

Luigi Paganetto *Editor*

Public Debt, Global Governance and Economic Dynamism

 Springer

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Editor

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Introduction

Luigi Paganetto

Abstract Public debt and euro continue to be the most challenging questions Europe is trying to face.

Public debt and euro continue to be the most challenging questions Europe is trying to face.

Imbalances and large differences in the rate of growth are still worrying figures of the international economic scenario.

The inadequacy of economic dynamism is the main problem for the most advanced countries, mainly in Europe.

According to some commentators (see for instance De Grauwe 2011; Tabellini 2011 and Wyplosz 2011) the Eurozone has been saddled in a bad equilibrium because the ECB waited too long before using its Big Bazooka and has refused to act as a lender of last resort. They believe that if the next rescue operation were only big enough, the Eurozone drama would come to a happy end.

The near-term costs of austerity mean we should keep thinking about alternatives, such as making commitments to future tightening more credible (e.g., entitlement-programme reforms).

However, the presence of a sovereign-risk channel also provides a strong argument for focusing on ways to limit the transmission of sovereign risk into private-sector borrowing conditions.

Tornell has put in evidence that the problems come from tragedy-of-the-commons transpiring in the Eurosystem, where the ECB and the 17 national central banks share a common pool of money demand. The Eurosystem is not a unitary textbook decision-maker.

- Interest rates are set in a centralised fashion by the ECB's governing board, but
- Each national central bank has de facto power over the expansion of central bank credit to banks in its jurisdiction.

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Generally, a private bank can borrow from its national central bank as long as the bank (1) is financially sound and (2) has eligible collateral. What opens the door to the tragedy-of-the-commons is the way in which these conditions are implemented:

- *Supervisory powers reside with national authorities, not with the ECB in Frankfurt.*

The opportunities for institutional advancement in the EU created by the dismal management of the Eurozone crisis may well include the establishment of a banking union.

Lack of centralised supervision and mandated supervisory action are main missing elements in the proposals that have been tabled so far. Here, a decision must be taken, first of all, on the competent authority at EU level.

The European council already has the legal power to implement the centralization of supervision at the ECB while EBA could be realized with ordinary legislation.

By mid-2012 it is clear that the global recovery is at risk.

By increasing uncertainty, while depressing demand in an important part of the world economy, the Eurozone crisis is dangerously slowing growth in the US and emerging economies. This is particularly worrying since the US economy could easily be pushed close to the recession zone.

By 2010, governments on both sides of the Atlantic had clearly adopted diverging strategies:

- for the US restoring self-sustained growth was the priority;
- for Europe the priority was to bring budgets back into balance.

The problem is that reducing budget deficits without harming growth had become trickier (Wolf 2010).

The conclusion is easy to draw. Eurozone governments have to acknowledge that their response to the sovereign crises has been wrong. In present circumstances, bringing budgets back to balance as quickly as possible and at any cost for growth is a recipe for disaster.

The strategy adopted in May 2010 has not just failed to achieve its aims: restore debt sustainability, avoid contagion and reduce moral hazard. It has not produced a solution that is likely to bring the crisis to its end. Policy makers are facing a dilemma.

Still high deficits, rising debt ratio and the volatility of financial markets all argue for continued fiscal consolidation.

The IMF Fiscal Monitor (April 2012) points out that too little fiscal consolidation could roil financial markets, but too much risks further undermining the recovery.

Fiscal tightening could be expected to reduce short term growth mainly while output gaps are negative. If fiscal multipliers are large and public debt is high, fiscal adjustment may appear counterproductive in the short run.

What is the appropriate pace of fiscal consolidation? A gradual and more flexible approach could be preferable? Or is still needed, as suggested by Wyplosz a U turn in the policies adopted to face the crisis in Europe? Unfortunately it will be costly.

We have to take account in general, that self fulfilling depressionary expectations push the economies below their potential.

The dynamism in an economy may be undermined by negative externalities that negatively influence the perspectives of endogenous growth. Tax increase and expenditures cuts reduce the confidence in the future of the economy.

Is austerity self-defeating? Is it keeping Europeans underemployed for years and destroying the very growth needed to pay off the debt? Or is it steering nations clear of Greek-like tragedies?

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Part I
US Growth Policies in the Election Year

Five Economic Challenges for the Next US President

Moreno Bertoldi

Abstract In the US the worst of the crisis may be over, but the road that brings its economy on a strong, sustainable and balanced growth path is still long and fraught with formidable obstacles. There are five major challenges that the next US President will have to address during his mandate: (1) the fiscal cliff, preferably in conjunction with the definition of a credible medium-term fiscal consolidation strategy; (2) the reduction of wealth and income inequalities; (3) a climate of uncertainty that it is holding back investment and consumption, and weakening the recovery; (4) the completion of the financial sector reform; and (5) the structural legacies of the crisis (e.g., the increase in long-term unemployment, the adjustment in the housing sector, the redefinition of the role of Government-Sponsored Enterprises). While the fiscal cliff and the agreement on a credible medium-term fiscal consolidation strategy should definitively be the top priority for the next President,

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all five challenges are closely interrelated. Therefore the policy responses provided for a particular challenge may have important spillover effects on the others, sometimes complicating the task of the policymakers. The way these challenges are addressed will be a defining moment for the economic agenda of the next President and will significantly contribute to the shaping of a new US growth model.

1 Introduction

The effects of the financial crisis that started in the US five years ago are still being felt in the country and worldwide. The recovery that began in the second half of 2009 has been sub-par and uneven. In the last four years President Obama and his economic team have tried to put the US on a more sustainable and balanced growth path, with mixed results. While a double dip recession was avoided until now, economic growth in the last three years has been sluggish and unemployment has remained stubbornly above 8 %. Although US external imbalances have more than halved from their peak, on the other hand US fiscal consolidation has just started. The country is still running very high fiscal deficits and its general government debt is rapidly moving above 100 % of GDP. While a major health care reform was approved in 2009, entitlement spending remains on an unsustainable trajectory. Against this background, the next US President will face daunting challenges. Even if the worst of the crisis may be over, the road that brings the US on a strong, sustainable and balanced growth path is still long and fraught with formidable obstacles.

2 Five Economic Challenges for the Next US President

There are five major challenges that the next US President will have to address during his mandate: (1) the fiscal cliff, preferably in conjunction with the definition of a credible medium-term fiscal consolidation strategy; (2) the reduction of wealth and income inequalities; (3) a climate of uncertainty that it is holding back investment and consumption, and weakening the recovery; (4) the completion of the financial sector reform; and (5) the structural legacies of the crisis (e.g., the increase in long-term unemployment, the adjustment in the housing sector, the redefinition of the role of Government-Sponsored Enterprises). While the fiscal cliff and the agreement on a credible medium-term fiscal consolidation strategy should definitively be the top priority for the next President, all five challenges are closely interrelated (therefore they are not ranked here in order of priority). As a result, the policy responses provided for a particular challenge may have important spillover effects on the others, sometimes complicating the task of the policymakers.

2.1 The Fiscal Cliff in the Framework of a Credible Medium-Term Fiscal Consolidation Strategy

The US fiscal cliff is determined by substantial changes to tax and spending policies that, under current law, are scheduled to take effect next year, most of them in January. These changes include: (1) the expiration of the 2001 and 2003 tax cuts; (2) the expiration of the 2011 exemption threshold for the Alternative Minimum Tax; (3) the expiration of the payroll tax cut on employees from 6.2 to 4.2 % introduced in January 2011 and subsequently extended through the end of 2012; (4) expenditure sequestration for 62 billion US\$, half of which would fall on defense spending; (5) the expiration of the Emergency Unemployment Compensation and Extended Benefits for about 3 million jobless workers who have exhausted the standard 26 weeks of benefits that are permanently available; (6) the 25 % (or more) cut of payments to Medicare physicians; (7) the repeal of a number of tax credits (such as the R&D tax credit, which are temporary in nature, but have been extended for so many years that have become quasi-permanent; and, last but not least, (8) reaching the debt limit, probably at the end of 2012, which could trigger additional expenditure cuts¹ (see Fig. 1). If the fiscal cliff represents a clear and present danger to the US recovery, over the medium-term, the major risk to strong and sustainable growth is coming from the absence of a credible fiscal consolidation strategy. Ideally, what the US economy would need is a smooth path of fiscal consolidation echeloned over a number of years and more back-loaded than frontloaded. However, if the current gridlock persists, it will generate the exact opposite risk: a massive short-term fiscal consolidation that will dampen growth, without a credible plan to tackle deficits and debts over the medium-term.

If no agreement is reached at the end of 2012 between the current Administration and Congress and, as a result, all temporary tax provisions were to expire and all the automatic spending cuts were to take effect, the US in 2013 will face a major fiscal contraction (i.e., about 500 billion US dollars, over 4 % of GDP), which would most likely bring the economy back into recession.² Since many of the legal provisions behind the fiscal cliff have to be dealt with by January 2013, it would seem that this challenge pertains to the current Administration. However, it is unlikely that a credible and consistent solution can be found in the Congress' lame-duck session, in particular in a context where Democrats and Republicans remain bitterly divided on the course of action to follow. Therefore, no matter who wins presidential race, the most likely scenario is that there will be an agreement

¹ For a detailed analysis of the US fiscal cliff and its repercussions on economic growth and the fiscal position see CBO (2012).

² CBO (2012) forecasts a 0.5 % contraction of US GDP in 2013 in case the changes in taxation and expenditures foreseen under current law take place.

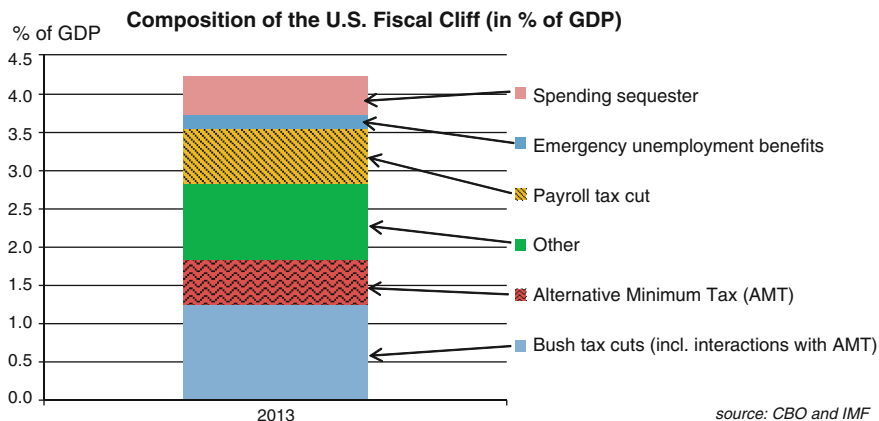


Fig. 1 Composition of the US fiscal cliff (percent of GDP)

on a short term extension of the temporary tax provisions and a delay of the automatic spending cuts, so as to give the new Administration and Congress the time to work out a longer-term solution during 2013.³

Many analysts and commentators separate the fiscal cliff of 2013 from an agreement on a medium-term fiscal consolidation strategy, and it is true that the two issues do not necessarily need to be dealt with together. For instance, a compromise could be reached to reduce the fiscal cliff for 2013 to a level between 1 and 2 % of GDP by allowing a partial extension of tax cuts and scaling down automatic spending cuts, nevertheless without tackling the root causes of the US structural deficit and the rapid rising of the federal debt. However, the costs of de-linking the two issues would be considerable, in particular because of the negative spillovers that it would have on other economic challenges (most notably challenge 3 (uncertainty) and challenge 5 (the structural legacies of the crisis)). This is why the fiscal cliff and the set-up of a credible medium-term strategy are considered here as one challenge, which is definitely the most difficult and complex that the next President will have to address.

Without a credible medium-term fiscal consolidation plan, a temporary fix of the fiscal cliff would in fact perpetuate the climate of uncertainty that is holding back investment and negatively affecting consumer sentiment. In addition, domestic and foreign investors may start to worry about the sustainability of the US fiscal position, which would put pressure on Treasury bond interest rates. So far the Obama Administration's "calculated gamble" [Brender, Pisani and Gagna (2012)], that it could postpone fiscal consolidation and avoid putting forward a credible medium-term plan until growth picks up on a permanent basis, has

³ Given the complexity of the issue, it may well be possible that to work out all the details of an agreement will take longer. However, the general agreement on what needs to be done has to be reached by 2013, i.e., before Congress starts to focus on 2014 mid-term elections.

worked quite well (bond vigilantes have yet to materialize). However, in the last year, political and market pressure, pushing for a credible political agreement that sets out how public borrowing will gradually be put back on a sustainable path, has strengthened significantly. With heightened expectations that action needs to be taken sooner rather than later, the gamble cannot go on in the current terms without risking a major setback. Furthermore, without a clarification on the medium-term fiscal framework and the resources that will be (or will not be) available, it will be difficult to provide more than a piecemeal policy response to structural legacies of the crisis, e.g., active labor market policies or interventions aimed at stabilizing and reviving the real estate sector.

It is increasingly clear that dealing with the fiscal cliff in the framework of a credible medium-term fiscal consolidation strategy will require a major overhaul of the current taxation system. Not only tax increases and spending cuts will be unavoidable, but there will be the need, in order to free resources, to eliminate a significant amount of tax exemptions and subsidies. Such a reform of the tax system will undoubtedly run against significant opposition not only from Congress, but also powerful lobbying groups. Therefore, the chances to achieve a sustainable solution to the fiscal cliff challenge are likely to be higher at the beginning of a new administration (or at the beginning of a second term), when the political resources and support for the President and his Administration will be at their zenith and the possibilities of striking a compromise with Congress are the strongest [Summers (2012a)]. Muddling through and postponing the difficult choices to 2014 or later will most likely undermine the President's and Congress' credibility, while allowing interest groups opposing the reform to regroup, therefore lowering the chances of an ambitious compromise.

The options on the table are manifold.⁴ On the revenue side, the partial expiration of the 2001 and 2003 tax cuts, the introduction of a VAT, an increase of the corporate tax, a major overhaul of the tax code that would broaden the tax base and eliminate a significant number of tax exemptions and subsidies are currently considered by both camps. Republicans are rejecting tax increases and favoring a revenue-neutral reform of the tax code that would broaden the tax base, while Democrats are calling for the expiration of the 2001 tax cuts related to incomes above 250,000 US\$, a moderate increase of the corporate tax, possibly a carbon tax, and a reform of the tax system, focusing in particular on wasteful tax exemptions and subsidies. On the expenditure side, apart from cuts in discretionary spending (where the margins for maneuver are however, limited, including on the defense side), entitlement reform (*in primis* Social Security and Medicare) has to provide the bulk of the adjustment. Republicans are pushing for the partial

⁴ See on this issue the Simpson-Bowles report (from the names of the two co-chairs of the Commission of Fiscal Responsibility and Reform produced a report in (2010)), which put forward a bipartisan plan that included tax increases and expenditure cuts. In the end, neither Democrats or Republicans backed the plan (preferring to pick and choose specific proposals) and it went nowhere.

privatization of Social Security (through the creation of individual accounts), and, with regard to healthcare, for the introduction of a voucher system in order to contain healthcare costs (and/or increase health insurance costs for Medicare recipients). They are also calling for more competition between Medicare and private health care plans. Democrats are instead in favor of keeping, with some adjustments so as to increase its long-term sustainability, the current Social Security system, and to curb healthcare expenditures via reductions in payments to providers and insurers as part of the Health Care Act. They also favor an increase of healthcare efficiency and the determination of procedures based on objective criteria, so as to reduce the current overspending in the sector. The current lack of progress is due to the fact that Democrats will accept entitlement reform only if Republicans agree on significant tax increases (in particular for the wealthiest and the corporate sector), while it is doubtful that Republicans will accept tax increases in exchange of entitlement reform.

The proposal of introducing a value added tax (VAT) could play an important role in the negotiation, since this tax is effective in raising revenues and reduce distortions in the tax system. Corporations with overseas interest favor it because VAT is rebated on exports. However, the introduction of the VAT would also be divisive: Republicans would consider it as a tax increase, Democrats would ask for appropriate rebates for low income households to prevent the regressivity of such a tax, and the general public would perceive it as a consumption tax, which would make it particularly unpopular [Chinn and Frankel (2011); Brender, Pisani and Gagna (2012)]. Therefore, for the time being there is no silver bullet and there is very little ground for a compromise. However, depending on the November elections' results, positions could evolve, making a bipartisan compromise more likely.

Ultimately, the way in which the fiscal cliff will be dealt with, either within or outside a medium-term fiscal consolidation plan, will play a crucial role in defining the contribution of fiscal policy to US economic growth in the years to come. A short-term fix will avoid a double-dip for the US economy, but would not remove the Damocles' sword of high deficits and burgeoning debt over the economy. Even a solution that would put the country on a sustainable fiscal trajectory could not be sustainable if, in the meantime, it adversely affects the other economic challenges that the next US President will have to face, *in primis* the reduction of economic inequalities. Therefore, an entitlement reform that, while curbing costs, would exacerbate the already high (and growing again) income and wealth inequalities between the top quintile of the population and the rest of it, would probably not be viable over the medium-term. Some of the problems that triggered the Great Recession (e.g., the excessive indebtedness of US households) would resurface as destabilizing factors. In this respect, a sustainable and successful fiscal consolidation strategy needs to be part of the redefinition of the post-Great Recession social contract.

2.2 The Reduction of Wealth and Income Inequalities

During the “Great Moderation” period an implicit debt-based social contract was in place: the income stagnation (or very low growth) of the four bottom quintiles of the US population—and the consequent increase in economic disparities—were partially compensated by an easier access to credit, which was facilitated by the weakening of financial regulation and the rapid development of financial innovation. This debt-based social contract was also encouraged by specific policies aimed at having money flow to lower–middle class households (e.g., programs for affordable housing) and raising their expenditures. As a result, “consumption inequality rose much less than income inequality in the years before the crisis” [Rajan (2012), p. 75]. However, the containment of consumption inequalities could happen only through a significant increase in household’s indebtedness, which became increasingly unsustainable and, in the end, was one of the root causes of the subprime crisis that rapidly spread to the financial system and affected the entire economy. Against this background, a number of authors [Rajan (2010); Stiglitz (2012); Krugman (2012); Summers (2012b); Chinn and Frieden (2011)] have pointed out, a post-crisis sustainable growth model in the US, avoiding overconsumption and achieving healthy saving rates, needs to be based on lower and declining economic inequalities.

A major obstacle to the reduction of economic inequalities in the US is that this seems to be in conflict with the objective of putting its fiscal position on a sustainable path without increasing excessively the tax burden. This implies painful spending cuts in Medicare, Medicaid and Social Security. However, these programs play an important role in the reduction of US income and wealth inequalities. More in general, in advanced economies, the welfare state is instrumental in the reduction of these inequalities. It is not mere coincidence that in Western European countries with a much more developed welfare systems inequalities are much smaller than in the US. Therefore, shrinking welfare programs in the US may have unintended consequences, in particular if most of the new income and wealth created continue to go disproportionately to the top decile of the population and, within it, to the top 1 % of income earners. The situation would be different if a dynamics favoring a more equal income distribution were at play. However, recent trends seem to indicate that this is not the case and economic inequalities are on the rise again (see Table 1).

Against this background, the inequality issue in the US remains difficult to address and there are no easy solutions. Wages in the manufacturing sector remain stagnant despite increases in productivity. On the one hand this development has helped the revival of the manufacturing sector (which had declined significantly in the period of the Great Moderation), but, on the other hand, it is not supporting a rise of the labor share in the economy, which on the contrary continues to be on a declining trend [Wessel and Hagerty (2012); Reich (2012)]. Wages in non-manufacturing sectors are also under pressure because of the high unemployment

Table 1 Real income growth by groups, 1993–2010

	Average income real growth (%)	Top 1 % incomes real growth (%)	Bottom 99 % incomes real growth (%)	Fraction of total growth (or loss) captured by top 1 %, (%)
	(1)	(2)	(3)	(4)
Full period				
1993–2010	13.8	58.0	6.4	52
Clinton expansion				
1993–2000	31.5	98.7	20.3	45
2001 Recession				
2000–2002	–11.7	–30.8	–6.5	57
Bush expansion				
2002–2007	16.1	61.8	6.8	65
Great recession				
2007–2009	–17.4	–36.3	–11.6	49
Recovery				
2009–2010	2.3	11.6	0.2	93

Computations based on family market income including realized capital gains (before individual taxes)

Incomes exclude government transfers (such as unemployment insurance and social security) and non-taxable fringe benefits. Incomes are deflated using the Consumer Price Index

Column (4) reports the fraction of total real family income growth (or loss) captured by the top 1 %

For example, from 2002 to 2007, average real family incomes grew by 16.1 % but 65 % of that growth

accrued to the top 1 % while only 35 % of that growth accrued to the bottom 99 % of US families

From 2009 to 2010, average real family incomes increased by 2.3 % and the top 1 % captured

93 % of those gains

Source [Saez \(2012\)](#)

levels. As Table 1 shows, all the income gains of the bottom 99 % during the Bush expansion were wiped out by the recession.

A number of economists [e.g., Rajan (2010); Summers (2012b)] think that the solution should come from the strengthening of the education system and, within it, more radical measures such as the creation of “opportunity slots” in top US universities for low income students [Summers (2012b)]. However, this is at best a long term solution to a problem that also requires short-term action. In fact, if the income of the majority of the population stagnates and, because of excessive indebtedness, households are cutting on consumption, there are only two possible paths forward: if households have less access to credit consumption will be at best sluggish and the US will go through a prolonged period of sub-par growth; if instead households have greater access to credit the country will go back to a sort

of debt-based social contract that is both unsustainable and lays down the conditions for future financial instability.

As a result, the next Administration will then have to find ways to ensure that increases in productivity translate into higher wages, in particular for low–middle income households. This will require institutional and tax reforms able to re-equilibrate the balance of power between workers and employers, including through appropriate tax incentives. Such reforms are particularly urgent if a compromise has to be reached on cutting entitlement expenditures, which is likely to weigh heavily on the bottom quintiles of the population.

2.3 A Climate of Uncertainty that is Holding Back Investment and Consumption, and Weakening the Recovery

The US growth model that was framed by the “Reagan Revolution” in the early 1980s collapsed as the subprime crisis spread to the US and, later on, the global economy. The Obama Administration, in concert with the Federal Reserve, took decisive measures to stabilize the economy and to bring the economy back to strong growth. While it succeeded in the stabilization effort, the economy recovered only at a tepid pace (see Fig. 2). The disappointing recovery was partly due to the nature of the crisis—a balance sheet recession that badly damaged the financial sector and required strong deleveraging by both financial institutions and households [Mc Kinsey (2012)]—but was also due to policy choices that did not support sufficiently the pick-up in economic activity. Some of the foundations for a more sustainable and balanced growth model were laid down in this period and the next President will have to build on them.⁵ However, in some areas, in particular on the fiscal consolidation side, the work is just starting, not least because of the fiscal policy “calculated gamble” made by the Obama Administration and mentioned above.

The Great Recession has probably affected negatively the potential growth of the US economy [CBO (2012)]. In addition, in the short-term strong headwinds persist, domestically and internationally, making it difficult for the US economy to even reach trend growth. Therefore, decisive action is needed by the next President to reduce these headwinds and create the conditions for stronger growth.

In the policy effort to restore strong growth, the pick-up in investment will be crucial. As Fig. 2 shows, the recent anemic investment growth barely compensate for the strong 3Q08–2Q09 decline. Despite favorable financing conditions and high profits, the US corporate sector remains reluctant to invest. As pointed out by the 2012 IMF Article IV report for the United States, although “... cash-rich firms

⁵ For an assessment of the Obama Administration’s efforts to set up a new growth model see Bertoldi (2010) and (2011).

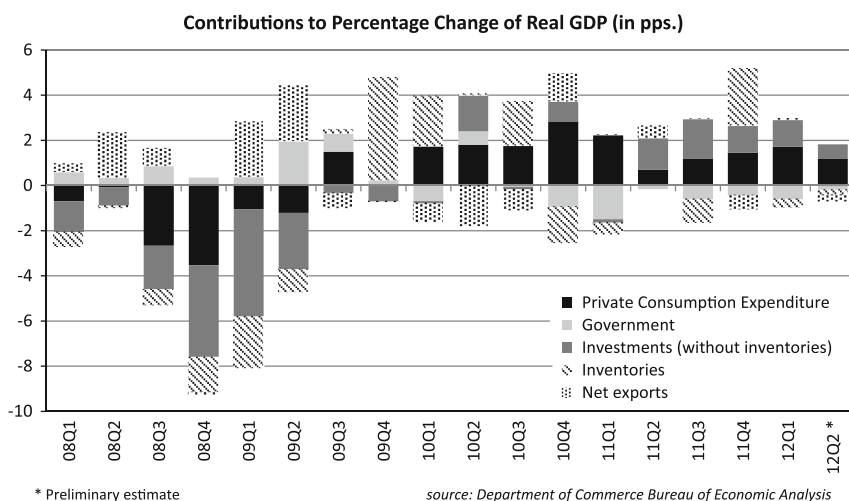
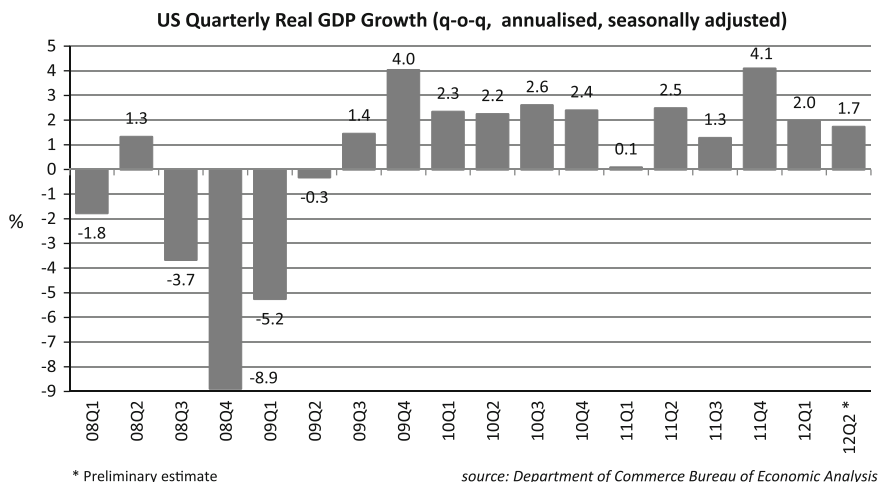


Fig. 2 US quarterly GDP growth and its composition

are tapping bond markets at very low rates, enjoying easier access to bank credit, and have profit margins at historically high levels”, business fixed investment remain weak. This may be due to the partial phasing out of accelerated depreciation tax incentives in January 2012, but uncertainties surrounding the future tax regime, the fiscal cliff, worries generated by the European sovereign debt crisis have certainly, and a weakening of growth in emerging market economies are also playing a major role.

Consumption has picked up on a stronger tone, but, looking forward, persistent high unemployment and a very modest increase in disposable income may become significant headwinds. In addition, the uncertainty about taxes, and possible cuts in

education and welfare services will weigh in. Although the US consumer is not known for being very forward looking, the fiscal cliff discussion and the related need to find a sustainable fiscal path for the US are likely to have him focused on these issues and their implications on his revenue in the months to come.

Against this background, there have been calls for a more predictable tax policy. As pointed out by John Taylor (2011), “demand is low in part because firms are reluctant to hire workers or invest long term not knowing what tax rates or other provisions will be. Demand for investment will increase if policy unpredictability is reduced. And consumption demand will increase if workers’ incomes increase on a more permanent basis”. If this analysis is correct, the positive spill-over effects of a credible and coherent medium-term fiscal consolidation strategy on economic activity through the reduction of uncertainty channel could be significant. Baker et al. (2012), on the basis of an index of economic uncertainty they developed, found that policy uncertainty (whose main component would be tax and fiscal policy related) may have reduced GDP by 1.4 % in 2011 alone. Currently US companies are hoarding cash and there may be pent-up demand for business investment if only firms had a more predictable policy environment that would allow them to plan their investment without incurring in unpleasant surprises that could weaken their profitability. Therefore, it is clear that in the next President’s agenda the issue of the reduction of policy uncertainty, especially on the taxation side, will have to appear in a prominent position and, as in the case of the reduction in inequalities, will have to be closely linked to the medium-term fiscal consolidation strategy. This implies that this strategy will have not to rely too heavily on an increase of corporate taxes⁶ [even if, as Brender et al. (2012) find some margins for maneuver in this area], and rather reduce expenditures were possible and desirable (in light of the inequality challenge), and possibly introduce a value added tax, since it does not affect the competitiveness of American companies.

Still, a more predictable taxation environment in the framework of a credible medium-term fiscal strategy may not be sufficient to rapidly reabsorb the US output gap and bring the economy back to trend growth. As mentioned above, since 2007 advanced economies have been facing a balance sheet recession that is still pushing households and banks to deleverage. In addition, companies that piled up excessive debts before the crisis are paying them down. Even companies that were in a sound position are hoarding cash because bank lending conditions have been tightened. As a result, effective demand remains weak and firms hold investment back since there is not much scope to add productive capacity in such an environment.

Does this imply, as Paul Krugman argues⁷, that a new fiscal stimulus is needed to jump-start the economy, absorb the output gap and bring down unemployment?

⁶ Measures eliminating tax loopholes and exemptions should be preferred since they are less distortive and would put companies on a more equal footing.

⁷ In his recent book “End This Depression Now!” Krugman calls for “a stimulus of \$300 billion per year” mostly in transfers to states and localities and in new investment projects (pp. 214–215).

My answer is: not necessarily. If, as mentioned before, the fiscal cliff issue is addressed effectively and fiscal consolidation proceeds in a gradual and smooth way on the basis of a credible medium-term strategy, a lot of the uncertainty that affects investor and consumer behavior will have been taken away. If, in addition, measures are adopted to ensure that productivity gains will also translate in higher wages, disposable income will rise, which will in turn boost final demand. With effective demand finally materializing, firms' investment strategies would become less conservative. As we have seen, there is currently ample room for a pick-up in investment and positive news from the wage and employment side would certainly boost private consumption, which would create the conditions for higher investment.⁸ Such a dynamic would be clearly preferable to new life support from the fiscal side, since a further increase in the US fiscal deficit and debt in the short-term would rise doubts on the creditworthiness of the country (with possible effects on interest rates and the value of the dollar) and in the medium to long-term may weigh negatively on its growth performance [Reinhard and Rogoff (2011)]. However, a new short-term fiscal stimulus should not be ruled out completely: a deterioration of the global outlook and/or a further retrenchment in effective demand due to the continuation of deleveraging trends, as well as the persistence of high uncertainty, may require counter-cyclical fiscal policy. As stated in the Communiqué of the G20 Los Cabos Summit, "should economic conditions deteriorate further, those countries with sufficient fiscal space⁹ stand ready to coordinate and implement discretionary fiscal actions to support domestic demand, as appropriate G20 (2012)".

2.4 The Completion of the Financial Sector Reform

The US financial sector was the epicenter of the economic and financial collapse that triggered the 2008–2009 Great Recession. Since then a lot of progress has been made to make it stable and deter the development of systemic risks that have the potential to destabilize the US and the global economy.

The approval of the Dodd-Frank Act was a major step forward in making the US financial system more stable and less crisis-prone. Its rapid implementation is therefore key in redefining the role of the financial sector in the economy and, in parallel, reducing uncertainty. Since its approval, progress was made in a number of fields, from the definition of the criteria behind the designation of systematically important financial institutions (SIFIs) for enhanced supervision and prudential

⁸ All this implies a supportive stance from the Federal Reserve. US monetary policy authorities have so far delivered on the dual mandate (price stability and employment) and it is likely that they will continue to do it also in the future, especially if inflation expectations remain well anchored and there is progress on the fiscal consolidation front.

⁹ The countries concerned are Argentina, Australia, Brazil, Canada, China, Germany Korea, Russia and the United States.

standards to the issuing of final rules on the submission of resolution plans (“living wills”) for these SIFIs, from the set up of the orderly liquidation authority to the introduction of enhanced capital standards, from making the Volcker rule operational to the introduction of new rules on centralized clearing of over-the-counter derivatives. On the whole the benefits of the Dodd-Frank Act are proving largely superior to its costs and drawbacks [Acharya and al (2010); Bertoldi (2011)]. Still there are a number of areas where further progress is needed to increase the resilience of the US financial system.

As pointed out by IMF (2012), further progress needs to be made in strengthening the regulation of money market mutual funds, the reduction of the systemic risk deriving from the dependence of the tri-party repo market on intra-day liquidity provided by the clearing banks, and the removal of the uncertainty related to the implementation of the risk-retention provision of the Dodd-Frank Act. More in general, the full implementation of the legislation will be crucial for the redefinition of financial institutions business model. The Dodd-Frank Act leaves a lot of discretion to regulatory authorities and supervisors (for instance on the issue of whether a financial institution is systemically important). Therefore regulatory and supervisory agencies need to be properly staffed and funded, so as to avoid slippages in their monitoring and regulatory activities as well as their ability to meet deadlines associated with domestic and international financial reforms.

In light of what happened in the financial sector between 2007 and 2009, its reform inevitably implied that some restraint had to be put to financial innovation, leveraging and the development of the shadow banking sector. The price to pay for a more conservative and prudent financial sector is probably a more limited ability to contribute to the financing of US economic growth. Still this is a small price if the benefit is the avoidance of an unsustainable growth pattern where creative finance propelled growth through a constant increase of indebtedness that was not justified by economic fundamentals. Therefore, apart from completing the reform of the financial sector along the lines mentioned previously, it is important that the next President will resist pressures (in particular from powerful financial lobbies) to relax, partly repeal or introduce exceptions in the Dodd-Frank Act, since this would raise again systemic risk in the financial sector. Improvements and changes to address possible drawbacks are always possible and may be even necessary wherever the Act is found to be too onerous, but they should always be compatible with the objective of increasing the resilience of the US financial system and limit excessive risk taking.

2.5 The Structural Legacies of the Crisis

The Great Recession had not only a devastating impact on the US economy at the end of 2008 and the first half of 2009, it also left an important number of structural legacies that continue to weigh on the US economy. The most important of these

legacies are the long-term structural unemployment, the distortions in the housing market and, related to it, the redefinition of the role of government sponsored enterprises like Fannie Mae and Freddie Mac.

Long-term unemployment has risen considerably in the last five years and it is at levels significantly higher than in previous recessions. It is likely that, if nothing is done, at least part of it will become structural unemployment, which will weigh negatively on economic growth (because of the loss of human capital) and will further exacerbate income disparities. The US does not have a tradition of active labor market policies, since in the past unemployment was mostly cyclical and, when it was structural, migration to other parts of the country was preferred to retraining or the acquisition of new skills. However, this time the situation is much more complex and entire sectors that were thriving before the crisis (in particular housing and finance) will not create many new jobs for some time. Therefore there is a need for active labor policies aimed at retraining workers and at improving the match between skills and jobs. There may also be a need to introduce tax incentives to expand labor demand, in particular for long-term unemployed, at least until long-term unemployment has significantly declined. The fight against structural unemployment is therefore a challenge that should figure high in the agenda of the next President.

In previous post-war cyclical recessions the housing market was a driving force at the early stages of economic recovery. This time, instead, the crisis originated in the real estate, and the housing sector has been a brake on the pick-up of economic activity. This partly explains the sub-par recovery of the last three years. In the last year the housing market has shown signs of stabilization, but the situation remains fragile and key issues such as the conversion of foreclosed properties into rental units and access to refinancing for households who, with some help, can avoid foreclosure, have been only partly addressed. Building on the Home Affordable Refinance Program (HARP) aimed at providing homeowner relief, the next Administration will have to support access to refinancing on a large scale, possibly with the support of the Federal Reserve, to bring down further mortgage interest rates for low–middle income households. It will also have to make sure that homeowners on Fannie Mae and Freddie Mac guaranteed mortgages are able to take advantage of low interest rates, while proceeding more aggressively in the adoption of measures aimed at the conversion of foreclosed properties into rental units [Summers (2011); Krugman (2012)]. All this will not be without costs for the federal budget in the short-term. However, if coupled with the removal of tax distortions favoring over-borrowing for the purchase of a house, *in primis* the gradual but steady removal of the tax provisions that makes interest rates for home mortgages tax deductible, these measures not only would improve the US fiscal position in the long-term and fix the short-term housing problem, but they would also eliminate one of the sources that pushed US savings at unsustainably low levels in the run-up to the crisis.

Last but not least, if the Government Sponsored Agencies like Fannie Mae and Freddie Mac are part of the solution of the US housing problem, they are also a problem in themselves for the federal government. In the years preceding the Great

Recession, instead of sticking to their original mandate of mitigating cyclicality in the housing market, became “a case of disastrous procyclical policy” [Summers (2011)]. They were eventually nationalized in 2009 and they have become a huge contingent liability for the federal government. In order to avoid large losses for the latter and to return to a viable business model in line with the original mandate of these institutions, they will have to go through a restructuring and downsizing of their activities, which also implies “a gradual shift in the mortgage market towards private institutions” [IMF (2012)].

3 Are These Five Economic Challenges “a Bridge Too Far” for the Next US President?

At the current juncture, the positive part of the US story is that, despite strong headwinds, the recovery continues and systemic risks have receded. Still, the fiscal cliff and/or the inability to put the US fiscal position on a sustainable path over the medium term have the potential to partly reverse the progress made since 2009. In addition, as we have seen, the fiscal cliff and the medium-term fiscal consolidation strategy cannot be taken in a vacuum.

Because of their interconnectedness and the potential spillovers of each of them on the others, the five economic challenges discussed above will have to be addressed almost at the same time (see Fig. 3).

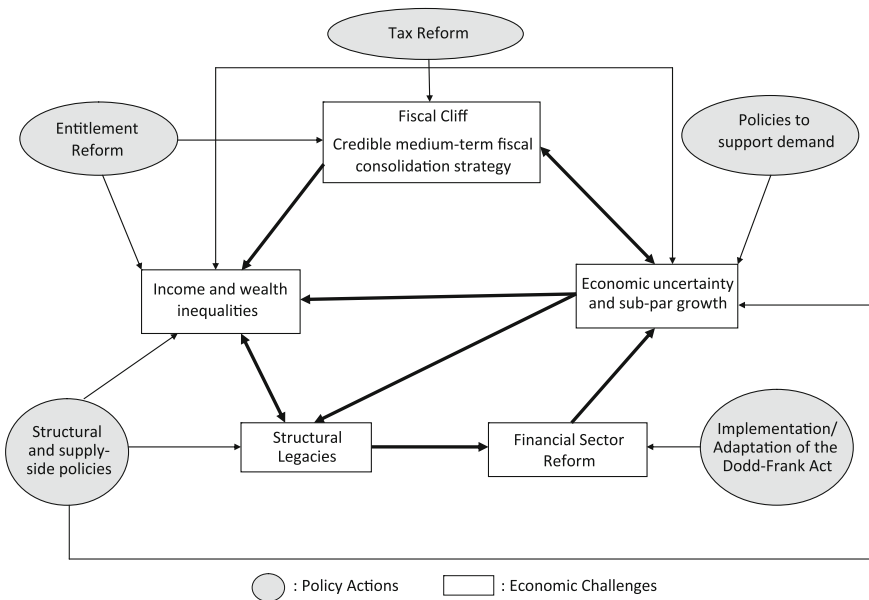


Fig. 3 Policy responses to the five economic challenges

While it will take time to put all the pieces of the puzzle together, decisive action needs to be taken at the beginning of the Presidency, when the political resources of the President are the strongest and Congress may be more willing to compromise (which is less likely as the more the mid-term elections approach). In addition, further delays may derail a recovery that is still fragile and is taking place in a global economy that is showing signs of weakness. Although Democrats and Republicans are deeply divided on most economic issues, *in primis* fiscal policies and entitlement reform, the stalemate of the last two years cannot continue without creating lasting damage, which would spill-over to other areas of the world. It is therefore important that in both camps voices calling for compromise and pragmatic solutions prevail.

In this respect, there is a need to return to bipartisan politics after four years of harsh confrontation. Although, as the European experience shows, the art of compromise seldom produces clean solutions and is unglamorous and often unsatisfactory, it nevertheless delivers results and avoids perennial stalemates that can be very disruptive. While Europe definitely needs more decisiveness, American style, in particular when systemic issues are at stake; the US, which may have overcome the phase of systemic failures and is now slowly putting in place the pieces for a more sustainable and balanced growth model, has to take a more European approach, and be more open to listen to the views and positions of the opposite side. As Calvin Crook (2012) pointed out in a recent piece for Bloomberg, “if Europe can learn from US, why not vice versa?” The aim should be to find a compromise that, is more than a minimum common denominator. In the end this may be the only viable solution, since a repetition of the July 2011 standoff for the fiscal cliff could move the epicenter of the crisis from Europe back to the United States.

At this stage however, there are few signs of a compromise in the making (on the contrary positions in the two camps seem more polarized than ever). After the November 6 elections, it will take a lot of patience, creativity and goodwill to avoid that what everybody agrees dreads: sending the economy in a tailspin.

4 Conclusion

At first glance, the next US Presidency may not be as challenging as the one that is coming to an end. Unless the fiscal cliff is badly mismanaged, a new recession in the US seems unlikely. Still the current subdued growth and the fiscal problems that go with it, if they persist, would make it difficult to redesign the US growth model and define a sustainable and viable social contract. It would also raise questions on the global projection of the United States, especially if its fiscal deficit remains for too long at unsustainable levels and the general government debt moves well above 100 % of GDP.

As Tacitus pointed out in the *Annales*: “Nihil rerum mortalium tam instabile ac fluxum est quam fama potentiae non sua vi nixae” (Nothing is so unstable and fluid as the reputation of power which is not founded on its own strength). Although in

the short-term this may apply more to Europe than to the United States, US policymakers should not take Tacitus' reflection lightly. The five economic challenges identified in this paper, if not dealt properly and in a holistic manner, may move the US on a subpar growth path that over time would undermine US economic leadership. Since the latter is the main source of strength for the US global power, the consequences of such a development could be considerable. If this consideration is correct, the next US Presidency may be much more challenging than it seems, since it will still be asked to make hard economic choices that will have important long-term implications, and not only in the economic field.

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The Multiplier, Sovereign Default Risk, and the US Budget: An Overview

William R. Cline

Abstract My remarks will first summarize an attempt I have made to integrate default risk into the multiplier analysis as a means of identifying proper policy under conditions of high deficits, high unemployment, and default risk (Cline in *The multiplier, sovereign default risk, and the US budget*. Peterson Institute for International Economics, Washington, 2012a). I will argue that whether the gains from fiscal adjustment will outweigh the losses from induced Keynesian contraction will depend on the immediacy and severity of the sovereign credit risk problem, if any, and on the size of the Keynesian multiplier given the state of the business cycle. My remarks will then conclude with observations about the political economy of the US “fiscal cliff” looming at the end of this year, based on a more recent paper (Cline in *Restoring fiscal equilibrium in the United States*. Peterson Institute for International Economics, Washington, 2012b).

1 The Multiplier

First principles of Keynesian economics suggest that the multiplier for fiscal stimulus should be higher when the economy is below full employment than when it is near full employment. Indeed, at full employment the multiplier should be zero in real terms: any additional demand induced by public spending should simply divert productive resources away from the production of alternative goods.

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At full employment the monetary authority will not be pursuing a zero interest rate policy and there will be no liquidity trap. Monetary expansion can thus be applied to offset any contractionary effect from fiscal tightening. Yet a recent literature survey by Parker (2011) finds that most multiplier estimates “almost entirely ignore the state of the economy” (p. 703). An exception, Auerbach and Gorodnichenko (2010), place the cumulative multiplier over 5 years at 0–0.5 for expansionary periods and 1–1.5 during recession. The opposite case for a negative multiplier because of “expansionary austerity” received cross-country empirical support from Alesina and Perotti (1995) but recent work at the IMF using an improved measure of fiscal stimulus has reversed this finding and restored the positive sign to the multiplier (Guajardo et al. 2011). For my calculations I assume that for the United States, an unemployment rate as high as 9 % (the average in 2011) places the multiplier at its upper bound at 1.5, and that the multiplier drops to zero when US unemployment recedes to a more normal level of 5 %.

