscal inflows to the Eurozone Periphery of around three per cent of Peripheral GDP.

Monetary policy and debt pooling

It is assumed that the ECB continues its accommodating monetary stance beyond the currently scheduled period of quantitative easing and, as a result, Eurozone real interest rates remain low. Further, it is assumed that peripheral Eurozone debt in excess of 60 per cent of GDP in 2015 is pooled into a common fund at the Federal level. This could be achieved, for example, by using the European Financial Stability Mechanism to issue bonds, with the proceeds used to retire the debt of individual peripheral sovereign states.

Forecasting interest rates is notoriously difficult. For this exercise, and on the basis outlined above, we therefore make interest rate determination exogenous to our model and assume the interest rate structure shown in Table 4.

The result of debt pooling is to reduce the interest rate on a large volume of Peripheral Eurozone debt. This cuts debt servicing costs and therefore reduces the future path of the total debt/GDP stock. In the simulation results, debt pooling reduces annual debt servicing costs for Peripheral Europe by between a quarter and half of a percentage point of bloc GDP annually.

Table 4 Real interest rates on government debt, per cent per annum

Bloc	Interest rate
Core Eurozone	1.0
France	1.5
Peripheral Eurozone	2.0
Pooled debt	1.5

Exchange rate

Given the assumption of continued accommodative monetary policy, we assume a progressive devaluation of the real euro exchange rate against the dollar of around thirty per cent by 2025.

Scenario Projections

Given the assumptions made above, the CAM model generates projections for a full set of macroeconomic variables for each of the European blocs – as well as for the rest of the world – all of which are linked using a stock-flow consistent accounting framework. These projected outcomes are described in the following sections.

Growth of GDP and contributions to growth

Historical data and projections for five-year average growth rates for the four blocs are shown in Table 5. The historical data highlight the depth of the crisis in the Peripheral Eurozone: the decade starting from 2005 is essentially a 'lost decade' for the region in terms of GDP growth. In both Greece and Italy, the level of real GDP in 2014 was no higher than in 2000. Fifteen years of the single currency have resulted in zero growth for these countries.

The high-investment scenario projects an end to such an outcome and instead predicts GDP growth of around three per cent per annum for the ten years from 2015 – a rate not achieved since the pre-euro period of the late 1990s in the Periphery and the late 1980s in the Core.

Table 5 Historical and projected rates of GDP growth, per cent per annum; projections from 2015 onwards.

	Periphery	Core	UK	France
1980-1984	1.4	1.0	1.1	1.3
1985-1989	3.9	3.0	3.6	3.1
1990-1994	1.5	2.8	2.0	1.4
1995-1999	3.0	2.2	3.8	2.5
2000-2004	2.4	1.2	3.3	1.8
2005-2009	0.5	0.8	0.4	0.7
2010-2014	-0.5	1.6	1.6	1.2
2015-2019	3.2	3.0	3.1	2.3
2020-2024	2.6	3.2	1.8	1.9

The analysis turns now to the composition of these GDP growth rates in two key blocs: the Eurozone Periphery and Core. Figure 1 shows a breakdown of the macroeconomic components of growth for the Periphery. It is clear that the collapse in GDP between 2008 and 2013 was in large part driven by a major contraction in private capital investment. From 2010 onwards, this is compounded by the external imposition of austerity on the bloc.

In the scenario projection these trends are reversed. Private investment is projected to contribute almost two per cent per annum to GDP growth in 2016, then moderate gradually towards a contribution of around one per cent per annum in 2024. Over the same period, as a result of the reversal of austerity, government spending is projected to contribute around one per cent of GDP in 2016 and then moderate gradually to a contribution of around 0.5 per cent of GDP in 2024.

These growth contributions from government spending and private investment are far from sensational – rather they are in line with the upper range of past historical experience. Nonetheless, given the catastrophic fall in private investment in particular, they do represent a major reversal in the recent trend and thus a jump in volume. While investment growth contributions are in line with historical experience, past investment has been inconsistent, with rates varying significantly from year to year. The projection of continuous steady growth in private investment over a ten year period is therefore undoubtedly optimistic.

An important break with past trends is seen in the significant reduction in the growth-sapping effect of current account deficits when compared to the pre-crisis euro membership period. These historical current account deficits, not government profligacy, are crucial for an understanding of the accumulation of debt – both private and public – in the build-up to the crisis (see the next section for more details).