2 Default Risk and Crowding Out

A higher ratio of net public debt to GDP should be expected to increase the risk of sovereign default. Episodes of sovereign default impose large welfare costs by causing financial crises and deep recessions. The expected economic cost of an increase in the public debt to GDP ratio should equal the resulting increase in the probability of a sovereign default multiplied by the welfare cost of default. A more conventional cost of excessive debt is associated instead with the increase in interest rates induced by crowding out, as public spending preempts resources otherwise available for private investment. Optimal fiscal policy will then be that level of fiscal stimulus at which, at the margin, output gains from additional stimulus begin to be fully offset by considerations of sovereign default risk and long-term crowding out effects. Because of the perceived high risk of sovereign default in several countries in Europe’s periphery, for these countries the choice of fiscal policy will presumably tilt more toward reducing fiscal deficits than toward seeking to stimulate the economy despite the presence of unemployed resources.

3 Calibrating the Trade-Offs

The first step in calibrating these tradeoffs is to relate the size of the real multiplier to the unemployment rate. (See Appendix for equations and definitions.) Define “ v ” as “excess unemployment” above the natural rate, which I set at 5 % for the United States. The multiplier is then shown in Eq. 2, with the coefficient “alpha” at 0.375 for each percentage point of extra unemployment up to a ceiling of 1.5 for

unemployment at 9 %.¹ Given the multiplier, the percent change in output “z” attributable to a fiscal stimulus “s” (percent of GDP) will be the product of the multiplier and the stimulus, in Eq. 3. The stimulus is an ex-ante concept and equals the sum of the policy-imposed increase in expenditure plus policy-imposed direct reduction in tax revenue. The change in output resulting from the stimulus will have an induced effect on tax revenue. With the base level of tax revenue as r percent of GDP, the increase in revenue from the growth impact of the fiscal stimulus as a percent of GDP will be as shown in Eq. 4: the product of the tax revenue elasticity “ ρ ”, the output impact “z”, and the share of revenue in GDP, “ θ ”. The change in the fiscal deficit will then be as shown in Eq. 5: the ex ante stimulus “s” minus the change in revenue. In the United States the tax elasticity is 1.5 (CBO 2011) and the revenue base is 18 % of GDP. This means that when the multiplier is at its upper bound, a 1 % of GDP fiscal stimulus is partly paid for by 0.4 % of GDP increased revenue, so when the economy is in deep recession, stimulus is a bargain in terms of fiscal cost. Symmetrically, when fiscal tightening is applied under conditions of high unemployment, there will be a secondary revenue loss, the “debt trap” in which the effort to confront a debt crisis by fiscal tightening is made more difficult by induced output and revenue loss.

For the impact of crowding out, in the United States under normal economic conditions an extra 1 % of GDP in the fiscal deficit is associated with a crowding-out increase in the interest rate by 30 basis points (Gale and Orszag 2004).² Allowing the interest rate effect of stimulus to fall to zero as the economy approaches the high unemployment liquidity trap, and linearizing gives Eq. 6 for the increase in interest rate.

The corresponding welfare loss of crowding out requires translating the effect of the higher interest rate into an equivalent loss to be subtracted from the direct output gain from the stimulus applied to the multiplier, measured in Eq. 7 as parameter “ π ” times the change in the interest rate. As a 1 % point increase in the interest rate would amount to a 14 % increase in the cost of capital, and estimating the marginal product of capital at 12 %, and with a capital life of 10 years, the loss associated with a full percentage point increase in the interest rate would be $\pi = 1.26$ % of GDP.

The new element in this analysis is integration of default risk. Hutchison and Noy (2005) place the typical loss of output from a banking crisis at 10 % of one year’s GDP (as discussed in Cline 2010, p 100). A banking crisis provides a rough guide to what could be expected from a sovereign debt crisis. The likelihood that markets will force a debt crisis will rise with the ratio of public debt to GDP. Suppose that at the Maastricht target of 60 % for the debt to GDP ratio, there is zero expectation of sovereign default. Suppose that if the debt ratio is 120 % of

¹ See Cline (2012a) for a discussion of parameter calibration.

² Note, however, that the interpretation of this parameter here and in Cline (2012a) may overstate its size because of ambiguity regarding the time horizon the higher interest rate is sustained. Conversely, the size of the parameter for welfare cost of default used here (as discussed below) may be understated.

GDP, as in the case of Italy, then a fiscal stimulus of 1 % of GDP will be seen by markets as increasing the probability of default by 20 % because of concern about fiscal unsustainability. Then the expected welfare cost of an increase in the fiscal deficit by 1 % of GDP, from the standpoint of expected default cost, would be zero at the lower debt ratio and 2 % of GDP (20 % increase in probability times 10 % welfare cost given default) at the higher ratio. In Eq. 8, “ ψ ” is the maximum expected sovereign default loss attributable to a 1 % of GDP increase in the (ex-post) fiscal deficit, or 2 % of GDP, and “H” is the extent by which the public debt to GDP ratio exceeds 0.6. Expected sovereign default loss from the increase in the deficit is then “L”.

The overall net gain from applying the fiscal stimulus of s percent of GDP is then as shown in Eq. 9: the direct growth impact (z), minus the crowding out loss (k), minus the expected default cost (L). Substituting gives Eq. 10 and then Eq. 11. The bracketed expression in the right-hand side of Eq. 11 can be thought of as the total welfare-equivalent multiplier taking account of the extent of unemployment and existing public debt. It can be either positive or negative.

4 Multiplier Under Alternative Conditions

Equation 11 provides the basis for identifying a table of contingent welfare effects of stimulus as a function on the level of unemployment on the one hand and the ratio of government debt to GDP on the other. In Table 1 the first column shows the direct output multiplier (μ), which rises linearly with excess unemployment. The second column shows the influence of the crowding out effect (from Eqs. 5–7), which declines as unemployment rises.

Table 2 then reports the total welfare-equivalent. The full potential welfare gain from fiscal stimulus occurs when unemployment is high and the debt ratio is low. In the lower-left corner, 1 % of GDP fiscal stimulus boosts welfare by 1.5 % of GDP.³ As unemployment falls, however, so does the welfare gain. Even if there is

Table 1 Multiplier as a function of excess unemployment

		Direct (μ)	Crowding out effect ($-k$)	Total
v:	0	0	-0.38	-0.38
	1	0.375	-0.25	0.12
	2	0.75	-0.15	0.60
	3	1.125	-0.07	1.06
	4	1.5	0.00	1.50

v unemployment rate - 5 %

³ More technically “welfare” measurement would require specification of a welfare function. The usage here is heuristic and can best be thought of as potential consumption measured in the same units as GDP.

Table 2 Total welfare-equivalent multiplier including default risk

	Debt/GDP %	60	80	100	120
H:		0	0.2	0.4	0.6
v:	0	-0.38	-1.04	-1.71	-2.38
	1	0.12	-0.48	-1.08	-1.68
	2	0.60	0.07	-0.46	-0.99
	3	1.06	0.60	0.13	-0.33
	4	1.50	1.10	0.71	0.31

v: excess of unemployment rate above 5 %

H: excess of debt/GDP ratio above 0.6

low public debt (column 1), the impact of fiscal stimulus turns negative when the unemployment rate falls to 5 %. At that point there is zero direct multiplier (full employment), but there is a crowding out effect. The net welfare effect is negative at even higher unemployment rates as the debt/GDP ratio rises, because the potential negative impact of a debt crisis becomes increasingly large. With the parameters used here, at the highest debt ratio the debt crisis risk turns the welfare effect of fiscal stimulus negative at all but the highest unemployment rates. This is the case that is being presumed in the fiscal policy measures being adopted in some of the euro zone periphery economies affected by the debt crisis.

Figure 1 shows alternative combinations of H and v that turn the total welfare-equivalent multiplier zero. Above and to the left of this perimeter the total multiplier is negative; below and to the right of the perimeter, it is positive. For Italy, for example, in 2011 unemployment was about 8 %. The lowest recent unemployment rate, in 2007, was 6 %, so “excess” unemployment by 2011 had reached $v = 2$ %. With a public debt to GDP ratio of 1.2 and hence “excess” debt of $H = 0.6$, Italy was clearly above and to the left of the zero perimeter line, so the welfare-equivalent multiplier was negative. In contrast, in the United States federal debt held by the public was 68 % of GDP, placing excess debt at $H = 0.08$, and unemployment was at 9 %, placing v at 4 %. The United States was thus clearly to the right of and below the zero perimeter, so the total welfare-equivalent multiplier was positive.

5 Budget Policy in the United States

As shown in Fig. 2, the Congressional Budget Office (2012) estimates that under the “current law baseline” with its “fiscal cliff” in early 2013 when the Bush era tax cuts expire, the debt ratio falls back to 60 % of GDP by 2022 (the blue “cbob” line). However, under its “alternative scenario” reflecting business as usual and hence extension of the tax cuts, the US debt to GDP ratio would reach 95 % of GDP by 2022 (the green “cboa” line). The Obama administration’s proposed budget OMB (2012) would stabilize the ratio at 76 % of GDP, with an initially

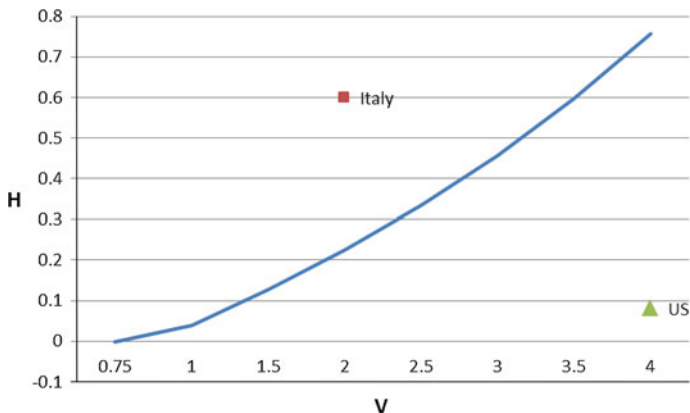


Fig. 1 Zero-value perimeter for total welfare-equivalent multiplier for alternative values of excess unemployment and excess debt higher debt ratios

higher deficit but then lower deficits (the red line). A “business-as-usual adjusted” budget based on the Obama administration proposal but with extension of current policies incorporating the August 2011 Budget Control Act is shown as well (“ombab”) and does not stabilize the debt ratio. As shown in Fig. 3, the Obama adjustment would rely substantially on revenue increase but also some spending cuts after 2012. Table 3 shows my estimates of the total welfare multiplier including default risk in the current law baseline and the Obama proposal. The current law baseline has higher unemployment so the multiplier is higher at first, but the Obama budget eventually gets a more negative multiplier because of rising default risk. Table 4 cumulates the implied welfare impacts over time. It indicates that the policy choice is essentially a toss-up between the cold-turkey approach of the “current law baseline” and the Obama administration’s budget proposal, if the full 11 year horizon is taken into account. It is probably safer, however, to pursue the path of greater back-end loading of the fiscal adjustment as in the administration proposal. The administration’s proposal involves a fiscal stimulus of 1.3 % of GDP in fiscal 2012 in comparison with the other three scenarios.

6 Fiscal Cliff Politics

In a more recent policy brief, I have looked more specifically at the fiscal cliff (Cline 2012b). The combined effect of expiration of the Bush tax cuts, elimination of the payroll tax cut and emergency unemployment benefits, increase in alternative minimum tax, and other elements amount to a 5 % of GDP tightening in 2013. With the multiplier still probably about 1, that would be costly. I argue for a structural fiscal adjustment of 3 % of GDP, but propose that it be accomplished over four years of the new president’s term. With normal cyclical fiscal gains, that

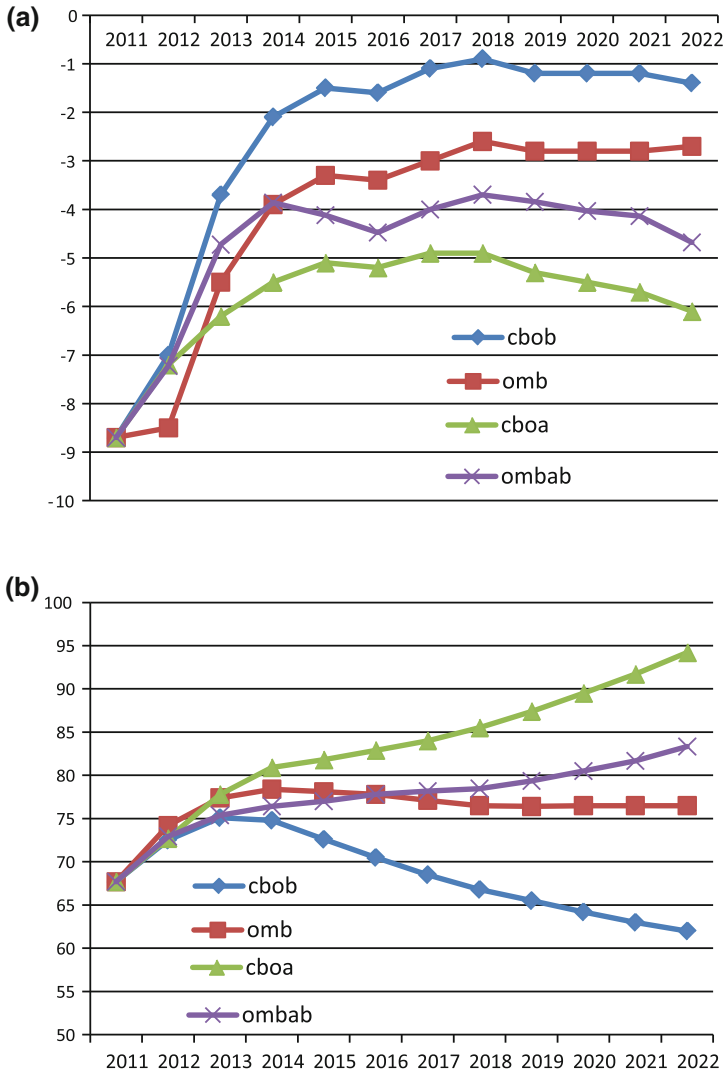


Fig. 2 CBO and OMB projections, deficits and debt held by the public (percent GDP). **a** Deficit. **b** Debt/GDP

would cut the deficit from 7 to 1/2 % of GDP in 2012 to 2.5 % by 2016, consistent with eventual reduction of the debt/GDP ratio to about 60 %.

Ironically, we need the fiscal cliff for political reasons. Almost all of the Republican legislators have signed a pledge not to vote for legislation that raises taxes. But the expiration of the Bush tax cuts in January means that inaction will automatically leave taxes higher, so they will now be able to say they voted to reduce taxes even if the resulting rates are higher than in the Bush era. For his part,

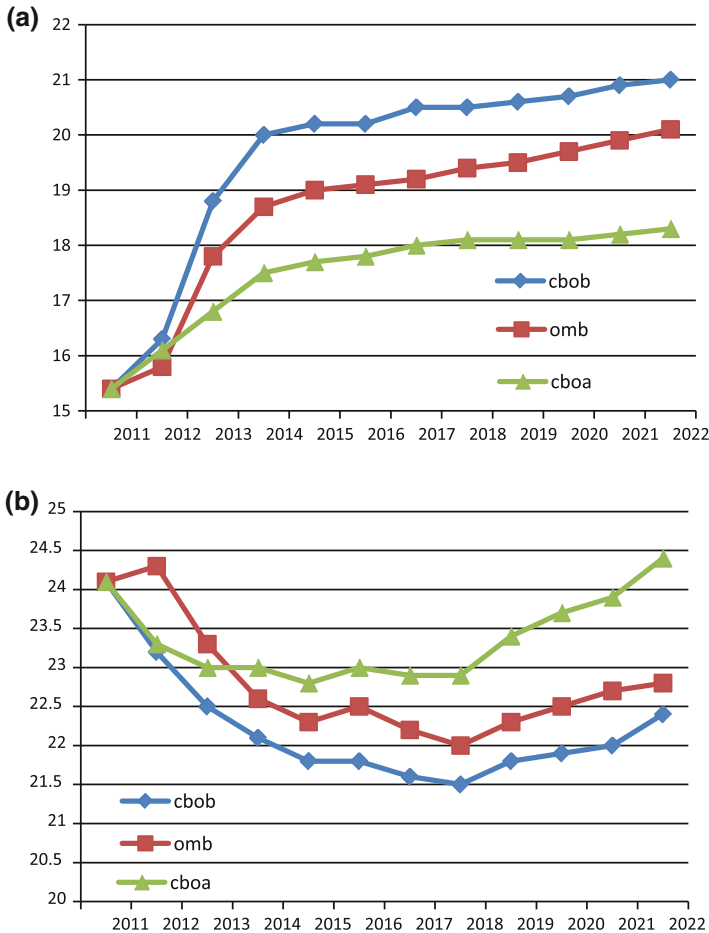


Fig. 3 CBO and OMB projections, revenue and expenditure (percent GDP). **a** Revenue. **b** Expenditure

President Obama has been too populist in asserting that none of the Bush tax cuts should expire for households earning less than \$250,000. That would remove about three-fourths of the potential revenue gains. Yet it is crucial to restore revenue back to at least 18-1/2 % of GDP, from its recent low levels of about 16 % of GDP. Defense spending is now about 2 % of GDP higher than in the early 1990s, and the Bush tax cuts carved out about 2.5 % of GDP from revenue potential. We will need to cut spending back to 21 % of GDP (not the 22-1/2 % in the Obama budget) and restore revenue to 18-1/2 % of GDP to restore fiscal equilibrium. Overall, then, the fiscal cliff at 5 % of GDP tightening is overkill, but a 3 % adjustment is necessary. Even so, that adjustment should be phased in over four years rather than risk a large contractionary effect if concentrated in 2013 alone.

Table 3 Economic and fiscal outlook and implied welfare-equivalent multipliers: CBO current-law baseline and administration budget

	Fiscal year:											
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
<i>CBO baseline:</i>												
g	2.1	1.2	2.7	4.8	4.5	3.5	2.8	2.6	2.5	2.4	2.4	
u	8.8	9	9	7.8	6.5	5.8	5.5	5.5	5.4	5.4	5.3	
d	7.2	3.7	2.1	1.5	1.6	1.1	0.9	1.2	1.2	1.2	1.4	
D/Y %	72.5	75.1	74.8	72.6	70.5	68.5	66.8	65.5	64.2	63	62	
v	4	3.8	4	4	2.8	1.5	0.8	0.5	0.5	0.4	0.4	
H	0.125	0.151	0.148	0.126	0.105	0.085	0.068	0.055	0.042	0.03	0.02	
wmult	1.25	1.10	1.21	1.25	0.72	0.12	-0.19	-0.30	-0.26	-0.27	-0.24	
<i>Obama budget:</i>												
g	2.7	3	3.6	4.1	4	3.9	3.2	2.7	2.5	2.5	2.5	
u	8.8	8.6	7.8	7	6.3	5.6	5.5	5.4	5.4	5.4	5.4	
d	8.5	5.5	3.9	3.4	3.4	3	2.7	2.8	2.8	2.8	2.8	
D/Y %	74.2	77.4	78.4	78.1	77.8	77.1	76.5	76.4	76.5	76.5	76.5	
v	4	3.8	3.6	2.8	2	1.3	0.6	0.5	0.4	0.4	0.4	
H	0.142	0.174	0.184	0.181	0.178	0.171	0.165	0.164	0.165	0.165	0.165	
wmult	1.22	1.06	0.94	0.54	0.13	-0.23	-0.59	-0.64	-0.70	-0.70	-0.70	

g: real growth (%); u: unemployment rate; d: deficit as percent of GDP; D/Y %: debt held by the public as percent of GDP; v: (lagged) excess unemployment (percent); H: excess debt (ratio to GDP); wmult = welfare-equivalent multiplier including crowding out and default risk effects

Table 4 Welfare impact of shift from administration budget proposal to other budget scenario

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2012–2022
<i>Additional Fiscal Stimulus (% GDP)</i>												
Cbob	-1.3	-1.8	-1.8	-1.9	-1.8	-1.9	-1.8	-1.6	-1.6	-1.6	-1.4	...
Cboa	-1.3	0.7	1.6	1.7	1.8	1.9	2.2	2.5	2.7	2.9	3.3	...
ombAB	-1.3	-0.8	0.0	0.7	1.1	1.0	1.0	1.0	1.2	1.3	1.9	...
<i>Welfare Difference (% GDP)</i>												
Cbob	-1.6	-1.9	-1.7	-1.0	-0.2	0.4	1.1	1.0	1.1	1.1	1.0	...
Cboa	-1.6	0.7	1.5	0.9	0.2	-0.4	-1.3	-1.6	-1.9	-2.0	-2.3	...
ombAB	-1.6	-0.8	0.0	0.4	0.1	-0.2	-0.6	-0.7	-0.9	-0.9	-1.3	...
<i>Welfare Difference, \$ billions of 2012</i>												
cbob	-247	-306	-280	-176	-41	81	206	205	229	235	211	118
cboa	-247	119	249	158	41	-81	-252	-320	-387	-426	-497	-1645
ombAB	-243	-131	-6	67	25	-43	-114	-134	-177	-197	-283	-1237
<i>Welfare Difference, \$ billions, discounting at 3 %</i>												
cbob	-247	-297	-264	-161	-36	70	173	167	181	180	157	-78
cboa	-247	115	234	144	36	-70	-211	-260	-306	-327	-370	-1260
ombAB	-243	-128	-6	61	22	-37	-96	-109	-140	-151	-211	-1036

Appendix: Equations and Definitions

$$v_t = u_{t-1} - u^* \quad (1)$$

- v Unemployment rate minus the natural rate (“excess unemployment”)
 u* Natural rate of unemployment (=5 % for the United States)

$$\mu_t = \alpha v_t \text{ s.r. } 0 \leq \mu_t \leq 1.5 \quad (2)$$

- μ Multiplier
 α Increase in multiplier per percentage point additional unemployment (=0.375)

$$z_t = \mu_t s_t \quad (3)$$

- z Increase in GDP as consequence of stimulus
 s Ex ante stimulus (increased spending plus reduced taxes)

$$\Delta r_t = \rho z_t \theta \quad (4)$$

- Δr Induced tax revenue increase as %GDP
 ρ Tax revenue elasticity with respect to growth (=1.5)
 θ Base tax revenue share in GDP (=0.18)

$$\Delta d_t = s_t - \Delta r_t \quad (5)$$

- Δd Change in ex-post fiscal deficit as %GDP

$$\Delta i_t = d_t(a - bv_t) \text{ s.r. } 0 \leq \Delta i_t \leq a \quad (6)$$

- Δi Increase in interest rate from crowding out
 a Change in interest rate from 1 % of GDP additional fiscal deficit at full employment (=0.3)
 b Reduction in interest rate impact for 1 % additional unemployment (=0.075)

$$k_t = \pi \cdot \Delta i_t \quad (7)$$

- k Welfare equivalent loss from crowding out as % GDP
 π Welfare equivalent loss from crowding out for 1 % rise in interest rate (=1.26)

$$L_t = \psi \cdot \Delta d_t \cdot \frac{H_t}{0.6} \text{ s.r. } 0 \leq \frac{L_t}{\Delta d_t} \leq 2 \quad (8)$$

- L Welfare equivalent loss from increase in default risk as %GDP
 ψ Percent GDP welfare equivalent loss from increase default risk when fiscal deficit rises by 1 % of GDP and debt/GDP ≥ 1.2 (=2)
 H Excess of public debt/GDP ratio above 0.6 (Maastricht target)

$$w_t = z_t - k_t - L_t = s_t \mu_t - \pi \cdot \Delta i_t - \psi^* \cdot H_t \cdot \Delta d_t \quad (9)$$

- w Welfare equivalent total multiplier effect of fiscal stimulus of s percent of GDP

$$\psi^* = \psi / 0.6 = 3.33$$

$$w_t = s_t \mu_t - \pi \cdot \Delta d_t (a - b v_t) - \psi^* \cdot H_t \cdot \Delta d_t \quad (10)$$

$$w = s(\beta + \gamma H + \lambda v + \delta v^2 + \kappa H v) \quad (11)$$

$$\beta \equiv -\pi a$$

$$\gamma \equiv -\psi^*$$

$$\lambda \equiv \alpha + \pi \rho \theta a + \pi b$$

$$\delta \equiv -\pi b \alpha \rho \theta$$

$$\Gamma \equiv \psi^* \alpha \rho \theta$$

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Cyclical Policies, Structural Imbalances and Growth of the U.S. Economy

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Abstract Recovery from the deep financial crisis and Great Recession that afflicted the United States and other advanced countries in 2008–2009 started in 2010, but growth has been slow with the rate of unemployment rising in most advanced nations. Rapid growth can only resume by undertaking painful structural reforms to increase efficiency and international competitiveness, but these would require several years to put into effect and provide results. Afterwards, growth in the United States and other advanced countries will resume, but it is likely to be slower than in previous decades because some of the most important growth factors of previous decades are now weaker. With increased tax pressure, more regulations and further extension of the welfare state, the United States is becoming more like Europe, and so it will likely to grow somewhat less than in the previous decade in the coming years.

1 Introduction

In 2008–2009 the United States and other advanced countries faced the most serious financial crisis and recession since the Great Depression of 1929. Growth resumed in 2010 but recovery has been slow (with some countries, such as Italy and Spain, actually falling back into recession in 2012). In this paper, I will begin by briefly reviewing the causes and effects of the most recent financial and economic crisis, then I will examine the policies adopted by the United States and other advanced countries to overcome the recession, and conclude by looking at the prospects for the resumption of rapid growth in the United States and in other advanced countries in the next few years.

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2 Causes and Effects of the “Great Recession”

The most recent global financial crisis started in the U.S. housing sector in 2007 as a result of banks giving huge amounts of (sub-prime) loans or mortgages to individuals and families that could not afford them. When many individuals and families defaulted on their loans, U.S. banks fell into a deep crisis, which then spread to the entire financial sector in 2008 and, from there, to the U.S. real sector and the rest of the world economy. The result was the “great recession”.

Contagion spread from the United States across the Atlantic because many European banks had committed even greater excesses than U.S. banks and faced an even greater housing bubble than the United States (Salvatore 2010). Deep recession in all advanced countries greatly reduced their imports from and foreign direct investments to emerging markets, thereby spreading the crisis to the rest of the world. Most emerging market economies (such as Russia, Mexico and Turkey) fell into a deep recession, while China and India faced a slow-down in their neck-breaking growth.

Table 1 shows that in 2009 real GDP fell by 3.5 % in the United States, 4.3 % in the Euro Area, 4.4 % in the United Kingdom, and 5.5 % in Japan, among the largest advanced economies. It fell by 7.8 % in Russia, 6.1 % in Mexico, and 4.8 % in Turkey, while China and India faced only a growth slowdown, among the largest emerging market economies. By the end of 2011, only the United States, Germany, France and Canada, among the largest advanced countries, had a real GDP larger than in 2008, while it was lower in Japan, the United Kingdom, Italy, and Spain.

The United States and other advanced nations responded to the Great Recession by rescuing banks and other financial institutions from bankruptcy, slashing interest rates, introducing huge economic stimulus packages, and undertaking huge injections of liquidity.

Table 1 Growth of real GDP in large advanced countries and emerging market economies, 2009–2011

Large advanced countries or area	Year			Large emerging market economies	Year		
	2009	2010	2011		2009	2010	2011
United States	-3.5	3.0	1.7	China	9.2	10.4	9.2
Euro Area (17)	-4.3	1.9	1.5	India	6.6	10.8	7.1
Germany	-5.1	3.6	3.1	Russia	-7.8	4.3	4.3
France	-2.6	1.7	1.7	Brazil	-0.3	7.5	2.7
Italy	-5.5	1.8	0.4	Korea	0.3	6.3	3.6
Spain	-3.7	-0.1	0.7	Indonesia	4.6	6.2	6.5
United Kingdom	-4.4	2.1	0.7	Mexico	-6.3	5.6	3.9
Japan	-5.5	4.4	-0.7	Argentina	0.9	9.2	8.9
Canada	-2.8	3.2	2.4	Turkey	-4.8	9.0	8.5

Source IMF, *World Economic Outlook*, July 2012

These efforts, however, only succeeded in preventing the economic recession from being deeper than otherwise. Even though the recession was officially over in 2009, slow growth and high unemployment remained the most serious economic problems facing most advanced nations in 2011 and 2012.

3 Cyclical Policies, Recovery and Growth in Advanced Nations

The very powerful monetary and fiscal policies adopted by advanced countries very likely prevented the Great Recession from becoming the new Great Depression, but the further use of monetary and fiscal policies to stimulate growth now may not be effective and may, in fact, be counterproductive.

How powerful the expansionary fiscal policies have been in advanced nations since the beginning of the Great Recession is that interest rates have been lowered to less than 1 % in all advanced nations and are now 0.75 % in the Euro Area, 0.5 % in the United Kingdom (the lowest since the creation of the Bank of England in 1694), 0.25 % in the United States and zero in Japan. Although the European Central Bank (ECB) and the Bank of England still have some room to lower the interest further, all the major advanced nations can be said to be in a liquidity trap, so that pushing interest rates even lower (where possible) is not likely to be effective in stimulating growth.

The Euro Area, the United States, the United Kingdom and Japan have also pushed Quantitative Easing (QE) very far. From July 2008 to the end of 2011, central bank assets as a percentage of GDP increased from about 7 to nearly 20 in the United States and the United Kingdom, and from about 15 and 20, respectively, in the Euro Area and Japan to nearly 30. Although such powerful QE did not lead to inflation (as some economists, such as Alan Metzler (2011), feared in 2011), further QE will very likely be much less effective in stimulating growth under present conditions. The United States also pursued “operation twist” or the selling short-term financial instruments and the purchasing long-term ones so as to lower long-term rates in order to stimulate real investments and growth. More of the same now is also unlikely to be very effective in stimulating growth.

Turning to fiscal policy, Table 2 shows that in 2007 budget deficits were less than 3 % of GDP in the major advanced countries (with Germany actually having a small budget surplus). With the coming of the financial and economic crisis, however, budget deficits increased in every major advanced countries (except Japan) in 2008 and increased sharply in all countries in 2009. In the United States, the budget deficit as a percentage of GDP increased from 2.9 in 2007 to 6.6 in 2008 and to 11.6 in 2009, before declining to (the still very high level of) 10.7 in 2010, 9.7 in 2011 and forecasted to be 8.3 in 2012. In the Euro Area, the budget deficit increased from 0.7 % of GDP in 2007 to 2.1 % in 2008 and 6.4 % in 2009, before declining to 6.2 % in 2010, 4.1 % in 2011 and forecasted to be 3.0 % in

Table 2 Budget deficit as a percentage of GDP, 2006–2012

Nation/area	2006	2007	2008	2009	2010	2011	2012 ^a
United States	-2.2	-2.9	-6.6	-11.6	-10.7	-9.7	-8.3
Euro Area	-1.4	-0.7	-2.1	-6.4	-6.2	-4.1	-3.0
Germany	-1.7	0.2	-0.1	-3.2	-4.3	-1.0	-0.9
France	-2.4	-2.7	-3.3	-7.6	-7.1	-5.2	-4.5
Italy	-3.4	-1.6	-2.7	-5.4	-4.5	-3.8	-1.7
Spain	2.4	1.9	-4.5	-11.2	-9.3	-8.5	-5.4
Greece	-6.0	-6.8	-9.9	-15.6	-10.5	-9.2	-7.4
Ireland	2.9	0.1	-7.3	-14.0	-31.2	-13.0	-8.4
Portugal	-4.6	-3.2	-3.7	-10.2	-9.8	-4.2	-4.6
United Kingdom	-2.7	-2.8	-5.0	-11.0	-10.3	-8.4	-7.7
Japan	-1.3	-2.1	-1.9	-8.8	-8.4	-9.5	-9.9

^a Forecast

Source OECD, *Economic Outlook*, May 2012

2012 (lower in Germany and Italy and much higher in the Greece, Ireland, Portugal and Spain). In the United Kingdom, the budget deficit increased from 2.1 % of GDP in 2007 to 5.0 % in 2008 and 11.0 % in 2009 before falling to 10.3 % in 2010, 8.4 % in 2011 and forecasted to be 7.7 % in 2012. Comparable percentage deficits for Japan were, respectively, 2.1, 1.9, 8.8, 8.4, 9.5, and 9.9.

Table 3 shows that the government debt as a percentage of GDP increased sharply in all advanced countries from 2007 to 2011, and it is forecasted to increase even further in 2012. In 2011, the government debt of the United States was nearly 103 % of GDP, up from 67.0 % in 2007. From 2007 to 2011, the government debt increased from 71.8 to 95.1 % in the Euro Area, from 47.2 to 97.9 % in the United Kingdom, and from 162.4 to 205.5 % in Japan. Note that all Euro Area countries listed in the table had debt ratio to GDP far in excess of the 60 Maastricht criteria (the highest was 170.0 % in Greece). Japan had the highest debt to GDP ratio of all advanced countries in 2011 (from an already very high level in 2007). Most of Japanese debt, however, is owned by Japanese citizens.

With a deficit of nearly 10 % of GDP and a debt in excess of 100 % of GDP in 2011, the United States has become a non-virtuous country. In fact, the United States was facing a “fiscal cliff” at the end of 2012. That is, with the Bush tax cuts coming to an end at the end of 2012 and with the agreed cut in government expenditures in 2013, the United States was likely to go back into recession in the first half of 2013. The Congressional Budget Office estimated that unless the United States allowed the Bush tax cuts to continue and it cancelled the scheduled cuts in government expenditures, real U.S. GDP would fall by about 1.5 % (i.e., the United States would fall back into recession) in the first half of 2013. The nation’s GDP would then grow at about 2.0 % in the second half of the year, for a net positive growth of about 0.5 % per year as a whole in 2013.

If, on the other hand, the United States continued the Bush tax cuts and cancelled the scheduled cuts in government expenditures, the nation would grow at about 4.5 % per year in the first half of 2013 and by 3.5 % in the second half of the

Table 3 Government debt as a percentage of GDP, 2006–2012*

Nation/area	2006	2007	2008	2009	2010	2011	2012 ^a
United States	66.4	67.0	75.9	89.7	98.3	102.7	108.6
Euro Area	74.7	71.8	77.0	87.8	93.1	95.1	99.1
Germany	69.8	65.6	69.8	77.4	86.8	87.2	88.5
France	71.2	73.0	79.3	91.2	95.8	100.1	105.5
Italy	116.7	112.1	114.6	127.7	126.5	119.7	122.7
Spain	46.2	42.3	47.7	62.9	67.1	75.3	87.9
Greece	117.0	115.4	118.7	134.0	149.6	170.0	168.0
Ireland	29.0	28.6	49.5	71.1	98.4	114.1	121.6
Portugal	77.3	75.4	80.7	92.9	103.2	117.6	124.3
United Kingdom	46.0	47.2	57.4	72.4	81.9	97.9	104.2
Japan	166.7	162.4	171.2	188.8	192.7	205.5	214.1

^a ForecastSource OECD, *Economic Outlook*, May 2012

year, for an average yearly growth of 4.0 % in 2013. But then the U.S. government debt would increase by an \$1.2 trillion instead of by \$600 billion. With the political paralysis in the 2012 presidential election year, however, no decision is likely to be taken to avoid the fiscal cliff, and so the United States is likely to face a shallow recession in the first half of 2013. The United States badly needs rapid growth in order to reduce the very high rate of unemployment. By the end of 2012 (after three-and-a-half years of the end of the Great Recession), the United States had regained only four million of the ten million jobs that it lost during the Great Recession.

Europe was doing even worse than the United States. Growth was forecasted to be zero in the Euro Area in 2013 (with northern member nations growing while the GIPSI—Greece, Ireland, Portugal, Spain and Italy facing recession) and unemployment exceeding 11 percent for the whole Area (it was about 25 % in both Greece and Spain) and with the single currency in danger of collapse. The United Kingdom was also facing recession in 2013 and Japan and Canada expected to grow only very slowly.

4 Why has Recovery and Growth been so Slow in the United States and Other Advanced Nations?

After the deep recession that the United States and other advanced countries faced in 2008–2009, the expectation was the recovery would be very rapid. After the previous (1981–1982) deepest U.S. recession of the post-war period, real GDP grew at an average of 6.4 % per year in the 12 quarters after the end of the recession, so that in less than tree years the United States had regained all the jobs that it had lost during the recession. For the three years after the end of the recent Great Recession, on the other hand, the United Sates only managed a rate of

growth of real GDP barely above 2 % per year and only regained four million of the ten million jobs lost during the Great Recession despite a huge (\$831 billion) stimulus package and highly expansionary monetary and fiscal policies.

Almost certainly, the very powerful expansionary cyclical policies adopted by the United States and most other advanced economies prevented the Great Recession from becoming the great Depression. But now (fall 2012), these policies would be much less effective and could in fact be counterproductive. Paul Krugman (2012) and some other economists, however, have been urging the United States (and Europe) to adopt a new stimulus package and more quantitative easing (QE3, after QE1 and QE2) to return the United States to rapid growth. Feldstein (2010a, b), Barro (2012), Laffer (2012), Reinhart and Rogoff (2010), Phelps (2011), Taylor (2011) and others, on the other hand, believe that the United States—not only cannot afford more expansionary cyclical policies because the Fed has already inundated the economy with liquidity and US budget deficits and government debt have already reached dangerously unsustainable levels—but, more importantly, because more cyclical expansionary policies are very likely to be counterproductive under present conditions.

In order to settle this crucial policy disagreement on whether or not to have another stimulus package and additional expansionary monetary and fiscal policies it is instructive to examine the reasons that the U.S. recovery from the Great Recession has been so slow. One reason is that the Great Recession was triggered and accompanied by a banking and financial crisis, and experience indicates (Reinhart and Rogoff 2009) that this type of crisis is much more difficult and usually takes much longer to overcome than a purely economic crisis because it is usually accompanied by heavy deleveraging by the banking sector. But there also other important reasons that this recovery and growth is so slow.

First there is a great deal of policy uncertainty in the United States. Today, firms do not know how much taxes they will pay this year and the next and how much *Obamacare* will cost. Anyone who has been in business knows that the worst enemy of a business person or entrepreneur is uncertainty. With uncertainty, they freeze (i.e., they take a wait and see attitude) and do not invest, and thus they do not create jobs (Colving 2012). Secondly, U.S. taxes on foreign profits are the highest among advanced nations, and so U.S. multinationals do not repatriate foreign profits, but reinvest them and create jobs abroad instead of in the United States. During the past decade, most U.S. multinationals created more jobs abroad than in the United States (Wall Street Journal, 2012).

Then there is the undervaluation of the Chinese currency (the yuan) with respect to the U.S. dollar. An undervalued yuan of about 20 percent vis-à-vis the U.S. dollar is like China imposing an import tariff on its U.S. imports of 20 % and giving a subsidy to its exports to the United States of about 20 %. Of course, China and some U.S. economists argue that the yuan is no longer undervalued after it appreciated nearly 30 % from 8.3 yuan per dollar in July 2005 to 6.3 yuan per dollar in July 2012 because China's overall export surplus has sharply declined during the past few years. But this does not mean that the yuan may still not be undervalued vis-à-vis the U.S. dollar. According to the Big Mac Index

(The Economist, 2012), the yuan may be undervalued by as much as 40 % with respect to the U.S. dollar. The proof that the yuan may still undervalued with respect to the U.S. dollar (even if not by as much as indicated by the Big Mac Index) is that China's exports to the United States exceeded \$400 billion while its imports from the United States were only \$105 billion in 2011, so that nearly 40 % of the total trade deficit of the United States in 2011 was with China.

There is, of course, no theory that postulates that a nation must balance its trade bilaterally, but when one country is responsible for more than 40 % of the trade deficit of another—something (here the exchange rate) is likely to be grossly out of equilibrium. That is, the yuan may very well be in equilibrium overall (i.e., with world trade as a whole) but still undervalued in relation to the U.S. dollar. Specifically, the yuan may be somewhat overvalued with respect to other currencies (such as the euro) and undervalued in relation to others (in this case the U.S. dollar) and this may be the cause of the huge and unsustainable U.S. trade deficit with China.

Still another reason for slower growth (and job creation) in the United States is outsourcing. Many U.S. firms (including some of the largest and most innovating U.S. multinationals), in their effort to minimize production costs, transfer a great deal of production to emerging markets, especially China. But in doing so, they often also transfer a great deal of their new technology, especially to China. In fact, China often demands it as a condition for allowing foreign production in China. U.S. multinationals seem unable to realize that then after a few years they are likely to lose their technology and their markets. Their shortsightedness, not only penalizes domestic production and hence the creation of jobs in the United States, but it puts very short-run profits ahead of the long-term interest of the firm.

By transferring production abroad, multinationals often will also lose their ability to innovate. Most innovations are not a one-shot deal, but involve continuous marginal improvements which arise in the course of production (Baumol 2010). President Obama is very fond of saying that the United States should innovate more in order to grow more rapidly and create more jobs in the United States. But if the innovations are applied to produce new products abroad, the jobs and future innovations will also occur abroad. Proof? Not one of the more than 60 million i-Pads produced by fall 2012 were made in the United States, even though the United States invented it! All of the i-Pads are now imported from China (where they are produced mostly from imported parts and components—but China is racing upstream through the supply chain to replace foreign parts and components with domestic ones). We certainly want an open trading and investment system, but U.S., European and Japanese multinationals should behave more strategically and forward looking rather than being blinded by their desire to maximize profits in the short run.

Growth in the United States is also slowed by overregulation and the excessive pursuit of the welfare state. President Obama stated that he would like the United States to be more like Europe. But overregulation and an excessive welfare state sharply cut European growth rate during the past decades. Europeans expect their government to take care of them from birth to death. Europeans have guaranteed

vacations, free health care, free education, practically guaranteed jobs, and high unemployment benefits. All this kept the European growth rate much lower than the American growth rate during the past two decades and landed Europe into a deeper recession than the United States and even slower recovery, forcing it to realize that it cannot afford its excessive welfare state (Salvatore 1998, 2004, 2007). The United States is not yet in that awful predicament, but it is clearly moving in that direction—and that is slowing down the recovery and the prospects of rapid future growth (Brooks 2012).

According to the Government Budget Office, in 2007 (before the start of the Great Recession) the top 1 % of income earners in the United States paid 40.42 % of all the income taxes paid in the United States, the top 5 % paid 60.63 %, the top 10 % paid 71.22 %, the top 25 % paid 86.59 %, the top 50 % paid 97.11 % of all taxes. As a result of the Great Recession these percentages have declined in 2009 (the latest data for which data are available) and were, respectively, 36.73, 58.66, 70.47, 87.30, and 97.75 % (National Taxpayers Union 2012).

President Obama would like to allow the Bush tax reduction to expire for individuals earning more than \$200,000 and for families earning more than \$250,000. To a low income individuals and families these are fabulous incomes, but one must realize that these individuals and families include a large number of small businesses which create 80 % of all the jobs created in the United States. They often work with other family members very long hours and risk their time and capital. Overtax them and they will close shop or move to other countries with lower taxes. It has been estimated that even doubling the income tax rates on *millionaires* would not do much to reduce the unsustainable U.S. budget deficit and debt (McKinnon 2012).

This is exactly what happened to the United Kingdom after it sharply increased taxes on high income people—until it rescinded the tax hikes. When, Francois Hollande, the newly elected socialist president of France, indicated in June 2012 that he wanted to increase the top tax rate (i.e., the tax on high income people) from 41 to 75 %, David Cameron, the British Prime Minister, invited high-income French people to move to the United Kingdom (Chapman and Allen 2012) causing a furor in France. Besides, eliminating the Bush tax cuts on high income people would only reduce the United States budget deficit by 5 %! Even doubling the income tax rates on millionaire's would not do much to reduce the unsustainable U.S. budget deficit and debt. In order to reduce the U.S. budget deficit to 4–5 % of GDP, the United States would have increase the tax rate on high income people to 91 %—but then many of them would probably stop working and creating jobs (Brooks 2012). Taylor (2011) stated that people who believe that the United States could reduce its budget deficit and government debt to sustainable level by overtaxing the rich should re-read Adam Smith's *The Wealth of Nations* (1776). I would add Milton Friedman's *Capitalism and Freedom* (1962) to the list. Europeans would find the re-reading of these books even more useful and worthwhile.

5 The Crisis in the Euro Zone

The Euro Zone is in a deep crisis due to unsustainable budget deficits and government debts and massive loss of international competitiveness in the weaker member states of GIPSI (Greece, Ireland, Portugal, Spain and Italy). Even if their unsustainable budget deficits and government debts were to miraculously disappear, the GIPSI would still be in a deep economic crisis because their inability to compete with Germany and other more efficient Euro Zone members of northern Europe (as well as with the more dynamic emerging market economies). This is evidenced from the fact that unit cost of labor (or loss of international competitiveness) with respect to Germany increased by between 25 and 35 % for Portugal, Ireland, Spain, Italy and Greece from 2000 to 2010.

These countries cannot use expansionary fiscal policies due to their already huge and unsustainable budget deficits and government debts; they cannot use expansionary monetary policy because monetary policy is undertaken by the European Central Bank (ECB) for the entire Euro Zone; and they cannot depreciate or devalue their currencies because they use the euro as their common currency. Thus, the present crisis in the Euro Zone was a crisis waiting to happen because of the way the Monetary Union was set up (Salvatore 1997). Before the euro, the GIPSI would certainly have allowed their currencies to depreciate so to reacquire some international competitiveness while giving time for policies to restructure their economies to work to increase their international competitiveness.

With expansionary fiscal and monetary policies and currency depreciation not available to them, the only way for these countries to avoid deep cuts in standards of living is receiving large amounts of loans (really grants from core Euro Zone Countries, primarily Germany, since there no chance that a country like Greece, which has been living far beyond its means, can repay the loans). Germany and France only very reluctantly continued to provide “loans” to Greece and other GIPSI countries in order to protect their banks when they realized how indebted they were to Greece and other weak Euro Zone countries.

The Euro Zone now faces a difficult predicament: continue to provide massive financial help to the GIPSI or face the prospects that some of them, especially Greece, may declare bankruptcy and having to abandon the euro. This, however, could precipitate a deeper crisis that could unravel the entire Euro Zone and even lead to the collapse of the common currency. At the very least, it may trigger a new deeper financial crisis and an even deeper recession that the one that the world just experienced.

The only way to avoid this is for the core Euro Zone countries, especially Germany, to continue to provide financial assistance to the weaker GIPSI countries while demanding that they restructure their economies so as to eventually return to financial and economic health. This means deep sacrifices and would inevitably require several years to achieve. But time is running out and financial markets may soon force action. Either the Euro Zone moves quickly toward full economic and political union or it may collapse. Some member countries and many European

citizens, however, do not seem willing or ready to give up their economic and political autonomy completely anytime soon.

6 Policies to Stimulate Growth in the United States and Other Advanced Countries

As we have seen above, advanced economies could try to stimulate growth and reduce unemployment with additional stimulus packages and more expansionary fiscal and monetary policies, but with already large and unsustainable budget deficits and huge amounts of excess liquidity already in the system, these policies may be ineffective and could even backfire. Larger budget deficits and government debts discourage private consumption because consumers anticipate paying higher taxes in the future to pay for them. Following is an incredible and timeless quotation from the Roman Senator Cicero of 55 BC! “The budget should be balanced, the Treasury should be refilled, public debt should be reduced, the arrogance of officialdom should be tempered and controlled, ... lest Rome becomes bankrupt. People must again learn to work instead of living on public assistance”.

A study by the European Central Bank (ECB 2012) found that stimulus packages that increase the national debt up to about 67 % of GDP have a positive effect on growth, but with a national debt between 67 and 90 % of GDP a stimulus package will have no effect on growth (the multiplier falls to practically zero) and with a government debt above 90 % of GDP, a stimulus package will in fact be detrimental and (i.e., lower) growth. Reinhart and Rogoff (2009) reach the same conclusion. Similarly, adding more liquidity when already so much is already in the system may not stimulate investments and growth and only pose greater inflationary pressures in the future.

A more promising way to increase future growth is to reduce budget deficits and government debts, and further restructure the economy and improve education and infrastructures so as to increase labor productivity and international competitiveness (Feldstein 2010a,b; Hubbard 2012; Baily 2012; OECD 2012). But these policies take years to bear fruit, are difficult to implement in times of slow growth, and require additional expenditures at a time when most nations face already high and unsustainable budget deficits. But this seems the only way to avoid an even deeper crisis and restore growth a few years down the line. Even if this were actually done, however, growth in advanced nations is likely to be slower than in the past decades because some of the most important growth factors of the past are now weaker.

The major growth sources of the past three decades have been deregulation, financial innovation, and the impact of the commercial application of the revolution of information technology (IT). Deregulation and financial deregulation in the past may have been excessive and some even harmful (such as CDS or credit default swaps), but they nevertheless were major contributors to past growth.

Table 4 Macroeconomic Scenario: Average Annual Growth (%) of Real GDP in OECD countries and BRICS, 2012-2015 and 2016-2025

Nation or area	2012–2015	2016–2025
OECD	2.5	2.0
United States	2.5	2.4
Euro Area	2.3	1.7
Japan	1.4	0.9
China	9.5	7.2
India	7.7	6.7
Brazil	4.8	4.0
Russia	4.5	3.7
South Africa	4.0	3.5

Source OECD Simulations, 2010

Because of the excesses and the damage that some of them caused, however, we cannot expect as much deregulation and financial innovations as in the past. Advanced nations will very likely be looking for some retrenchment in these areas and, in any event, are striving to apply better rather than more regulation and financial innovations in the coming years. There is no reason, on the other hand, to expect a slowdown in the application of information technology and thus remain as important growth factor as in the past. There are also positive growth factors on advanced countries emanating from rapidly growing emerging market economies, especially China. But this cannot fully make up for the reduction in other growth factors in the advanced countries themselves (which will also slow growth in emerging market economies).

In 2010, the Organization for Economic Cooperation and Development (OECD) made the long-run growth projections given in Table 4. Since these projections were made before the current economic difficulties (discussed above) that advanced nations are facing, it is likely that the resumption of growth may occur with a lag a year or two with respect to those given in the table. From the table we see that average growth in the United States, the Euro Area, Japan and all advanced OECD countries together will be generally slower than in previous decades. The BRICS or largest emerging markets (Brazil, Russia, India, China, and most recently South Africa) will generally grow rapidly, but with growth in Brazil, Russia and South Africa being somewhat below their full potential.

7 Conclusion

Recovery from the deep financial crisis and Great Recession that afflicted advanced countries in 2008–2009 started in 2010, but growth has been slow with the rate of unemployment rising in most advanced nations. Rapid growth can only resume by undertaking painful structural reforms to increase efficiency and international competitiveness, but these would require several years to put into

effect and provide results. Afterwards, growth in advanced countries will resume, but it is likely to be slower than in previous decades because some of the most important growth factors of previous decades are now weaker. With increased tax pressure, more regulations and further extension of the welfare state, the United States is becoming more like Europe, and so it will likely to grow somewhat less than in the previous decade in the coming years.

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Part II
Assessing the Impact of Labor Market
Reforms

Short-Time Work Scheme and Unemployment Insurance Program Beneficiaries: The Analysis of Employment Outcomes

Giuseppe De Blasio, Leopoldo Mondauto and Maurizio Sorcioni

Abstract This paper collects some of the main empirical evidences of a recent report—Measures to tackle the crisis: the Agreement State Regions February 2009—promoted by the Italian Ministry of Labour and realized by Italia Lavoro and ISFOL, in collaboration with INPS. The report aims at monitoring the policy measures introduced to face the recent economic crisis, in the context of the 2009 Regional Agreement. This paper analyzes the employment outcomes of the Short-time work scheme and unemployment insurance program beneficiaries, through the use of a longitudinal approach. A counterfactual exercise is finally provided, in order to assess the effect of the so called mobility allowance in derogation on the beneficiaries' employment outcomes.

1 Introduction: The Policy Measures in the Context of the 2009 Regional Agreement

The recent report of the Ministry of Labour—*Measures to tackle the crisis: the Agreement State Regions February 2009*—realized by Italia Lavoro and ISFOL, in collaboration with INPS, aims at monitoring the policy measures introduced to

This paper represents an extension of the previous version: *Employment outcomes of Short-Time work scheme and Unemployment insurance program beneficiaries: a longitudinal approach* (De Blasio et al. 2012).

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face the recent economic crisis, in the context of the 2009 Regional Agreement (Italia Lavoro 2012).

More specifically, the study addresses to analyze the evolution of the active and passive labour programmes, envisaged by the Agreement, and implemented during the period 2009–2011. It includes an analysis of the number of beneficiaries in derogation (*beneficiaries of Wage compensation fund in derogation*, i.e., *Cassa Integrazione in deroga—hereafter CIGD—and Mobility allowance*, i.e., *Mobilità*) and the level of their participation in policy measures promoted by the Regions, with the aim to provide an exhaustive description of the economic resources derived from the national, regional and European (*ESF*) funds.

The most innovative aspect of the analysis is the use of two administrative data sources. The first one is represented by the National System of Income Support Scheme Beneficiaries (*hereafter, SIP*), realized by the national Institute for Social Security (*INPS*). The second one is the System of Compulsory Communications (*hereafter, CC*). It contains all information about the Italian labour market inflows and outflows. Hires, separations and changes of job contracts should be notified by employers to the Ministry of Labour and CC records details of these information.

The use of administrative data sources can improve, in our opinion, significantly the evaluation of the impact of policy measures, by offering a powerful instrument for the analysis. In this regard, Italia Lavoro, OECD and the Ministry of Labour, in collaboration with Istat and INPS are involved in a project with the aim to evaluate the impact of the recent downturn on the Italian labour market. Preliminary results were recently published in “The role of policies for labour market resilience”, by OECD (2012). In this report, a firm-level analysis of the role of STW during the recent global financial crisis in Italy and Germany is proposed. In particular way, for the Italian case study, results come from the linkage among three different national data sources. This offers a clear evidence of the advantages of administrative data sources, which provides detail levels useful to assess the impact of policy measures by comparing the outcomes of firms involved in a specific program with those of firms that do not.

In this study, the statistical use of these sources allows to observe the evolution of the main characteristics of the 2009 Regional Agreement programme beneficiaries. Through a longitudinal analysis we provide a first preliminary attempt to assess the effectiveness of these programmes.

This paper is divided in two parts. The first deals with the temporarily laid off workers that receive an income support (*Wage compensation fund in derogation*). In this section we monitor the change of beneficiaries’ employment status during a 12 month period, on the basis of SIP dataset. Two different cohorts of beneficiaries are considered: individuals who receive the income support during 2009 and those that receive the benefit during 2010. Both cohorts are followed in order to detect three possible conditions: (a) permanence in the same status (*suspended workers*); (b) transition from the suspension condition to the unemployment status (*unemployment or mobility*); (c) transition from the suspension condition to the employment status (*employment*).

The second part of the paper regards the cohort of 2009 beneficiaries of Mobility allowance in derogation (*Mobilità in deroga*). In this case, the aim is to estimate the number of those individuals that receive at least one job experience during the 24 months after the beginning of the treatment.

In the first section the comparison between the employment outcomes of 2009 and 2010 participants is useful since it offers some preliminary evidences about the effects of the 2009 Regional Agreement. Indeed, the policy measures introduced in 2009, after a starting phase, became effective in 2010. This means that we can consider differences in the employment outcomes between these two cohorts as a partial and indirect effect of the policy measure introduction.

On the other hand, the second phase of the analysis exploits the linkage with the CC and SIP, managed by the Italian Ministry of Labor, with the purpose to follow the beneficiaries of *Mobilità* and evaluate their employment outcomes during the 24 months after the beginning of the treatment. In this case, we distinguish between ordinary and in derogation beneficiaries, by highlighting the differences between the two categories. A counterfactual approach is here provided.

1.1 The Longitudinal Analysis Results

In this paragraph, we focus on the longitudinal analysis (Cheng et al. 2010) of the two cohorts of temporarily laid-off workers, represented by the beneficiaries of Wage compensation fund in derogation (*Cassa Integrazione in deroga*). The first consists of 135,000 workers who receive the treatment in 2009, while the second is represented by 209,000 workers that receive the treatment in 2010.

The results are shown in Table 1. The first panel is relative to the 2009 beneficiaries, while the second refers to the 2010 beneficiaries. The share of workers that after the first treatment disappear from the system is reported in the first column (A). The absence of these workers from the system means that they start working.

The second and third column report the share of workers that remain in the same status after 12 months. Hence, they continue to receive the same type of treatment. In this case, we distinguish between *Cassa Integrazione in deroga* (B), *Cassa integrazione straordinaria (Wage compensation special fund)* and other forms with unemployment benefits (C) (art.19 of 2/2009 Law).

The other three columns refer to the share of workers that, after 12 months from the first treatment, receive an unemployment benefit. In particular way (D) reports the share of workers in *Mobilità in deroga*, (E) is the share of workers in *Mobilità ordinaria (ordinary Mobility allowance)* and finally (F) shows the share of workers that receive an ordinary unemployment benefit (*Indennità di disoccupazione*). These three categories collect those workers that can be considered formally laid off.

The number of laid off workers is important since it provides a further element to assess the effective rule of the *Cassa Integrazione in deroga*. As a matter of fact, the dismissal represents a failure of this measure in preserving jobs.

Table 1 Longitudinal analysis on CIGD workers who complete the first treatment in 2009 and in 2010. Percentage values for status at 12 months

Duration classes of CIGD in hours	CIGD workers who complete the first treatment in 2009. Percentage values for status at 12 months (N = 135.061)							
	No longer present in the SIP (A)	Re-suspended			Unemployment allowance			Total %
		B	C	D	E	F	G	
100 % (zero hours)	25.39	37.81	11.78	1.45	14.06	2.45	7.06	100
From 75 to 99 %	32.77	35.23	9.29	2.71	14.92	2.18	2.9	100
From 50 to 74 %	34.49	40.26	8.29	3.59	10.99	1.19	1.19	100
Form 25 to 49 %	41.2	39.91	7.06	3.96	6.79	0.68	0.41	100
No more than 24 %	49.31	36.59	6.69	3.23	3.53	0.4	0.25	100
Total cohort	36.46	38.22	8.62	3.02	9.92	1.36	2.4	100

Duration classes of CIGD in hours	CIGD workers who complete the first treatment in 2010. Percentage values for status at 12 months (N = 209.923)							
	No longer present in the SIP (A)	Re-suspended			Unemployment allowance			Total %
		B	C	D	E	F	G	
100 % (zero hours)	27.14	28.91	13.86	0.73	11.63	2.70	15.03	100
From 75 to 99 %	36.09	28.37	11.94	1.44	14.67	2.79	4.69	100
From 50 to 74 %	40.67	29.55	11.47	3.44	11.27	1.50	2.10	100
Form 25 to 49 %	46.97	31.03	8.84	4.74	6.61	0.85	0.95	100
No more than 24 %	55.95	26.96	6.88	5.50	3.70	0.57	0.43	100
Total cohort	42.67	29.03	10.22	3.47	8.76	1.52	4.33	100

Source Italia Lavoro and ISFOL on data INPS and Ministero del Lavoro

Legend

A Workers no longer in the SIP (reintegrated)

B Workers present in SIP with a new treatment of Wage compensation fund in derogation (CIGD)

C Workers in SIP with a new treatment of Wage compensation fund not in derogation (CIGS)

D Workers present in SIP with other treatments of suspension

E Workers present in SIP with an unemployment Mobility in derogation allowance (Mobilità in deroga)

F Workers present in SIP with unemployment ordinary mobility allowance (Mobilità ordinaria)

G Workers present in SIP with an unemployment allowance (Indennità di disoccupazione)

Furthermore, the division of the results according with the number of hours of the *Cassa Integrazione* permits to highlight the validity of the STW schemes, in relation to the different type of the entrepreneur's crisis.

Despite of the progressive worsening of the crisis, the share of workers in CIGD no longer present in the archive SIP during the 12 months after the first treatment raises in the biennium 2009–2010 from 36.4 to 42.6 %.

The share of beneficiaries of a further temporarily laid-off treatment decreases from 49.8 % in 2009 to 42.7 % in 2010 (B + C + D). The share of dismissed workers raises of one percentage point, passing from 13.6 % to 14.6 % (E + F + G).

Although this percentage difference is slightly low, it is interesting to observe how the recent crisis determines an increase in the share of reinstated workers and a decrease in the share of suspended workers, while the percentage of laid-off workers remains almost the same.

These evidences seem to confirm that investments in active policy measures realized in the context of the 2009 Regional Agreement have encouraged a correct utilization of CIGD, preserving firms from collective dismissal and favouring workers' reinstatement.

Obviously the duration of the wage compensation fund in derogation (i.e., hours of "suspension" referred to workers involved) affects the results: the lower the number of suspension hours, the higher the likelihood of return to the company. For workers at "zero hour" (those most at risk of dismissal for companies in crisis) the percentage of those being resettled grows from 25.4 % of the cohort in 2009 to 27.1 % of that of 2010 and the share of reinserted is clearly higher in all the different classes of duration.

These preliminary results do not allow to estimate the causal effect of active policies, and this aspect remains an area of further research. This could be possible through:

- the acquisition of the Regional labour informative systems that allow to access individual data on CIGD workers' participation to policy measures and analyze the effects of different treatments on the changes of employment status;
- the adoption of counterfactual models. In particular way, a control group could be represented by those CIGD beneficiaries that do not take part to active policy measures.

The second part of this paper regards the analysis of workers who are laid off and receive the Mobility allowance.

In this case, we distinguish between the beneficiaries of the treatment in "derogation" (*Mobilità in deroga*) from those who receive an "ordinary" treatment (*Mobilità ordinaria*). We analyze the employment outcomes of these two groups in the 24 months after the beginning of the treatment period.

Table 2 shows a summary of the results. More specifically, 50.4 % of the first group does not receive any job contract, while 49.6 % obtains a job. In particular way, among those who have a job, 17.8 % receives a permanent contract. These results seem to be interesting since they are observed during the peak of the recent economic downturn.

On the other hand, the second group is related to the beneficiaries of the ordinary Mobility allowance (*Mobilità ordinaria*)—that are not included in the 2009 Regional Agreement. We observe, in this case, that the share of participants who receive at least a job contract is 44.9 %.

Hence, it seems evident that the probability to obtain a job contract is higher for beneficiaries of the treatment in a derogation regime rather than those in an ordinary regime. Analogous considerations are possible when we take into account the type of contract. As a matter of fact, the share of participants who receive a

Table 2 Longitudinal analysis on workers who start the first treatment in mobility in 2009. Percentage of workers who sign at least an employment contract in 24 months after treatment

	Mobilità in deroga		Mobilità ordinaria	
	v.a	v. %	v.a	v. %
Workers who start the first treatment in mobility in 2009	18.925	100.0	62.747	100.0
Workers who do not sign any contract of employment within 24 months after treatment	9.534	50.4	34.565	55.1
Workers who sign at least an employment contract within 24 months after treatment	9.391	49.6	28.182	44.9
Workers who sign at least a permanent employment contract (permanent job) within 24 months after treatment	1.676	8.9	3.250	5.2
Workers who sign at least a temporary employment contract within 24 months after treatment	7.715	40.8	24.932	39.7
Workers who sign at least a temporary employment contract transformed in permanent contract within 24 months after treatment	1.196	6.3	5.939	9.5
Workers who sign at least a temporary employment contract not transformed in permanent contract within 24 months after treatment	6.519	34.4	180.993	30.3
Average waiting days for workers who sign at least an employment contract within 24 months after treatment	0.278		0.226	

Source Italia Lavoro and ISFOL on data INPS and Ministero del Lavoro

permanent job contract is higher for beneficiaries of treatment in law derogation. These results could be due to a different impact of the two policy measures considered or they can be the consequence of systematically different characteristics between firms and beneficiaries in the two groups. In order to assess the roles of the policy measures, in the next section we propose a counterfactual approach.

1.1.1 A Counterfactual Approach

The previous analysis show different results in terms of employment outcomes for beneficiaries of Mobility in derogation with respect to those who receive an ordinary treatment. In order to assess whether these differences are due to a different impact of the two policy measures or generated by systematically different characteristics of the subjects involved—firms and beneficiaries, in this section we adopt a counterfactual approach. Our data do not allow to distinguish among firms, while some characteristics for beneficiaries are available. In this regard, this article leaves several discussions as open. A more careful analysis should also investigate firms' heterogeneity.

The basic idea is to identify for each individual in one group a matching individual from the other that shares similar characteristics. The mean effect of the treatment is then given by the average difference in outcomes between the two

groups. In our specific case, we consider beneficiaries of Mobilità in derogation as treated individuals, while the non-treated ones are represented by the ordinary beneficiaries. In order to identify the matching individual, we proceed by estimating a probit model as follows:

$$P(y = 1/x) = G(\beta_0 + \beta x)$$

where $y = 1$ if the individual is a beneficiary in derogation and 0 otherwise. G is the standard normal cumulative distribution function, the covariates are represented by the age, region and gender. Our data do not contain other information about individuals, and this represents an element of weakness of this analysis. However, this article would just show how administrative data could be useful for policy evaluation purposes. In this sense, a next step should be represented by the integration of different data sources, which could allow to define a more accurate dataset.

Then we estimate the propensity score (Rosenbaum and Rubin, 1983) which represents, in our case, the probability of participation to the Mobilità in derogation. This index allows to select for each treated individual the more similar non-treated subject. Table 3 reports the mean treatment effect of this counterfactual exercise. The first two columns report the average of the outcome variables for the two groups, while the third column represents the average of the same variables for the counterfactual group, defined on the approach above described. Last column reports the difference in average between the two groups.

As it seems evident, the results confirm that the probability of being employed is higher for treated individuals (Mobilità in deroga). This evidence was confirmed in the descriptive part. On the other hand, the incidence of permanent employees on the whole group of beneficiaries and the incidence of permanent employees on the number of individuals who found a job after the treatment show that the probability to find a more stable job is higher for non-treated individuals. This result is significantly different from that found in the descriptive analysis. All differences result statistically significant.

Table 3 Counterfactual approach

	Sample		Counterfactual group	
	Deroga (1)	Ordinaria (2)	Ordinaria (3)	Diff (1-3)
% employed	49.6	44.9	41.9	7.7 ^a
% permanent/total	8.9	5.2	9.6	-0.8 ^b
% permanent/employed	17.8	11.5	22.9	-5.1 ^a

Level of significance ^a 0.01; ^b 0.05

Source Italia Lavoro on data INPS and Ministero del Lavoro

2 Survival Analysis: An Application of the Kaplan–Meier Model to the Mobility Allowance Beneficiaries

To deepen the descriptive analysis, we propose in this paragraph an application of the Kaplan–Meier survival analysis approach to estimate the probability of exit from the unemployment status for the Mobility allowance beneficiaries.

A previous application of survival analysis models with Kaplan–Meier method was carried out by the Region of Sardinia and Italia Lavoro in the analysis of the customers of the centers for employment services.

The study aims at calculating the probability of the unemployed members to leave the administrative unemployment status. In this paper, we apply the Kaplan–Meier method to the two cohorts of beneficiaries of the ordinary Mobility allowance and the Mobility allowance in derogation. The analysis is conducted on 2009 beneficiaries and allows to estimate the probability to leave the unemployment status during the 24 months after the beginning of the treatment. The linkage of the two administrative sources permits to estimate this probability, differentiating by different social groups. Figure 1 shows the probability of survival between the two forms of treatment (ordinary and in derogation). The results confirm that beneficiaries of Mobility in derogation are characterized by a higher probability to find a (dependent or semi-subordinate) job.

On the other hand, Fig. 2 shows the different survival curves for beneficiaries of Mobilità, according to their geographical origin. In this case, it is possible to observe an evident difference in the employment probability. As a matter of fact,

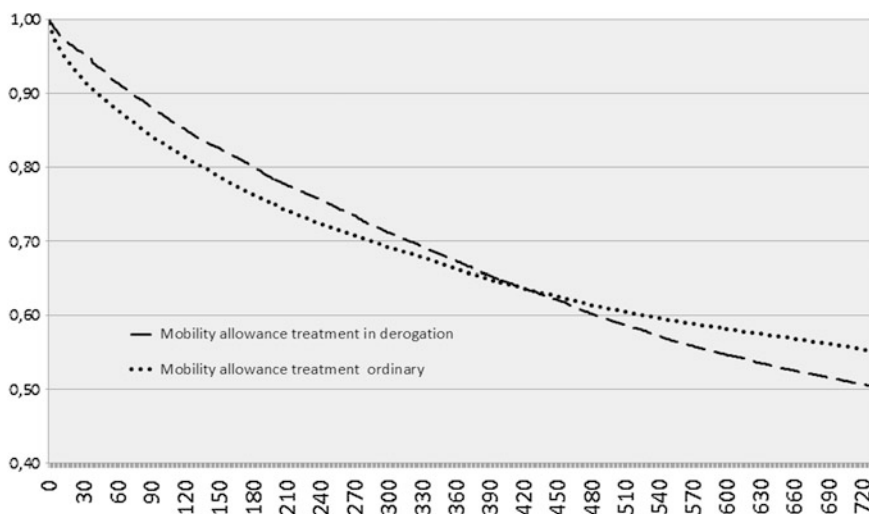


Fig. 1 Survival distribution with Kaplan–Meier method for workers who start in 2009 the Mobility allowance treatment (in derogation and ordinary). Probability to sign at least an employment contract in 24 consecutive months *Source* Italia Lavoro on data INPS and Ministero del Lavoro

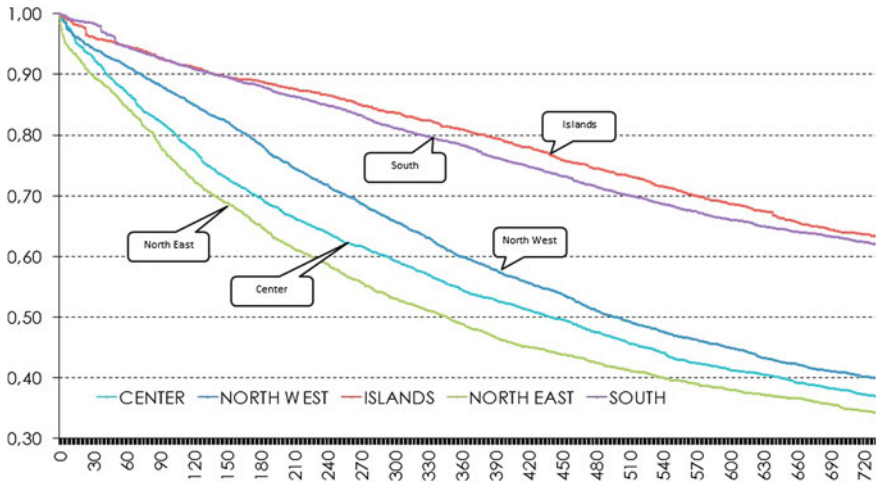


Fig. 2 Survival distribution with Kaplan–Meier method for workers who start in 2009 the mobility allowance treatment (in derogation and ordinary). Probability to sign at least an employment contract in 24 consecutive months for North West, North East, Central and Southern Italy *Source* Italia Lavoro on data INPS and Ministero del Lavoro

only 30 % of the beneficiaries in the North East area remains in the initial condition (unemployed), while the most part could find a job. These probabilities are significantly lower when we consider participants from the South.

3 Conclusion

The results in this paper reveal some interesting aspects that need a further investigation. The use of counterfactual approach (ISTAT, 2011) is necessary in order to assess the causal effect of the policy measures adopted. Here, we introduced a preliminary counterfactual exercise with the aim to show how administrative data could represent a powerful tool for the analysis of policy evaluation. In this regard, the access to individual data of participants in various policy measures could increase highly the informative capacity of the analysis.

The introduction of Cox regression models (Martin Bland et al. 1998), in the survival analysis approach, could be useful in order to establish the factors that may contribute to determine the change of status (age, sex, sector, etc.).

In conclusion, although a number of areas for further research remains and seems necessary, this paper can be considered as one of the first attempts to valorise administrative data sources in the analysis of policy measure impact. We believe that future studies on this topic could not more leave aside from this type of data.

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Part III
Imbalances, Tensions and Possible
Readjustments: Evidence
from Intertemporal Accounting
and the Financial Accounts

In Need of Sectoral and Regional Rebalancing in the Euro Area: A Euro Area Sectoral Accounts (Flow-of-Funds) Perspective

Philippe de Rougemont

Abstract The paper looks at the debt crisis through the lenses of the Euro area accounts. It starts from the traditional analysis of the sectoral's financial balances (savings minus investments), describing their "rotation" during the boom, the crisis and the recovery. It then moves on to emphasise the regional differences in sectoral balances, distinguishing two regional groupings: external surplus and deficit countries. The boom period is mostly marked by a pronounced swing into deficit of the private sector in deficit countries, which contrasts with the fairly stable private sector surpluses in surplus countries, resulting in a widening gap in external balances between the two groups. However, the abrupt reversal in private sector financial balances in the deficit group after Lehman hardly changed the current account surplus/deficit configuration of these two groupings over 2008–2011, but instead was largely compensated by a larger gap in government deficits. Taking another perspective, the pre-crisis gradual widening gap in external balances between these two groupings can be seen as originating largely from increasingly large differentials in national saving, rather than in national investment. This increasing national saving differential mostly reflected increased saving differentials of the corporate sector up to 2007 (rather than households' or governments') that have reversed only to a limited extent since then. This in turn resulted from the emergence of a considerable gap in gross operating margin between the two regional groupings, with much higher margins in surplus countries. This reflected the faster increase in wages in the deficit countries compared to surplus countries, in excess of what would be justified by productivity and/or

The views expressed are those of the presenter and should therefore not be reported as representing the views of the European Central Bank.

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growth differentials. Our analysis suggests that the very large wage gap (in the order of 15–17 %) that had emerged would need to be reduced as a precondition to macro-rebalancing. The paper highlights the mechanism by which the free circulation of savings in a (financially integrated) monetary union distorts price/wage structures, in the absence of fully integrated goods and labour markets. This contrasts with a more optimistic interpretation that suggested that greater circulation of savings within the euro area was a welcome consequence of increased financial integration, celebrating the end of the Feldstein-Horioka puzzle. The distortion of the relative price/wage structure, away from initial equilibrium, is in itself not a difficulty in a common currency area, unless the lack of price/wage flexibility prevents, once capital inflows stop or even starts reversing, a rapid return of prices and wages to their original equilibrium level.

1 Introduction

Persistent intra-euro area current account as well as sectoral imbalances had been building up in the years prior to the financial turmoil. This paper aims at providing a closer look at regional imbalances and heterogeneities in the run-up to the financial crisis and in more recent quarters, drawing on the country information underlying the sectoral euro area accounts (flow of funds). This paper builds on data and analyses already presented in Box 3 of the February 2012 Monthly Bulletin of the ECB as well as in the ECB Financial Integration Report dated April 2012 (Feature E).¹

The paper looks at the evolution of the crisis through the integrated and consistent lens of the Euro Area Accounts (EAA, see Box), which brings together the financial and non-financial accounts of the different institutional sectors (i.e. households, non-financial corporations, financial corporations and general government) and the rest of the world, presenting data in nominal rather than real terms. Having consistent flows and balance sheets makes it easier to analyse the accumulation of imbalances and associated balance sheet vulnerabilities.

The paper continues with discussing the evolution of the net lending/net borrowing by sector, the ‘bread and butter’ of the flow of funds analysis, in the run-up to the boom, during the 2008–2009 recession and then the recovery. As a complement to the euro area perspective, we add a regional perspective of the sectoral net lending/net borrowing—by grouping countries according to whether they had a current account deficit or surplus in the pre-crisis period (5 years)—, to better understand the sectoral pattern behind the widening gap in current accounts between country groups.

¹ See also the article “The financial crisis in the light of the euro area accounts” (ECB 2011a).

To rationalise the emergence of these growing regional gaps in external deficit/surpluses, two views have been promoted. According to a first “optimistic” view (View I), the imbalances were thought to reflect an increasingly optimal allocation of savings that circulate more freely in between euro area countries, reflecting increased financial integration, celebrating the end of the Feldstein-Horioka puzzle. According to a second “pessimistic” (or “realistic”) view (View II), these current account imbalances fundamentally reflect competitiveness imbalances that emerged over time, and they require correction (notably price and wage flexibility).

The examination of the sectoral accounts can shed some light on this issue, suggesting that the increasing differentials in net lending/net borrowing (e.g. in current accounts) was largely driven by saving behaviour (rather than investment behaviour), which in turn has tended to be essentially driven by nonfinancial corporate saving, at least in the run-up to the boom (and not by divergences in governments’ or households’ savings). This divergence in corporate retained earnings reflect largely differences in margins, essentially in turn reflecting higher wages increases in deficit countries (than would have been justifiable by volume growth and productivity).

2 The Flow of Funds Approach

The sectoral accounts (or flow of funds) for the euro area as described in the “euro area accounts” (EAA) provide a framework to analyse the evolution of the financial crisis (see Box for a conceptual discussion).

Box

Sectoral Accounts Concepts

The sectoral accounts present the accounts of institutional sectors in a coherent and integrated way, linking—similar to the way in which profit and loss, cash flows and balance sheet statements are linked in business accounting²—uses/expenditure and resources/revenue, the financial flows that finance their balance, and the accumulation of these real and financial flows into balance sheets, from one period to the next.

To this effect, all units in the economy are classified in one of the four institutional sectors (i.e. households,³ non-financial corporations, financial corporations and general government). Their accounts are presented using

² Sectoral accounts differ to business accounting in a number of ways, and most notably as the latter does not systematically distinguish *transactions* from *others flows* (although one observes an increasing emphasis for distinguishing between *income* and *comprehensive income* in business accounting).

³ Including non-profit institutions servicing households.

identical classifications and accounting rules, in a manner that each transaction/asset reported by one unit will be symmetrically reported by the counterpart unit (at least in principle). Accordingly, the sectoral accounts present the data with three constraints: each sector must be in balance vertically (e.g. the excess of expenditure on revenue must be equal to financing); all sectors must add up horizontally (e.g. all wages paid by sectors must be earned by households); and the transactions in assets/liabilities plus the holding gains/losses on them and other changes in the volume of assets/liabilities must be consistent with the changes in balance sheets (stock-flow consistency). The sectoral accounts are commonly presented in a matrix form, with sectors in columns and transactions/instruments in rows, with horizontal and vertical totals adding up (see the example in Table 1). The first rows of the table show the expenditure and revenues of each of the sectors (broken down into types of expenditure/revenue), and are balanced. In row 6, the difference between revenue and expenditure (the surplus/deficit) is shown.

The notions of revenue and expenditure⁴ are close to, but generally less encompassing than, the more traditional national account concepts of resources and uses. Income can then be defined as revenue (except capital transfers received) minus expenditure other than final consumption and capital expenditure (capital formation and capital transfers paid). For corporations, income corresponds to retained earnings. Savings is the excess of income over final consumption.⁵

Surpluses/deficits are then associated with transactions in financial assets and liabilities in each sector. This is shown in rows 7–10. The bottom part of the table shows the stocks of assets and liabilities, which result from the accumulation of transactions and other flows. This table is extremely simplified (e.g. omitting an explicit presentation of the stock of non-financial assets).⁶

The excess of revenue over expenditure is the net lending/net borrowing (i.e. financial surplus/deficit), a key indicator of the sectoral accounts. Typically, households revenue exceed their expenditure. Households thus are providers of net lending to the rest of the economy. Non-financial corporations typically do not cover their expenditure by revenue, as they finance at least part of their non-financial investments by funds from other sectors in addition to internal funds. Non-financial corporations are thus typically net borrowers. Governments are often also net borrowers. If the net lending provided by

⁴ ESA 95 formally defines revenue and expenditure for the government sector by reference to resources and uses of the government sector.

⁵ See a glossary on national accounts terms at: http://www.ecb.europa.eu/stats/pdf/eea/EAA_Glossary.pdf?3f0aa8a9cd633211f9b30a47738e3d69.

⁶ For a methodological description of the EAA, see http://www.ecb.europa.eu/stats/pdf/eea/eas_note_ch3.pdf?766369a89fd9e1c4d1ff32f25a54eea1.

Table 1 Simplified matrix presentation of the EAA

		A	B	C	D	E	F=A+B+C+D+E =G+H+I+J+K	G	H	I	J	K
		HH	NFC	FC	GoV	RoW	Total econ	HH	NFC	FC	GoV	RoW
1=2+3+4+5	Uses/Expenditure											Resources/Revenue
2	Total	92	105	30	20	15	262	100	100	30	16	16
3	...products	76	15		10	10	111		100			11
4	...wages		60	5	10		75	75				
5	...interest		30	25		5	60	25		30		5
	...tax	16					16				16	
6=1(A_E)-1(G_K) =7(A_E)-7(G_K)	Surplus/Deficit	8	-5	0	-4	1	0					
7=8+9	Transactions in financial assets											Transactions in liabilities
8	Total	13	1	15	0	1	30	5	6	15	4	
9	...deposits	13	1			1	15			15		
10=1(A_E)-1(G_K)- 7(A_E)+7(G_K)	...loans			15			15	5	6		4	
	Total transactions	0	0	0	0	0						
11	Other economic flows									2		Total liabilities
	Total financial assets	1	1									
12	Stock of financial assets											Stock of liabilities
13=7+11	...open. balance sheet	70	20	100	0	12	202	40	60	90	2	10
14=12+13	...change	14	2	15	0	1	32	5	6	17	4	0
15=14(A_E)-14(G_K)	...clos. balance sheet	84	22	115	0	13	234	45	66	107	6	10
	...clos. fin. net worth	39	-44	8	-6	3	0					

HH households, NFC Nonfinancial corporations, FC financial corporations (banks...) GoV General government, RoW Rest of the world

households does not suffice to cover the net borrowing of the other sectors, the economy as a whole has a net borrowing position vis-à-vis the rest of the world. Deviations from this typical constellation were apparent in several euro area countries before the crisis, in particular, with extremely elevated residential investment that resulted in households becoming net borrowers (as has been the case in the United States).

The adding-up constraints in the accounts require that any (ex ante) increase in the financial balance of one sector is matched by a reduction in the financial balances of other sectors. The accounting framework does not, however, tell us by which mechanism this reduction will be brought about, or which mechanisms can be at play.⁷ The EAA makes it possible to track such shifts in demand and net lending through the sectors of the economy. It also specifies the financial instruments affected and shows how the transactions and valuation changes leave a lasting effect on the balance sheets of the sectors.

⁷ If, for example, the net lending of households increases because they consume less goods and save more, this results, in the first instance, in higher inventories of non-financial corporations, which in turn need to be financed. Thus, the higher household sector saving provides the required financing to non-financial corporations. This can then subsequently prompt adjustments where non-financial corporations cut costs, for example, in turn reducing household revenue, and thus reducing the funds that households have available for non-financial corporations.

This paper draws on the integrated character of the EAA:

1. First, the vertical integration: matching expenditure/revenue and the financial flows for each sector (i.e. “above-” and “below-the-line”).
2. Second, the horizontal integration: consistency across sectors, as, for example, the expenditure by some are the revenue of others; or the acquisitions of assets by some are the disposals (or issuance) by others. Hence, the need for horizontal consistency can be thought of as a stock- or flow-representation of market equilibrium conditions.
3. Finally, the EAA enforces stock-flow consistency in an integrated manner, i.e. the relation between transactions (and other flows, such as revaluations) and the balance sheets drawn from period to period. The EAA thus equip the economist with an analytical apparatus similar to that available to company executives when assessing their company performance, with both (as part of the routine financial statement): flow accounts (profit & loss and cash-flows statements) and stock accounts (balance sheets).

The vertical integration of the EAA facilitates the dual representation of the “sectoral rotation” of saving/investment flows and of assets/debts accumulation/redemption, observed over time, during the boom and bust cycle. The horizontal integration of the EAA also reflects the fundamental insight that debt is an asset, that is: each debt represents a claim by another unit or sector on the debtor. Although self-evident, this notably implies, as an important consequence, that any reasoning on debt accumulation dynamics, for instance the need for “ongoing deleveraging”, cannot be thought independently from assets accumulation dynamics. If all sectors redeem debt, sectors must overall also be disposing of non-equity financial assets (i.e. those assets that are debts).

3 From the Euro Area Presentation of Sectoral Balances to a Regional One (Country Grouping)

3.1 Net Lending/Net Borrowing by Sector

Figure 1a depicts the net lending/net borrowing by sector of the economy for the euro area as a whole, on a four-quarter-sum basis, according to the traditional sectoral breakdown, showing households,⁸ non-financial corporations (NFCs), government and financial corporations. The net lending/net borrowing is the balance between revenue and expenditure (as well as between savings and

⁸ Including non-profit institutions servicing households.

investment, net of capital transfers) and can also be referred to as the financial surplus/deficit.⁹

Figure 1a illustrates that the period of economic boom from 2006 to early 2008, was characterised, for the euro area as a whole, by a forceful increase in NFCs' net borrowing, reflecting strong business investment and loose financing conditions. After the bankruptcy of Lehman brothers, this configuration of high net borrowing by corporates then reversed abruptly in a few quarters. Corporates started cutting investment aggressively, including inventories (with a pronounced wave of de-stocking¹⁰), swinging into an unusual net lending position mid 2009 and during 2010.

Together with an increase in the net lending of households, this reversal of NFCs position found its counterpart in a considerable increase in net borrowing by government, in the absence of any significant improvement in the net borrowing (i.e. external deficit) of the euro as a whole. It should be noted that, while the euro area general government deficit declined gradually during the boom period, most governments did not seize the opportunity of favourable economic conditions to sufficiently consolidate their fiscal positions by accelerating deficit reduction, including those with very high debt ratios. Thus, euro area governments continued to show a deficit at the height of the economic expansion, failing to build up sufficient buffers during the boom period (also useful in the longer term to address the needs of an ageing population). Starting from insufficiently strong budget positions at the peak of the boom, the steep recession in 2008–2009 rapidly pushed deficits to very high levels. While high government deficits were easily financed at the beginning of the crisis, markets started worrying about fiscal sustainability, due to a conjunction of rapidly increasing public debt and insufficiently credible path in deficit reductions (e.g. in the absence of economic growth).

Looking ahead, the required correction in the very large government net borrowing (i.e. deficit), could be envisaged with the following counterparts (or a combination) based on Fig. 1a:

- The corporate sector increases its net borrowing, for instance with larger dividend distribution or more dynamic investment, which would presumably require higher confidence, lower uncertainty or looser financing conditions (notably for SMEs).
- The household sector reduces further its net lending, for instance with increasing housing investment, given that their savings ratio is already very low mid 2012.
- The euro area starts generating significant external surpluses (as in 2002–2004). Aside from the macroeconomic configuration, significant euro area surpluses would be justified by the rapidly ageing population, which would benefit from

⁹ The net lending/net borrowing of a sector is the balance of its capital account, which measures the excess of saving and net capital transfers received over capital investments (net lending), or vice versa (net borrowing). It is also the balance of the financial accounts, which measures the difference between transactions in financial assets and transactions in liabilities. See also the Box.

¹⁰ See Box 5 “Recent developments in stock-building” in (ECB 2009).