An important consequence of these projections is that consumption spending is projected to take a lesser role in generating growth in the Periphery. This is important because in a situation of fiscal austerity in which the government sector runs a surplus, the implication (in the absence of a trade surplus) is that the private sector must accumulate debt. The only alternative to this is a self-defeating recession which fails to reduce the debt-to-GDP ratio – exactly the strategy so far implemented in the peripheral Eurozone states. The switch in emphasis from consumption to investment shifts the potential burden of debt from households to corporations.

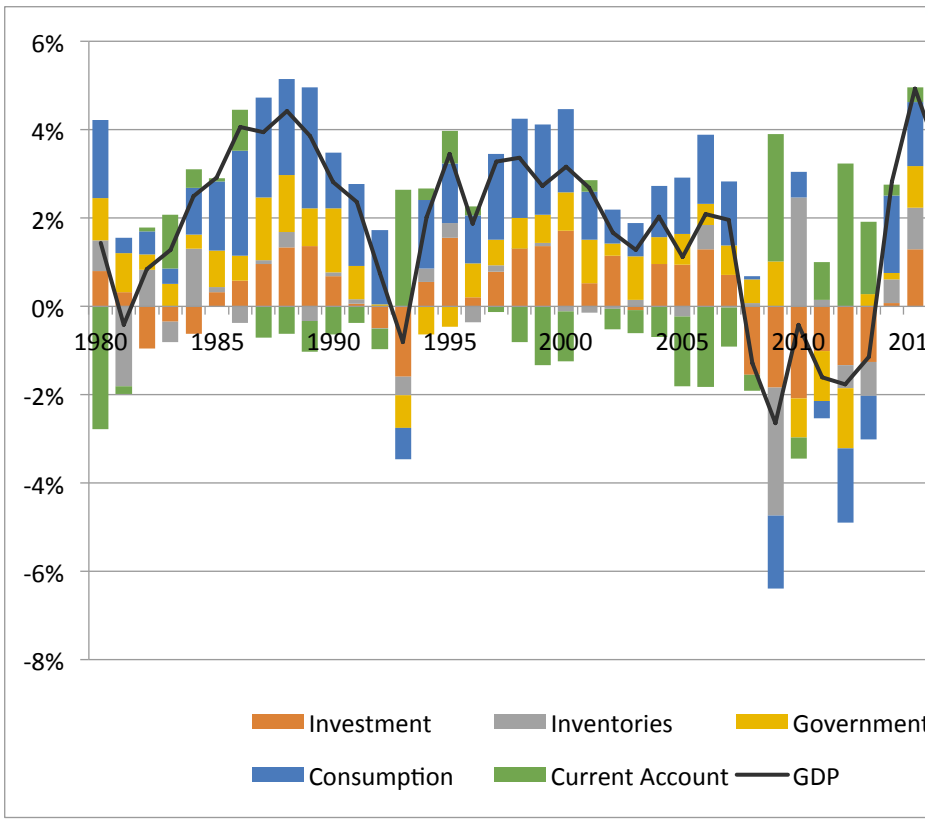

Figure 1 Eurozone Periphery, historical and projected components of GDP growth, per cent per annum; projections from 2015 onwards.

The composition of GDP growth for the Core Eurozone is shown in Figure 2. The differences with the pattern of the Periphery are clear. Firstly, growth in the pre-crisis euro period is driven by trade surpluses – the mirror image of the deficits in the periphery. These surpluses were enough to offset weak consumption and investment expenditures in the period to 2008 – a weakness which has persisted in the post-crisis period. Secondly, austerity in the Core Eurozone countries was never implemented with any vigour – at no point during or since the crisis did contracting government expenditure become a drag on growth. As a result, GDP growth fell but the prolonged recession experienced in the periphery was avoided by the core.

As is the case for the Eurozone Periphery, the scenario simulates the outcome of a reversal of the weak and uneven investment of the euro era and instead posits a steady contribution to growth of real private investment spending of around one per cent annually. This is assumed to take place alongside a gradual growth in the contribution from government expenditure starting at around 0.5 per cent of GDP. Finally, our scenario posits that, instead of relying on exports to counter the weak domestic demand arising from wage repression, consumption expenditures rise to take up the slack. As a result of the internal rebalancing of the Eurozone, the current account position of the Core acts as a mild drag on GDP until around 2020 after which devaluation of the euro results in a current account close to balance.