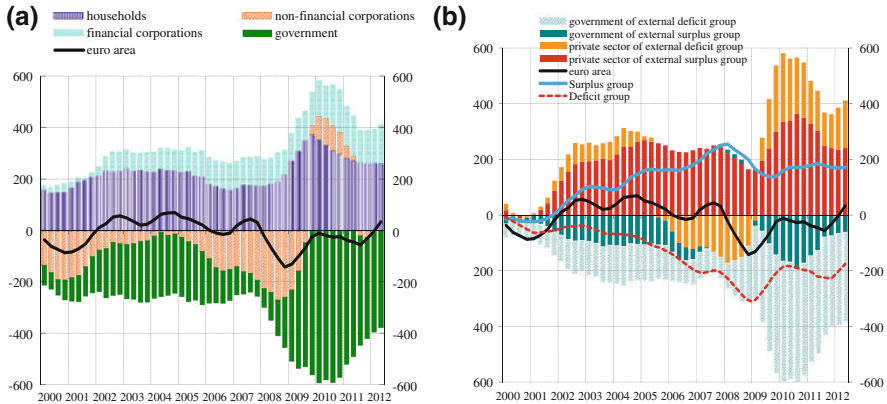


Fig. 1 Euro area net lending/net borrowing (four-quarter sums; EUR billions). **a** By sector. **b** By country grouping for the public and private sectors. *Source* Eurostat and ECB. *Note* The net lending/net borrowing shown in the charts of this box has been adjusted, for convenience, so as to exclude “acquisitions less disposals of non-financial non-produced assets” (in order to avoid the distortions caused by the large proceeds from the sale of UMTS mobile phone licences in 2000)

placing some savings abroad, for instance funding economic growth in emerging markets.

Note that there is little scope in reducing in the near term the net lending of financial corporations (the “fifth element” of the equation, so to speak). Their heavy net lending essentially reflects the net margins on financial intermediation of banks and other fees (net of costs).¹¹ It is thus likely that, given the pressures for recapitalisation, these margins will remain elevated for a while (financial sector’s retained earnings).

3.2 A Regional View of Sectoral Net Lending/Net Borrowing

Figure 1b shows these same financial deficits/surpluses, but only for the government sector and the private sector¹² and distinguishing between the external surplus and deficit groups. Indeed, for analytical purposes, the accounts are shown for two groupings of euro area countries,¹³ grouping together countries that had run

¹¹ The net lending excludes however, holding gains/losses or other write-offs on assets.

¹² Defined here as the sum of all non-government sectors (thus including public corporations).

¹³ This type of presentation was first used in “The financial crisis in the light of euro area accounts” (ECB 2011a). The grouping aggregates are obtained by simple aggregation of national data, while maintaining additivity to euro area totals, by way of allocating any difference relative to the euro area totals (stemming mostly from intra-euro area balance of payments asymmetries) to each grouping on a pro rata basis. No further consolidation is conducted (which is broadly appropriate as the EAA are mainly compiled on a non-consolidated basis).

current account surpluses (external surpluses) over a period of five years ending with the onset of the financial crisis in 2007 (“external surplus group”—Belgium, Germany, Luxembourg, the Netherlands, Austria and Finland) and separately those that ran current account deficits (“external deficit group”—Ireland, Estonia, Greece, Spain, France, Italy, Cyprus, Malta, Portugal, Slovakia and Slovenia).¹⁴ The criterion used here to assign countries to each group is chosen for illustrative purposes, to work out some common stylised facts that can be observed in the boom period. Each of the groupings are rather heterogeneous, for instance, comprising countries with very large external deficits or surpluses, while others have current account positions that are close to balance. Countries also differ considerably concerning other indicators (such as fiscal position, presence of boom-bust housing market cycles, etc.). In addition, the composition of the group is obviously closely tied to the reference period and would change over time. Germany, for instance, would have been in the “external deficit group” in case a similar exercise had been conducted at the beginning of the century, while Italy and France would have been in the “surplus group” at that time: this, in itself, underscores the important point that corrections and reversals of imbalances within Monetary Union do occur over time.

Taking such a grouping-of-countries view, Fig. 1b highlights the pronounced increase in financial deficits of the private sector in the external deficit group during the boom years, matched by stable and ample private sector surpluses (as well as by sharp reductions in government deficits) in the external surplus group.

From 2008, the financial crisis triggered an abrupt reduction of the financial deficits of the private sector in the external deficit group, which turned into surpluses mid-2009. At the same time, in the external surplus group, the private sector surpluses increased further. In the absence of any significant improvement in external balances (the line “euro area” in Fig. 1), these mounting private sector surpluses had their counterpart in generally higher government deficits.¹⁵

Furthermore, as the external deficit group, taken as a whole,¹⁶ did not improve their fiscal situation sufficiently during the boom years (given that they still had an

¹⁴ Greece, Cyprus, Malta, Slovakia, Slovenia and Estonia data are included over the whole period studied, despite their having joined the euro area only progressively (‘fixed composition’ presentation).

¹⁵ It should be noted that this fundamental accounting constraint does not, in itself, indicate the direction of causality, i.e. whether the government deficits resulted from increased private surpluses/saving or, alternatively, whether the latter reacted to increased government deficits.

¹⁶ Some countries in the external deficit group (such as Spain or Ireland), however, recorded government surpluses at the height of the boom. Their current account deficits therefore reflected private sector dissaving and lagging competitiveness.

overall deficit of 1.4 % of GDP in 2007), their public finances became seriously impaired by 2009–2010, and in need of substantial and immediate corrective measures. This contrasts with governments in the external surplus group that used the boom period to turn their overall deficit into a surplus (in 2007), although this did not prevent the later occurrence of deficits that were also in need of correction.

In total, the gradual but ultimately substantial increase of the gap in external balances between the two groupings that emerged prior to the recession of 2008 failed to reduce noticeably thereafter, during the recession and the following recovery. It hence failed to respond to the considerable adjustment in the private sector balances that seemed largely compensated, or neutralised, by matching movements in government deficits.

A more complete sectoral decomposition of the differences in private sector balances between the two country groupings can be observed in Fig. 2. During the crisis, starting from the far lower levels reached at the height of the boom, the net lending of households increased more in the external deficit group than in the external surplus group. Financial corporations' surpluses (mostly their retained earnings) were significant in both country groupings, but increased slightly more in the external surplus group in the wake of the crisis, after having declined there at the peak of the boom.

Overall, the heterogeneity between country groupings appears most pronounced in the case of NFCs. First, whereas the NFCs in the external deficit group maintained a traditional¹⁷ net borrowing position throughout the period, those in the external surplus group experienced atypical long-lasting net lending positions as from 2003, positions of the kind that can be observed during recessions or that can be associated with strong foreign direct investment abroad. Second, the expansionary financial balances of NFCs in the external deficit group turned around earlier (compared to external surplus group) at the start of the crisis, with their net borrowing position peaking in the third quarter of 2008. In contrast, in the external surplus group, the peak was only reached six months later in the first quarter of 2009: it is the crisis itself that pushed corporates in this group from a surplus to a deficit position, essentially via a steep reduction in their retained earnings.

¹⁷ It is customary to assume that firms borrow or raise equity so to fund investment ('K') from households (directly or indirectly) that save for future consumption. But an alternative growth model is when firms generate sufficient retained earnings to fund themselves (in aggregate) all the required investment. In this case, household wealth (and therefore their capacity to fund future consumption) still increases: not via their own net saving, but via holding gains on equity held (stemming from the net saving of corporates). Note that these two growth models would be reflected in the national accounts identically if the accounting rules were to assign the retained earnings of corporates as investors/households' income, which is currently not the case.

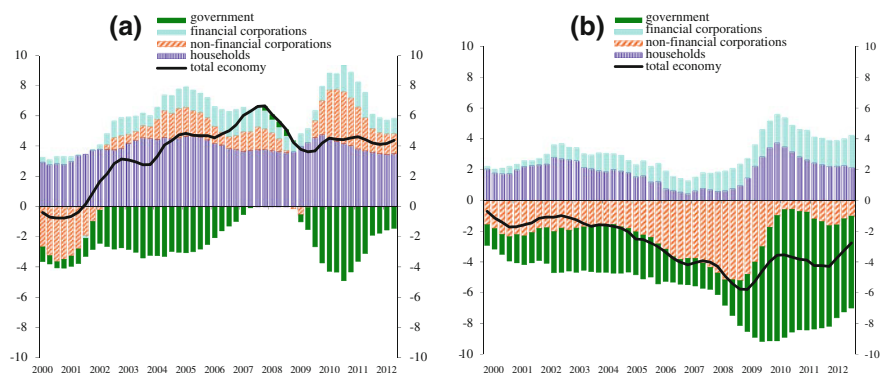


Fig. 2 Net lending/net borrowing by country grouping. (four-quarter sums; percentages of GDP). **a** External surplus group. **b** External deficit group. *Source* Eurostat and ECB. *Note* The net lending/net borrowing shown in the charts of this box has been adjusted, for convenience, so as to exclude “acquisitions less disposals of non-financial non-produced assets” (in order to avoid the distortions caused by the large proceeds from the sale of UMTS mobile phone licences in 2000)

4 Two Views on the Increasing Regional Imbalances

The growing imbalances between the two country groupings in the run-up to the boom can receive two very different interpretations. According to one view, the imbalances reflect increased financial integration and the easier cross-border circulation of savings within the Monetary Union. In this somewhat benign view, imbalances would be perceived as allowing an optimal allocation of savings across more profitable investments prospects, assuming a sufficiently efficient intermediation process carried out by financial institutions and markets alike.

Feldstein and Horioka had found (1980) that national investments and savings tended to be highly correlated across countries, and interpreted this as evidence that world capital markets were not well integrated, somewhat in contrast to a first impression (i.e. the ability to shift funds around easily): the so-called “Feldstein-Horioka puzzle”. To explain this, they hypothesised that portfolio preferences and institutional rigidities impede long-term capital flows—short term capital mobility was not concerned, the authors argued, as revealed by the fact that short-term covered interest rate differentials are negligible. This optimist view of the growing external imbalances posited that national saving and investment tended to be more and more disconnected within the euro area, thus bringing an end to the Feldstein-Horioka puzzle. Blanchard and Giavazzi (2002) for instance suggested such a process to be at work in the case of Portugal and Greece.

Another “pessimistic” (or “realistic”) view was that the growing external imbalances reflected the impact of local demand booms and supply rigidities, as well as associated distortions in competitiveness. In this view, the circulation of savings from surplus to deficit countries is not possible without pushing prices and wages away from initial equilibrium, unless goods and labour markets are fully

integrated (without frictions). Hence, the free circulation of savings between countries requires in practice commensurate relative movements in prices/wages (or a change in demand stemming from changes in preferences).

This second view emphasises that the correlation between savings and investment tests as much the integration of the goods markets as it tests the integration of the capital market. This is, in fact, a joint test. A convenient way to see this is to recall that the savings/investment equilibrium is simply the reverse of the goods market equilibrium: it is not a “market” on its own, where for instance interest rates would be fixed (they are fixed on the money market). For saving to circulate between countries, i.e. to be “exported” from country A to country B, there is a need for net exports to be positive in A and negative in B. In turn, this requires an adjustment of prices/wages so that global demand starts favouring products of country A. In the absence of positive net exports, any financial investment into B by willing entities of A (say an equity purchase, a bank loan) is *automatically* matched by a financial investment from B to A (say an interbank deposit, or if no entities in B is willing to invest in A, a so called ‘Target II’ balance¹⁸). Conversely, if B has a deficit against A but investors in A do not wish to continue purchasing claims on B, what happens? In a common currency zone, the deficit of B will continue as long as demand is not compressed (e.g. fiscal contraction, banking constrains), or prices/wages are not adjusted. Financing is simply ensured via the Euro system (‘Target II’ balances). In a two currency regime, there will be devaluation of currency B vis-à-vis A that will bring about three adjustments altogether: (a) reducing prices/wages, (b) reducing demand and (c) stimulating asset purchases by entities in A (attracted by the discount).

In order to better understand the origin of sectoral imbalances in the euro area, we examine the other elements of the accounts, in particular the regional differences in savings and investments.

5 Regional Patterns of Savings and Investments

Useful insight can be gained from the analysis of surpluses/deficits by looking at the dynamics of the two main components of net lending/net borrowing, namely investment (gross capital formation) and saving (including net capital transfers). Fig. 3a shows the dynamics of the differentials between groups in both the saving ratios (i.e. the ratio of domestic saving to GDP in the external surplus group minus that in the external deficit group) and the investment ratios. These explain the dynamics of the gap in external balances between the external surplus group and the external deficit group.

As can be seen from the chart, the gradual but ultimately substantial increase of this gap in external balances prior to the recession of 2008 was driven mainly by

¹⁸ See Box 4 “Target2 balances of national central banks in the euro area” in (ECB 2011b).

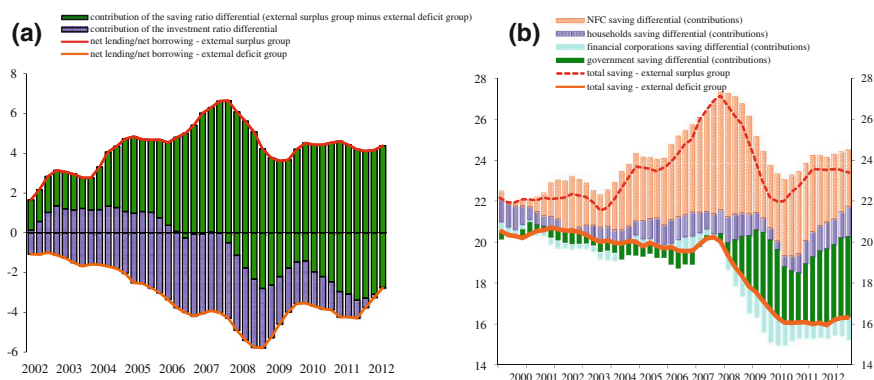


Fig. 3 **a** Differentials between external surplus group and external deficit group in saving and investment ratios. (four-quarter sums; percentages of GDP). *Source* Eurostat and ECB. *Note* The saving ratio differential includes net capital transfers. **b** Differentials between external surplus group and external deficit group in sectoral saving ratios. (four-quarter sums; percentages of GDP). *Source* Eurostat and ECB. *Note* Negative sectoral differentials (i.e. high saving ratios in the external deficit group) lead to entries below the line for “total saving—external deficit group”

increasing domestic saving differentials and to a lesser extent by increasing investment differentials (through ever higher investment ratios in the external deficit group). This observation is reinforced over the full observation period of 2002–2012.

Figure 3b focuses on the saving rates (national savings).¹⁹ It shows the rapid expansion of the saving differentials until 2007 resulting from slightly falling saving ratios in the external deficit group standing in stark contrast to the pronounced increase in the external surplus group. In addition, the chart shows the sectoral contributions to the change in saving ratio differentials. The divergence in saving behaviour between the two country groupings clearly largely originated in the NFC sector, where the saving differential rose until 2008. This reflects the fact that the ratios of NFC saving to GDP in the external surplus group increased persistently throughout the five years to 2008, while at the same time they edged down steadily in the external deficit group. By contrast, the differential in household saving remained more stable over time: it fell moderately from 1.5 % of GDP in 2000 to close to zero in mid-2002, and increased again up till 2005, remaining at this level until 2008. As well, the differential in government’s and financial corporations’ savings hardly changed.

During the recession of 2008–2009, the saving differentials decreased to some extent for NFCs, as corporate saving contracted more in the external surplus group than in the external deficit group, and to a lesser extent for households with saving increasing more in the external deficit group than in the external surplus group.

¹⁹ Savings of all sectors (as a percentage of GDP), rather than the savings rate of households (saving to their disposable income).

These significant symmetric movements in saving during the recession were subsequently partially reversed. Overall, the corporate saving differential remained fairly large by mid-2012 in between the two groupings.

Whereas there had been only few divergences in government savings between the two country groupings before 2007, these became notable thereafter: during the recession, government saving fell faster and more steeply in the external deficit group. This drift was not corrected, but compounded by the stronger rebound since mid-2010 in government savings in the external surplus group, and gross saving turned again positive there in the 12 months to the second quarter of 2011.

As a consequence, by mid-2012, the differential in government saving contributed to the national differential between saving as much as, or somewhat more than, that in corporate saving.

6 Differentials in Corporate Margins and Profits

A main driver for the decline in retained earnings and the associated high deficit position of NFCs in the external deficit group is their lower profitability, as measured by their ‘margins’: gross operating surplus to value added (see Fig. 4). These margins were at similar levels of around 38 % in the two country groupings until 2004, but started to diverge thereafter, increasing to a maximum of 43.7 % at the end of 2007 in the external surplus group, while they fell in the external deficit group. This opened up a gap of almost 6 % points, which narrowed temporarily during the 2008–2009 recession, but started to widen again during the subsequent recovery. As of the second quarter of 2012, NFC margins generally remain

Fig. 4 Ratio of the gross operating surplus to value added of NFCs. (four-quarter averages; percentages).
Source Eurostat and ECB

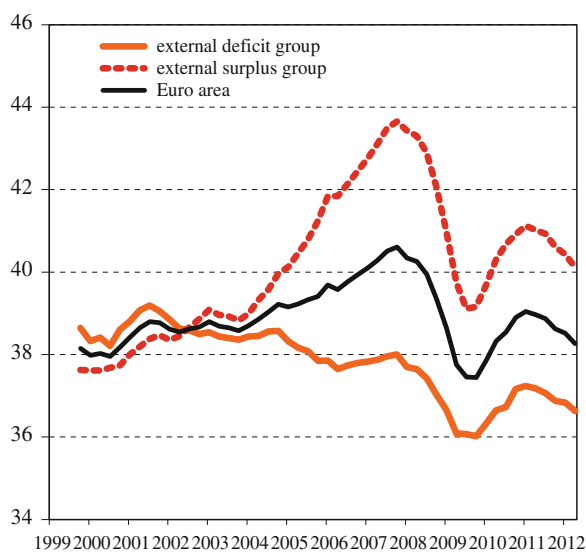
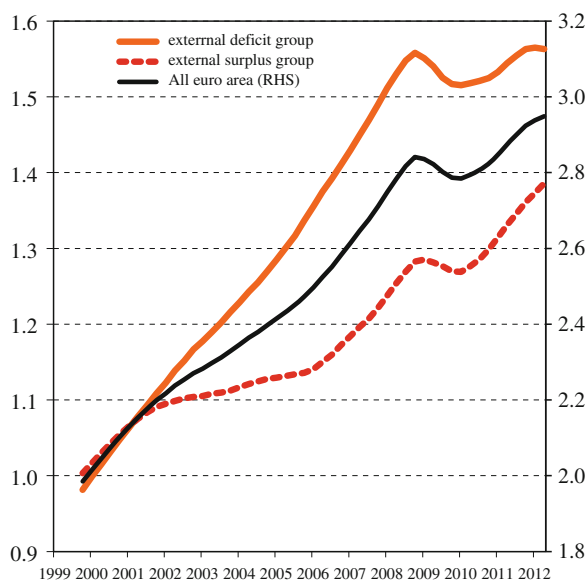


Fig. 5 Compensation of employees paid by NFCs. (four-quarter sums; EUR trillions). *Source* Eurostat and ECB



depressed in the external deficit group, standing 3.5 % points lower than in the external surplus group.

The main reason for the lower corporate margins of the external deficit group is to be found in the far larger increase in wages paid by businesses in the period from 2000 to 2011 (see Fig. 5), an increase over and beyond what would have been justified by stronger output growth (higher productivity and employment gains) in those countries. Indeed, any change in total compensation of employees can be exactly decomposed into output growth in volume terms and changes in unit labour costs. In the external deficit group, the latter rose by 28 % in the ten years to 2011, compared with an increase of less than 11 % in the external surplus group.²⁰

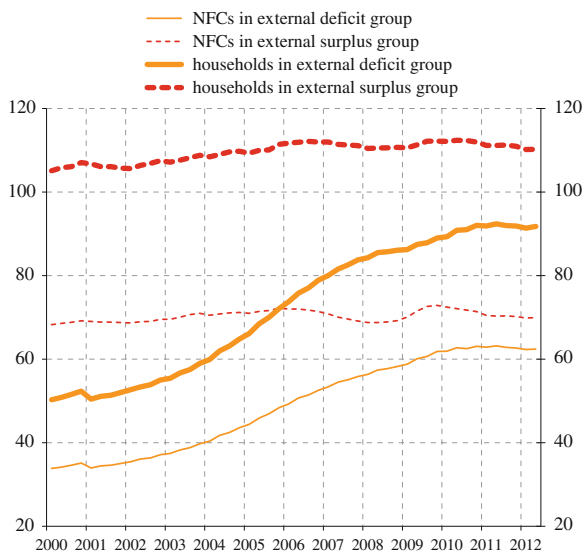
This gap thus reflects wage growth in the external deficit group over the past ten years that was excessive in comparison with that in the external surplus group, leading to a loss of competitiveness. This compressed corporate margins in external deficit group, as businesses could not pass on all cost increases in full, especially in the case of exposed tradable goods and services.²¹

Looking ahead, assuming that the compensation of employee growth observed over 1999–2011 would be consistent in future with inflation below but close to 2 % over the long run, and thus does continue on this trend, the decisive issue is

²⁰ Weighted by GDP.

²¹ Even if the higher nominal wage increases in the external deficit group reflected, merely or mostly, higher domestic inflation, this nonetheless caused a deterioration in competitiveness, and thus additional pressures on the margins of businesses exposed to international competitors (including those in the other grouping of the euro area).

Fig. 6 Debt ratio of the private non-financial sectors. (percentages of gross domestic income for households and/of GDP for NFCs). *Source* Eurostat and ECB



whether the two curves of the external deficit and surplus groups will converge back to the euro area total, and how. In particular, convergence achieved by volumes may not be satisfactory (such as higher unemployment in deficit countries) compared to convergence achieved by prices (e.g. lower wage per hour in deficit countries, higher wages in surplus countries).

7 Private Debt Ratios

The different configuration of surpluses/deficits across the euro area also resulted in differing debt accumulation patterns. This is visible in the debt ratio of the non-financial sectors (Fig. 6).

The debt ratios in terms of income or GDP, for the household and the NFC sectors respectively, increased steadily in the external deficit group, while they remained virtually unchanged in the external surplus group. In the case of households, developments were driven primarily by the housing boom in some of the external deficit group (in particular Spain and Ireland), while those in the NFC sector were more broadly based. At the same time, NFCs in the external surplus group set out on a path of deleveraging in 2009, while trends towards deleveraging in the external deficit group were far more subdued, with essentially stable debt ratios in recent quarters. Similarly, the household debt ratio remained more resilient in the external deficit group than in the external surplus group, resulting in a broadly unchanged overall euro area ratio in recent quarters.

For the euro area, the leverage build-up has been concentrated in the “periphery” countries and has typically been associated with current account

deficits, asset market booms (housing) and loss in competitiveness. However, it is difficult to distinguish one-off adjustment to single currency (convergence) from unsustainable overshooting. This underlines the implication of “stock” adjustment (deleveraging) for “flow” adjustment (savings-investment balances) in the context of intra-euro area rebalancing.

8 Towards an Interpretation

While the overall picture for the external competitiveness of the euro area is generally positive, internal competitiveness imbalances have built-up inside the euro area for a protracted period. In this vein, the ongoing sovereign debt crisis in parts of the euro area is sometimes interpreted as a “balance of payment crisis” and a manifestation of the effects of the competitiveness differentials that have emerged over time between countries within the euro area.

From a theoretical perspective, sizeable and persistent, though temporary, imbalances might be compatible with an intertemporal balance, in a world of perfect and complete markets. In the case of the euro area, it has been argued by many at the time of the launch of the euro that balance of payments constraints would no longer matter inside a monetary union. Simultaneous deficits/surpluses could be rationalised as the outcome of increased financial integration and the greater ease of savings flows within the euro area, allocating savings in search of higher yields, facilitated by the Single Market and the single currency. From this perspective, some celebrated the increased current account imbalances inside the euro area as the resolution of the Feldstein-Horioka puzzle.

However, as we have learned, the balance of payments, while not normally imposing a hard constraint under monetary union, is nonetheless an important indicator of emerging imbalances. Persistent current account deficits can in practice reflect a destabilising process of mounting inflation differentials, cumulated losses in competitiveness, lower export performance. This is often accompanied by asset price inflation, such as in housing markets.

An increase in deficits can be financed or caused by an inflow of capital, fuelling a boom of domestic spending and pushing domestic wages to increase above equilibrium levels. This in turn compresses margins of domestic firms and reduces profitability and competitiveness. The financing of sizeable and persistent imbalances of this nature, though facilitated in a monetary union, has thus re-emerged as a cause of concern for policymakers and markets alike.

A benign neglect of the current account deficit/surpluses presupposes to a large extent not only well integrated, perfect capital markets, but also either perfectly, integrated goods and labour markets or full nominal (price/wages) flexibility. Restoring competitiveness (and net exports dynamism) for countries in need of strong fiscal consolidation is vital. Within the euro area, wage restraint and productivity increases (structural reforms) are crucial ingredients to accompany fiscal consolidation. The adjustment process involves relative price adjustments within

monetary union, in part prompted in the context of adjustment programmes and in part arising endogenously as a reversal of previous trends and in response to ongoing structural reforms at the country level.

9 Conclusion

A presentation of the euro area accounts in terms of surplus and external deficit group can shed light on the dynamics of the growing sectoral imbalances within the euro area during the boom and subsequent crisis period. The analysis of saving and investment patterns shows that, until 2008, a large part of the growing imbalances between the two country groupings was a result of divergences in NFCs' retained earnings, which increased in the external surplus group, while they decreased in the external deficit group. This, in turn, reflected mainly the impact of compressed margins, brought about by rapidly rising nominal wages in the external deficit group, that came without a commensurate increase in productivity, implying a deterioration of competitiveness in the deficit group.

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Patterns in Financial Flows? A Longer-Term Perspective on Intersectoral Relationships

Daniele Fano and Giovanni Trovato

Abstract We enquire whether macro financial flows, in terms of net lending and net borrowing (as derived from the transactions among institutional sectors), can be used to characterize patterns in financial systems. We analyze the cases of the USA and France since the early nineteen-fifties and look for discontinuities in the series. We have used multiple tests and show the results for the Clemente-Montanes-Reyes double test for unit roots that has proved both consistent and robust. We find that in both countries the government sector produced a major break in the mid-seventies. The last breaks in the series occur in both countries for financial corporations very recently. In both countries non-financial corporations have become increasingly independent from inter sectoral flows and the government has gone into a marked net borrowing stance. Households have behaved diametrically differently in the two countries and also the balance payment constraint appears, unsurprisingly, to have played a different role. We also explore, in this respect and in respect to other features, financial flows in other countries since 1995.

1 Introduction

When looking at the longer term patterns of financial systems researchers have usually focused on financial stocks rather than on flows.

The authors wish to thank Belen Zinni for her support in collecting data and Teresa Sbrano and Viviana Gismundo for carrying out initial Chow tests on the series. The responsibility of the paper is entirely theirs.

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On the one side, at the national level, stocks are certainly more appropriate to characterize structures, or the *financial superstructure* in the words of Raymond Goldsmith who, in his pioneering work, went back to the nineteenth and even as far back as 1688 for the United Kingdom (Goldsmith 1985). More recently Franklin Allen and Douglas Gale also look at stocks of financial assets in order to characterize financial systems (Allen and Gale 2001).

There may be a more contingent reason why the focus has been on stocks, i.e. the availability of figures. Estimates of aggregate national wealth or stocks of financial assets are relatively easier to obtain or to estimates than flows (transactions¹). Long series of flows are somehow available for the balance of payments, much less for government given consolidation issues and even less so for the components of the “private sector”, i.e. households, non-financial corporations and financial corporations. In fact Carmen Reinhart and Kenneth Rogoff, in their historical reconstruction of financial crises (Reinhart and Rogoff 2009), do use balance of payments current account figures. However this flow figure is the exception in their broad array of indicators and, for the rest, they essentially refer to stocks and to the frequency of events in calendar terms. Only recently, in fact since the post second world war period and with the adoption of the system of national accounts (SNA), has the calculation of sector flows (i.e. Government, Households, Financial Corporations, Non Financial Corporations, Rest of the World) become systematic.

This paper looks at financial flows as a way of characterizing financial systems and their evolution across time thanks to the availability of time series, since the early fifties for France and the USA and since 1995 for most OECD countries. This is a first effort on our side.

To date and to our knowledge, sector financial flows have been used essentially for addressing stabilization issues in situations where major imbalances in the current account or in the government accounts called for a correction. IMF and OECD reports, among others, typically stress issues such as critical thresholds in current account or government deficits, thresholds beyond which a correction in flow imbalances is necessary.² Strands of economic literature go further in looking at financial flows as the basis of stabilization policies (Godley and Lavoie 2012).

Surely there are exceptions to such restricted scope. According to Barry Eichengreen (2010) “under the original Bretton Woods system the direction of net American capital flows was strongly outward. Domestic savings exceeded domestic investment all through the sixties... The excess savings could be invested abroad in earning assets... Now, in contrast, the current account is in deficit. This means there is no accumulation of net long-term investments to reassure

¹ Flows have a transactions component and a price and volume effect component. In this paper we refer to the transaction component that is derived from the net lending/net borrowing item in the Capital Accounts section of National Accounts.

² For a review and critique of the “fundamental view” see (Tirole 2002).

nervous foreigners... there is good reason to think that the adjustment will accelerate with the passage of time..."

Thus Eichengreen implies that flows can reflect some form of structural longer term pattern. This is the working hypothesis of this paper. We will be looking at longer time series and at break points that may help explain transitions from one form of balance to another.

We are aware that one of the most important issues in the economic literature is the definition of the dynamic of the macroeconomic series.

From the empirical point of view finding one causal relationship between series could support (or not) a determined theory. The problem is that series could have a time changing behavior both in mean and variance, this conducts to biased results for tests based on OLS assumptions. In econometrics we define as unit root variables those that have changes (in mean or variance or both) depending on time. The consequences of a series without unit root is that, if series are stationary, they show a homogeneous behavior (increasing or decreasing) in long-run.

For example, if series of net financial transactions as a percentage of GDP are stationary, then agents have limited uncertainty about future values. Moreover, if fluctuations are regular and time limited, though they may possibly be controlled by regulator, however any effect of interventions will be not permanent.

In this paper we test firstly if the series of net financial transactions for households, non-financial corporations, financial corporations, and government as a percentage of GDP show difference in time for mean and variances, secondly if they have been subjected to some fundamental changes (breaks) and, lastly, if these breaks have a permanent effects of series dynamic or, alternatively, if their effects are such as they are bound to "vanish" in short time.

Moreover, after having tested that breaks actually exist, we have if it is possible to derive a sorted timing: from the first to the last change.

Since tests for unit root hypothesis could be biased if the existence of breaks is not allowed, Perron (1989) proposed to considerer for a known structural break in the Augmented Dickey-Fuller (ADF) tests. We follow the approach of Clemente et al. (1998) allowing for two structural breaks endogenously determined from data (see Clemente et al. 1998; Perron 1989; Perron and Vogelsang 1992).

The results for the break tests are, broadly, the following.

The null hypothesis, which states that the series contains a unit root, cannot be rejected at any significance level by any of the tests. The net financial transactions series would appear therefore to be non-stationary. However, the presence of a structural break in the series analyzed would bias the test towards a non-rejection of the null hypothesis and thus explain the results obtained. This feature causes the intrinsic weakness of unit root tests which have an $I(1)$ series as a null hypothesis. Therefore, we have subsequently run recently developed tests for structural change in univariate time series which do not erroneously accept the unit root hypothesis in presence of breakpoints.

For the two countries for which we have longer time series available:

- Tests about discontinuities in the series show that break-points actually occur.

- Such breakpoints are not simultaneous for the different sectors.
- In the USA, governments deficit takes the lead in the late seventies, households decline in savings follows suite rather than balance, corporations seek independence, financial corporations remain resilient until the crisis outbreak.
- In France government becomes the main beneficiary of household financial savings after a similar beak point as the USA in the early eighties.

For the countries for which we have shorter series (from 1995 or after thanks to the OECD database), we have not carried out systematic statistical analyses. It would however, appear that:

- some countries appear to show stability in flow patterns;
- patterns differ across countries.

We also derive some initial conclusions:

- The nature of financial flows and, as a consequence, the nature of financial intermediation has undergone radical changes across time and across countries, to the point that traditional perspective need probably to be deeply revised.
- The figures represent an opportunity towards better exploring some key issues raised by the post 2007–2008 crisis structural adjustment. They certainly point against one-sided views and universal recipes.

2 A “cascade” of break points and a new physiology. Intersectoral financial flows in the USA, 1952–2011

Though financial flows must on aggregate balance with their algebraic sum equaling zero across sectors (including the “Rest of the World”), breaks in the series do not occur simultaneously but appear to be following a sequence, sector by sector. Such sequence appears also to reflect a change in the physiology of the financial system.

In order to illustrate the analysis of the time-series on financial flows (net financial transactions) by sector based on the Bureau of Economic Analysis statistics since 1952 we will use the Clemente-Montanes-Reyes double test for unit roots. The appendix discusses in detail the approach used to test for stationarity in the series (Zivot Andrews tests for single breaks) and also the choice of the Clemente-Montanes-Reyes (CMR) tests for both one and two breaks with the desirable property of being implemented to search for an unknown break date, which may occur under both the hypotheses of stationarity or non stationarity. Secondly, if the series actually exhibits a break, CMR test exploits this information to improve the power of the test itself.

In the discussion that follows we will rank the sectors according to the first break in the double Clemente- Montanes-Reyes test for each sector. It should e noted that alternative simpler tests based on significance levels of the breaks produce similar rankings of the breaks across time (Fig. 1).

Net Financial Transaction % of GDP: USA 1955- 2009

Clemente-Montañés-Reyes double IO test for unit root

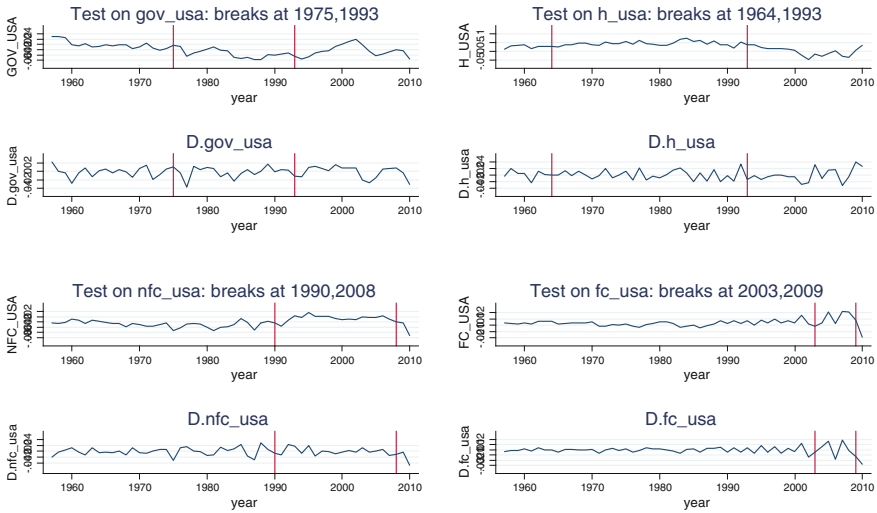


Fig. 1 Net financial transactions break analysis, USA 1955–2009 by Sector

The first break occurs for households in 1964.

This 1964 break appears to signal an upward movement in the ability of US household to generate financial savings that appears to peak in the early 1980s and to remain at a high level until the early nineties when it reverts, with a second break occurring in 1993 with the series taking a decisive descending trend (Fig. 2).

The second relevant break occurs for the US Federal Government in 1975, signaling the beginning of a period of increasing net borrowing, followed by a second break in 1993, that signals a period of volatility in the flows, with a strong recovery in positive flows peaking in 2000 followed by a dramatic reversal in net borrowing (Fig. 3).

The third relevant break occurs in 1990 for Non-financial corporations, signaling a major reversal in this sector flow pattern from being a net borrower to becoming a net lender. A second in 2008 signals a new high volatility period, (Fig. 4).

Given the reversal in flow patterns for non financial corporations it is now interesting to see what happens to financial corporations. Here we have the fourth sectoral “initial breakpoint” in 2004 followed by a second one in 2009 when the financial flows of financial corporations peak at the level of 2 % of GDP, as never seen before (Fig. 5).

Finally the balance of payments current account or its mirror, the Rest of the World net lending/net borrowing balance all the other items (Fig. 6).

Fig. 2 US household net lending/net borrowing. *Source* Bureau of economic analysis

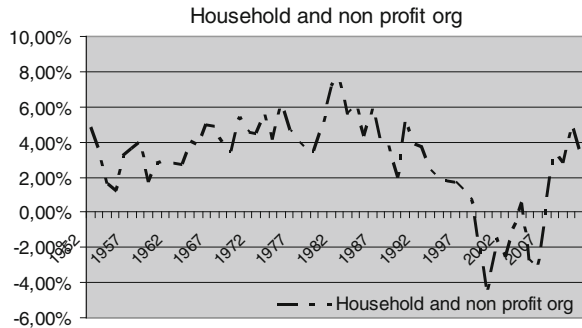


Fig. 3 US federal government: net lending/net borrowing. *Source* Bureau of economic analysis

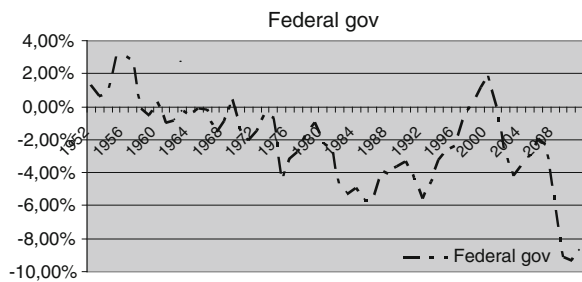


Fig. 4 US non financial corporations net lending/net borrowing. *Source* Bureau of economic analysis

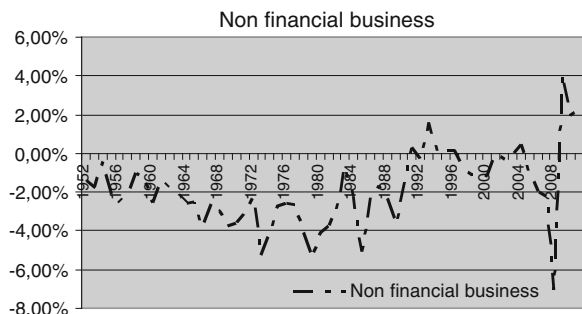


Fig. 5 US financial corporations net lending/net borrowing. *Source* Bureau of economic analysis

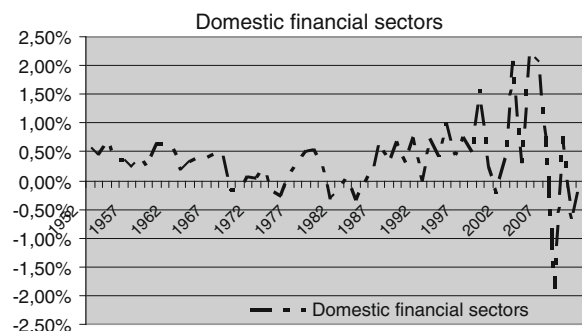
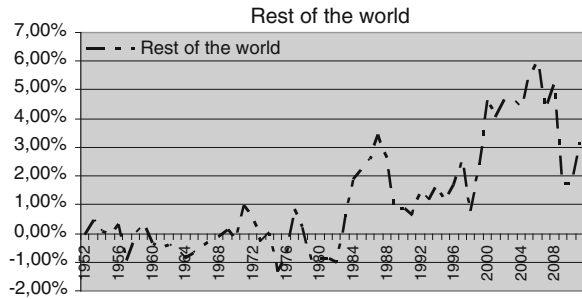


Fig. 6 Rest of the world versus US net lending/net borrowing. *Source* Bureau of economic analysis



Until the early eighties the position of the USA vs the Rest of the World has been fairly balanced, with periods of surplus alternating with periods of deficits, after which the USA become systematic net borrowers, the kind of situation Barry Eichengreen believes will requires sooner or later an adjustment (see Eichengreen 2010). Contrary however to Eichengreen we may want to argue that the equilibrium with the Rest of the World remained intact well beyond the collapse of the Bretton Woods system.

This does not mean that the origin of the changes we are witnessing is not be dated with the end of the Bretton Woods era. On the contrary. In our sequence of breaks, the Federal Government stands out in 1975, with the first structural flow change of the new era. In the new era of stagflation, government indeed stepped in, inaugurating a period of deficits. The latter were initially mainly financed by households that remained big financial savers until the mid-nineties.

It would appear that a peculiar form of crowding out occurred, with household moving away from financing corporations and government, and de facto moving (a) into financing government and (b) eventually becoming, between 1999 and 2007, net borrowers. Corporations, on aggregate, basically moved into self financing after 1993, while Financial Corporations governed an increasing share of net flows, becoming major net lenders and accumulating ever more important surpluses until the financial crisis erupted.

The story would appear that of a system where the governments' inability to balance its budget across time has produced a cascade of reactions, with households and corporations adjusting in their own way and the Rest of the World acting as a willing lender. The simple logic of a high savings household sector able to finance business and public sector investments, and thus growth, has been substituted by a complex web of interactions where the role of each actor is far from being clearly defined. The story of course is incomplete if one looks, as we do, only to financial transactions and not also to price and to policy effects. Moreover many other factors, besides the necessity to adjust to the new flow constraints, may explain the increasing reliance of non financial corporations on self-financing. But such extensions would go beyond the scope of this paper.

3 Intersectoral flows in France, 1950–2011, a partly different evolution and story

We have carried out for France (for which series on net lending and net borrowing by sector are available since 1950) the same Clemente Montanes Reyes double IO test for unit roots. Similarly as for the US we have found it is robust by also using alternative break-point tests. In order to rank breaks we follow the same process as above, i.e. we look first at the first of the two breaks sector by sector and thereafter at the second break.

As from the chart below, in France, the first of the double breaks occurs in the seventies for government (1975). It is interesting to note that a second break occurs simultaneously for households and non financial corporations in 1986, when household net lending dips and non financial corporations net borrowing diminishes. Again for the second break in their respective series households and non-financial corporations appear to go hand in hand, the former with a break-point in 1991, the later in 1992.

Here however, the substance of the story changes with respect to the US. Whereas in the US the nineties inaugurate a period of dramatic decline in household net lending, in France after an initial decline, marked by the first break, we see a recovery (Fig. 7).

On the other side non financial corporations in France continue to reduce their reliance on external borrowing, and this is indeed in tune with what has happened in the United States.

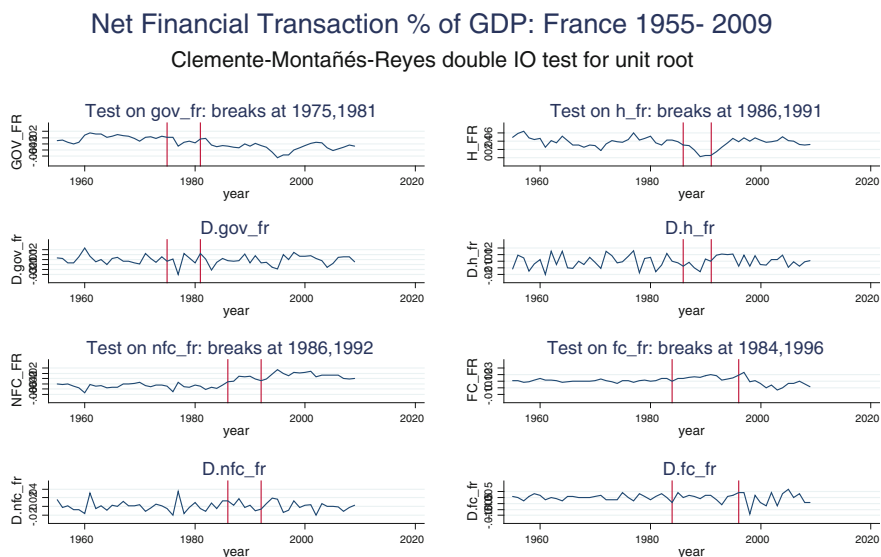


Fig. 7 Net financial transaction break analysis by sector, France 1955–2009

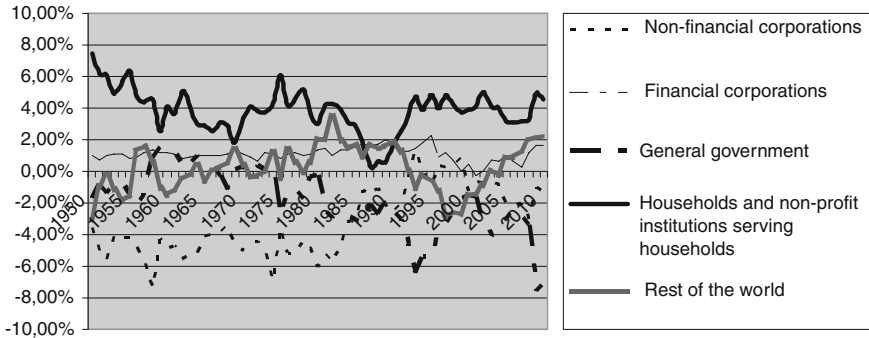


Fig. 8 France, financial flows, net lending/borrowing by sector, 1950–2010. *Source* OECD

French financial corporations share with the US the fact they manage to always maintain a net lending position, however, the break points differ, with the first one in 1984, signaling a period of buoyant net financial position and the second one, the last one of our multiple series, in 1996 signaling a period of high volatility.

Thus there are similarities in the two countries, with a major initial break originating in government, however possibly due to different balance of payments constraints, the two countries follow different paths thereafter. Public finances do not follow in France the dramatic imbalances and tentative re-balancing of the US, they do however, remain fragile. Households remain a stronghold of the system, while, as already shown, non financial corporations become, on aggregate, less dependent on intersectoral financial transactions.

Also in France the pre and the post Bretton Woods eras appear to be very different. Pre Bretton Woods overall the government had balanced budgets, households were strong net lenders and non financial corporations strong net borrowers. The balance of payments hovered around equilibrium. Post Bretton Woods non financial corporations become less dependent on other sectors, general government starts running systematic deficits, though by lesser amounts than in the US. Households remained strong financial savers, but as it appears more to the benefit of government. The balance of payments becomes more volatile (Fig. 8).

4 Intersectoral flows in select other countries since 1995

Following the improved SNA standards released in 1993 and implemented thereafter we are able to look, for select countries, at financial flows and their patterns from 1995 to 2010. This is a shorter period that may represent “truncated cycles”, at least according to the analysis of longer periods we were able to carry out for the USA and France. So rather than to break points we will be looking at detecting patterns and regularities vs. irregularities over the period.

Indeed it appears that the French and US cases, which as we have just seen have similarities and differences in their outcomes to date, are but two examples of the kind of patterns that can prevail for given time-periods in specific countries.

The first case we illustrate is that of Sweden. The country underwent an adjustment in the early nineties which may explain why in 1995 General Government was still heavily “in the red”. By 1998 all domestic sectors had moved into the positive net flows territory, which has generated an increasing surplus with the Rest of the World.

Swedish non financial corporations are, in aggregate in surplus. The Household have seen increasing positive net financial savings across the period with a tendency to increase after 2006. It is well known that Sweden has, in the period examined, overhauled its social security system and strongly encouraged private savings. It is of course out of the scope of the present paper to explore whether this can be an explanatory factor of the Swedish pattern. Sure enough the pattern that emerges looks sound, though the country may have recently been “overdoing” it, as the surplus with the Rest of the World appears excessive in a longer term perspective (Fig. 9).

We now move to Germany, which experienced in the early nineties a different shock from Sweden, the impact of reunification. There are differences and similarities with Sweden. The heritage of the unification had left the public sector in the red in 1995. German public finances remain in deficit throughout the period, breaching the Maastricht 3 % limit in 2002–5 and again in 2009–2010. The German “private sector” has proven extremely healthy, with households increasing systematically the level of their financial savings. Corporations, both non-financial and financial have generated, since 2005, increasing financial surpluses. The strength of the German private sector has produced an impressive and increasing surplus with the Rest of the World. It is well known that Germany has engaged in very pro-active industrial and social policies in the recent years. Future research could explore whether social policies have, among other factors such competitiveness of the export-oriented industrial system, contributed to such

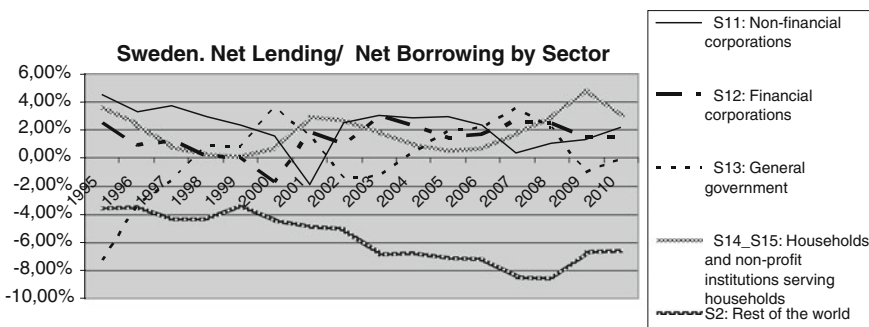


Fig. 9 Sweden, financial flows, net lending/borrowing by sector, 1995–2010. Source OECD

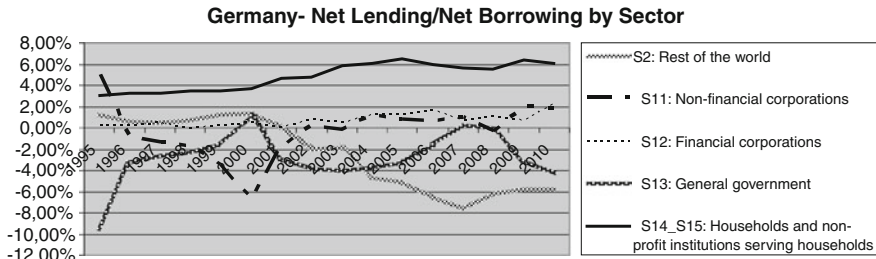


Fig. 10 Germany, financial flows, net lending/borrowing by sector, 1995–2010. Source OECD

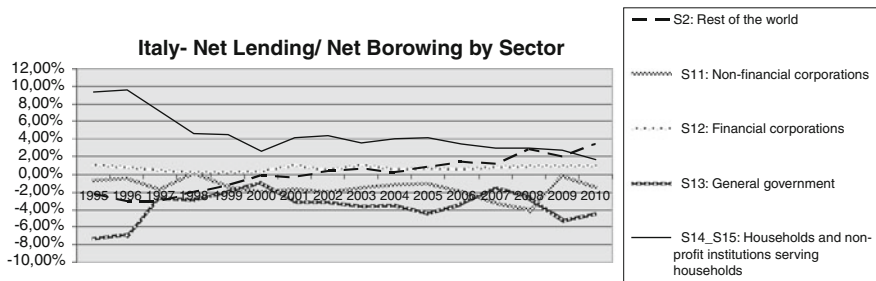


Fig. 11 Italy, financial flows, net lending/borrowing by sector, 1995–2010. Source OECD

results and also whether the public sector has proven to be an effective buffer in such context (Fig. 10).

The third case is Italy. Like Germany and Sweden, it had in 1995 a strong government deficit. Contrary to the above countries the situation has not improved across the years.

The surplus with the Rest of the World turned into an increasing deficit after 2002 while household financial savings went into a decreasing trend. Non-financial corporations systematically need, on aggregate, external finance. Thus it appears that the Italian pattern needs a strong household sector in order to finance both government and corporations (a context dominated by small companies probably limits self-financing possibilities). An hypothesis to further explore is whether the slow growth that the country experienced in the past 10 years has been the main reason for the decline in the ability of households to perform their financial role (Fig. 11).

In the case of Portugal, the external balance continued to deteriorate in the period considered along with government deficits and fragility of the corporate sectors. Households appear to have been resilient. The pattern is however clearly out of equilibrium (Fig. 12).

It is worth comparing the two key indicators of the government and the external balance for select Eurozone countries between 1999 and 2010. The Maastricht budget constraints were breached by virtually all countries while the external balance deteriorated for all countries except Germany (Fig. 13).

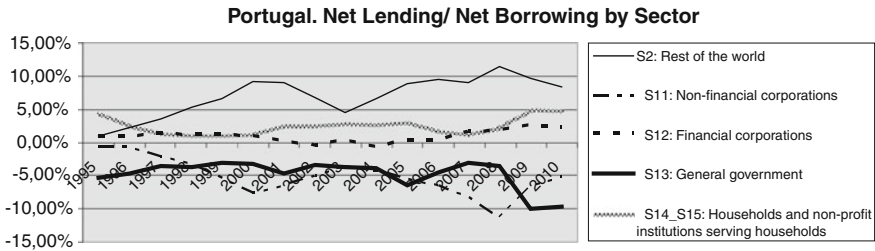


Fig. 12 Portugal, financial flows, net lending/borrowing by sector, 1995–2010. Source OECD

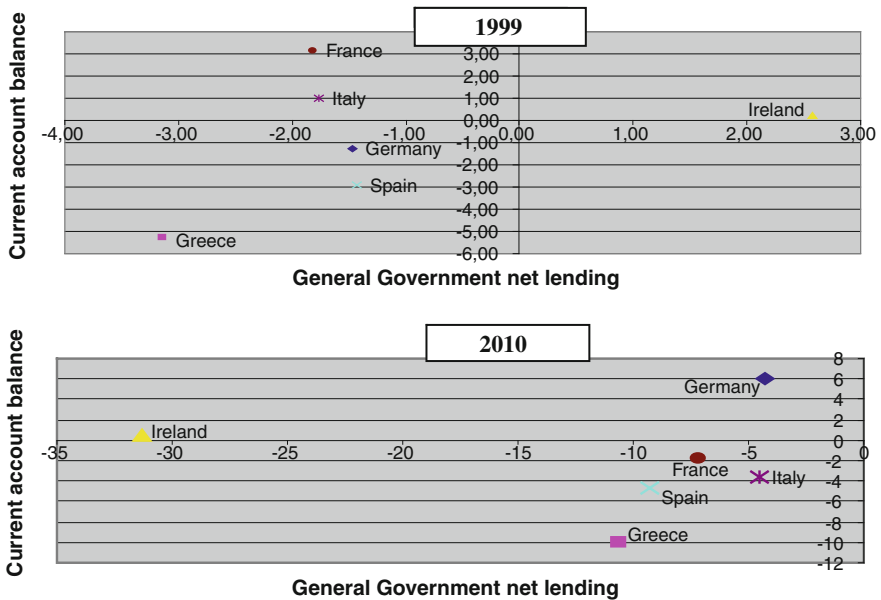


Fig. 13 Eurozone select countries, external balance and government balance

Moving away from the Eurozone, two countries the UK and Japan, both appear to be out of equilibrium. The UK has a persistent balance of payments imbalance and also a recent strong increase in the government deficit only partly compensated by the recovery in household savings (Fig. 14).

Japan still has a healthy current account surplus, but government appears to have increasing deficits (Fig. 15).

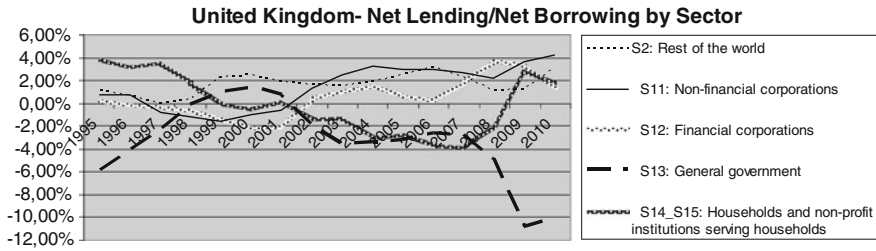


Fig. 14 United Kingdom, financial flows, net lending/borrowing by sector, 1995–2010. *Source* OECD

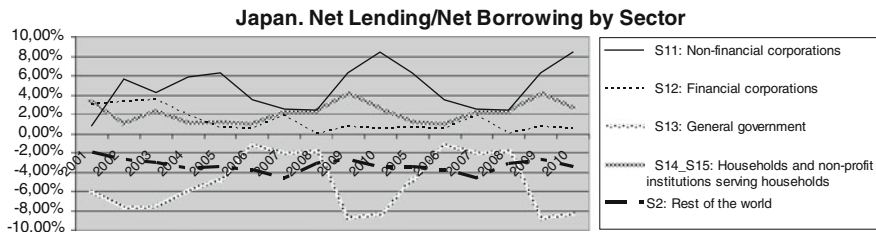


Fig. 15 Japan, financial flows, net lending/borrowing by sector, 2001–2010. *Source* OECD

5 Summary and Further Working Hypotheses

In this working paper we use net sector financial transactions series in order to assess whether they reveal patterns.

Longer series for France and the USA do indeed suggest that one should look at long time-periods for detecting systematic features in intersectoral flows. The end of the Bretton Woods system appears to have generated a change that has not affected all sectors simultaneously, but rather through a “cascade” of reactions that are detectable through break points in the series. New patterns of inter sectoral relationships have gradually emerged, Both in France and the USA the trigger appears to have been in government policies in the seventies, with public deficit imbalances that have not been re-absorbed across time and with other domestic sectors and the Rest of the World balancing the equation.

In both countries non-financial corporations appear to have, on aggregate, moved towards self-financing. Of course this shift may have been caused by other factors than intersectoral flow reallocation. The relevant result for France and the USA, however, the causes, is that intersectoral flow balancing circuits are now, on aggregate, between households, government and the Rest of the World, by-passing financial and non financial corporations, that appear both as more independent and self-reliant agents.

The net lender characteristic of non financial corporations seems to hold for other industrialized nations (Sweden, Germany, the UK and Japan), but not for

countries like Italy and Portugal characterized by a broad presence of small and medium sized entities. Thus for such countries the ability of households to provide savings through the intermediation of financial institutions as in “textbook” examples appears to remain crucial.

A further issue is whether the patterns that have emerged from the post-Bretton Woods era are sustainable. There are indications that this may not be the case. It may well be that relevant imbalances experienced currently by countries such as the USA, the UK, Japan and Portugal, or the erosion of existing patterns for countries such as for Italy, require deep structural measures rather than short to medium term or gradual stabilization policies.

On the other hand, countries, such as Germany and Japan, that have traditionally and structurally accumulated relevant surpluses with the Rest of the World, may not necessarily reflect healthy longer term equilibria. Such countries have their internal imbalances (especially for government), while their “mercantilism” may, for example in the case of Germany, be the flip side of deteriorating balances of countries belonging to the same economic area.

The case for “structural” rather than “gradual” or stabilization approaches has been made, for example, for emerging economies.³ If intersectoral flows reflect, inter alia, structural longer term patterns, it may prove useful to explore similar approaches for other economies.

Appendix: Stationarity and Break Tests for the USA

In the following the graph stress that according Zivot and Andrews we cannot reject the assumption of stationarity with breaks (Fig. 16).

Indeed the Zivot-Andrew test allows for the presence of a single structural break and then performs a DF test on the series inclusive of the estimated breakpoints. The null hypothesis of an I (1) process without an exogenous structural break is tested against that of a trend-stationary series with a break which occurs at an unknown time. We applied the procedure followed by Ben-David and Papell (1995) to determine the number of lags to be included in the regression.

Since allowing only for breaks in the alternative assumption can be drive to biased results, although these preliminary results seem support our idea of operators with limited uncertainty about future values, then it its possible forecast financial portfolios to math consumer and investment schedules since fluctuations are regular and time limited in the long run. In any case the sudden changes in series could be controlled will be not permanent.

³ For example Sachs (1996), The transition at Mid Decade, The American Economic Review, vol. 86(2).

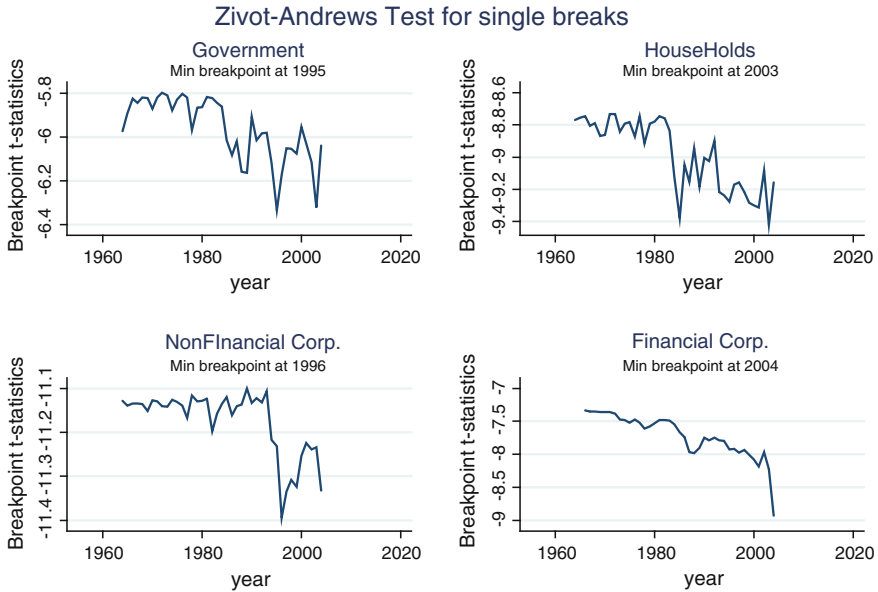


Fig. 16 Zivot-Andrews test; single break

In any cases since as pointed out before non allowing for breaks also in H_0 can conduct to accept H_1 when it is not likelihood, we show the Clemente Montanes and Reyes (CMR) tests for both one and two breaks.

Using this type of test is usefully since, it has the desirable property of being implemented to search for an unknown break date, which may occur under both the hypotheses of stationarity or non stationarity. Secondly, if the series actually exhibits a break, CMR test exploits this information to improve the power of the test itself.

The tests devise level-shift models, changing-growth models and “mixed” models, which allow for shifts in both the level and slope. Furthermore, their test verifies the existence either of an additive outlier (AO), which captures a sudden change in the series due to a transitory shock or to an anomaly in the data, or alternatively of an innovational outlier (IO), which implies a gradual shift in time of the mean of the series.

Not having any reason to restrict ourselves to either level or slope shifts, we implemented both IO and AO model. Looking at results an IO model seems more appropriate, since persistent shocks which influenced the variables of interest for a longer time period seems more likely in this context.

The test conducted points to the existence of two (significant) structural breaks for all series.

We remember that if the structural break occurs suddenly, one assumes an additive outlier model (AO model), if it occurs gradually, than an innovation outlier model (IO model). The two models specify the transition mechanism of the

Net Financial Transaction % of GDP: USA 1955- 2009

Clemente-Montañés-Reyes single AO test for unit root

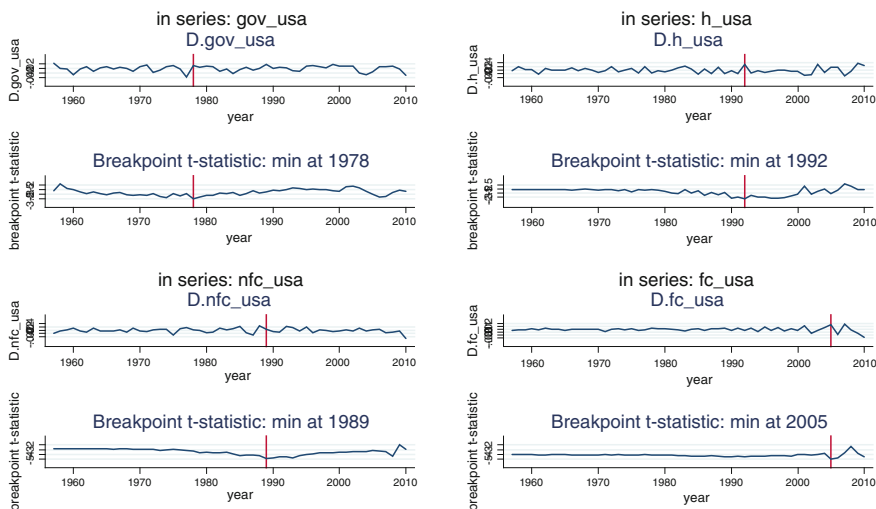


Fig. 17 Single break AO (HP: sudden change in series, shock)

Net Financial Transaction % of GDP: USA 1955- 2009

Clemente-Montañés-Reyes single IO test for unit root

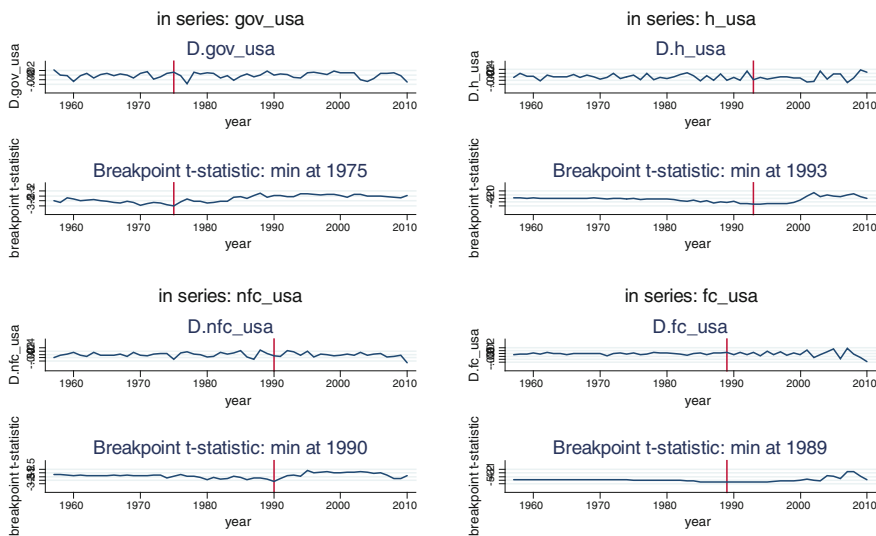


Fig. 18 Single break IO (HP: innovative change in series, a gradual shift in time)

Net Financial Transaction % of GDP: USA 1955- 2009

Clemente-Montañés-Reyes double AO test for unit root

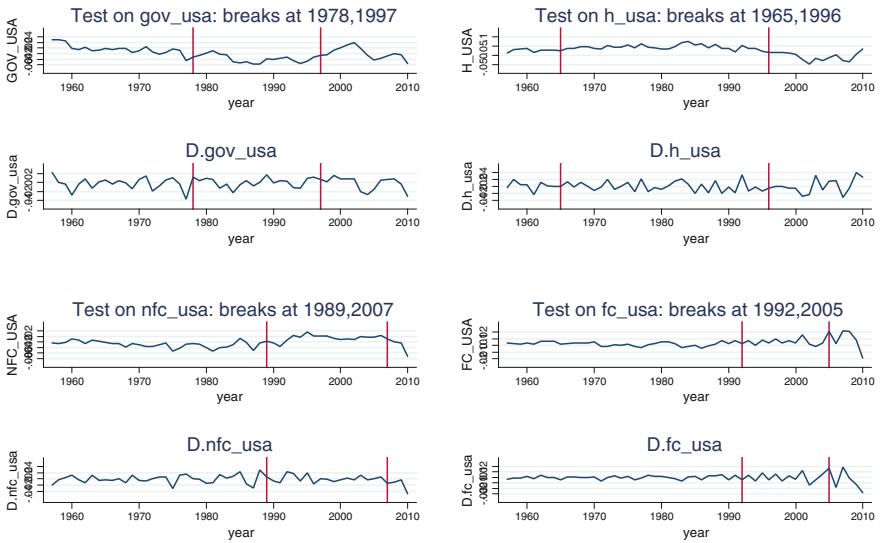


Fig. 19 Double break AO (HP: sudden changes in series, shocks)

Net Financial Transaction % of GDP: USA 1955- 2009

Clemente-Montañés-Reyes double IO test for unit root

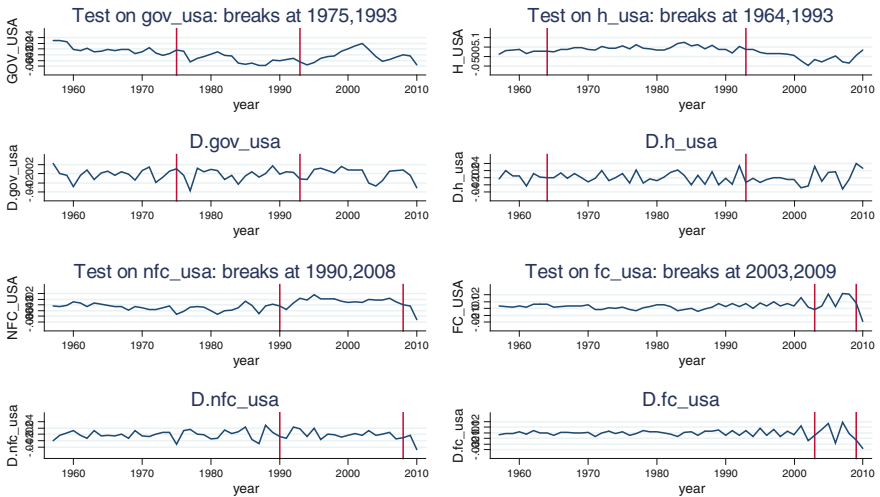


Fig. 20 Double break IO (HP: innovative change in series, a gradual shift in time)

structural breaks. A simple example of a model with two AO is: $y_t = \alpha + \delta_1 DU_{t,1} + \delta_2 DU_{t,2} + \varepsilon_t$, where DU_t is a dummy variable with $DU_t = 1$ for $t > T_b + 1$, and 0 elsewhere, where T_b is a date of break. This model assumes two shifts in the level of the series. An example of an IO model in this context could be: $y_t = \alpha + \omega_1 DT_{t,1} + \omega_2 DT_{t,2} + \delta_1 DU_{t,1} + \delta_2 DU_{t,2} + \rho y_{t-1} + \varepsilon_t$, where DT_t is a dummy variable with $DT_t = 1$ if $t = T_b + 1$ and 0 elsewhere and $|\rho| < 1$ (Fig. 17, 18, 19, 20).

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Part IV
G20, Global Governance and Regional
Integration

The Determinants of Macroeconomic Imbalances in the Euro Area: The Role of External Performances

Paolo Guerrieri and Piero Esposito

Abstract In this chapter we analyzed the causes of macroeconomic imbalances in the euro area by assessing the external performances of the four main European economies: Germany, Italy, France and Spain. We propose two main explanations for such imbalances: very successful internationalization strategies of the German firms, especially toward Central and Eastern Europe (CEECs), on the one hand, and Emerging Markets, particularly China, on the other; the role of the Euro and Economic monetary unification (EMU). The results from an econometric test of these determinants confirm our assumptions. Germany has benefited mostly from internationalization activities with CEECs and the penetration of Emerging Markets. At the same time it more benefited from the creation and functioning of the EMU.

1 Introduction

This chapter will consider the increase in current account imbalances in the euro area countries since the late 1990s. During the years preceding the global financial crisis the euro area as a whole has remained relatively close to external balance, while the current account balances and the competitive positions of individual member countries have widely diverged. The northern European countries

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(notably Germany) built up significant surpluses while the southern euro area ones accumulated very large deficits (Fig. 1). External divergence also took the form of a steady widening of differences in the cost competitive positions (labor cost) of the two groups of countries.

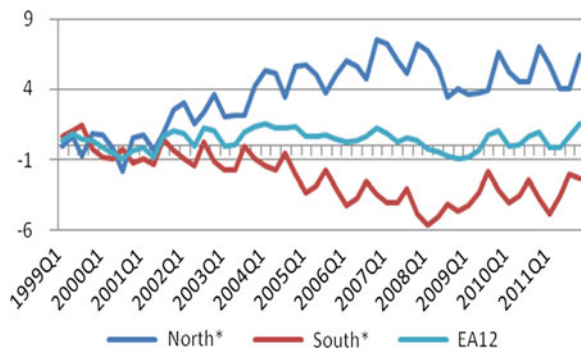
For many years, however, not much attention was paid to these imbalances by national authorities and European institutions, since large current account deficits in the euro area have been easily financed for many years by net (private) capital flows of surplus countries that bought deficit countries assets including debt obligations.

Imbalances have persisted throughout the global crisis and in the current phase of recovery. The financial crisis in 2008–2009, however, has marked a generalized plunge in the intensity of the euro area cross-border financial flows. Private funding of the imbalances dried up and the system of euro area central banks had to replace the banking sector as a key source of funding of current account imbalances and capital movements. This massive intervention was to a certain extent successful, but the cost was the dramatic increase of public debts in most countries. All these imbalances translated into higher public debt, either as a result of a sharp drop in revenues or the transformation of private debt into public debt and, as a result, the Euro system has become exposed to the risk of sovereign and bank defaults.

In contrast to some previous assumptions these imbalances cannot be sustained for too long in Europe and should be reversed. Even more so since at bottom the euro crisis, far more than a fiscal crisis there is an unsustainable accumulation of private debts (households and banks) linked to the large and persistent imbalances in the euro area.

In the present economic governance insufficient attention has been devoted to policies capable of favoring these economic adjustments. It follows that the huge challenge today is to make managing the crisis compatible with adjustment of these external imbalances. Austerity measures and/or indefinite financing of them would not be a solution. The former will exacerbate the recessionary trends in the euro zone while the latter will create economic and politically unsustainable tensions among countries.

Fig. 1 Current account imbalances in the Euro Area.
Source Eurostat. *North Austria, Belgium, Finland, Germany, Luxembourg, Netherlands. South France, Greece, Ireland, Italy, Portugal, Spain



The fact is that imbalances in the first 10 years of the Euro were not the temporary outcome of an overall European economic convergence process as early studies have argued. The divergences in competitiveness and current accounts in the euro area were in large part fuelled by various domestic economic imbalances, including excessive credit growth in the private sector and housing bubbles. The excessive demand boom, fuelled by private/public consumption and residential investment spending, led to persistent inflation and unit labor cost differentials, losses of competitiveness and asset price inflation—notably in the housing market—in the countries that had to converge to the euro area average. And it led to a build-up of large external indebtedness. At the same time, the supply side was not able to catch up with demand because of important structural competitive differences across euro member countries. Thus, in current account deficit countries, large capital inflows led to an unsustainable accumulation of household and corporate debts, aggravated by an inappropriate response of fiscal policy in some countries. While in other Member States—as in the case of Germany—large current account surpluses reflected low wage dynamic and structural weaknesses in domestic demand.

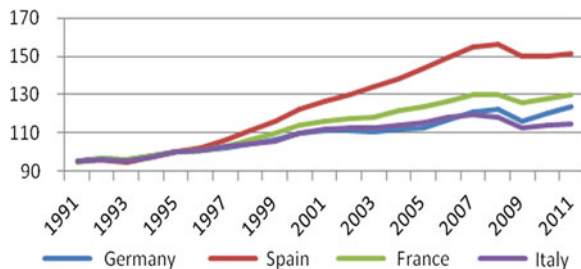
In order to design the appropriate governance and policy mix it is important to make the right diagnosis of the nature of the macroeconomic imbalances in the Eurozone. Failure to do so, can lead to designing a policy structure that is inappropriate. To assess the nature and determining factors of current imbalances within the euro area we will compare the growth and external performances that characterized the four biggest economies of the Euro Area—Germany, Italy, France and Spain—since the birth of the euro. In particular, we find three main explanatory factors: first, the different external performance of Germany in terms of its trade and outsourcing relations with Central and Eastern Europe; second, the role of the euro intra-trade relations and third, import competition and export penetration of Emerging Markets (Ems) outside the European Union.

The structure of the chapter is the following: in the second paragraph we overview the external performance of the four member countries and provide descriptive evidence in favor of the determining factors that we put forward. Such explanatory factors will be tested econometrically in section three by mean of standard trade equations. Finally, in section four we provide some conclusive remarks.

2 External Imbalances and Economic Performances: Beyond Cost Competitiveness

In terms of economic growth, the German performance stands out between advanced economies in the recent period, with a GDP growth in 2010 of 3.6 %, a figure never reached since reunification. Germany, in addition, is the only country where the GDP per capita has returned after the crisis to 2007 levels. These recent

Fig. 2 Real GDP index (1995 = 100). *Source* AMECO



developments are in stark contrast with those of the German economy during the early part of last decade. Between 1999 and 2004 the German GDP growth was among the lowest in the Euro area, with an average rate of 0.3 and 0.2 % in per capita terms (Fig. 2).

In early 2000, Italy has shared with Germany a slow growth path that has continued, however, in the Italian case in the second half of last decade, despite the relative recovery in 2006–2007. Italy's GDP growth in the period 2004–2008 was on average 0.7 %, less than half that in Germany. This divergence in the growth dynamics of the two countries was further accentuated in the most recent phase of the recovery following the severe recession on 2008–2009 (Fig. 2). Spain and France experienced a higher growth path during the last decade up to the global financial crisis; the former because of rapid catching up fuelled by foreign investments and a construction boom, while the latter, after a slowdown in early 2007, experienced a stable growth around 2 %.

In terms of external performances over the last decade, however, the German net exports and current account balances significantly diverged from those of France and Italy. As shown in Fig. 3 the German trade balance increased constantly until the crisis and peaked to above 8 % of GDP in 2007, while the French and Italian net exports started to deteriorate and offered a negative contribution to GDP growth between 2001 and 2007. Spain is a different case as its growth model was based on imported goods—especially construction equipments as proved by the reduced deficit after the housing bubble ended.

Traditional costs competitiveness factors are by no mean important in explaining the German export boom as Unit Labor Costs kept constant over the last decade against a steady increase in the other three countries.¹ But they can only partially explain the very positive performance of German trade flows. Structural peculiar trends that characterized the production and enterprise organization of the four member countries are equally relevant. They are related to their different adjustment capability to the changing conditions of the global economy over the past decade.

¹ For a detailed discussion of cost-price factors see Guerrieri and Esposito (2012a).

Fig. 3 Trade balance as percentage of GDP. *Source* AMECO

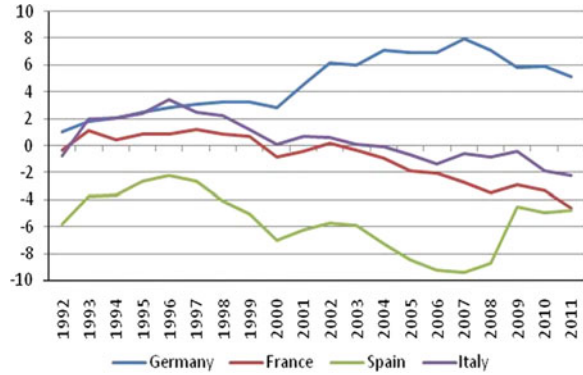
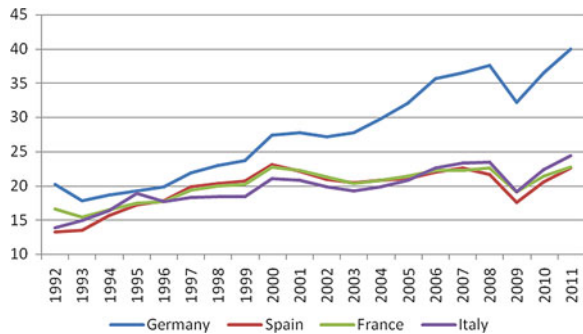


Fig. 4 Degree of trade openness at current prices. $\frac{*(Imports + Exports)}{(2GDP)}$ *Source* elaborations on AMECO

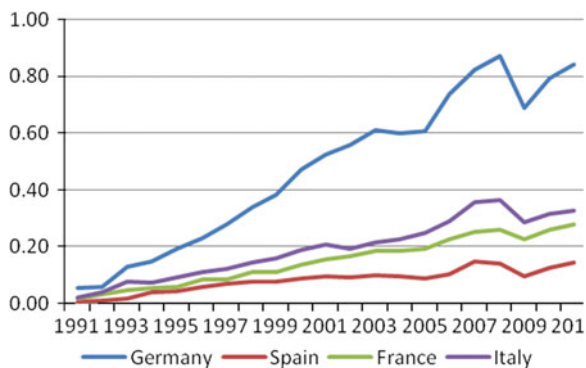


A very synthetic indicator of these different countries’ adaptive capacities is referring to their degree of openness. This index is designed to show to what extent a country’s economy is affected by international trade, measured by the average of the share of export and import in GDP. Figure 4 shows clearly the huge gap that has opened between Germany and the other three countries over the last decade. The German economy has almost doubled its degree of openness (from 19 to 38 %) whereas in the remaining countries it has registered only a slightly modest increase.

The divergent trends appear even more surprising since by mid 1990s the four countries started from a very similar position, with total trade accounting for about 18 % of GDP.

To explain these different degrees of openness one should consider that following deep technological and geo-economic shifts related to the global trends in the first decade of the new century all advanced economies have been reorganizing at international level their economic activities through processes of outsourcing and international fragmentation of production. It has thus become common to conceive the production of any good or service as a production global chain. Hence Germany has not only strengthened its leading country role in export but has significantly increased the flow of imported goods. The import content of

Fig. 5 Trade in parts and components with CEEC4: degree of openness. *Source* elaborations on Eurostat-COMEXT, AMECO data



German exports has gone up by about 10 % points to more than 20 % in the past decade. German firms of all sizes have spread themselves abroad, in search not only of new markets but also of cheaper production inputs (parts and components), in order to reorganize their activities by increasing international fragmentation and outsourcing of production.

Significant evidence of it stems from the evolution over the past decade of German trade relations with particularly two areas and groups of countries: Central and Eastern European economies, on the one hand, and Asia Pacific ones, on the other.

In the first case,² Germany increased its economic integration with some Eastern European countries—especially Poland, Slovakia, Czech Republic and Hungary—by strong growth of trade flows in intermediate products and components, both of which are at the root of international fragmentation of production processes implemented in the second half of the 1990s. Taking advantage of the close geographical location of these countries and the availability of the qualified workforce at low cost, many German companies have moved parts and stages of their production processes in Eastern Europe. An indicator of this process is given by the degree of openness in trading outsourcing related good, that is intermediate goods and more specifically parts and components (see Esposito and Stehrer 2012; Gaulier et al. 2006; Guerrieri and Esposito 2012a, b; Kaminski and Ng 2005; Ng and Yeats 1999; Yeats 1998). This indicator is reported in Fig. 5, showing that the difference between Germany and the other countries is straightforward: before the global financial crisis, German openness in parts and components with CEEC4 was around 0.9 % of GDP, while that of Italy was below 0.4 % and even lower for France (0.26 %) and Spain (0.15 %).

This outcome is partly the result of the different trade specialization of the four countries, with Germany more specialized into products for which the outsourcing

² For evidence on delocalization activities of the four countries see for example Helg and Tajoli (2005), Baldone et al. (2007), Geishecker (2006), Geishecker and Gorg (2008), Marin (2006), Egger and Egger (2001, 2005), Egger et al. (2001, 2007), Esposito and Stehrer (2012).

of components is possible and convenient, leading to a transactionally linked sequence of functions in which each stage adds value to the process of production of goods and services. These individual production circuits are, themselves, enmeshed in broader production networks or inter- and intra-firm relationship.

Along with the production reorganization on the supply side, German firms have fully exploited the new demand for goods and services coming from emerging countries. As well known, the composition of global demand and the ranking of consumer markets in the world have been changing at accelerated pace after the rise of some new competitors, primarily China, India and Brazil. As shown in Fig. 6, the exports of German firms appear to have taken full advantage of emerging markets much more than other European competitors, with particular reference to China. Chinese demand is soaring for exactly the goods German firms specialize in: industrial machinery, cars and consumer products. In a few years China has become by far the biggest market for a wide set of German consumer and investment goods, ranging from cars to industrial machinery. The share of China in German trade has grown from just over 2 % in 2000 to over 6 % in 2010, a value similar to the share of the United States during the same period that has decreased from 10.5 to 6.5 % (source COMEXT).

In this case as well the contrast between the German and other countries performances is rather sharp. Although the overall degree of internationalization of Italian firms has grown significantly in recent years, their presence in emerging markets, while on the rise and substantially higher than that of France and Spain, is still relatively limited compared with that of German firms (see Fig. 6).

The evidence produced so far suggests a major role of microeconomic factors, that is the international reorganization of the German production system over the last 15 years in explaining the German success. Nevertheless, Germany's large trade and current-account surpluses are as much a reflection of the peculiar European macroeconomic environment in the phase considered here. It should be noted, in fact, the fundamental role of the Euro and European monetary union (EMU) in the increase of the German trade surplus. The contribution of the Euro zone (Fig. 7) to the net exports of Germany increased from 25 % in the first half of the 90s to over 40 % in the years before the Great global crisis. The proportion of Germany's trade surplus with the Eurozone has been falling after the crisis, but not

Fig. 6 Exports towards emerging economies in percentage of GDP. *Source* elaborations on CEPII-Chelem

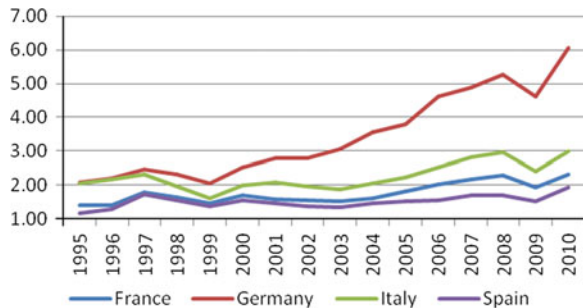
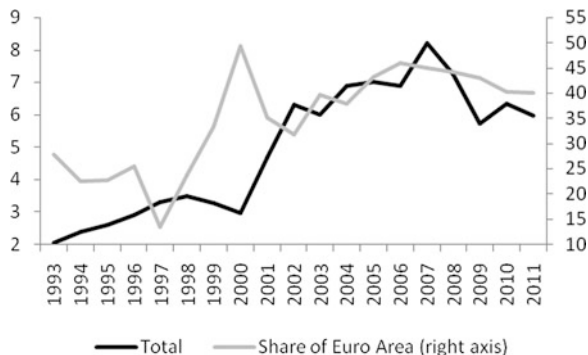


Fig. 7 German trade balance and the role of the Euro zone.
 Source elaborations on CEPII-Chelem database



by much. Germany's trade surplus with its Eurozone partners is still around 3 % of GDP in 2010, while Europe as a whole will account for over three-quarters of the overall German surplus. A recent study by Verardi and Wagner (2012) has shown that German exporting firms, in particular toward the euro area, did not enjoy a productivity premia against non exporting firms. This evidence contradict the previous results³ and suggests that the success on the European market may be due to factors other than higher productivity trends. Recent studies (Krugman 2012; Allsopp and Vines 2010) point to the peculiar function of the EMU that reduced risk premia in the European peripheral countries (Spain, Portugal, Italy), leading to an expansion of expenditure, both consumption and investment, without adequate monetary and fiscal restraints. The higher expenditure and output led to inflation and deterioration of competitiveness (unit labour costs) in the periphery, together with the accumulation of current account deficits. Given the fact that the euro area as a whole had on average a broad current account balance, euro member countries in surplus and deficit were mirror images of each other. Furthermore, it is the lack of a satisfactory adjustment mechanism within the EMU that has brought about the Eurozone imbalances Guerrieri and Esposito (2012a).

The two above explanations (microeconomic and macroeconomic) are indeed complementary in assessing the determining factors of current imbalances in the eurozone. In the next section the key role played by the macroeconomic factors in the external performance of Germany and other member countries linked to the peculiar functioning of the euro area is taken into consideration and tested econometrically together with the microeconomic determinants (international reorganization and penetration of emerging markets by German firms).

³ See in particular Wagner 2007. Verardi and Wagner (2012) indicate that the previous results are due to a small group of outliers in the sample of exporting firms belonging to the group of large companies.

3 Supply Side Restructuring, Euro Effect and the Penetration of Emerging Markets: Econometric Analysis

3.1 Econometric Strategy

The aim of this section is to provide econometric evidence of the main explanations for the German positive external performances and related intra Euro area imbalances that we advanced throughout the chapters. Previous studies of the German export performances identified in the penetration of dynamic markets, together with the cost competitiveness (Danninger and Joutz 2007) the fundamental determinants of the export success of Germany. For Italy, two studies by the International Monetary Fund (IMF 2008; Lissovolic 2008) emphasized the role of geographical and sectoral specialization, coupled with technological rigidities in explaining the decreasing Italian market share. In a recent study Chen et al. (2012) argue that fundamental contributions to the growing Euro Area imbalances come from the rise of China, the increasing oil price and the appreciation of the euro. At the same time the authors consider of primary importance the role of trade integration of the four countries with Central and Eastern Europe. Our previous studies (Guerrieri and Esposito 2012a, b) provided evidence of both the role of German trade integration with Eastern Europe and a “euro effect” which acted asymmetrically and benefited German exports vis a vis Italy.