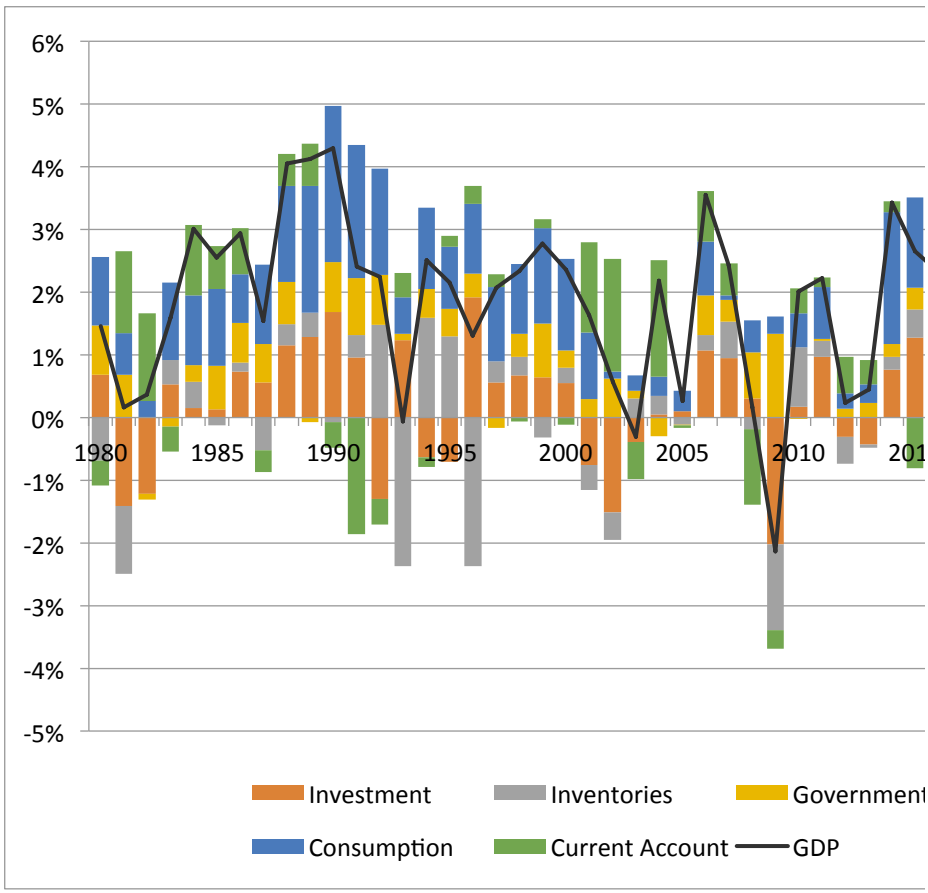

Figure 2 Eurozone Core, historical and projected components of GDP growth, per cent per annum; projections from 2015 onwards.

Financial balances and debt ratios

The analysis now turns to the financial balances – the deficits and surpluses of macroeconomic sectors – generated under the scenario and the corresponding trajectory of debt stocks. The CAM model relies on the accounting principle that all financial outflows from any sector must be matched elsewhere in the system by financial inflows. As such, in the scenario presented here, all stocks and flows, including international flows, are carefully accounted for in a coherent framework. In particular, the model adheres to the rule that the sum of the net financial positions of the private, public and foreign sectors for each bloc must, by definition, sum to zero.

As in the previous section, we focus on two key Eurozone blocs – the Core and Periphery. Figure 3 shows the three financial balances of these two blocs. The charts show, in addition, the government deficit less net contributions to the federal budget. This shows the underlying government surplus or deficit before net contributions to the federal budget.