In the present analysis we expand our previous works and test the contribution of the various factors highlighted above, namely the additional effect deriving from euro area countries and that of trade integration with CEEC4 and other emerging countries. In econometric terms we follow the approach of Chen et al. (2012) by pooling the four countries and estimating trade regressions of the type firstly introduced by Goldstein and Kahn (1985). We deviate from the standard approach by estimating a single equation for the trade balance as in Guerrieri and Esposito (2012a), obtained as a difference between export and import regressions. We start by first testing the differential effect of euro area countries on net exports with the following equation:

$$\log TrBal_{ijt} = a + b_1 \log GDP_{it} + b_2 \log GDP_{jt} + b_{3i}EURO + b_{4i} \log GDP_{jt}xEuro + b_5 \log ExchRate_{ijt} + \eta_{ij} + \eta_t + e_{ijt} \quad (1)$$

where $\log TrBal$ represents the logarithm of the ratio between export and imports of the four countries towards partner j ; $\log GDP_{it}$ and $\log GDP_{jt}$ are the log GDPs of the reporter and partner countries at constant prices, $\log ExchRate_{ijt}$ is the logarithm of the bilateral nominal exchange rate; the EMU effect is captured by the dummy $EURO$ and by its interaction with the partner's GDP, in order to test whether for EMU countries the demand elasticity is significantly different from the rest of the

world. Coefficients b_3 and b_4 are allowed to vary over reporting countries in order to obtain country specific effects. Finally, η_{ij} and η_t are fixed effect for each reporter-partner pair and time dummies.

The next step is to incorporate the effect of trade integration with CEEC4 as in Eq. (2):

$$\begin{aligned} \log TrBal_{ijt} = & a + b_1 \log GDP_{it} + b_2 \log GDP_{jt} + b_{3i}EURO + b_4 \log GDP_{jt,xEuro} \\ & + b_5 \log ExchRate_{ijt} + b_{6i} \log TrCEEC_{it} + \eta_{ij} + \eta_t + e_{ijt} \end{aligned} \quad (2)$$

which adds to Eq. (1) a measure of trade relations with CEEC4. In order to distinguish among the effect of fragmentation, import competition and trade integration, we alternatively use total trade, trade in intermediates and trade in consumption goods.

Finally, in the last specification we test the effect of trade with other Emerging Economies and in particular that of China—both alone and together with the other BRICs—and ASEAN⁴ countries:

$$\begin{aligned} \log TrBal_{ijt} = & a + b_1 \log GDP_{it} + b_2 \log GDP_{jt} + b_{3i}EURO + b_4 \log GDP_{jt,xEuro} \\ & + b_5 \log ExchRate_{ijt} + b_{6i} \log EM_{it}^k + \eta_{ij} + \eta_t e_{ijt} \end{aligned} \quad (3)$$

3.2 Regression Results

The estimates of Eq. (1) are reported in Table 1, where the first four columns report the results using total net exports as dependent variable and the following four columns restrict the analysis to net exports of consumption goods.⁵ The effect of own's GDP and that of the exchange rate are significant and of the expected sign, the latter has a stable elasticity of 0.7 while for the former the high coefficient (−2) halves and loses most of its significance when country specific demand elasticities are estimated. The effect of the partners' GDP is positive and significant, on average around 1.7 for total net export and 2.3 for net exports of consumption goods. Turning to the country specific demand elasticities (columns 3–4 and 7–8), the coefficients for Germany⁶ are 2.4 and 3.5 while for the other countries demand elasticity is significantly lower by a factor of 1 for France and

⁴ The ASEAN countries included here are: Brunei, Indonesia, Malaysia, Philippines, Singapore, Thailand and Taiwan.

⁵ Theoretically our specifications suffer from endogeneity as both reporter's and partners' GDPs are influenced by bilateral trade flows. In any case, the results from a C-test on such variables (available upon request) indicate that the endogeneity bias is not significant.

⁶ Germany is the base category, hence the coefficients for the other countries must be read as difference from the German effect.

Table 1 Demand elasticity and the Euro effect 1999–2010

	Dependent variable: total trade balance				Dependent variable: trade balance in consumption goods			
	1	2	3	4	5	6	7	8
log(GDP)it	-2.18 ^c [0.346]	-2.160 ^c [0.347]	-0.980 ^a [0.546]	-0.964 ^a [0.564]	-2.101 ^c [0.590]	-2.009 ^c [0.583]	-1.102 [0.956]	-1.106 [0.981]
log(ER)ijt	-0.727 ^c [0.120]	-0.727 ^c [0.120]	-0.727 ^c [0.120]	-0.732 ^c [0.121]	-0.748 ^c [0.166]	-0.748 ^c [0.166]	-0.749 ^c [0.167]	-0.754 ^c [0.167]
log(GDP)jt	1.758 ^c [0.346]	1.759 ^c [0.346]	2.395 ^c [0.324]	2.336 ^c [0.331]	2.347 ^c [0.446]	2.347 ^c [0.447]	3.548 ^c [0.456]	3.482 ^c [0.463]
log(GDP)jxES			-1.086 ^c [0.256]	-1.072 ^c [0.257]			-1.630 ^b [0.500]	-1.615 ^b [0.502]
log(GDP)jxFR			-0.854 ^c [0.173]	-0.844 ^c [0.178]			-1.512 ^c [0.312]	-1.511 ^c [0.320]
log(GDP)jxIT			-0.613 ^c [0.146]	-0.585 ^c [0.150]			-1.665 ^c [0.345]	-1.638 ^c [0.354]
log(GDP)jxEuro				1.060 ^b [0.363]				1.071 [0.852]
log(GDP)jxEuroxES				-0.527 [0.332]				-0.379 [0.706]
log(GDP)jxEuroxFR				-0.306 [0.298]				-0.021 [0.688]
log(GDP)jxEuroxIT				-0.720 ^c [0.212]				-0.738 [0.610]
Euro		0.264 ^b [0.131]	0.150 [0.126]	2.494 ^b [0.818]		0.990 ^b [0.331]	0.754 ^b [0.318]	3.115 ^a [1.831]
EuroxES		-0.466 ^c [0.086]	-0.333 ^c [0.085]	-1.483 ^a [0.789]		-1.843 ^c [0.252]	-1.576 ^c [0.259]	-2.376 [1.713]

(continued)

Table 1 (continued)

	Dependent variable: total trade balance				Dependent variable: trade balance in consumption goods			
	1	2	3	4	5	6	7	8
EuroxFR		-0.489 ^b [0.197]	-0.337 ^a [0.197]	-1.013 [0.728]		-1.313 ^c [0.155]	-1.018 ^c [0.161]	-1.037 [1.595]
EuroxIT		-0.185 ^b [0.091]	-0.014 [0.091]	-1.637 ^b [0.508]		-0.812 ^c [0.155]	-0.432 ^b [0.160]	-2.096 [1.428]
N	3886	3886	3886	3886	3886	3886	3886	3886
R ² within	0.295	0.296	0.311	0.311	0.166	0.169	0.184	0.184

Standard errors in brackets; ^a significant at 10 % level; ^b significant at 5 % level; ^c significant at 1 % level. GDPit = reporter's GDP; GDPjt = partner's GDP; ERijt = bilateral nominal Exchange rate; Euro = dummy Euro

Spain and approximately 0.6 for Italy when considering total trade flow whereas for consumption goods the three countries have a similar coefficient around 2. Turning to the differentiated effect arising from euro area partners, Germany (columns 2 and 6) enjoys on average a higher trade balance while this effect seems null for Italy (the difference between *Euro* and *EuroxIT* is statistically zero) and negative for France and Spain. These results are confirmed for net exports of consumption goods. Finally, demand elasticity for euro area countries is statistically higher for Germany, France and Spain, but such differential impact disappears when consumption goods are considered.

Turning to the effect of trade flow with Central and Eastern Europe (CEEC4 in our case), the results are reported in Table 2 where the first three columns consider only imports from CEEC4 while in columns 4-6 we use total trade. For each variable (imports or trade) we alternatively consider all goods (columns 1 and 4), intermediate goods, as proxy for outsourcing relations (columns 1 and 2), and consumption goods (columns 3 and 6). The latter should better capture the import displacement effect and the standard effect arising from trade integration.⁷

Total imports from CEEC4 exert a positive impact on the German trade balance, while this effect turns negative and around -0.1 for the other three countries. For intermediate goods imports the effect is positive but insignificant for Germany while it is again significantly negative for the other three countries. As to consumption goods, again Germany benefits from importing such goods from CEEC4 while the differential impact for the other countries indicates that this effect is statistically null. Turning to total trade with CEEC4, the estimates basically confirm the effect arising from imports only, although the impact of trading intermediate goods becomes statistically significant and with a much higher coefficient than for that of total trade or consumption goods trade. This is an interesting result as it confirms that German outsourcing relations take place mainly by exporting intermediate goods to CEECs for further processing or assembling activities and not the other way round. This interpretation is consistent with the positive effect of consumption goods imports (having a higher impact than that of total trade in consumption goods), which are probably products made of parts firstly produced in Germany and then completed in Eastern Europe.

Finally, the impact of trade flows with other emerging economies is shown in Tables 3 and 4 where in the former we consider only imports from EM while in the latter we consider total trade. For each table, the first three columns include all products while columns 4-6 consider only consumption goods. The import displacement effect is clearly present for all countries when considering consumption goods imported from China (column 4) and it is stronger for Spain, France and Italy than for Germany. With the exclusion of Germany, such effect is present, although smaller, also when considering total imports. Total imports from BRICs

⁷ We do not report the estimates on net exports of consumption goods as the results are in line with those on total net exports.

Table 2 Trade integration and displacement effect with Central and Eastern Europe 1999-2010

	Dependent variable: trade balance					
	TrCEEC = imports			TrCEEC = import + export		
	Total	int	cons	Total	int	cons
	1	2	3	4	5	6
log(GDPit)	-1.510 ^b [0.641]	-1.071 ^a [0.593]	-2.365 ^c [0.503]	-1.612 ^b [0.506]	-0.905 ^a [0.493]	-2.163 ^c [0.498]
log(ERijt)	-0.730 ^c [0.121]	-0.732 ^c [0.121]	-0.730 ^c [0.121]	-0.731 ^c [0.121]	-0.732 ^c [0.121]	-0.731 ^c [0.121]
log(GDPjt)	1.709 ^c [0.352]	1.710 ^c [0.352]	1.713 ^c [0.353]	1.710 ^c [0.351]	1.709 ^c [0.349]	1.710 ^c [0.352]
log(GDPjt)xEuro	0.670 ^b [0.305]	0.671 ^b [0.299]	0.648 ^b [0.307]	0.674 ^b [0.307]	0.676 ^b [0.292]	0.659 ^b [0.310]
Euro	1.670 ^b [0.671]	1.610 ^b [0.662]	1.602 ^b [0.683]	1.700 ^b [0.672]	1.648 ^b [0.647]	1.643 ^b [0.690]
EuroxES	-0.338 ^b [0.111]	-0.281 ^b [0.103]	-0.343 ^c [0.099]	-0.366 ^b [0.113]	-0.316 ^b [0.118]	-0.361 ^c [0.098]
EuroxFR	-0.406 ^b [0.144]	-0.322 ^b [0.149]	-0.363 ^b [0.152]	-0.435 ^b [0.147]	-0.361 ^b [0.149]	-0.386 ^b [0.151]
EuroxIT	-0.050 [0.070]	0.033 [0.062]	-0.037 [0.064]	-0.084 [0.068]	-0.004 [0.074]	-0.066 [0.059]
log(TrCEECit)	0.094 ^b [0.032]	0.282 [0.176]	0.185 ^c [0.037]	0.043 ^b [0.013]	0.643 ^b [0.214]	0.071 ^c [0.013]
log(TrCEECit)xES	-0.200 ^b [0.062]	-0.326 ^b [0.101]	-0.153 ^b [0.048]	-0.087 ^c [0.025]	-0.649 ^c [0.126]	-0.053 ^a [0.030]
log(TrCEECit)xFR	-0.174 ^c [0.039]	-0.285 ^c [0.076]	-0.210 ^c [0.043]	-0.066 ^c [0.017]	-0.539 ^c [0.100]	-0.082 ^c [0.017]
log(TrCEECit)xIT	-0.179 ^c [0.042]	-0.247 ^c [0.053]	-0.245 ^c [0.034]	-0.073 ^c [0.021]	-0.405 ^c [0.084]	-0.094 ^c [0.014]
N	3886	3886	3886	3886	3886	3886
R ² within	0.305	0.31	0.31	0.303	0.311	0.309

Standard errors in brackets; ^a significant at 10 % level; ^b significant at 5 % level; ^c significant at 1 % level. GDPit = reporter's GDP; GDPjt = partner's GDP; ERijt = bilateral nominal exchange rate; Euro = dummy Euro; TrCEECit = imports (total trade) with CEECs (Czech Rep., Hungary, Poland, Slovakia)

reduce the trade balance for all countries because of the presence of Russia and Brazil which are oil exporting countries, while imports from ASEAN actually benefits German net exports while it has no effect on the other countries.

Turning to trade flows with EMs (Table 4), their effect is always negative for all countries. In particular, the Chinese effect is obviously smaller and less significant because exports mitigate the negative effect arising from imports; the effect of total trade with ASEAN countries turns negative for Germany too but the most striking results is that for all partners and both for total and consumption goods trade the negative impact on Italian net exports is much stronger than in the other countries.

Table 3 Import displacement from Emerging Markets 1999-2010

	Dependent variable: trade balance					
	EM flow = total imports			EM flow = import of consumption goods		
	EM = China 1	EM = ASEAN 2	EM = BRICS 3	EM = China 4	EM = ASEAN 5	EM = BRICS 6
log(GDP _{it})	-1.447 ^a [0.792]	-1.716 ^c [0.425]	-1.105 ^a [0.660]	-0.781 [0.570]	-1.922 ^c [0.384]	-1.362 ^a [0.696]
log(ER _{ijt})	-0.732 ^c [0.121]	-0.731 ^c [0.121]	-0.732 ^c [0.121]	-0.732 ^c [0.121]	-0.731 ^c [0.121]	-0.732 ^c [0.121]
log(GDP _{jt})	1.712 ^c [0.351]	1.713 ^c [0.352]	1.710 ^c [0.350]	1.708 ^c [0.351]	1.713 ^c [0.355]	1.711 ^c [0.354]
log(GDP _{jt})xEuro	0.660 ^b [0.303]	0.660 ^b [0.301]	0.664 ^b [0.296]	0.672 ^b [0.301]	0.656 ^b [0.313]	0.667 ^b [0.303]
Euro	1.577 ^b [0.669]	1.592 ^b [0.663]	1.601 ^b [0.652]	1.629 ^b [0.666]	1.643 ^b [0.696]	1.602 ^b [0.669]
EuroxES	-0.279 ^b [0.107]	-0.299 ^b [0.110]	-0.311 ^b [0.114]	-0.332 ^b [0.116]	-0.359 ^c [0.080]	-0.287 ^b [0.099]
EuroxFR	-0.302 ^a [0.161]	-0.325 ^b [0.155]	-0.322 ^b [0.152]	-0.315 ^b [0.152]	-0.396 ^b [0.150]	-0.328 ^b [0.152]
EuroxIT	0.042 [0.064]	0.021 [0.065]	0.041 [0.068]	0.002 [0.068]	-0.084 ^b [0.039]	0.035 [0.058]
log(ImpEM _{it})	-0.22 [0.155]	0.046 ^c [0.013]	-0.085 ^b [0.036]	-0.755 ^b [0.235]	0.042 ^c [0.009]	0.022 [0.023]
log(ImpEM _{it})xES	-0.182 ^b [0.073]	-0.066 ^c [0.014]	-0.065 ^c [0.019]	-0.322 ^c [0.067]	-0.044 ^c [0.011]	-0.085 ^b [0.032]

(continued)

Table 3 (continued)

	Dependent variable: trade balance					
	EM flow = total imports			EM flow = import of consumption goods		
	EM = China 1	EM = ASEAN 2	EM = BRICS 3	EM = China 4	EM = ASEAN 5	EM = BRICS 6
log(ImpEMit)xFR	-0.201 ^c [0.048]	-0.055 ^c [0.013]	-0.071 ^c [0.015]	-0.210 ^c [0.049]	-0.050 ^c [0.013]	-0.080 ^c [0.023]
log(ImpEMit)xIT	-0.216 ^c [0.043]	-0.068 ^c [0.011]	-0.092 ^c [0.019]	-0.325 ^c [0.060]	-0.040 ^c [0.009]	-0.092 ^c [0.025]
N	3886	3886	3886	3886	3886	3886
R ² -within	0.311	0.309	0.313	0.313	0.301	0.308

Standard errors in brackets; ^a significant at 10 % level; ^b significant at 5 % level; ^c significant at 1 % level. GDPit = reporter's GDP; GDPjt = partner's GDP; ERijt = bilateral nominal Exchange rate; Euro = dummy Euro; ImpEMit = imports from Emerging Markets

Table 4 Trade integration with emerging markets 1999–2010

	Dependent variable: trade balance					
	EM flow = total trade			EM flow = trade in consumption goods		
	EM = China	EM = ASEAN	EM = BRICS	EM = China	EM = ASEAN	EM = BRICS
1	2	3	4	5	6	
log(GDPit)	-1.422 ^a [0.784]	-1.575 ^b [0.489]	-1.688 ^b [0.814]	-1.951 ^b [0.922]	-1.841 ^b [0.619]	-1.924 ^b [0.888]
log(ERijt)	1.711 ^c [0.351]	1.712 ^c [0.353]	1.712 ^c [0.351]	1.713 ^c [0.354]	1.713 ^c [0.353]	1.713 ^c [0.352]
log(GDPjit)	0.663 ^b [0.302]	0.663 ^b [0.302]	0.659 ^b [0.300]	0.654 ^b [0.306]	0.656 ^b [0.299]	0.654 ^b [0.304]
log(GDPjt)xEuro	1.584 ^b [0.669]	1.596 ^b [0.669]	1.584 ^b [0.664]	1.563 ^b [0.680]	1.584 ^b [0.662]	1.569 ^b [0.673]
Euro	-0.276 ^b [0.102]	-0.288 ^b [0.107]	-0.291 ^b [0.107]	-0.279 ^b [0.096]	-0.303 ^b [0.106]	-0.281 ^b [0.104]
EuroxES	-0.312 ^b [0.152]	-0.326 ^b [0.153]	-0.322 ^b [0.151]	-0.304 ^a [0.154]	-0.326 ^b [0.153]	-0.312 ^b [0.156]
EuroxFR	0.043 [0.062]	0.025 [0.064]	0.038 [0.067]	0.045 [0.059]	0.027 [0.065]	0.037 [0.062]
EuroxIT	-0.026 [0.071]	0.021 ^b [0.007]	-0.04 [0.031]	0.009 [0.039]	0.011 [0.008]	-0.019 [0.019]
log(TradeEMit)	-0.097 ^b [0.036]	-0.031 ^c [0.008]	-0.028 ^b [0.011]	-0.073 ^a [0.041]	-0.024 ^b [0.008]	-0.025 ^b [0.012]
log(TradeEMit)xES	-0.099 ^c [0.024]	-0.025 ^c [0.006]	-0.032 ^c [0.008]	-0.069 ^c [0.020]	-0.026 ^c [0.007]	-0.029 ^c [0.008]

(continued)

Table 4 (continued)

Dependent variable: trade balance						
EM flow = total trade						
	EM = China 1	EM = ASEAN 2	EM = BRICS 3	EM = China 4	EM = ASEAN 5	EM = BRICS 6
$\log(\text{TradeEMit}) \times \text{FR}$	-0.108 ^c [0.026]	-0.030 ^c [0.007]	-0.044 ^c [0.013]	-0.093 ^c [0.026]	-0.036 ^c [0.007]	-0.043 ^c [0.012]
$\log(\text{TradeEMit}) \times \text{IT}$	-0.732 ^c [0.121]	-0.731 ^c [0.121]	-0.731 ^c [0.121]	-0.731 ^c [0.121]	-0.731 ^c [0.121]	-0.731 ^c [0.121]
N	3886	3886	3886	3886	3886	3886
R ² -within	0.31	0.309	0.31	0.31	0.31	0.31

Standard errors in brackets; ^a significant at 10 % level; ^b significant at 5 % level; ^c significant at 1 % level. GDPit = reporter's GDP; GDPjt = partner's GDP; ERijt = bilateral nominal exchange rate; Euro = dummy Euro; TradeEMit = total trade with emerging markets

This indicates that together with the import competition from EMs Italy is paying for the low export orientation toward these groups.

Summing up, the results of the econometric analyses provide a clear evidence of the causes of trade imbalances within the euro area. Germany benefits from higher demand elasticity on average and enjoys a higher trade balance with euro area countries together, both on average and as results of the higher reactivity of the demand from euro area members. In addition, it has benefited from trade integration with CEEC4 while suffering relatively less the competition effect coming from China and the other emerging economies. As for the other countries, although their behavior is similar, it must be noted how Italy suffers relatively more the lack of penetration of emerging markets. Although Italy exports relatively more of its GDP to these markets compared to France and Spain (see Fig. 6) the higher dependence on exports for growth may explain the relative penalization of Italy on these markets.

4 Conclusion

In this chapter we analyzed the causes of Euro area trade imbalances, by assessing and comparing the external performances of the four main euro member economies: Germany, Italy, France and Spain. We proposed both a microeconomic and macroeconomic explanations for such imbalances. A first explanation points to the role of trade integration of the four countries with Central and Eastern Europe, on the one hand, especially in terms of outsourcing relations, and with Emerging markets, on the other, in terms of export penetration, in making the difference between Germany and the other three countries. A second explanation is based on the role of European monetary unification and of trade integration with other euro area members.

The econometric results confirmed the significance of the two explanations and highlighted their complementarities. In particular, we found a positive effect of intra euro area trade for Germany. At the same time, Germany benefited mostly from the trade integration with Central and Eastern Europe, while it suffered relatively less the competition from other Emerging Markets. In this regard, Italy seems to be particularly penalized by the rise of Emerging markets due to its higher export dependency compared to France and Spain.

In terms of policy implications it follows that the huge challenge today is to make managing the crisis compatible with adjustment of the existing intra-area imbalances. This must be done not only by national policies, which of course will have the role of countries' fostering the internationalization and the penetration of dynamic markets. The present zero-sum-game European approach is very risky for the stability of the euro area. The new European economic governance devotes insufficient attention to policies capable of favoring these economic adjustments. Policy coordination of some kind is needed at European level. This requires agreeing on well-identified economic policy priorities both at EU and member

state level, taking full account of the different positions of the members in terms of growth, external imbalances, and competitiveness. New policy priorities are thus required in the eurozone that put more emphasis on cooperative games in convergence and competitiveness, in particular by ensuring that such policies are not only one sided, but symmetrical among deficit and surplus countries.

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The Group of Twenty: Origins, Prospects and Challenges for Global Governance

Homi Kharas and Domenico Lombardi

Abstract At the height of the global financial and economic crisis of 2008–2009, the Group of Twenty was elevated to country leaders' level and acknowledged itself as the “premier forum for... international economic cooperation.” This self-acknowledgment reflected the long-felt need to institutionalize the dialogue between the advanced and emerging economies in a more effective setting. However, the ad hoc nature of the G-20 and the extent to which an informal and self-selected club of nations can provide a stable framework for facilitating global cooperation has been questioned. Against this backdrop, the study traces the G-20's historical evolution, situates the dynamics of its institutional arrangements, and reviews the emerging literature on G-20 reform. Building on this analysis, the study then assesses the expansion of the G-20's scope to global development and appraises the Group's evolution in the broader context of the current global governance framework.

1 Introduction

At the worst point of the recent international financial crisis, the Group of Twenty was elevated to the country leaders' level and acknowledged itself as the “premier forum for... international economic cooperation” (G-20). This self-acknowledgment reflected, beyond the emergency of the moment, the long-felt need to institutionalize the dialogue between advanced and emerging economies in a more effective setting than is possible in the large and diffuse forums of the United

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Nations and in a more equal setting than can be found among the imbalanced constituencies of the international financial institutions. Thus, within months of the G-20's first leaders' meeting, held in Washington in November 2008, the Group managed, among other accomplishments, to expedite an agreement on the Basel III supervisory framework; strengthen the governance and finances of the International Monetary Fund; and, later in 2009, lay down a new foundation for economic policy coordination through the Framework for Strong, Sustainable, and Balanced Growth.

The G-20's greatest strength has been to quickly integrate emerging powers in global governance decision-making by serving as a forum and testing ground for these powers' potential expanded role in multilateral bodies, including the IMF and a reformed UN Security Council. However, the body's ad hoc nature and the extent to which an informal and self-selected club of nations, albeit with expanded participation compared to the G-8, can provide a stable framework for facilitating global cooperation has been questioned. The G-20 does, in fact, include many of the world's largest economies; however, not all its members are among the largest in the world,¹ and membership criteria are rather unclear.

Against this backdrop, this chapter traces the G-20's historical evolution and situates the dynamics of its institutional arrangements (Sect. 1), as well as reviews the emerging literature on G-20 reform (Sect. 2). Building on this analysis, the study then assesses the expansion of the G-20's scope to development (Sect. 3), appraises its evolution in the broader context of the current global governance framework (Sect. 4), and finally offers conclusions (Sect. 5).

2 A Brief History of the G-20

The historical underpinnings of the Group of Twenty can be traced back to the mid-1970s, at the origin of the G-7/G-8. The Group consisted of the largest economic powers at the time which began meeting to discuss the global economy following the collapse of the Bretton Woods System of fixed exchange rates and the spikes in food and fuel prices. The Group's composition remained relatively unchanged between 1976 and 1996, consisting of Canada, France, (West) Germany, Italy, Japan, the United Kingdom and the United States with Russia joining in 1996. Broadly, the Group's focus on macroeconomic policies included exchange rates, balance of payments, globalization, trade and economic relations with developing countries (Nelson 2012), and the G-7 became synonymous with economic policy coordination and exchange rate agreements.

¹ Spain, Iran, Taiwan and Poland are among the largest 20 economies not included in the membership of the G-20. Conversely, the G-20 members of Argentina, Saudi Arabia and South Africa are only the 28th, the 30th, and 32nd largest economies in the world, respectively. The ranking is based on data for gross domestic product at purchasing power parity for the year 2011 from the IMF's World Economic Outlook data set.

2.1 Early Efforts at Expanding the Club: The G-22 and the G-33

By the late 1990s, a series of financial crises centered in Latin America and especially Asia highlighted the need for key emerging economies to be included in global economic management efforts. Consequently, international discussions culminated in 1998 and 1999 in meetings with broader groups of countries: the G-22² was created at the personal initiative of President Bill Clinton at the November 1997 Asia–Pacific Economic Cooperation forum leaders’ meeting to discuss the unfolding Asian financial crisis and ways to strengthen the international financial architecture (Kirton 2005; Baker 2006); the G-7 subsequently evaluated the G-22’s recommendations through two ad hoc seminars with a wider group named the G-33.³

While the G-22’s efforts met with some success, widespread dissatisfaction with the ad hoc nature of both Groups, when juxtaposed against the cascading crisis, was an important reason for the establishment of the G-20 (2008). Experience with the G-22 and G-33, in fact, highlighted the advantages of a regular international consultative forum with a broader membership than the G-7 and one integrated into the governance structures of the IMF and World Bank (Kirton 2000, 2005).

2.2 The Establishment of the G-20

Accordingly, a new ministerial level “G-20” forum was formally created in September 1999.⁴ In the ensuing communiqué, the G-20 finance ministers and central bank governors reiterated that “the G-20 was established to provide a new mechanism for informal dialogue in the framework of the Bretton Woods institutional system, to broaden the discussions on key economic and financial policy issues among systemically significant economies and promote cooperation to achieve stable and sustainable world economic growth that benefits all” (Canada 1999a).

² The countries belonging to the G-22 included Canada, France, Germany, Italy, Japan, Russia, the United Kingdom, and the United States, plus Argentina, Australia, Brazil, China, Hong Kong Special Administrative Region (SAR), India, Indonesia, Malaysia, Mexico, Poland, Singapore, South Africa, South Korea and Thailand.

³ The countries belonging to the G-33 included Canada, France, Germany, Italy, Japan, Russia, the United Kingdom and the United States, plus Argentina, Australia, Belgium, Brazil, Chile, China, Côte d’Ivoire, Egypt, Hong Kong SAR, India, Indonesia, Malaysia, Mexico, Morocco, the Netherlands, Poland, Saudi Arabia, Singapore, South Africa, South Korea, Spain, Sweden, Switzerland, Thailand and Turkey.

⁴ The countries belonging to the G-20 are Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the United Kingdom and the United States, plus one regional representative, the European Union.

At the G-20's inception, there was no codified list of criteria to determine which countries would be invited to join the new forum. It was accepted, however, that countries should be "systemically important" to the global economy and would have the ability to contribute to global economic and financial stability. Other considerations were that the Group would be broadly representative of the global economy and regionally "balanced." These goals often conflicted with the need to keep the Group small enough to facilitate frank and open discussion. With nineteen countries participating, the European Union and four ex officio members—the chairs of the IMFC and development committees, the IMF's managing director and the president of the World Bank—the choice of a name for the new forum was not immediately obvious. "G-20" was adopted on the basis that it was a round number, suggesting finality, and was consistent with the number of countries represented plus the European Union (G-20 2008).

Some question the legitimacy of the G-20 because the great majority of countries have no voice or influence.⁵ For example, Gerry Helleiner noted that the G-20 "fails completely" on "all major requirements of appropriate process" (G-20 2008). In his opinion, the G-20 was severely, if not irretrievably, flawed, because its G-7 architects had ignored the already-existing G-24 group of developing countries, had not included representation from the poorest countries and did "not possess any mechanisms either for reporting or for accountability to the broader international community" (G-20 2008). However, for Angeloni and Pisani-Ferry (2011), the composition of the G-20 strikes a difficult compromise between representation and efficiency.

2.3 The G-20 Shapes Its Governance

Early emphasis by the Group's first chair, Canadian Finance Minister Paul Martin, and the G-20's relationship with other bodies suggested an effort to turn the new institution into an influential forum. Martin stated that the G-20's work "will focus on translating the benefits of globalization into higher incomes and better opportunities everywhere" and that "there is virtually no major aspect of the global economy or international financial system that will be outside of the group's purview" (Canada 1999b). Further, participation of officials from the Bretton Woods institutions as ex officio members served to embed the new Group strongly "within the structure of the Bretton Woods framework" (Kirton 1999).

With Europeans already in prominent positions in the international financial institutions, it was seen as appropriate that the second chair of the G-20 would come from an emerging economy (G-20 2008). After extensive consultations, a

⁵ According to Vestergaard (Vestergaard 2011), there are several further reasons why the G-20's claim to representational legitimacy is unconvincing: (1) There is only one African member country, South Africa; (2) no low-income countries are included; and (3) not one single "small, open economy" is present in the membership.

consensus emerged in early 2002 that Yashwant Sinha, India's finance minister, would become the G-20's chairman for 2002. A consensus also arose on the principles to guide the selection of future chairs, which would be selected well in advance to ensure continuity and to allow the designated country time to prepare for the task. G-20 members agreed that there should be an equitable annual rotation among all regions and between countries at different levels of development. For that reason, five groups of countries were established from which a chair would be drawn each year (G-20 2008).⁶ Finally, in 2002, the deputies also agreed to establish a "Troika" consisting of the previous, current and immediately upcoming chairs to enhance continuity.

On balance, the meetings in the first ten years focused on crisis prevention and resolution, globalization and combating terrorist financing. Starting in mid-2005, with China chairing the G-20, the Group broadened its focus to the governance of international financial institutions—an emphasis that has now become a distinctive feature of the Group. Nevertheless, G-20 members also began to pay more attention to the second part of the G-20's mandate—"stable and sustainable world economic growth that benefits all"—with the addition of development and aid to the agenda (G-20 2002), reaffirming their commitment to achieve the United Nations' Millennium Development Goals (MDGs) and their continuing support for Africa through the New Partnership for Africa's Development (G-20 2008).

2.4 *The G-20 Goes Higher*

At the end of October 2008, then President George W. Bush called together the leaders of the G-20 countries to address the financial crisis. The Washington G-20 communiqué conveyed a sense of urgency that could not be found in traditional G-7/G-8 declarations, resulting in an extremely focused action plan with precise language: technical, specialized institutions in charge of carrying out works were named and given strict deadlines for implementation (Angeloni and Pisani-Ferry 2012). The rapid escalation of the international financial crisis in 2008–2009 precipitated major changes to the Group, in particular the G-20's upgrade to the country leaders' level.

The initial period of summits following the crisis resulted in swift action on financial reform. Conversely, the subsequent Pittsburgh Summit marked the transition to a second period, where the priorities of advanced and emerging economies once again diverged. In this second stage, the G-20 predominantly

⁶ Group One (2001, 2006, etc.) includes Australia, Canada, Saudi Arabia and the United States. Group Two (2002, 2007, etc.) includes India, Russia, South Africa and Turkey. Group Three (2003, 2008, etc.) consists of Argentina, Brazil and Mexico. Group Four (2004, 2009, etc.) consists of France, Germany, Italy and the United Kingdom. Group Five (2005, 2010, etc.) consists of China, Indonesia, Japan and South Korea.

focused on macroeconomic coordination. But progress stalled, generating an emerging stream of analysis and contributions on how to reform the G-20.

3 A Selective Review of the Emerging Literature on G-20 Reform

Despite the G-20's short tenure as the premier forum for international economic cooperation, a body of literature has already emerged indicating possible ways to reform it while leveraging its accomplishments. Broadly speaking, one can group the contributions to the emerging literature on G-20 reform according to whether they focus on the broader scope of the G-20 or on its sectoral dimensions. Among the former, Suominen and Dadush (2012) assert that the main role of the G-20 is that of mediator, so as to protect common interests in an increasingly globalized economy.

Accordingly, the G-20 is not meant to be a decision-making body whose deliberations are binding agreements to be ratified by parliaments; rather, its communications are statements of intent. As a result, the G-20 is well placed to serve as a steering committee or international board of nonexecutive directors, rather than as a forum for implementation or micromanagement. Its energies are better directed toward broad strategies, and thus it should make efforts to engage with those institutions that can translate its vision into specific actions, agreeable both technically and politically to the parties involved.

Vestergaard and Wade (2011) focus on the need for “constitutional” foundations by proposing a Global Economic Council (GEC) with the legitimacy to act as a political body overseeing the work of the Bretton Woods institutions. As distinct from the G-20, the GEC would have a constituency structure in line with the representation principles of the Bretton Woods institutions. As a result, it would be able to combine effectiveness—due to the relatively small number of chairs, mirroring the sizes of the executive boards of the IMF and World Bank—and legitimacy, because each member country would be represented in this leader-level body. As in the Bretton Woods institutions, there would be weighted voting based on a country's share of global gross domestic product.

By allocating chairs regionally and by economic weight, their proposal would currently give the Americas, Asia and Europe a total of seven chairs each and Africa four. Countries would then form constituencies within the four world regions on the basis of voting shares. Constituencies would be congruent with those of fully reformed Bretton Woods organizations and have the same basis of representational legitimacy. By design, Vestergaard and Wade's proposal would build on a substantial reform of the mechanisms to compute weighted voting in the Bretton Woods institutions. It would also entail a redesign of the constituencies that have taken shape during these institutions' decades-long histories.

Ocampo and Stiglitz (2012) share a similar perspective with Vestergaard and Wade (2011). First, assessing the G-20 on the basis of various criteria, they find

that it scores quite high on leadership and effectiveness, on account of its earlier record as a forum for crisis management. It also scores high on its ability to carry out systemic coordination, given that it is well placed to manage spillovers arising either from a country's policies or from those of an international organization vis-à-vis the rest of the system. However, the G-20 does poorly in terms of representational legitimacy.

Against this background, Ocampo and Stiglitz propose a Global Economic Coordination Council (GECC), along the lines of an analogous proposal put forward by the Stiglitz Commission (Stiglitz 2009). In contrast to the GEC proposed by Vestergaard and Wade (2011), the GECC would have a greater scope by coordinating the UN system broadly defined (i.e., including the UN-specialized agencies of the IMF and the World Bank and the World Trade Organization, which would become a UN agency for this purpose). Like Vestergaard and Wade, representation in their proposed GECC would be based on constituencies so as to reconcile universal representation with legitimacy.

The GECC would have a special responsibility for identifying spillovers—for instance, environmental effects of trade policies or social effects of budgetary policies—and proposing ways to address them. Yet it would leave to the more specialized bodies specific decisions in their respective areas. As in Vestergaard and Wade's proposal, this GECC would also work on the principle of weighted voting. For smaller countries, this would entail giving away the “one country, one vote” principle in exchange for broader representation in the systemic economic, social and environmental decision making ensured through a constituency-based system.

A second stream of the G-20 reform literature has focused on the sectoral aspects of G-20 involvement, such as international financial regulation, the international monetary system, international macroeconomic coordination and development. On financial regulation, Helleiner (2012) acknowledges that the G-20 has encouraged a greater focus on macroprudential supervision, with the aim of addressing wider systemic risks. Along these lines, the G-20 has been instrumental in leveraging its political weight behind the rapid negotiations leading to a new set of international bank capital and liquidity standards known as “Basel III,” and in spearheading efforts through the FSB to regulate systemically important financial institutions more effectively. Helleiner, however, cautions that the G-20's emphasis on macroprudential goals might not in practice translate into a thorough implementation of a new, more effective supervisory framework, given its inability to enforce financial regulation standards, whose implementation is ultimately left to national authorities. As a case in point, Helleiner notes that two key G-20 members, China and the U.S., have not yet properly implemented the Basel II standards.

Turning to the international monetary system, Mistral (2012) outlines an action plan for the international community that could be facilitated by the political impetus provided by the G-20 leaders. On IMF reform, he advocates a Ministerial Council, as provided in Schedule D of the IMF's Articles of Agreement. For one thing, this would bring greater clarity to the work of the G-20 finance ministers, namely, the task of supervising the IMF's activities, overseeing the work of its managing director, and steering the launch of new initiatives such as a new

monetary system based on Special Drawing Rights (SDRs). A better division of responsibilities would more effectively delineate the focus of the G-20 finance ministers, who would meet among themselves to prepare their summits while meeting in the format of a council on the matters of international economic cooperation that fall squarely under the IMF's purview.

4 The Group of Twenty and Global Development

The theme of global development was taken up by the G-20 leaders at the Seoul Summit in 2010. At that time, the development agenda was seen as in flux, responding to enormous changes in the developing world. The hugely visible Millennium Development Goals advanced by the United Nations were seen by many in Asia and elsewhere as being overly tilted toward social and human welfare investments in development. Following the MDGs, the development discourse has changed significantly. There is more emphasis on growth and infrastructure development, especially because many African countries were experiencing rapid growth thanks to improving commodity prices, sound domestic policies and improvements in governance. Food security has emerged as a major global issue; and, as a result, the priority of increasing agricultural productivity had risen. Finally, some developing countries, especially fragile and conflict-affected states, are failing to benefit from globalization and, in some cases, are being held back because of the corruption and distortions generated by groups taking advantage of huge natural resource rents that globalization generates.

The Seoul Development Consensus brought many of these agenda items to the fore, with the exception of the fragile states issue. While the Consensus could be taken as a sign that the G-20 members had arrived at a common approach toward development, that is not the case; nor was it the intention. Each G-20 country has its own experience with development, either as a recipient or as a donor or both. Countries like China have bundled together aid, trade and investment in a package of instruments with turnkey implementation at speed. That contrasts with the far slower pace of development cooperation from the Organization for Economic Cooperation and Development (OECD)'s Development Assistance Committee member countries, which emphasize inclusive and participatory processes, and deliberate efforts to model high environmental and social standards in their projects. The fact that the G-20 has not tried to mediate these disputes or approaches to achieve greater harmonization has come as a disappointment to some, but the reality is that the G-20 is not an appropriate forum for such discussions. It has, instead, attempted to provide a space for dialogue, avoiding judgments as to the effectiveness of various approaches.

The G-20's approach to development has contrasted deliberately with the G-8's approach (Kharas 2011). Whereas the G-8 focused on human welfare, country structural adjustment and shock impact mitigation, the G-20 has focused on national growth, global adjustment of imbalances and systemic risk management.

Whereas the G-8 pursued an agenda of aid, common standards and global rules for development, the G-20 has embraced the modeling of good practices and a coherent package of aid, trade, investment and finance or development. The G-8 had a fresh agenda for each meeting, while the G-20 has proposed an overall multiyear action plan addressing nine key pillars.

There have been concerns that the G-20 does not have the mechanisms and instruments to achieve results and that consequently it is viewed as a “talking shop.” But that is a misreading of the G-20’s comparative advantage on development. The G-20 can try to build a consensus by highlighting issues that are important for the global economy, such as infrastructure and food security. But building a consensus involves an inclusive process that the G-20 itself cannot easily provide. Instead, it has chosen to work with other, more inclusive forums and institutions to provide the technical proposals for its consideration. Once agreement is reached on what needs to be done, the G-20 can become an effective force for providing the political impetus for implementation.

If the G-20 is viewed as a body that provides political support for decisions made in other forums, then it becomes easier to understand how emerging economies relate to it. On the one hand, some emerging economies remain strong sovereignty “hawks,” anxious to ensure that no decisions made by the G-20 affect their own scope for domestic policy determination. On the other hand, other emerging economies are eager to use the G-20’s development agenda as an opportunity to showcase their influence on global affairs to their own populations. For example, after the Cannes G-20 Summit, which was dominated by the eurozone crisis, Chinese president Hu Jintao stressed to his domestic audience his country’s focus on development issues, whereas South African president Zuma emphasized his stance on least-developed countries and support of jobs and skills.

In implementing the development agenda, which is inevitably long term, the G-20 has faced difficulties in communicating results. Unlike crisis management, where actions and impact can be readily traced, the development agenda is by its nature more long term. The G-20 is not the arena for mobilizing resources, unlike the G-8, because it does not have a membership committed to joint coordinated action on development. The G-20 has resisted becoming a shortcut mechanism for achieving compromises in areas where global compromises have been hard to achieve, such as the Doha Development Round of trade negotiations. That resistance has the distinct advantage of allowing the G-20 to work with and through existing institutions, rather than supplanting them, but the disadvantage of making the G-20’s actions appear small relative to the scale of the development challenges it is trying to address. For example, the High-Level Panel on Infrastructure had some useful proposals on infrastructure financing and engagement by the private sector, but it fell far short of being a game changer for infrastructure financing. Similarly, the forward momentum on agricultural productivity and food security has come from the G-8 rather than from the G-20.

The development agenda faces other challenges. In particular, it is increasingly viewed as too broad, and the nine pillars of the Seoul Consensus are disconnected from each other. That can generate unstructured and unproductive discussions that

undercut the very premise of the G-20: to provide an informal forum for focused, sustained and efficient conversation. It is still too early to tell whether this will ultimately prove to be a fatal flaw in the G-20's approach to development. As the group returns to crisis management and problems in the eurozone, the processes of the development working group have been allowed to drift. At some point, however, these issues will need to be addressed.

5 Global Governance and the Group of Twenty: Prospects and Challenges

In the earlier part of this chapter, it was noted that a number of scholars and experts have pointed to the need to better institutionalize the relationship between the G-20 and the established, technically proficient international organizations. Although their proposals differ, their common aim is to strengthen the G-20's infusion of political capital into these international organizations while bridging the legitimacy gap that the current, ad hoc setup poses for the G-20 itself.

Among the various international organizations, the IMF has distinctly emerged as the high-level adviser to the G-20 leaders, and thus its analyses served as the basis for official, concerted action at the height of the 2008–2009 global financial crisis. Conversely, the G-20 has been instrumental in catalyzing a consensus on IMF governance reforms. The latest “Seoul package” (IMF 2010a) will make China the institution's third-largest shareholder, while the other BRICS will all feature among the top 10 shareholders once the reform package is ratified by the IMF's membership (See G-20 2010; IMF 2010b).

The current setup, however, presents some challenges that, although apparently less immediate, may well erode the legitimacy of the very institutions the G-20 aims to support in the medium term. For instance, the “Seoul package” was recommended by the G-20 leaders in Seoul in November 2010 and only afterward did the IMF's own governance bodies approve it. Similarly, the recent negotiations to strengthen the IMF's finances have taken place in the context of the G-20, with the IMF's governance bodies merely following suit.⁷ As Ocampo and Stiglitz (2012) note, no matter how representative or powerful a given informal dialogue forum, it can never substitute for multilateral decision-making within treaty-based international organizations.

Building on these considerations, a path for reforming both the G-20 and the IMF can be envisaged in a way that nests the two bodies together in a mutually reinforcing way. It has long been advocated that the IMF's membership should establish the Ministerial Council, an action already foreseen in the IMF's Articles

⁷ See “IMF Managing Director Christine Lagarde Welcomes Pledges by Members to Increase Fund Resources by Over US\$430 billion,” Press Release 12/147, <http://www.imf.org/external/np/sec/pr/2012/pr12147.htm>.

of Agreement. In fact, there appears to be an overwhelming consensus that the establishment of the Ministerial Council would strengthen political support for the pursuit of the IMF's own mandate (see King 2010; Lombardi 2009, among others). The IMF's own Independent Evaluation Office (IEO 2008), in its assessment of the institution's governance, underscored a lack of clarity on the roles and responsibilities of the current Ministerial Committee—the International Monetary Financial Committee, which functions as an advisory body to the Board of Governors. The IMFC's ambiguous status limits the degree to which the Executive Board and Management can be held accountable for implementing (or not) the IMFC's initiatives; nor can the latter exercise any proper oversight over the former. Against this backdrop, the IEO recommended establishing a ministerial-level governing council to spur active and systematic high-level involvement in setting broad strategic goals and in overseeing performance. Thus, this Ministerial Council would be a formal decision-making body and its pronouncements would have legal status. Its responsibilities would include setting the IMF's overarching strategic goals; making decisions that require support at the highest political levels (i.e., selection of the managing director); and exercising oversight over the institution, including its Executive Board.

Other evaluations, notably the Manuel Report (Committee on IMF Governance Reform 2009) and the Fourth Pillar Report (Lombardi 2009), basically share these findings and recommendations. However, they ultimately paint a more nuanced picture. The Fourth Pillar Report, for instance, cautioned that the Ministerial Council should be established only after addressing the more fundamental problems in the IMF's governance such as realigning the distribution of voting power to reflect a country's status in the global economy and, to a varying degree, lack of intraconstituency accountability mechanisms.

Although existing intraconstituency mechanisms should undoubtedly be strengthened, the IMF's constituency structure nonetheless offers an interesting starting point for thinking about how to reconcile universality of representation with effective decision making. Because most countries are represented on the Executive Board through multicountry constituencies, the IMF's Executive Board (and the Ministerial Council, if established) manages to reduce the number of voting members to a feasible size of 24. Thus, all member countries are able to contribute and affect the institution's decision-making depending on the strength of intraconstituency accountability mechanisms. In exchange, member countries represented through multicountry constituencies have to accept to delegate to a common representative the role of promoting consensus through the executive director holding the constituency chair.⁸ The proposed configuration would already build on the substantial overlaps between members of the current IMFC and of the G-20. The difference would, of course, be that when the Canadian or Italian finance ministers meet in the context of the G-20 they do not do so as

⁸ Although executive directors cannot split their vote, council members would be allowed to do so.

representatives of their respective constituencies while in the Ministerial Council they would.

The Ministerial Council would have a full mandate from the IMF's 188 country members to discuss and decide on issues related to the international monetary system and international macroeconomic policies. Its membership would be based to a large extent on the G-20's current membership, although because the composition of the Ministerial Council would parallel that of the IMF's Executive Board, this change would imply a slight increase in the number of G-20 countries, from 19 to 24. However, in practice, this may overstate the issue if one considers that the G-20 already includes a few countries as de facto permanent invitees. In addition, various G-20 chairs have often invited additional regional members to G-20 summits. Then, because the African Union's seat at the G-20 would be filled by the two African chairs in the IMF's Council, this would imply a net gain in the voice and representation of low-income countries, as advocated by many analysts.

The proposed reform would embed an intrinsic dynamism in the composition of the ministerial steering committee. Given that fast-growing economies would be awarded higher quotas at each five-year review, as per the IMF's legal framework, the composition of the Ministerial Council would be "dynamically systemic." This, in turn, would provide the basis for greater intraconstituency leverage, enabling faster-growing countries to chair their respective groups, if they managed to foster the required consensus. The criteria for acceding to this ministerial body would, moreover, be transparent and universally accepted. As such, they could be changed by the membership at any point in time consistent with the IMF's own governance framework.

While most G-20 members already have seats on the IMF Executive Board and on the (currently advisory) IMFC, there are chairs that are not members of the G-20 (see Table 1). This is the case for the Nordic-Baltic constituency, the Netherlands, Algeria, the United Arab Emirates and the smaller African constituency currently chaired by Gabon. The net increase in the size of the Ministerial Council vis-à-vis the current G-20 due to the latter chairs could be compensated for given that some additional seats in the G-20 would have no reason to be kept in light of the considerably more legitimate and better-represented structure of the Ministerial Council itself. Western Europe's agreement to cede two seats to emerging and underrepresented economies, as well as subsequent recompositions,⁹ could also help settle the problem of G-20 countries which chair their constituencies on a rotating basis.

⁹ The 2010 Resolution No. 66-2 of the Board of Governors states that the composition of the Executive Board will be reassessed every eight years following ratification of the resolution itself. The latter, initially expected to be ratified by the IMF membership in the fall of 2012, should be approved in 2013, following the U.S. presidential elections.

Table 1 The G-20's membership and IMF Constituency Arrangements

Country	G-20 membership	IMFC ^a	Executive board chair ^b	Executive board internal governance arrangements	Voting power
United States	x	x	x	Executive director appointed by the respective country authorities; serves at his or her pleasure.	16.75
Japan	x	x	x		6.23
Germany	x	x	x		5.81
France	x	x	x		4.29
United Kingdom	x	x	x		4.29
China	x	x	x	Single-country constituencies	3.81
Saudi Arabia	x	x	x		2.8
Russia	x	x	x		2.39
Italy	x	x	x	Multicountry constituency chaired by Italy	3.16
Belgium	x	x	x	Multicountry constituency chaired by Belgium	1.86
Brazil	x	x	x	Multicountry constituency chaired by Brazil	1.72
Netherlands	x	x	x	Multicountry constituency chaired by the Netherlands	2.08
Spain	x	x	x	Multicountry constituency with chair rotating among Mexico, Spain, and Venezuela	1.63
Canada	x	x	x	Multicountry constituency chaired by Canada	2.56
India	x	x	x	Multicountry constituency chaired by India	2.34
Mexico	x	x	x	Multicountry constituency with chair rotating among Mexico, Spain, and Venezuela	1.47
Switzerland	x	x	x	Multicountry constituency chaired by Switzerland	1.4
South Korea	x	x	x	Multicountry constituency with chair rotating between Australia and South Korea.	1.37
Australia	x	x	x	Multicountry constituency with chair rotating between Australia and South Korea.	1.31
Argentina	x	x	x	Multicountry constituency with chair rotating among Argentina, Chile and Peru	0.87

(continued)

Table 1 (continued)

Country	G-20 membership	IMFC ^a	Executive board chair ^b	Executive board internal governance arrangements	Voting power
Indonesia	x	x		Multicountry constituency with chair rotating among Indonesia, Malaysia, Singapore and Thailand	0.85
Denmark		x	x	Multicountry constituency with chair rotating among Denmark, Finland, Iceland and Sweden	0.78
South Africa		x	x	Multicountry constituency with chair rotating among all members	0.77
Turkey	x			Multicountry constituency chaired by Belgium	0.61
Singapore		x	x	Multicountry constituency with chair rotating among Indonesia, Malaysia, Singapore, and Thailand	0.59
Algeria		x		Multicountry constituency chaired by Iran	0.53
United Arab Emirates		x		Multicountry constituency chaired by Egypt	0.33
Gabon		x		Multicountry constituency with chair rotating among all members	0.09
European Union	x	Not applicable	Not applicable	Not applicable	Not applicable

Sources IMF.org and G-20.org. ^a as of April 18, 2012; ^b as of June 5, 2012

6 Conclusion

The G-20 is still experimenting with ways to balance legitimacy and effectiveness. It is trying to complement other international institutions but also to compete with some, such as the G-8, that continue to wield considerable influence over economic affairs. The G-20 gained considerable credibility from its success in fighting the global financial and economic crisis of 2008–2009, but the prolonged nature of that crisis and its recent recurrence in Europe have again called into question the effectiveness and relevance of the Group.

The G-20 does not operate on the basis of setting specific goals, financial commitments or timelines in the same fashion as the G-8. That is because it has organized itself as a process-oriented forum for first helping to build a consensus and then providing the required political momentum to ensure implementation. This approach should come as a relief to non-G-20 countries, which might otherwise feel that decisions being made at the G-20 would implicitly bind them. In fact, those decisions are being made through an engagement with other forums and treaty-based institutions where there are established governance procedures for representation and voice.

The G-20's development agenda will converge more closely with a broader global growth agenda once more progress is made on topics like climate change, green growth and other global public goods. Once an agenda is defined, it will become easier for the G-20 to mobilize the political will of its members to drive implementation. The G-20's workstreams are heavily influenced by international institutions that are called upon by the G-20 to develop proposals for discussion and action by the leaders. The G-20 has been instrumental in bringing together several international institutions to address each topic, so the jockeying for influence between institutions that has occasionally bedeviled international cooperation has been lessened.

For the time being, the G-20 appears to be the “best available option” for global economic governance. It is not designed to achieve institutional legitimacy per se, and thus it has chosen to work with other bodies that have a more inclusive and universal representation. It is not an implementing body, but it encourages others to rise to the challenge of addressing the issues that its agenda advances. The G-20 receives the greatest media coverage during times of crisis, but the leaders who now participate in it are finding ways to demonstrate to their own electorates that they are making a difference in the conduct of global affairs through the stance they take at its summit meetings. This link between global and domestic dialogues, and the building of popular support to address global challenges, may yet become the greatest value that the G-20 adds.

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Then and Now: European Trade, Payments, and Financial Regionalism in Historical Perspective

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Abstract This article compares the current European Economic and Monetary Union (EMU) and the European Payments Union (EPU), the institution which in the fifties contributed to Europe's postwar recovery and achieved currency convertibility. While the two periods are characterized by different historical and economic initial conditions, there are also many striking similarities, starting from the emphasis placed in both regimes to the goal of economic integration in the context of a fixed exchange regime. A major difference is worth highlighting though. Differently that in the EMU, in the EPU the risk that excessive permanent imbalances among member countries might hamper the functioning of the system was prevented by a safeguard mechanism. In its absence, payment imbalances between the North and the South have contributed to the accumulation of large stock of foreign debt. Capital reversals, by shifting the portfolio balance have brought the system towards instability, and sovereign default, thus threatening the survival of the fixed exchange rate regime. In spite of such negative developments, the article argues that what seemed a hard necessity in the difficult postwar years, dictated by the need to rebuild the European trade and payments system, would be harmful step behind today and a sign of ongoing political disagreements over the purpose and ultimate goal of EMU and European integration.

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History is not, of course, a cookbook offering pretested recipes. It teaches by analogy, not by maxims... yet each generation must discover for itself what situations are in fact comparable.
Henry Kissinger

1 Introduction

This article draws upon the analogy between the current European institutional setting, in the face of the three-year long European crisis, and the rules and institutions which were established in the post-war years to achieve trade liberalization and a multilateral payments system in Europe. The experience with the European Payments Union—the institution which was able to successfully pursue those ambitious goals, thus putting Europe on the right track to achieve currency convertibility in 1958—is remarkable in many respects. The similarities with today's experience are certainly helpful and illuminating; in spite of the long time span between the two periods they cannot therefore be disregarded or overlooked.

There is no doubt that the two periods are characterized by different historical and economic initial conditions. In particular, today's prosperity in Europe is far much different than the dismal economic conditions which plagued the region during the postwar years 50 years before. On the other hand, a number of striking similarities suggest how the comparison can be less farfetched than it might appear.

First of all, in both experiences a broad group of European countries moved towards economic integration in the context of a fixed exchange regime. In the European Economic and Monetary Union (EMU) the euro, which replaced national currencies, dominates both the internal and external economic transactions. In the European Payments Union (EPU) a virtual currency, the so called "unity of account" represented the European single currency for international payments and was used to clear each member country's imbalances vis-à-vis the Union. In the EPU the concepts of multilateral surveillance and conditionality were first introduced (even before the same concept came to be popular within the International Monetary Fund), thus paving the way to the rules and institutions currently utilized within the EMU. The EPU long term goal was to achieve a stronger integration, not differently than what holds for the EMU, whereas the latter can be viewed as a stronger and mightier successor of the former.

In spite of the above analogies, there is a difference yet, which is worth highlighting. While in both arrangements trade and payment were relevant, in the EPU there were safeguards aimed at avoiding that excessive permanent imbalances among member countries might hamper the functioning of the system. The EPU was aimed at reestablishing a smooth trade and payment pattern, after the

disruption created by competitive devaluations, protectionism, and the Second World War. Based on Keynes's Clearing Union, the EPU envisaged rules to keep creditor or debtor positions vis-à-vis the system within set limits, and to place the burden of adjustment symmetrically over debtors' and creditors' shoulders. Automatic sanctions helped keeping member countries' records on track. Countries were also allowed, where it was deemed necessary, to resort to trade measures such as quantitative controls to trade flows in order to correct excessive trade imbalances. Compulsory withdrawal of not-complying members was an extreme measure which, albeit never used in reality, represented a powerful enforcing tool which the Union could use against those members who did not fulfill their obligations.

There is nothing like that in the EMU today. As it will be argued, the current financial crisis in the Euro zone can be viewed as a reflection of sizeable flow and stock imbalances in trade and payments among the European economies. However, there is no automatic rebalancing mechanism which can play a stabilizing role, and there are no rules preventing the imbalances from reaching a dangerous size. Conditional programs are imposed on countries tapping European financial facilities only once the situation has already escaped domestic control. In general trade and payments imbalances are not paid the same attention as in the past EPU experience.

The implications of the situation above are quite undesirable. Recent research focusing on the role of intra-European payments imbalances for the survival of the EMU shows that when the system gets into disequilibrium, the longer the imbalances persist the larger and more painful the eventual adjustment will need to be (see Hughes Hallett and Martinez Oliva 2012). This is because an accumulated stock of debt has to be removed, which will take a larger real depreciation in the debtor country than the real exchange rate adjustment needed to eliminate a flow imbalance. Payment imbalances between the North and the South have contributed to the accumulation of large stock of foreign debt, while the flows of foreign capital have not helped finance productive investment which would have contributed to debt repayment. In some instances they have rather contributed to finance consumption expenditure and inflated housing bubbles. Capital reversals, by shifting the portfolio balance have brought the system towards instability, sovereign default, thus threatening the survival of the fixed exchange rate regime. Public interventions (loans, bailouts, haircuts, forced restructuring, liquidity injections) may temporarily help to stay away from the point where the system breaks down. This can be viewed as "kicking the can down the road" though, because the imbalances will need continuing and increasing financing until the system's equilibrium is restored by other means.

2 Now: How Things Went Wrong

The sovereign debt crisis in Greece raised for the first time since the birth of the euro the question of the adequacy of the single currency framework to cope with unexpected destabilizing economic factors. Starting from the beginning of 2010,

when the European Union and the international Monetary Fund put together a first series of rescue measures, the debate on Greek crisis has spread to the very survival of the euro and even of the European Union. The hopes surrounding the agreement on the creation of the European Financial Stability Facility (EFSF) by member states were disappointed by new symptoms of the ongoing crisis. Turbulences spread to the other economies of the Eurozone.

Public finance difficulties had a major role, particularly in those countries where the economic slowdown following severe fiscal programs was eroding fiscal revenues, thus hampering the achievement of budgetary targets. Such difficulties were to determine serious political crises, and eventual government resignation, in Greece and Portugal. Difficulties were recorded also in Spain.

In the summer 2011, while a controversial debate was developing on the continuation of financial support of Greek economy, new trouble emerged. The growing level of government bond yields in Italy and Spain fed increasing concern that contagion effects would spread the crisis across Europe. European Central Bank (ECB) intervention of the Italian and Spanish government bond markets followed; the European leaders agreed on the need to strengthen the EFSF ability to assist member countries in trouble.

The ongoing economic slowdown in Europe raised the debate on the need to enhance European fiscal integration by the institution of a central fiscal authority. The disagreement among member countries on this and other subjects, such as the role of the ECB in contrasting the crisis, the adequacy of fiscal measures in Greece, the role of private sector involvement, determined new tensions and Greek government's resignation. The discussion on the need to undertake new bailout measures of Greece highlighted disagreements within the EU on the involvement of private creditors in a haircut on Greece's sovereign debt.

Throughout the crisis, the markets have proved an independent, albeit imperfect, enforcer of fiscal discipline. Between 1999 and mid-2007 (just prior to the sub-prime crisis), they hardly differentiated among European sovereign debt instruments. Sovereign yield spreads for Greece, Ireland and Portugal were less than 50 basis points above the German 10 year benchmark in the spring of 2008. Even after the financial turmoil of late 2008 and most of 2009, the 10 year spreads were back below 200 basis points for all three countries by the end of 2009. It was Greece's announcements in the first months of 2010 that its public finances were worse than previously stated that unleashed a full-scale sovereign debt crisis. Between late April and early May 2010, yield spreads spiked upwards, reaching 660 basis points for Greece, 380 for Ireland and 330 for Portugal. By late 2011, they had risen to even higher levels (1,250 basis points for Greece, 750 for Ireland and 650 for Portugal) (see Visco 2011). For the first time since the birth of the euro, Europeans questioned the adequacy of the single currency framework to cope with unexpected destabilizing economic factors. Such difficulties have spurred serious political crises, and government resignations in various countries.

By late 2011, persistent market tensions suggested that European efforts to cope with the crisis had been inadequate. The interplay of a fiscal crisis, a competitiveness crisis, and a banking crisis called for a more holistic approach. Policy-

makers needed to turn a vicious circle into a virtuous one, where rising confidence strengthened expectations and growth, thus improving the outlook for debt sustainability and further feeding confidence and growth. Hence, the EU has taken a series of measures since the end of 2011 meant to constitute more comprehensive reform. These include: the establishment of an adequate firewall against contagion in the sovereign debt market; a strategy to ensure that EU banks are adequately capitalized; a reformed framework for economic governance in the euro area; and policies to correct imbalances and boost growth.

The European financial “firewall” against sovereign risk has been reinforced with new funds and new rules. The joint resources of the EFSF and the ESM have been enhanced to an overall lending capacity of up to €700 billion.¹ A coordinated strategy to recapitalize the European banking sector has been implemented. Under it, banks must reinforce their capital base—primarily through increasing retained profits via lower dividends, lower compensation, and new capital from the markets. Only if necessary will governments extend loans to the banking system. Also, the ECB has expanded its role to meet the demands of the crisis. Its three-year long-term refinancing operation (LTRO) aims to cope with financing difficulties across the European banking sector. For its part, the United States has activated the Fed’s swap lines with the ECB. This action made it possible for Europe’s banks to borrow dollars from their central banks, alleviating the pressure to deleverage quickly. Credit conditions have improved following these policies.

Finally, fiscal consolidation and structural reforms are being implemented in numerous member countries. The latter include controversial labor market reforms to address the issues of competitiveness and growth. The new fiscal treaty, the so-called Fiscal Compact (which includes 25 EU countries other than the UK and Czech Republic), envisages binding rules of fiscal governance meant to enhance budgetary discipline.

3 Then: Fixing War-Torn Europe

Looking into the past, we find that at the end of the Second World War Europe was in dire straits, and no end to the crisis was at sight in early 1947. The situation was aggravated by discriminatory practices and bilateral arrangements which characterized European trading and payments patterns, as a legacy inherited from trade disruption occurred during the thirties and the Second World War. The scarcity of foreign exchange reserves exacerbated bilateralism and discrimination.

¹ On 24 June 2011, the European Council decided to establish a permanent crisis resolution mechanism—the European Stability Mechanism (ESM)—which will replace the EFSF. For a transitional period until 2013, EFSF may continue to engage in new programs in order to ensure a full fresh lending capacity of €500 billion. The function of the ESM will perform the same activities as the amended EFSF.

The Harvard speech given by General George Marshall, US Secretary of State, on June 5, 1947, with its recollection of the European economic difficulties and its promise of a “friendly aid” came totally unexpected, in accordance with the intentions of the US Administration, and was initially overlooked.² In the following days, though, an enthusiastic reaction came from the Europeans. A conference was quickly organized in Paris, on July 12, 1947, and the representatives of sixteen European countries participated to the initiative.³

The main outcome of the Paris conference on European recovery was the establishment of the Committee of European Economic Cooperation (CEEC) to assess the European needs and the availability of resources. The Committee was asked to organize the European cooperative effort in such a way to limit the extent of the United States assistance to the strict necessary. The Committee’s draft report was submitted to the US representatives at the end of August, and proved to be a failure. The Americans, and particularly the State Department’s economic experts, known as “Friendly Aid Boys”, severely criticized the report for including the provision of a persisting external deficit, and for its heavy reliance on American aid, estimated at \$29 billion.⁴ More general criticism was addressed to the inadequate effort by the Europeans to develop a program of self-help; to the lack of commitment by single countries towards domestic policy action aimed at restoring stability; and to the very little emphasis placed on multilateral cooperation.⁵ The Friendly Aid Boys found the results of the report “unacceptable” and concluded that the conferees did not have the political strength which was needed for the goal of a new Europe to be achieved. A report to the US authorities was promptly delivered, whose basic message was that the Europeans were lacking realism and resolve. Accordingly, the State Department would have to decide unilaterally what was best for Europe (see Martinez Oliva 2003). To correct the main shortcomings of the European report the State Department laid down a series of conditions that were necessary to make the European program acceptable to the United States. The conditions included commitment towards a number of goals including production, monetary and financial stability, and the removal of trade barriers. The Europeans should also consider other possible sources of dollar credits, as a means to reduce the need for American assistance; implement common policies; establish an international organization to act as a coordinating agency. On the latter point, in particular, the final CEEC’s report included a weakly phrased provision which fell short of the original American intentions. Indeed the new organization would have very limited supranational powers. Its role was to review the progress of the recovery program, to issue reports, and to provide policy recommendations to

² For the details see (Kindleberger 1987), p 29.

³ The organization of the conference by the British and French Foreign Affairs ministers Bevin and Bidault had complicated diplomatic implications, particularly in what concerned the position of the USSR. For the details see (Martinez Oliva and Stefani 2000), pp 144–146.

⁴ Hogan (1987), p 74, and Martinez Oliva and Stefani (2000), p 157.

⁵ (Brown and Opie 1953), p 134.

member countries. Still the organization, named Organization for European Economic Cooperation (OEEC), was able to free European trade from restrictions and bilateralism in 10 years. Since it was clear from the beginning that the program of trade liberalization could not be possible in the absence of an adequate mechanism of multilateral payments arrangements, the OEEC started its activity by encouraging member countries to establish multilateral payments agreements among them.

A number of attempts followed, aimed at creating a multilateral clearing system and to reduce trade barriers. This paved the way, at the end of 1950, to the creation of the European Payments Union (EPU).

The EPU fostered European integration, by favoring multilateral trade and payments and promoting the removal of trade barriers. In only 8 years the EPU fulfilled its mandate, and enabled the European economies to adopt currency convertibility and to fully operate in a cooperative context. The EPU represented a successful transitory regime that created a favorable environment for the process of growth in Europe, once the postwar reconstruction was completed.

Based on an American project elaborated by Richard M. Bissell Jr., a former professor of economics at Yale and MIT, the EPU was tailored to be a regional version of Keynes' Clearing Union of 1943. Bissell Plan envisaged a comprehensive set of ideas and principles suited to meet the European needs.⁶ Members should strive for balance over time *vis-à-vis* the system; a set of rules should be engineered, so as to provide members an incentive to balance their positions; a supervisory body should be authorized to provide policy recommendations to member countries; the US would contribute to finance the system. According to Bissell Plan, temporary discriminations against US exports were allowed, at least until European exports became more competitive (see Hieronymi 1973). The basic rule involved the possibility to finance net external debts with credits, up to a given threshold level, and with gold and dollars afterwards. The final result was "a remarkably clean and simple document, embodying simple and precise commitments of a revolutionary nature, which drastically shifted overnight the whole structure of intra-European settlements from a bilateral to a multilateral basis".⁷ The simple but well-engineered rules that characterized the system were based on multilateral surveillance and commitment, which can be regarded as the main building blocks of cooperation.

To sum up, each country's foreign position with other countries were monthly reported to the Bank for International Settlements (BIS) in Basle, and the offsetting claim cleared; the balances of countries were consolidated, and the resulting individual creditor or debtor positions *vis-à-vis* the Union were financed with credits up to a given threshold, and settled in dollars or gold when exceeding the

⁶ On the Bissell proposal Kaplan and Schleiminger (1989), p 369, state: "Few, if any, Europeans were in as good a position as ECA to absorb all the various concepts, analyse and dissect them in vigorous debate with critics, and judge the acceptability of the various notions to the critical decision-makers".

⁷ Triffin (1957), p 161.

quota of each country, equivalent to 15 percent of its trade with EPU economies in 1949. A progressive settlement rule was established, involving decreasing credits and increasing gold payments as the deficit grew; A Managing Board handled the ordinary business and the special situations occurring when a member threatened to exhaust its quota. The Board could provide policy recommendations, with the help of independent financial experts, provide special credits and quota extensions (rallonges), and reported to the Council of the Organization for European Economic Cooperation (OEEC), the ancestor of today's Economic and Financial Affairs Council (ECOFIN). EPU member countries were also committed to the dictate of the Code of Liberalization, a formal program of trade barrier dismantling. There is little doubt that the link between the payment mechanism and intra-European trade liberalization was one of the main reasons for the success of the EPU, and a major contribution to the rapid growth which characterized the postwar period in Europe.⁸ The tasks of the Union were completed by December 1958. The newborn institutions established by the Treaty of Rome could henceforth benefit from the multilateral institutions and the cooperative environment inherited from the EPU (Martinez Oliva 2003).

4 Back to Now: Trade and Payments Imbalances in the European Crisis

Following the adoption of the euro interest rates converged in the South of the euro area (Greece, Italy, Spain, Portugal, and Ireland) to the relatively lower levels of the North (Austria, Germany, Belgium, Luxembourg, Netherlands, and Finland), thus encouraging expenditure. This generated an increase in borrowing in both private and public sectors and contributed to investment distortions, with overinvestment recorded in some sectors such as real estate. Different demand patterns between the North and the South, associated to the interest rate behavior, created diverging inflation rates, with lower price dynamics, and a fast growing competitive advantage, in the Northern European countries.

During the 2000s the current account balances of the North and the South of the euro area increasingly diverged, with the surpluses of the North specularly (and spectacularly) reflected by the deficits of the South. Massive financial flows from North to South in the euro area contributed to the buildup of internal imbalances. The debt overhang associated to the accumulation of debt year after year created the potential for financial market distress. These imbalances can be viewed as the most striking indicator of the divergent macroeconomic patterns within the euro area, particularly in what concerns the differences between savings and investments. In the period between 2004 and 2008, in particular, trend deterioration is apparent, reflecting the sharp declines in interest rates and the cost of capital,

⁸ Eichengreen (1995), pp 27, 81–96.

which made borrowing and investment easier and therefore brought about significant inflows of capital from abroad. It is also correlated with the diverging pattern of real exchange rates which has characterized the Euro Area since 2000. Indeed, while all the member countries experienced a trend of real appreciation since the start, such process has been more pronounced for the Southern countries vis-à-vis such countries as Finland, France, and Germany.

Even if the imbalances have recently displayed some tendency towards reduction, the stock dimension of the problem remains concerning. At the end of 2011 the cumulative current account of North recorded almost 2.3 trillion euro; the symmetric cumulative current account of South neared 1.7 trillion euro, 1.4 trillion euro of which account for Greece, Portugal, and Spain. Such huge stocks are bound to persist for a long time, even in case of an eventual reduction or even disappearance of South's deficit flows. They will in any case need to be rolled continuously, thus exposing countries to financial crisis if the markets refuse to roll over the outstanding stocks. The cumulative current account position can be viewed as a reasonable proxy for more sophisticated measures of the net external debt position of an economy, an indicator which provides helpful insights about the sustainability of a country's external debt.

Conventional wisdom before the crisis retained that "good imbalances" were desirable, for their association with a rational and productive utilization of capital. This view reflected Blanchard and Giavazzi's hypothesis that the fall in the saving-investment correlation recorded before and particularly after the euro could be interpreted as a positive sign of increasing financial integration, with the capital flowing from the more advanced, capital-abundant, economies to the less advanced, capital-scarce, ones.⁹ This perception changed when the definition of "bad imbalances", mainly the reflection of harmful underlying distortions, turned out to best suit the European situation than the previous one.¹⁰

Following the introduction of the euro, investors in the North directed their excess savings towards the South. Such a situation was still sustainable as long as the deficits, and corresponding debtor positions, could be financed by equivalent flows of capital from North to South. Indeed, in the years preceding the crisis almost all financial accounts flows, which represented the counterpart of current account balances, were intermediated by private markets. The Lehman bankruptcy in September 2008 triggered market's fears about solvency and liquidity of the banks and later of the sovereigns which were the bank's guarantors. The countries of the euro area therefore suffered sudden and large withdrawals of private funds which left them unable to finance themselves at affordable interest rates (European Commission 2012).

⁹ See Blanchard and Giavazzi (2002). These authors argue that the fall in the saving-investment correlation, particularly marked after the euro, was a positive sign of increasing financial integration, with the capital flowing from the more advanced, capital-abundant, economies to the less advanced, capital-scarce, ones.

¹⁰ The definition of "good imbalances" and "bad imbalances" is found in Blanchard and Milesi-Ferretti (2009). For a survey of the debate see Eichengreen (2010).

The sudden reversal of private-cross-border flows to the South by threatening to trigger sovereign defaults and create contagion effects throughout Europe, made it necessary to counter the effects of a potential default by ad-hoc institutional arrangements among which the Greek loan facility, the EFSF (European Financial Stability Facility) and the EFSM (European Financial Stability Mechanism) were the most important. These programs involved the collaboration of the European Commission, the IMF, and the European Central Bank, to cover member countries' financial needs and tackle the structural, fiscal and financial problems affecting the economies in trouble. Last but not least, the Euro-system provided liquidity to the banking sectors hit by the crisis (see ECB 2012). This helped offset the outflows of private funding originated by the financial turmoil in the United States in early 2008 and allowed the financing of trade flows within the euro area, thus preventing a sharp slowdown of intra-European trade.

Capital reversal has raised concerns about the stability of the system, sovereign default, and even the collapse of the fixed exchange rate regime. Replacing private with public creditors has so far helped to stay away from the point where the system breaks down. This is only a temporary expedient because the imbalances will need continuing and increasing financing until the system's equilibrium is recovered with the help of more permanent solutions.

The most debated way to restore external equilibrium is to pursue internal devaluation in the deficit countries. According to the Keynesian idea that adjustment should be pursued symmetrically, an internal revaluation in the North at the same time should go hand in hand with the internal devaluation in the South, in order to achieve a fairer and more effective distribution of the burden of the necessary adjustments.

Finally, the reversal of private capital flows from North to South suggest that the mechanism which characterizes an economically integrated area have failed to succeed in Europe. Before the crisis imbalances were considered to be a sign of increasing financial integration, with the capital flowing from the more advanced, capital-abundant, economies to the less advanced. The shift in perception by the markets that imbalances had in fact brought about distortions and misallocations, which then triggered the capital reversals, suggests that the integration process is still weak and incomplete, and that further effort and greater "integration enthusiasm" is needed (see Hughes Hallett and Martinez Oliva 2012).

5 What Can We Learn from the Past?

Today's situation is far different than the events which characterized the European Payments Union 60 years ago. Arguably, the EPU was based on a number of elements which contributed to its success. The latter was aided by member countries' commitment to cooperate in exchange for their participation in the Marshall Plan, with its contributions to the reconstruction of their economies; it was also helped along by the EPU's members who shared the need to reactivate

trade and payments (a multilateral goal), in the face of a dramatic shortage of dollars and gold in their reserves; common objectives and mutual obligations set by the Treaty of Brussels of 1948 and the North Atlantic Treaty of 1949 tied the European countries among them; finally, the United States played a leading role in the process, since they exerted considerable pressure for a faster and more effective progress towards integration, provided the initial capital endowment to the Union, and wielded political and diplomatic pressure to achieve the goal of reactivating trade and payments in Europe. Quite notably, the latter involved that a special attention was paid to avoiding that trade and payments imbalances might hamper the integration process. This was achieved with the help of strict rules and regulations which capped the excessive trade imbalances by limiting excessive creditor or debtor positions of member countries. Introducing trade restrictions was tolerated, as long as the trade measures were aimed at correcting those imbalances which might hamper the functioning of the system. They needed to be temporary and being preceded by the Union's approval.

A long time span separates the experience of the EPU and today's EMU. In the decade since its inception the EMU has deepened the European trading space and delivered a credible monetary policy. The single European currency, the euro, has gained international status and now serves as one of the world's major reserve currencies. However, serious design flaws hamper the EMU. The Europeans now clearly see an asymmetry between the strength of the "monetary" pillar and the weakness of the institutional foundation upon which it sits. The architects of the EMU understood that fiscal discipline was necessary for the functioning of a monetary union in which a single monetary authority would be confronted by multiple national fiscal policy-makers. The European sovereign debt crisis has shown that the existing multilateral fiscal surveillance mechanism has not been effective. European rules were not sufficient to induce countries to adopt prudent fiscal policies, with the result that by 2008 many euro area countries had relatively high deficit ratios, far from their medium term objectives under the Stability and Growth Pact. One of the most striking features of the present crisis, though, is that trade and payment imbalances have been overlooked, under the assumption that in a closely integrated single currency area trade and payments imbalances do not matter. No one cares about the trade flows between Apulia and Lombardy, between Bavaria and Saxony, or between Andalusia and Catalonia. In the Euro area things were nonetheless different. Under the common currency, interest rates in Southern Europe (and Ireland) converged to the relatively low levels of the northern European countries, thus encouraging borrowing and creating investment distortions. Consequently, funds poured into sectors like real estate. Different demand patterns between northern and southern Europe, associated with the interest rate behavior, created divergent inflation paths such that the relatively high-inflation countries of Southern Europe became increasingly less competitive in external markets because of rising costs of production but little commensurate gain in productivity, and hence the trade and payments imbalances.

After private capital withdrew from Southern Europe, policy-makers started to replace private with public credit. This has so far helped to stay away from the

point where the system breaks down, thus leading to the sovereign defaults and even the collapse of the fixed exchange rate regime. As long as the imbalances persist, though, they will need continuing and increasing financing until the system's equilibrium is restored by other means.

Among these, the most debated way to restore external equilibrium is to pursue internal devaluation in the deficit/debtor countries, a process which has already started, but which has a long way to go before it completes. Such internal devaluation should be symmetrically accompanied by internal revaluation in the surplus/creditor countries in order to evenly spread the burden of adjustment as Keynes had already devised 70 years ago. Real exchange rate adjustment is meant to replace the direct controls and interventions on trade and payments imbalances set by EPU rules. In this context it is worth recalling the recent proposals aimed at placing limits on the functioning of the Target 2 payments system (see Sinn 2011). In particular, in such a view the Eurozone payments system has been operating as a "hidden bailout" whereby the surplus countries have lent money to deficit members via the Target system. For the large amounts involved this is viewed as damaging in that it crowds out credit in lenders' local banking systems. Introducing limits to Target transfers in the mold of the EPU would mean shifting to a regime where the persistence of excessive deficit positions trigger sanction for both debtors and creditors, and even trade measures aimed at limiting the imports/exports of deficit/surplus members of the Union. It is hard to imagine how such a set of measures might be implemented today, and their consequences, other than as a mere *Gedankenexperiment*. What seemed a hard necessity in the difficult postwar years, dictated by the need to rebuild the European trade and payments system, would be a harmful step back today, and a sign of ongoing political disagreements over the purpose and ultimate goal of EMU and European integration.

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What Is Wrong with the G20?

Ignazio Angeloni

Abstract The G20 as a global economic policy-making forum has disappointed most observers recently, being blamed at different stages for irrelevance, lack of leadership, insufficient legitimacy, ineffectiveness in governing the post-crisis global economy and weakness in reforming the financial markets. This paper revisits the record of the last 5 years, finding it not as disappointing as often assumed, and suggests ways to improve the performance of the G20 going forward.

Every year, the country that takes on the rotating presidency of the Group of 20 (the forum where the leading world nations debate and coordinate their economic policies) organises a high-level conference where participants discuss global economic issues and make suggestions to the new presidency on which direction to take. In 2012, Russia, taking the baton from Mexico as G20 chair, organised one of these events in Moscow in collaboration with two leading research centres in Europe.¹ Revealingly, the title chosen for the concluding panel was “Can the G20 avoid diminishing returns?”. In economics, “diminishing returns” is the phase of the production process where additional injection of labour and capital input results in ever lower increases in output. Likewise, the G20 has, in recent times, systematically disappointed observers: in spite of frequent meetings and the involvement of the world’s top political leaders, not to mention countless officials from all around the globe, its ability to guide global economic policies and outcomes seems to have steadily deteriorated. The reputation of the G20 as a relevant

The views expressed herein are solely those of the author, Director General Financial Stability, European Central Bank, and visiting fellow at Bruegel.

¹ See <http://www.bruegel.org/videos/detail/video/56-international-cooperation-in-times-of-global-crisis-views-from-g20-countries/>.

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and effective economic cooperation forum has probably never been as low as it is now. Why is that? And what can be done about it?

To a certain extent, this disappointment is the unintended consequence of very high—excessively high, indeed—expectations when the G20 was launched in the autumn of 2008. At that time, the world was facing the worst economic crisis since the 1930s. There were genuine fears that a global financial collapse could tip the world economy into another “Great Depression”. The risk of trade protectionism and currency wars was extremely high. While watching news reports of financial markets crashing and financial institutions failing or being hastily rescued, citizens and financial market participants around the world waited for a decisive signal from political leaders. That signal came as a result of a joint initiative between the United States, in spite of a weakened outgoing Bush administration, and the United Kingdom, whose Prime Minister at the time, Gordon Brown, had a taste and a talent for international economic policy. The decision to call a meeting, unprecedented in format and prominence, of the political leaders of the 19 major world economies (plus the European Union) in Washington, was in itself a critical turning point. The tone of the concluding statement of that meeting, in which the leaders convincingly expressed their determination to join forces to avert the crisis and to reform the financial system, did much of the rest. The global economy was still far from improving, and in fact in 2009 it entered the most serious recession of the post-war period. But from the Washington meeting onwards, financial markets and citizens had a clear sense that *somebody was in charge*, with the instruments and the will to prevent an economic collapse; a sense that the world finally had the “economic governance” that many attempts at economic coordination in previous decades had been unable to deliver.

The real novelty at that time was the bringing together, for the first time in history, of the heads of state or government of the main industrial nations and those of the advanced developing (“emerging”) ones. This stemmed from the recognition that the interconnected nature of the global economy and the nature of the problems required a degree of representativeness in global cooperation fora that the traditional G7 was not able to provide. The G20 leaders met again in London (April 2009) and Pittsburgh (September 2009). By then, the recession had arrived, but it was increasingly clear that a collapse of global trade was not going to materialise, despite many people’s fears, and hence there was a belief that the economic recovery would come sooner rather than later.

Work in the G20 was organised along several lines.² The task of reforming the financial system was entrusted to an enhanced regulatory body, the Financial Stability Board (FSB), which built on the existing Financial Stability Forum by increasing its membership and giving it a new and more powerful mandate. The FSB, guided by the then Italian central bank governor, Mario Draghi, quickly set up an impressive programme of reform, covering bank capital adequacy (Basel III), other prudential requirements (including bank liquidity, stable funding and

² More discussion and details are given in Angeloni (2008, 2012).

leverage requirements, etc.), additional requirements for systemic banks, and increased transparency and scrutiny of “shadow banks”, credit rating agencies, accounting practices, etc. Other authorities and standard setters for the sector, like the Basel Committee on Bank Supervision, reported to the FSB. Moreover, in the London meeting the G20 leaders were able to agree on a significant increase in the resources of the IMF. Radically changing course after the downsizing of previous years, the IMF would not only grow again in size and resources, but also acquire a central role in engineering macroeconomic policies to combat the global crisis. Further still, the G20 was instrumental, via moral suasion, in preventing protectionist measures among its members and in facilitating a fiscal expansion during 2009, hence mitigating the decline in aggregate demand during the worst phase of the recession. Notably, the fiscal stimulus was enacted by emerging nations alongside industrial ones, giving rise to a historically unique example of north/south countercyclical economic coordination.

At that point, expectations were very high as to what the G20 could achieve as the “main forum for global economic cooperation” (as stated in the Pittsburgh summit). However, while the risk of a new “Great Depression” was abating and the economy stabilising, albeit at a lower level of activity, the G20 changed gear from 2010 onwards, shifting focus from crisis management to policy coordination and prevention. Under the leadership of Canada and South Korea, joint chairs in 2010, and subsequently of France, the chair in 2011, the agenda evolved and activities were mainly concentrated in three areas:

1. *Macroeconomic policy coordination.* An attempt was made to set up an ambitious coordination exercise, the “Mutual Assessment Process” (MAP), under the technical assistance of the IMF. The MAP consisted of a peer review process through which each member would present macroeconomic forecasts and policy intentions (monetary, fiscal, and structural) according to a common template. The IMF, as the arbiter of the process, would assess their mutual compatibility and analyse the implications for their external positions, especially among the main currency blocs. The main goal was to foster financial and economic stability, specifically by reducing “global imbalances”—notably, the external deficit of the US and the surpluses of some large emerging countries. Such imbalances, exceedingly large until the mid-2000s, had declined somewhat during the crisis but remained (and have remained ever since) quite significant.
2. *Global financial safety nets.* An attempt was made, under the South Korean presidency in 2010, to work towards establishing “financial safety nets”—mechanisms aimed at providing liquidity to (mainly developing) countries faced with abrupt capital outflows. The goal was not only to smooth out the adjustment costs for those countries, but in particular to reduce the motive for self-insurance through reserve accumulation, hence indirectly contributing to the reduction of global imbalances. The “safety nets” would consist of IMF facilities, regional agreements and swap agreements among central banks. The

IMF already had a facility of this kind in place, the “Flexible Credit Line” (FCL), to which another one was added in 2010, the “Precautionary Credit Line” (PCL). The success of these instruments, however, in terms of frequency and extent of their use by IMF members, remained extremely limited, mainly due to the perceived stigma that recourse to IMF conditionality entails.

3. *International financial architecture*. Under the French presidency, in 2011, a discussion began about the present state of the international monetary system and the possible avenues for reform. The intention was to study the transition to a multipolar currency system, composed of several currencies performing the role of international reserve and means of payment, and its implications for the international adjustment process. The main themes of the discussion are summarised in a report prepared by Bruegel for the European Commission (Angeloni et al. 2011), which focuses in particular on the prospects and eventual role of the two emerging international currencies, the euro and the Chinese renminbi. In spite of its ambition, however, little of this line of work featured in the debate and even less in the deliberations of the G20 meetings during the year. Part of the reason was the aggravation of the sovereign debt crisis in Europe, which heavily influenced all international debates after mid-2011 and also forced the G20 to assume a much more short-term outlook in its work than was originally intended.