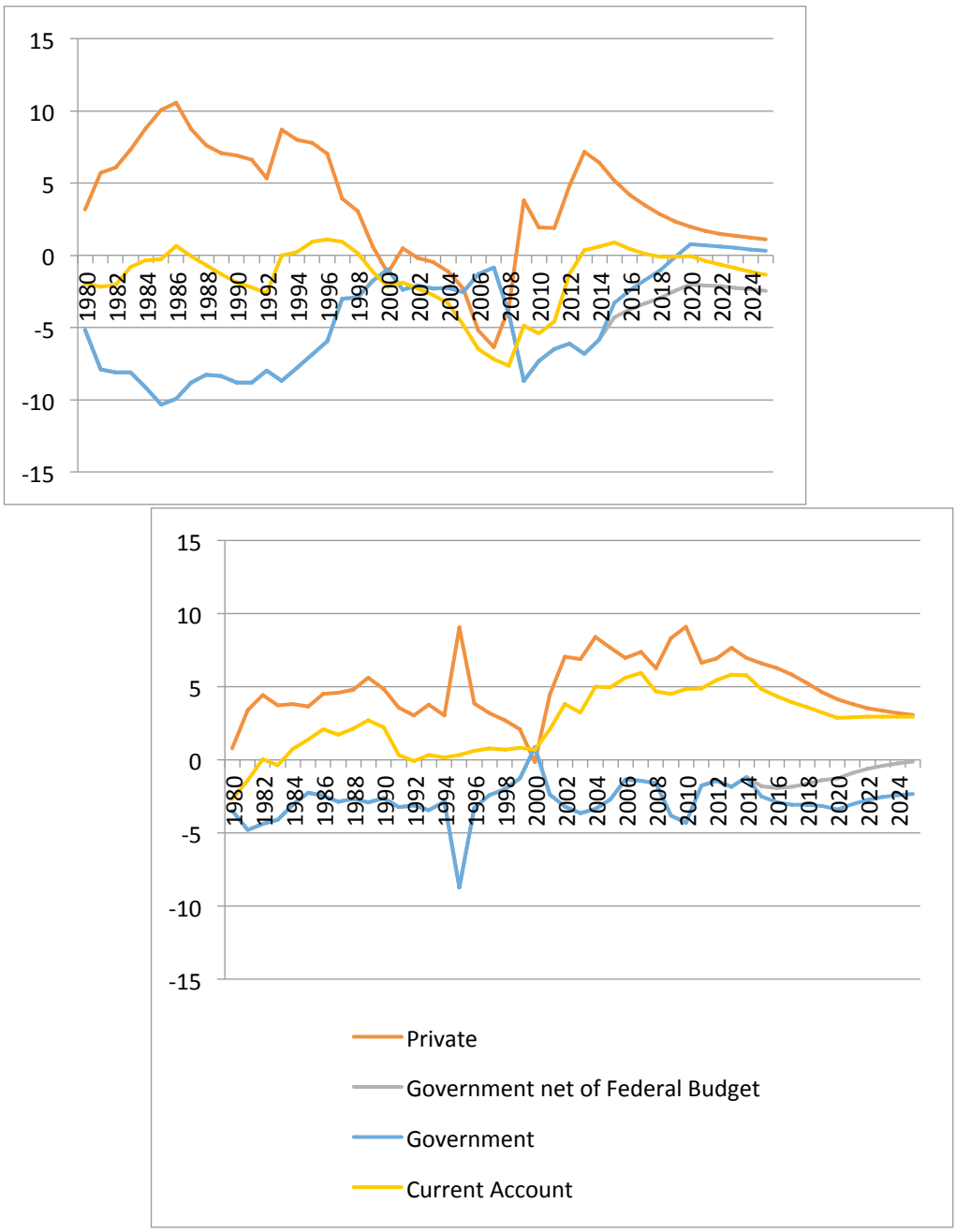

Figure 3 Financial balances in Eurozone Periphery (top) and Eurozone Core (bottom), per cent of GDP; projections from 2015 onwards.

In the pre-euro period, the Eurozone Core and Periphery were characterised by modest current account surpluses (Core) and deficits (Periphery) and by private sector surpluses matched by public sector deficits. These private surpluses – net savings – were higher in the Periphery, exceeding five per cent of GDP for much of the period. With the introduction of the common currency, the pattern of financial balances shifted sharply, driven by the continuous rise in the current account surplus of the Core countries, matched by deficits in the Periphery. Note that, despite claims of fiscal profligacy by Peripheral states, the current account deficit in these nations was largely matched by *private* borrowing – the *public* deficit remained steady at around two per cent of GDP until the crisis struck in 2008. The pattern in the Core nations largely mirrors that of the Periphery – the growing current account surplus was matched by an accumulation of private savings – much of it recycled by the

banking system and lent to the private sector of the Peripheral nations. In contrast with the usual stereotypes about lack of public sector discipline in the Periphery, it is instructive to note that government deficits in the Core exceeded those in the Periphery for much of this period.

The onset of the crisis in 2008 threw the financial balances of the Peripheral nations into reverse: private sector deleveraging and the collapse in aggregate demand led to ballooning government deficits. With the imposition of austerity from 2010, Peripheral states were plunged into recession, closing the current account deficit.

In contrast, it is notable how little effect the crisis had on the financial balances of the Core nations – the current account surplus contracted mildly – and temporarily – while the government deficit briefly increased. Any austerity imposed in these states was mild, at best.

The scenario projections from 2015 onwards depict the trend of these financial balances under an expansionary high-investment scenario. The current account position of the Peripheral states is projected to remain close to balance over the period. Increased private investment leads the post-crisis and austerity-driven private sector surplus to decline steadily to around three per cent of GDP, matched by a government deficit of a similar magnitude. Given the net transfers resulting from the expanded Federal budget, however, these deficits are eliminated so that the government runs a moderate surplus.

For the Core states, increased domestic aggregate demand causes the current account surplus to fall steadily to around three per cent of GDP, matched by a decline in the saving of the private sector. A moderate public deficit is projected: while the underlying public position is projected to be close to balance by 2024, the fiscal transfers associated with the expanded Federal budget imply a steady government deficit of around three per cent per annum.

What do these balances imply for government debt ratios?

Figure 4 shows the historical path of public debt-to-GDP ratios and scenario projections from 2015 onwards. The investment-led scenario results in a levelling off and gradual decline in debt-to-GDP ratios in both the Core and Periphery. Of the Peripheral debt, around half is assumed to be have been converted to EFSM-issued `Eurobonds' and thus to be subject to lower servicing costs. This reduction in servicing costs translates to annual savings of around 0.4 per cent of GDP for the Peripheral states.

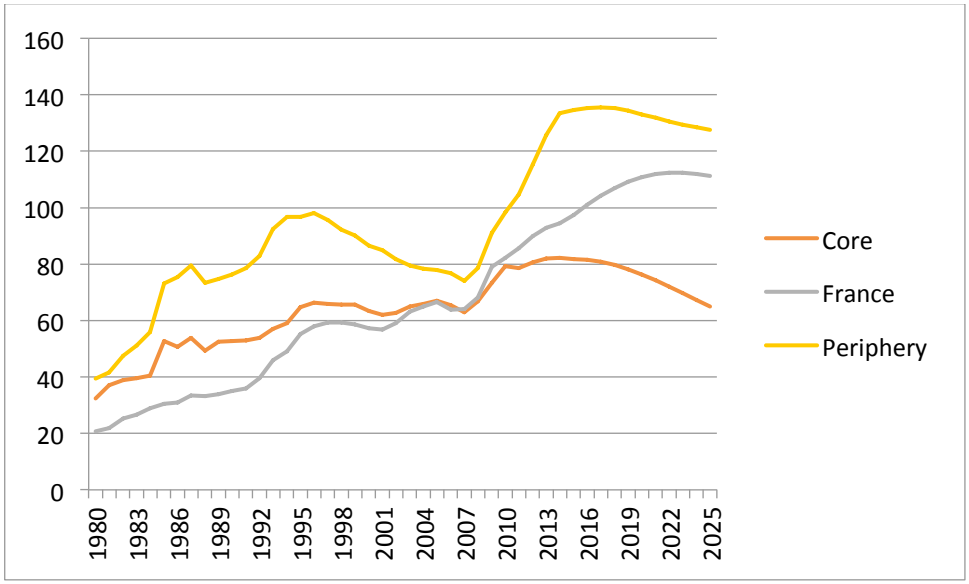

Figure 4 Government debt-to-GDP ratios;
projections of high-investment scenario from 2015 onwards

In this scenario, the Peripheral Eurozone debt-to-GDP ratio peaks at around 135 per cent of GDP while the Core Eurozone ratio peaks at around 80 per cent of GDP. This outcome contrasts strongly with the results of our 'conventional macropolicy' scenario in which the imposition of austerity continues in an attempt to close government deficits (See Policy Brief 1). The projections of this previous scenario suggest that austerity is self-defeating because the resulting stagnation leads to expanding debt-to-GDP ratios. The projected debt-to-GDP ratios generated by simulations under the assumption of continued imposition of recessionary macroeconomic policies are shown in Figure 5. Instead of levelling off, albeit at relatively high levels, the stagnationary scenario predicts continual rises in debt/GDP ratios in the Periphery and France such that the debt-to-GDP ratio of Peripheral nations reaches 225 per cent of GDP by 2025. Even the Core Eurozone countries are projected to find themselves facing debt-to-GDP ratios of around 100 per cent of GDP by 2025.

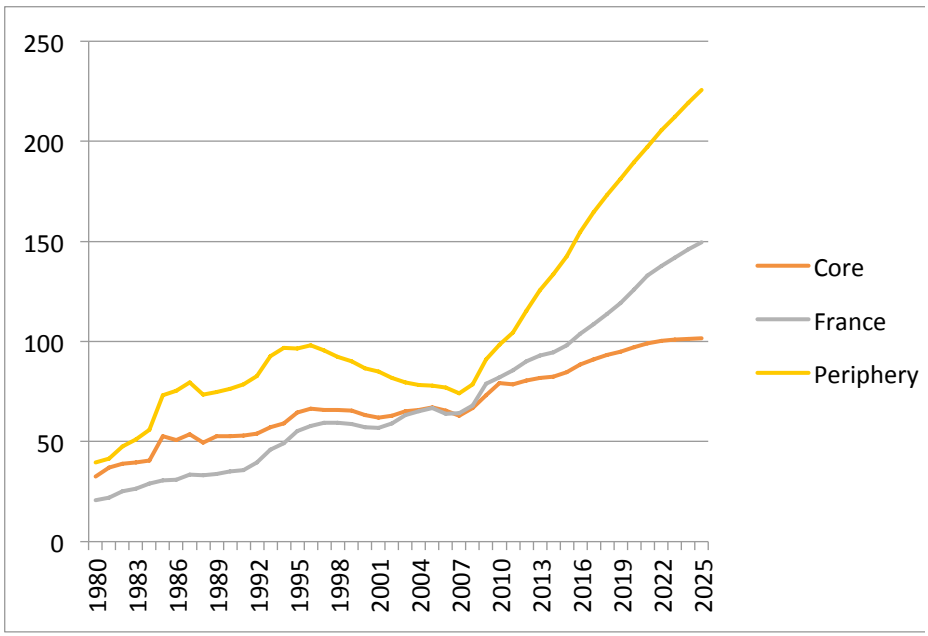

Figure 5 Government debt-to-GDP ratios; projections of stagnationary scenario from 2015 onwards

Concluding remarks

This Policy Brief is the second in a series of three looking at the medium-term prospects for Europe. The first examined a situation in which a 'conventional' macroeconomic policy mix of loose monetary policy and tight fiscal policy was combined with a mild investment stimulus along the lines of the recent Juncker plan. The conclusions that emerged were that such conventional policies – without any mechanism to compensate for the internal imbalances of the Eurozone – are unlikely to succeed since they result in uneven growth and rising debt-to-GDP ratios.

This Policy Brief explores an alternative scenario in which substantial and sustained increases in private investment take place alongside a reversal of austerity in the Periphery and the introduction of an expanded Federal Budget. The projections suggest that such an approach will be more effective in both raising growth and employment rates and in closing deficits and reducing debt-to-GDP ratios.

What is clear, however, is that rapid reduction of public debt-to-GDP ratios is not feasible. While conventional macroeconomic policies are projected to produce stagnation and thus fail to contain debt ratios, the higher growth produced in the current scenario is projected to lead to an eventual fall in debt ratios. But this decline is only moderate: by 2025, the debt-to-GDP ratio of Peripheral Eurozone is projected to remain above 120 per cent. This suggests that high debt-to-GDP ratios will be with us for the foreseeable future. Policies to contain the costs of servicing debt particularly for Peripheral nations will therefore be crucial. Further, it is clear that finding some way in which the burden of adjustment can be shared between the nations of the Eurozone is essential. In this scenario, such a mechanism is provided through the system of fiscal transfer arising from the expanded Federal Budget.

It is clear that the policy proposals implied by the current scenario – an increased Federal Budget, reversal of austerity in the Periphery and significant use of publicly backed institutions for the financing of investment spending – are a long way from the current policy consensus in Europe. But

the focus of the scenario is the macroeconomics of the situation. The projections demonstrate that if Europe is to recover from its current predicament, a major shift in policy cannot be avoided.