With its transition from the role of crisis manager to policy coordinator, the effectiveness of the G20 as a forum for steering global economic policies drastically diminished. Some observers have argued, based on formal scoring systems that systematically measure the compliance of national policy makers with the commitments made at meetings, that the “performance” of the G20 has actually continued to improve in recent years (Kirton 2012). However, the degree of compliance with G20 commitments after 2009 seems, in fact, to have been increasingly related to the lower level of ambition in the commitments themselves.³ And, as is often the case in international negotiations, lack of progress can be masked by presenting actions that have already been decided as tangible results. A more revealing measure is the coverage and emphasis given to the G20 by the media, the attention of market participants, and the presence of key policy-makers at meetings. By all these yardsticks, the G20 reached its peak in 2008–2009, and has been in decline ever since.

This observation is, however, not very surprising nor a reason for dismissing the G20. Part of the scope of international cooperation arrangements is to serve as pre-existing channels for dialogue and as facilitators of coordinated actions, not always used at full capacity but ready to function when the need arises. Their actual purpose and usefulness may be subject to cyclical variations, in relation to circumstances. Although their presence as a permanent feature of the diplomatic

³ As argued in Angeloni and Pisani-Ferry (2012).

landscape nonetheless serves a useful purpose provided their benefits, which are always difficult to measure, are kept in reasonable proportion to their costs.⁴

This said, there should be no complacency. The G20's ongoing decline is also due to some increasingly evident inherent shortcomings. The first of these, and the easiest to deal with, is a weakness in *internal organisation*. The role of setting agendas is in the hands of the rotating presidency, which alternates every 12 months according to a pre-set calendar. Continuity of work is provided by a "troika" system, where the presidencies of the adjacent years are invited by the presidency in charge to remain involved in the selection of the themes and preparation of the agenda. This system is proving too weak to effectively ensure continuity and consistent action over time. Proposals are presently being discussed to establish a permanent secretariat, and the upcoming Russian presidency has indicated that progress can be expected during their tenure. A second and more deeply rooted issue concerns the lack of a *common culture* among the G20 members. As I noted in a recent paper co-authored with Jean Pisani-Ferry, the G20 still "lacks a shared philosophy, a common understanding of the economic priorities of our time and the way to approach them" (Angeloni and Pisani-Ferry 2012). There is no basic understanding, nor has there been any debate so far, within the G20 on the fundamental economic questions of our time, such as how to deal with limited global resources, how to combine the aspirations of emerging nations to growth and prosperity with the ever-tighter constraints of global overcrowding and the quality of the environment, how to ensure equality and fairness within and across economic areas, and how to find the proper balance between free and regulated markets, to name just a few. Created in a time of crisis and to deal with a crisis, the G20 has had too little time to find common ground on such fundamental issues.

Finally, the G20 seems to have suffered recently from a *lack of global leadership*. Political leaders across all continents have tended to invest less and less of their political capital in international governance, concentrating instead on domestic issues: the US has focused on attempting to restart the growth engine within its borders, Europe has committed itself to maintaining financial stability and reviving its unfinished integration design, and Asia is suspended between tradition and lopsided modernisation, and is often still a tentative player in the game of international cooperation. It is reasonable to hope that the G20 itself can, in due time, help to develop that sense of leadership and common purpose. If for no other reason, this alone is sufficient to keep it alive and try to improve it.

⁴ Some estimates of the cost of the G8 and G20 meetings are reported by the G20 Information Center at the University of Toronto, see for example http://www.g8.utoronto.ca/evaluations/factsheet/factsheet_costs.pdf.

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Part V
Multipliers, the Crisis and Beyond

Fiscal Multipliers and Public Debt Dynamics in Consolidations

Jocelyn Boussard, Francisco de Castro and Matteo Salto

Abstract The success of a consolidation in reducing the debt ratio depends crucially on the value of the multiplier, which measures the impact of consolidation on growth, and on the reaction of sovereign yields to such a consolidation. We present a theoretical framework that formalizes the response of the public debt ratio to fiscal consolidations in relation to the value of fiscal multipliers, the starting debt level and the cyclical elasticity of the budget balance. We also assess the role of markets confidence to fiscal consolidations under alternative scenarios. We find that with high levels of public debt and sizeable fiscal multipliers, debt ratios are likely to increase in the short term in response to fiscal consolidations. Hence, the typical horizon for a consolidation during crises episodes to reduce the debt ratio is 2–3 years, although this horizon depends critically on the size and persistence of fiscal multipliers and the reaction of financial markets. Anyway, such undesired debt responses are mainly short-lived. This effect is very unlikely in non-crisis times, as it requires a number of conditions difficult to observe at the same time, especially high fiscal multipliers.

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1 Introduction

EU countries have seen large debt increases since the onset of the crisis. In most EU countries debt is now at an unprecedented level in the last 50 years. In some cases, the increases since 2007 have exceeded 20 % points of GDP starting from an already high level. The impact of the crisis has, for a number of countries, compounded the dynamics of a structural deficit. The EU Member States have now started consolidating their government finances. The increased levels of debt have led to pressure being placed on a number of countries by the financial markets, especially in absence of sovereign bonds purchases by central banks in secondary markets. Moreover, the recognition that insufficient attention to debt levels during “good” economic times led to amendments of the stability and growth pact (SGP), to put debt on an equal footing with the deficit. New provisions in the SGP require EU members with a debt to GDP ratio higher than 60 % to act to put it on a downward path such that the excess of the debt ratio over this 60 % value decreases by 1/20th per year on average over three years.

A vast public debate is taking place both in the press and within the economics profession on the effectiveness of fiscal consolidation in the current situation, centred on the question of whether “austerity can be self-defeating”. In this context, “self-defeating” would mean that “a reduction in government expenditure leads to such a strong fall in activity that fiscal performance indicators actually get worse” This formulation stems from Gros (2011), who refutes such a claim at the same time (for further contributions, see for example the debate taking place on www.voxEU.org: among many Buti and Pench (2012), Cafiso and Cellini (2012), Gros (2011), Corsetti and Müller (2012b), Cottarelli (2012) and Krugman (2012)). The debate is reflected also in the academic literature where new research on the effects of fiscal consolidations has mushroomed.

Given the renewed relevance of the debt, both in the financial markets where financing needs are covered and in the context of the fiscal governance in the EU, the public discussion has centred on the debt-to-GDP ratio as the key fiscal policy indicator. The present paper aims to discuss the possibility of public debt increases in response to fiscal consolidations and to define precisely the conditions under which such an outcome can happen. The main result in this respect is that such a possibility is concrete, but mostly in the short to medium term and its persistence depends on the effects on sovereign yields.

The success of a consolidation in reducing the debt ratio depends crucially on the first-year value of the multiplier, which measures the impact of consolidation on growth, and on the reaction of sovereign yields to such a consolidation. A cursory literature review shows that estimates or assessments of the value of the multipliers vary enormously depending on the type of model used, the econometric technique, the economic conditions assumed for the estimate, the conduct of monetary policy and other factors influencing the interest rates, the composition of the adjustment and various institutional factors (from the exchange rate to credit and labour market arrangements).

The present paper finds a general condition that describes the impact of the adoption of consolidation measures—compared to the situation without consolidation considered as the baseline—on the final debt ratio as a function of starting debt ratio, cyclical budgetary semi-elasticities and fiscal multipliers. Quite intuitively the basic condition shows that in the presence of a high starting debt ratio and a high cyclical semi-elasticity, relatively average values of the multipliers are needed to have undesired effects of consolidations in the short term. We also show how this conclusion changes when account is taken of the effect on yields, a particularly relevant condition in the current sovereign crisis.

The rest of the paper is organized as follows; [Sect. 2](#) discusses the factors that influence fiscal multipliers according to theory and presents a review of the empirical literature assessing the value thereof, jointly with existing estimates of effects of government debt and deficit on government yields. [Section 3](#) presents the analytical framework that formalizes the debt dynamics following a consolidation shock and its relationship with fiscal multipliers. [Section 4](#) analyses the conditions influencing the number of years that, in case of a short-term consolidation-induced debt-increase, are needed for a consolidation to show its effects on the debt ratio. Finally, [Sect. 5](#) presents a set of conclusions and some policy implications.

2 Literature Review on Fiscal Multipliers

The value of fiscal multipliers depends on many factors relative to the fiscal shock itself (its permanent or temporary nature and its composition), to the economic environment (the economic situation, the economic situation of the partner countries, the stress in the financial market or even the cyclical conditions) and to economic policy regime (monetary and exchange rate policy). The estimated values of the fiscal multipliers are also conditioned by the technique used to gauge them. For example, empirical estimates using Vector Auto-Regression techniques (VAR) concern most of the times very specific fiscal shocks in terms of composition, and always consider temporary fiscal shocks—which are not purely temporary in that fiscal variables have an autoregressive component, while model-based evaluations like evaluations based on dynamic stochastic general equilibrium (DSGE) models can vary in this respect from purely temporary measures to fully permanent so that comparisons are not always correct.

Given the relevance of fiscal multipliers in the discussion concerning consolidation it is however, useful to provide an overview of existing results, in particular in the two main areas of the literature which study effects of fiscal shocks.

2.1 Dsge-Based Fiscal Multipliers

There are different factors that affect the multipliers obtained with these models. They can be grouped as follows: (1) factors that force consumers to base consumption choices on current revenues only, such as financial frictions; (2) factors concerning the nature of the fiscal shock, in particular the credibility of the shock and/or its permanent or temporary nature; (3) the composition of the fiscal shock; (4) structural features of the economy, like the presence of nominal or real rigidities; (5) the type of monetary policy, and (6) the exchange rate regime and the degree of openness of the economy. In most of these models responses to shocks are symmetric, for which the discussion of the effects of expansionary fiscal shocks is equivalent to that of fiscal consolidations with the reverse sign.

In general, fiscal shocks entail a negative wealth effect on households that reduces consumption and increases labour supply, which tends to reduce real wages and consumption further. This decline in private demand offsets most of the increased public demand, causing output to increase by less than the increase in government consumption (see for instance Hall (2009), Woodford (2011)). In this framework, the consumption and investment multipliers are negative and the output spending multiplier is lower than one, even if its value depends on the relative increase in the labour supply relative to the fall in consumption. However, the values of the multipliers depend critically on other features of the model.

Baxter and King (1993) show that a model in which a large (permanent) stimulus causes a large wealth effect and a large increase in labour supply can have a spending multiplier near to one as the consequent boom in the marginal product of capital and investment compensates for the effect on consumption. However, in general, real business cycle (RBC) models in which prices are flexible and competition is perfect indicate that the effects of fiscal policy on output pass mainly via supply effects and generate small spending multipliers, very often below 0.5.

New Keynesian DSGE models embed frictions that affect significantly the multipliers drawn with them. Galí et al. (2007) allow for some share of financially constrained (Rule-of-Thumb, or RoT) consumers, which establish a closer link between current income and current consumption, thereby leading to a consumption increase in response to a government spending rise and thus to higher multipliers.

Permanent fiscal expansions yield lower fiscal multipliers as the negative wealth effect associated to such shocks is higher. The same mechanism holds if fiscal measures are credible. For example, QUEST multipliers from permanent fiscal stimulus can increase from 0.3/0.4 to 0.7/0.8 if the measures taken are non-credible or temporary (see Roeger and in't Veld (2010)).

The composition of the fiscal shock also matters. In general, short-term multipliers are found to be higher for government expenditure shocks than for tax shocks (e.g. Coenen et al. (2012)). For instance, multipliers in Roeger and in't Veld (2010) amount to 1 for government wages and government investments, to 0.5 for government purchases and to below 0.4 for transfers and taxes. Multipliers associated to government purchases amount to 1.6 in Romer and Bernstein (2009),

to 0.7 in Cogan et al. (2010). The corresponding multiplier for temporary government expenditure shocks in QUEST is 0.8 which increases to 1.2 if monetary policy is at the zero lower bound.¹ In turn, Barrell et al. (2012) show values oscillating between 0.5 for Germany and 1.1 for the US.

It is worth noting, however, that taxes and expenditures imply also very different long-term multipliers. QUEST results² show that fiscal consolidations generally involve a fundamental trade-off between short-run pain and long-run gain. The pain arises from the negative multiplier effects of lower spending or higher taxes, while the gain stems from the lower world interest rates and lower distortionary taxes associated with lower debt levels. The results on both pain and gain are subject to important qualifications such as the design of a fiscal package and the credibility thereof.

The presence of real frictions like the presence of investment adjustment costs and constraints to adapt capacity utilisation (Burnside et al. (2004)) reduce multipliers because the presence of those frictions slows the reaction of firms to changes in interest rates (see also Monacelli and Perotti (2008)). According to Leeper et al. (2011) the quantitative impact of the presence of frictions is reduced. Nominal rigidities like price or wage rigidities have the opposite effect though (see Woodford (2011)). Price rigidities increase multipliers because firms respond to increases in aggregate demand not by increasing prices but rather increasing output.

The role of monetary policy is one of the most important factors determining the size of government spending multipliers. Leeper et al. (2011) show that the parameter which represents the reaction of interest rates to expected inflation in the Taylor rule is particularly important, accounting for about 10 % of impact multipliers. In turn, Christiano et al. (2011) also show that this effect is magnified in situations near to the Keynesian liquidity trap, in which the nominal interest rate remains at the so-called “zero lower bound”. In these cases government spending multipliers amount to well above 1.

As regards the external side of the economy the degree of openness and the exchange rate regime are key factors to explain fiscal multipliers. The fixed exchange rate regime magnifies the fiscal multiplier in presence of capital mobility because of the monetary accommodation necessary to keep the exchange rate at parity. Erceg and Lindé (2012a) show that spending-based consolidations in an open economy yield smaller multipliers than tax-based ones when monetary policy is unable to adjust the exchange rate. However, the reverse holds for small members in currency unions, or if the other members of the currency union are consolidating and monetary policy is in a liquidity trap. Finally, a high degree of openness of the economy reduces the multipliers as part of the effects of the fiscal

¹ This range can be compared to values for government investment multipliers presented in Coenen et al. (2012) which proposes a range of 0.9–1.3 or 1.1–2.2 depending on the model discussed.

² This is the case for most DSGE models see for example Clinton et al. (2010).

shock leaks abroad via increased imports and reduced exports (see for instance Corsetti and Mueller (2012a)).

2.2 *Var-Based Fiscal Multipliers in the Literature*

An increasing number of empirical studies assessing the macroeconomic effects of fiscal shocks was produced in the last decade. While the most prominent papers have focused on the U.S., there has also been a growing body of evidence on other countries, especially European Union ones. Table 1 gathers part of the available empirical evidence in the literature on fiscal multipliers to government expenditure shocks.

The different estimates are far from conclusive in view of the marked differences across specifications and methodologies. For the US the literature typically finds short-term (usually 1 year) multipliers that usually rank between 0.4 and 1, though in some studies multipliers above 1 are also obtained, while for longer horizons the dispersion is even larger. For European countries cumulative multipliers³ over the same horizon are usually found to be above unity. However, Burriel et al. (2010) for the euro area as a whole obtain multipliers below, although close to unity in the short term, while after 3 years it shrinks to some 0.6. These estimates fall within range of previous empirical evidence for other European countries as well as for the available evidence for the US.

The 2012 European Commission Public Finance Report (see European Commission (2012b)) estimates VAR models for Germany, Italy and Spain, as well as for the euro area as a whole. Except for Italy, 1 year government spending multipliers are estimated at above 1. The same is true for the cumulative multipliers after two and three years. In the cases of Spain and the euro area as a whole, fiscal multipliers two years after the shock seem to have increased in the most recent years.

One criticism often levied at the VAR literature, is that VAR models cannot properly account for the fact that changes in government spending and taxes can be anticipated due to legislative and implementation lags (Leeper et al. (2008)) because in this case the effects of the fiscal shock would appear in the economy as from the moment agents anticipate the government decisions. If agents are forward looking Structural VAR (SVAR) models may fail to correctly estimate fiscal shocks, thereby leading to biased estimates of their effects and in particular of fiscal multipliers. This is the so-called “fiscal foresight problem”. The debate on this issue is open in that if Ramey (2011) finds that fiscal foresight is a relevant issue inducing a bias on estimates of fiscal multipliers contrary to the previous findings of Perotti (Perotti 2004), Bouakez et al. (2010) show that Ramey’s results

³ The cumulative multiplier at a given period is obtained as the ratio of the cumulative response of GDP and the cumulative response of government expenditure.

Table 1 VAR-based expenditure multipliers

Studies	Sample	Short-term multiplier ^a	Medium-term Multiplier ^b	Identification strategy ^c
Blanchard and Perotti (2002)	US (1947:1–1997:4)	0.5	0.5 ^d	Decision lags in policy Making and imposition of contemporaneous GDP elasticities Blanchard-Perotti
Perotti (2004)	US (1960:1–1979:4) US (1980:1–2001:4)	1.29 0.36	1.4 0.28	Blanchard-Perotti
Gali et al. (2007)	US (1954:1–2003:4)	0.7	1.74	Cholesky decomposition
Ramey (2011)	US (1939:1–2008:4)	0.6 to 1.2	No estimate	Narrative approach
Mountford and Uhlig (2009)	US (1955:1–2000:4)	0.65 ^e ; 0.46; 0.28 ^f	–0.22	Sign restrictions on impulse responses
Fatas and Mihov (2001)	US (1960:1–1996:4)	Similar to Galí et al. (2007)	Similar to Galí et al. (2007)	Cholesky decomposition
Perotti (2004)	Germany (1960:1–1974:4)	0.36	0.28	Blanchard-Perotti
Heppke-Falk et al. (2006)	Germany (1975:1–1989:4)	0.62	1.27	Blanchard-Perotti
Baum and Koester (2011)	Germany (1974:1–2004:4)	0.7	0.69	Blanchard-Perotti and Threshold VAR
Bénassy-Quéré and Cimadomo (2006)	Germany (1976:1–2009:4)	0.23	–0.23	FVAR and Blanchard-Perotti
Biau and Girard (2005)	France (1978:1–2003:4)	1.9	1.5	Blanchard-Perotti
Giordano et al. (2007)	Italy (1982:1–2004:4)	1.2	1.7	Blanchard-Perotti
De Castro (2006)	Spain (1980:1–2001:2)	1.14–1.54	0.58–1.04	Cholesky decomposition
de Castro and de Hernández Cos (2008)	Spain (1980:1–2004:4)	1.3	1	Blanchard-Perotti

(continued)

Table 1 (continued)

Studies	Sample	Short-term multiplier ^a	Medium-term Multiplier ^b	Identification strategy ^c
de Castro and Fernández (2011)	Spain (1981:1–2008:4)	0.94	0.55	Blanchard-Perotti
IMF (2005)	Portugal (1995:3–2004:4)	1.32	1.07	Blanchard-Perotti
Perotti (2004)	UK (1963:1–1979:4)	0.48	0.27	Blanchard-Perotti
	UK (1980:1–2001:2)	-0.27	-0.6	
Bénassy-Quéré and Cimadomo (2006)	UK (1971:1–2004:4)	0.12	-0.3	FVAR and Blanchard- Perotti
Burriel et al. (2010)	Euro Area (1981:1–2007:4)	0.87	0.85	Blanchard-Perotti

^a We define “short-term” as a time gap ranging from simultaneous effects to 1 year distance from the fiscal shock

^b By medium-run is broadly intended a period going from 1 to 3 years after the time fiscal shock took place

^c Perotti (2004) distinguished four basic approaches in the literature to identify fiscal shocks in VAR: (1) Setting a dummy variable accounting for specific episodes such as wars; (2) Imposing sign restrictions on IRFs (pioneered in an “agnostic” way by Mountford and Uhlig (2009)); (3) Exploiting Choleski ordering; (4) Considering decision lags in policy making and fiscal variables’ elasticity to economic activity (narrative)

^d Cumulative multiplier between the 4th and 8th quarter

^e Impact multiplier

^f These two numbers are referred to expenditure multiplier respectively at the 4th and 8th quarters

are most likely driven by the data points relative to the Korean War episode only and should thus be not considered of a general relevance.⁴

As in the case of government expenditure shocks, the bulk of the available empirical evidence on tax multipliers refers to the United States. Results are not conclusive as even differences in the sign of multipliers are observed. In any case, most of the empirical estimates reveal that tax shocks usually entail lower effects on GDP than public expenditure. Table collects some of the available empirical evidence Table 2.

The results in Blanchard and Perotti (2002) imply tax increases lead to multipliers ranging between -0.7 and -1.3 for the first two years and somewhat lower in absolute value for the third one. For the sample between 1980 and 2001, Perotti (2004) estimates cumulative multipliers of similar magnitude. However, Favero and Giavazzi (2007) obtain positive (non-cumulative) multipliers to an increase of taxes for the sample 1980–2006. The increase of output in response to a tax increase is rather counterintuitive, although this result is also observed in other studies and for other countries (see, for instance Perotti (2004) for the cases of Germany or the UK).

Romer and Romer (2010) employ a narrative approach for the US post-World War II period and find very high negative tax multipliers, of almost -3% over the next three years following the shock. This contrasts significantly with the lower multipliers calculated on the basis of tax shocks identified within VARs with the Blanchard-Perotti methodology. Favero and Giavazzi (2010) argue that such difference is not explained by a difference in the shocks (VAR versus narrative) but by the different models used to estimate their effects on macro variables. They show that when the effects of shocks identified by the narrative method are analysed in the context of a multivariate VAR (rather than using a limited information, single-equation approach), multipliers with both methodologies turn out to be rather similar and are estimated at about unity.

As far as European countries are concerned, Blanchard and Perotti tax shocks usually lead to very low, mostly non-significant multipliers, whereas Cloyne (2011) identifies fiscal shocks with a narrative approach à la Romer and Romer and obtains impact multipliers to negative tax shocks between 0.5 and 1% , depending on the model specification, which rise significantly after 10–12 quarters. For the euro area as a whole, Burriel et al. (2010) gauge net-tax multipliers between -0.6 and -0.5 for the first three years.

⁴ Technically, while Ramey (2011) provides evidence that SVAR-based innovations in the US as identified in Blanchard and Perotti (2002) can be anticipated and Granger-caused by Ramey and Shapiro (1998) war episodes. However, Perotti (2004) finds little evidence that SVAR-based innovations are predictable. In turn, Bouakez et al. (2010) show that, the fiscal foresight problem is not severe enough to preclude the use of SVAR innovations as correct measures of unanticipated fiscal shocks as Ramey's results are driven by the Korean War episode.

Table 2 VAR-based multipliers to an increase in net taxes

Studies	Sample	Short-term multiplier	Medium-term multiplier	Identification strategy
Blanchard and Perotti (2002)	US (1947:1–1997:4)	Within range – 0.7––1.3	Within range – 0.4––1.3	Decision lags in policy making and imposition of contemporaneous GDP elasticities
Perotti (2004)	US (1960:1–1979:4) US (1980:1–2001:4)	–1.41 0.7	–23.87 1.55	Blanchard-Perotti
Favero and Giavazzi (2007)	US (1980:1–2006:4)	0.29	0.65	Narrative approach
Mouniford and Uhlig (2009)	US (1955:1–2000:4)	–0.16	–2.35	Sign restrictions on impulse responses
Romer and Romer (2010)	US (1945:1–2007:4)		–3	Narrative approach
Perotti (2004)	Germany (1960:1–1974:4)	0.29	–0.05	Blanchard-Perotti
	Germany (1975:1–1989:4)	–0.04	0.59	
Baum and Koester (2011)	Germany (1976:1–2009:4)	–0.66	–0.53	Blanchard-Perotti and TVAR
Bénassy-Quéré and Cimadomo (2006)	Germany (1971:1–2004:4)	–1.17	–1.08	FVAR and Blanchard-Perotti
Biau and Girard (2005)	France (1978:1–2003:4)	–0.5	–0.8	Blanchard-Perotti
Giordano et al. (2007)	Italy (1982:1–2004:4)	0.16		Blanchard-Perotti
De Castro (2006)	Spain (1980:1–2001:2)	0.05	0.39	Cholesky decomposition
Afonso and Sousa (2009)	Portugal (1979:1–2007:4)	+	+	Blanchard-Perotti
Perotti (2004)	UK (1963:1–1979:4)	–0.23	–0.21	Blanchard-Perotti
	UK (1980:1–2001:2)	0.43	0.7	

(continued)

Table 2 (continued)

Studies	Sample	Short-term multiplier	Medium-term multiplier	Identification strategy
Bénassy-Quéré and Cimadomo (2006)	UK (1971:1–2004:4)	–0.23	–0.07	FVAR and Blanchard-Perotti
Cloyne (2011)	UK (1945–2010)	Between –0.5 and –1.0	–2.5	Narrative approach
Burriel et al. (2010)	Euro Area (1981–2007)	–0.63	–0.49	Blanchard-Perotti

2.3 *Fiscal Multipliers in Crisis Periods*

One of the main issues discussed within the context of the “self-defeating consolidations” debate is the non-linearity of the multipliers and specifically the fact that multipliers are expected to be larger in crisis periods.

With DSGE models assessing the value of multipliers in crisis situations can mostly be done in an heuristic way, by assessing the value that reasonably can be taken by the crucial parameters in crisis times as opposed to the values that those parameters can take under normal circumstances. Among these, the factors with highest impact on multipliers are the percentage of financially constrained agents and monetary policy being at the so-called zero lower bound i.e., in a situation akin to the Keynesian liquidity trap. Even if DSGE models do not make endogenous the share of consumers that are liquidity constrained, it is a reasonable assumption that during crisis, especially crisis originated in the financial sector as the present one, the fraction of consumers that are financially constrained increases.

Another key factor of relevance is the stance of monetary policy: the more accommodative monetary policy, the larger the multipliers, via the impact on real interest rates. Moreover, Christiano et al. (2011) show that multipliers are higher the larger the percentage of spending implemented under a liquidity trap, with peak multipliers that can be larger than two while Leeper et al. (2011) find one-year spending multipliers at 1.5–1.6.

The main exceptions to linear models are constituted by Erceg and Lindé (2012b) which build a new-Keynesian DSGE model showing that the duration of a liquidity trap is endogenous and is shorter the larger the fiscal stimulus provided by an increase in government spending. Given that multipliers are larger the longer the period in which the economy remains in the liquidity tap, in Erceg and Lindé the size of the multiplier is inversely related to spending levels. The second exception is Canzoneri et al. (2012), which build on the previous reasoning and introduce costly financial intermediation allowing financial frictions to vary counter-cyclically. The model can thus generate impact spending multipliers which are between two and three in recessions and 0.9 in expansions. Yearly cumulative multipliers are almost 1 and roughly two thirds respectively. It should be noticed that these results are obtained with persistence of government shock of 0.97.

Recent empirical analysis tends to find that multipliers are larger in crisis periods. Auerbach and Gorodnichenko (2010) using a regime switching structural VAR find peak values for spending multipliers of 1 and for tax multipliers of -1 in the US. When a distinction is made between expansions and recessions spending multipliers are found respectively around 0.6 and up to 2.5, while tax multipliers become smaller but still differentiated at -0.5 and -0.1 in recessions and expansions, respectively. Caprioli and Momigliano (2012) use a STVAR technique on a sample of quarterly data for Italy in 1982–2011 and find multipliers that amount to 0.16 in expansions and 0.61 in recessions.

Afonso et al. (2011) use similar techniques on data from a quarterly dataset for the period 1980:4–2009:4 for the U.S., the U.K., Germany and Italy to estimate the

differences in multipliers in high financial stress versus low financial stress regimes. They find that 3 year multipliers in high stress regimes can be twice as large as in low stress regimes. In turn, Baum and Koester (2011) with a Threshold VAR show that public expenditure multipliers vary depending on the size of the shock, its sign and the level of the output gap. Hence, in low regimes or crisis periods they observe that the higher the size of the shock, the higher the spending multiplier when government expenditure increases. Hence, a government expenditure increase of 5 % may lead to a multiplier of around 1.3, whereas when the spending increase only amounts to 2 % the multiplier diminishes to around 1. In good times though multipliers are lower and seem to behave more linearly. Finally, Bouthevillain and Dufrenot (2011) estimate a Markov switching model on quarterly data on France for the period 1970:1–2009:4.⁵ Increasing government expenditures is effective in raising GDP in recessions but not in expansions, and similarly for a decrease in government revenues.

2.4 Fiscal Multipliers: A Summary

The review of the literature presented above allows drawing the following conclusions, despite the large variation in estimates and the difficulty in comparing them. Assessing the current size of fiscal multipliers is complex, in that the value taken depends on its composition, its permanent nature, and on the economic environment at large. The large majority of estimates of first-year spending multipliers in normal times are located in the range of 0.4–1.2. The values are lower—quite often below 0.7—for tax multipliers. Therefore, if the composition of observed consolidation is taken as a guide, multipliers are expected in general to be lower than the highest estimates: using observed changes in revenues and expenditures to GDP ratios as proxies for the composition of the adjustment shows that in 2012 consolidation is equally shared in revenue and expenditure measures. In the same direction also go the indications that comes from the mostly permanent nature of the consolidation in the EU.

However, it is likely that in the current juncture impact multipliers are higher than normal because (1) the literature stresses that in situations of crisis, and of financial crisis in particular, with many agents constrained in the financial markets, multipliers are larger than average; and (2) monetary policy is unable or unwilling to offset the deflationary effect of a consolidation. The specificity of the EU and of the euro area, with high trade integration, fixed exchange rates and the necessity of consolidating at the same time and during a period in which the rest of the world is

⁵ True fiscal policy data at quarterly frequency are computed in France only for recent years. Data used in Bouthevillain and Dufrenot are based on yearly time series interpolation by the OECD.

growing well below potential add to the probability that first year fiscal multipliers are relatively high.

The European Commission's QUEST model yields first-year output multipliers of around 0.7 and 0.4 for the Euro Area for a balanced consolidation in normal economic times, which is perceived respectively as temporary/not credible or permanent/credible by consumers. These multipliers can become larger in a crisis period (by a factor of one half) and even larger in a crisis period in which trade partners consolidate when they can be multiplied roughly by a factor of 5/3.

3 The Debt Dynamics Following Fiscal Shocks

In the absence of any stock-flow adjustments,⁶ the government debt to GDP ratio (b) evolves according to the following formula⁷:

$$b_t = b_{t-1}(1 - g_t) - bal_t = b_{t-1}(1 + r_t - g_t) - pbal_t \quad (1)$$

where *bal* represents the budget balance to GDP ratio, *pbal* the primary budget balance, *r* the average effective interest rate on government debt and *g* nominal GDP growth, all in real terms. The evolution of the debt ratio can therefore be understood as being driven by the primary balance and the snowball effect, which is the difference between the average effective interest rate and the growth rate of the economy. Over the medium-term, the snowball effect is of particular importance as it drives the magnitude of primary balances that are necessary in order to ensure that government debt remains sustainable.

By definition the general government balance is the sum of a structural component and a cyclical component. Taking ratios to GDP the balance, expressed as the sum of cyclically adjusted balance and cyclical balance is

$$bal_i = cab_i + cb_i \quad (2)$$

where *cab_i* is the cyclically-adjusted general government balance and *cb_i* is the cyclical component of the balance. The cyclical part of the budget varies proportionally to the percentage difference of GDP to baseline, with a coefficient equal to the semi-elasticity of budget balance ϵ .

⁶ The stock-flow adjustment is the difference between the change in government debt and the government deficit/surplus for a given period. The main categories of stock-flow adjustments are net acquisitions of financial assets, items that do not directly affect the Maastricht definition of debt and effects of face valuation, comprising also effects of exchange rate variation. See http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/STOCK_FLOW_2011/EN/STOCK_FLOW_2011-EN.PDF

⁷ This formula is derived from the identity $B_t = B_{t-1}(1 + r_{t-1}) - PBal_t$, where *B* represents government debt in cash terms, *PBal* primary government balance and stock-flow adjustments are assumed to equal zero. The formula in the text is derived by expressing all variables as a ratio to GDP (Y) $\frac{B_t}{Y_t} = \frac{B_{t-1}}{Y_{t-1}}(1 + r_{t-1})\frac{Y_{t-1}}{Y_t} - \frac{Bal_t}{Y_t}$ and simply rewriting $b_t = \frac{b_{t-1}(1+r_{t-1})}{1+g_t} - bal_t$ and approximating $\frac{(1+r_{t-1})}{1+g_t}$ with $(1 + r_{t-1} - g_t)$ gives the formula in the text.

The annual structural effort is represented by a diminution in the cyclically-adjusted primary balance, cab_i . A permanent consolidation is thus a change in cab_i which is constant in terms of ratio of GDP, i.e. $dcapb_i = dcapb_{i-1} = da$ where the notation means that the change in $capb$ has been put in place at the first period so that the variation of the cyclically-adjusted primary balance remains constant with respect to baseline throughout all years onwards.

The fiscal multiplier m_i of year i is defined as the variation of GDP over the decrease in structural primary balance i.e., $m_i \equiv -\frac{dY_i}{dCAPB_i}$.

For the sake of notational simplicity it is also useful to define, first, the adjusted fiscal multiplier \hat{m}_i as the percentage variation of GDP over the decrease in structural primary balance-to-GDP ratio, i.e., $\frac{dY_i}{Y_i dcapb_i} = \frac{dY_i}{Y_i da} = -\frac{m_i}{1+capb_i m_i} \equiv \sim -\hat{m}_i$.

Notice that \hat{m}_i corresponds to the impulse-response function used to analyse the effects of fiscal (or other) shocks in VAR or DSGE models.

The fiscal multiplier of the growth rate, λ_i , representing the variation of growth from baseline growth over the decrease in structural primary balance-to-GDP ratio, i.e., $\lambda_i \equiv -\frac{dg_i}{dcab_i} = (1 + g_i)(\hat{m}_i - \hat{m}_{i-1})$ with the convention that $\hat{m}_0 = 0$ so that the fiscal multiplier growth rate in the period in which the consolidation measures are taken depends only on the first year fiscal multiplier. If the structural primary balance of the basic scenario is small, and given that the growth rate is usually small enough, this implies that \hat{m}_i as well as λ_i in the first period are well approximated by the fiscal multiplier as usually defined, and that λ_i in the following periods can be approximated by the change in the multipliers.

If stock-flow adjustments are null, debt-to-GDP ratio evolves with the following dynamics:

$$b_i = \frac{b_{i-1}(1 + r_{i-1})}{1 + g_i} - pbal_i \cong b_{i-1}(1 + r_{i-1} - g_i) - pbal_i \quad (3)$$

Without loss of generality, assuming that the year of consolidation is year 0 and solving (3) forward yields the debt-to-GDP ratio at the end of period n .

$$b_n = b_0 \prod_{i=1}^n (1 + r_{i-1} - g_i) - \sum_{i=1}^n pbal_i \prod_{j=i+1}^n (1 + r_{j-1} - g_j) \quad (4)$$

3.1 Exogenous Interest Rates

It is thus possible to compute the variation of debt-to-GDP ratio in year n following a permanent consolidation made in year 1, where as a first approximation it has been assumed that interest rates do not vary with consolidation.

$$\begin{aligned}
db_n = & -b_0 \sum_{i=1}^n dg_i \prod_{j=1, j \neq i}^n (1 + r_{j-1} - g_j) \\
& - \sum_{i=1}^n dpbal_i \prod_{j=i+1}^n (1 + r_{j-1} - g_j) \\
& + \sum_{i=1}^n pbal_i \sum_{k=i+1}^n dg_k \prod_{j=i+1, j \neq k}^n (1 + r_{j-1} - g_j) \quad (5)
\end{aligned}$$

Notice that since $d\text{capb}_i = da$ is constant and the derivative of the cyclical balance to the structural adjustment can be computed to be $\frac{dcb_i}{da} = -\epsilon \ominus \hat{m}_i$, if the baseline GDP is assumed to be close to potential GDP, the derivative of government primary balance-to-GDP ratio with respect to the annual structural adjustment is

$$\frac{dpbal_i}{da} = 1 - \epsilon \hat{m}_i \quad (6)$$

Substituting (6) into (5) yields the derivative of debt-to-GDP ratio at the end of year n with respect to the annual structural adjustment.

$$\begin{aligned}
\frac{db_n}{da} = & b_0 \sum_{i=1}^n \lambda_i \prod_{j=1, j \neq i}^n (1 + r_{j-1} - g_j) \\
& - \sum_{i=1}^n (1 - \epsilon \hat{m}_i) \prod_{j=i+1}^n (1 + r_{j-1} - g_j) \\
& - \sum_{i=1}^n pbal_i \sum_{k=i+1}^n \lambda_k \prod_{j=i+1, j \neq k}^n (1 + r_{j-1} - g_j) \quad (7)
\end{aligned}$$

Let's assume that the economy was at the steady-state before the adjustment was made, meaning that initial balance is constant, nominal growth is constant and equal to potential growth and the apparent interest rate is constant. The marginal impact of consolidation on the debt-to-GDP ratio at the end of year n becomes:

$$\begin{aligned}
\frac{db_n}{da} = & b_0 \sum_{i=1}^n \lambda_i (1 + r - g)^{n-1} - \sum_{i=1}^n (1 - \epsilon \hat{m}_i) (1 + r - g)^{n-i} \\
& - pbal \sum_{i=1}^n \sum_{k=i+1}^n \lambda_k (1 + r - g)^{n-i-1} \quad (8)
\end{aligned}$$

and after some algebraic manipulation:

$$\begin{aligned}
\frac{db_n}{da} \cong & \underbrace{\frac{\hat{m}_n(1+g)}{1+r-g} [b_0(1+r-g)^n - n \cdot pbal] + pbal(1+g) \sum_{i=1}^n (1+r-g)^{n-i-1} \hat{m}_i}_{\text{cumulative effect of growth on debt evolution}} \\
& + \underbrace{\epsilon \sum_{i=1}^n (1+r-g)^{n-i} \hat{m}_i}_{\text{cumulative effect of growth on balance}} \quad \text{quad} \quad \underbrace{-n}_{\text{cumulative adjustment}} \quad (9)
\end{aligned}$$

Equation (9) shows that the change in the debt-to-GDP ratio in response to a consolidation shock is the sum of three effects: the first term is the cumulative effect of the change in growth during n years to the debt ratio evolution; the second

term is the cumulative effect of the change in balance on debt-to-GDP ratio; the third is the cumulative effect of the consolidation. It is important to notice that (9) calculates the deviation of debt with respect to the baseline scenario—considered here as the steady-state scenario—due to the permanent variation in structural primary balance. It takes into account variations in growth rates, primary balance and GDP level that the permanent consolidation—or stimulus—entails.

The short-term case corresponds to $n = 1$, in which case (9) becomes:

$$\begin{aligned} \frac{db_1}{da} &= \frac{\hat{m}_1(1+g)}{1+r-g} (b_0(1+r-g) - pbal) + \left(\epsilon + \frac{pbal(1+g)}{1+r-g} \right) \hat{m}_1 - 1 \\ &= (b_0(1+g) + \epsilon) \hat{m}_1 - 1 \end{aligned} \quad (10)$$

Equation (10) shows that in the short-term, a consolidation affects the debt ratio both via its effect on the primary balance and via its effect on the rate of growth of GDP. First, the debt ratio is affected by the change in the primary balance, which, in turn affected both directly and indirectly by the consolidation measures. The direct effect is given by the fact that consolidation measures reduce the deficit, while the indirect effect is again given via the effect on growth; the primary balance is also affected by the growth rate of the economy via the automatic stabilizers. The government balance is therefore given as being increased by the direct effect of consolidation measures but reduced by the impact that these measures have on the economic growth rate. Second, the debt ratio is increased, because if there is no significant impact of a consolidation on the interest rate, the dynamics of the debt ratio are driven by the effect of economic growth. As consolidations typically have a (short-term) negative impact on the economic growth rate, this leads to an increase in the debt ratio.

Equation (10) unveils that (1) a high starting level of debt leads to a large and negative impact of consolidation on debt. The same holds for the elasticity of the government balance to the cycle; and (2) the larger the short-term multiplier, the bigger the negative impact of consolidations on the debt ratio. Hence, from (10) the critical multiplier can be defined as the value of the short-term fiscal multiplier beyond which a fiscal contraction actually leads the ratio to increase on impact:

$$\frac{db_1}{da} \geq 0 \Rightarrow \hat{m}_1 \geq \frac{1}{b_0(1+g) + \epsilon} \quad (11)$$

where \hat{m}_1 for small g can be approximated by

$$\hat{m}_1 \geq \frac{1}{b_0 + \epsilon} \quad (12)$$

Table 3 shows the estimated critical multipliers for the EU27, for the 2011 levels of Maastricht debt and using estimated cyclical semi-elasticities of government balance to the output gap to measure the reaction of automatic stabilisers to the change in growth induced by consolidation.

Comparing the critical multipliers given in Table 3 with the results of literature referred to in Sect. 2 indicates that Greece is the only country where short-run debt

increases could be observed even in normal times and if consolidation is balanced. However, given the high debt levels now present in the EU and given that large government sectors induce large cyclical semi-elasticities, around one third of the EU countries are likely to see their debt ratio increasing compared to the baseline in the first year when a consolidation process is implemented depending on the composition of consolidation. This is especially true if consolidation is spending-based and is not completely credible so that figures from meta-studies are used and considering the current crisis situation, in which case multipliers can be expected to be larger and a large part of EU countries would be likely to be in the undesired effect area in the short term.

If one assumes that the shape of the impulse-response function follows the typical DSGE result, the path of the adjusted multiplier \hat{m} can be approximated by

$$\hat{m}_i = (m - \beta)\alpha^{i-1} + \beta \quad (13)$$

Table 3 Critical first year multipliers in EU Member States at constant interest rates in 2011

	Elasticities	Debt (2011)	Critical multiplier
BE	0.51	98.0	0.7
BG	0.33	16.3	2.0
CZ	0.36	41.2	1.3
DK	0.65	46.5	0.9
DE	0.54	81.2	0.7
EE	0.30	6.0	2.8
IE	0.44	108.2	0.7
EL	0.42	165.3	0.5
ES	0.43	68.5	0.9
FR	0.53	85.8	0.7
IT	0.49	120.1	0.6
CY	0.43	71.6	0.9
LV	0.30	42.6	1.4
LT	0.29	38.5	1.5
LU	0.44	18.2	1.6
HU	0.44	80.6	0.8
MT	0.38	72.0	0.9
NL	0.62	65.2	0.8
AT	0.47	72.2	0.8
PL	0.38	56.3	1.1
PT	0.45	107.8	0.7
RO	0.32	33.3	1.5
SI	0.45	47.6	1.1
SK	0.33	43.3	1.3
FI	0.58	48.6	0.9
SE	0.61	38.4	1.0
UK	0.46	85.7	0.8

Source Commission services' calculation

with $0 < \alpha < 1$ and no assumption on the sign of β the long-run impulse response of GDP to fiscal consolidation. Equation (13) allows representing the situation in which the effect of present consolidation decreases through time. No assumption is made on the sign of the long-run multiplier: a negative value then represents the situation in which consolidation is made via increased distortionary taxes or public investments thus decreasing growth permanently and a negative value a situation in which hysteresis effects (see for example de Long and Summers (2012)) are present. A positive one represents the situation in which consolidation is made via cuts in government consumption or increases in property taxes or a situation in which interest rate are lowered by consolidation.

Substituting (13) into (9) gives

$$\begin{aligned} \frac{db_n}{da} = & \frac{(m\alpha^{n-1} + \beta)(1+g)}{1+r-g} [b_0(1+r-g)^n - n \cdot pbal] - n \\ & + [pbal(1+g) + \epsilon(1+r-g)] \left[m\alpha \frac{(1+r-g)^{n-1} - \alpha^{n-1}}{1+r-g-\alpha} + \beta \frac{(1+r-g)^{n-1} - 1}{r-g} \right] \end{aligned} \tag{14}$$

3.2 Endogenous Interest Rates

It is often argued that consolidation or stimulus measures have an impact on yields, influencing the future path of debt. Indeed, if we assume that apparent interest rates paid on the stock of debt vary with the implementation of a variation of the structural primary balance the overall variation of the debt-to-GDP ratio at the end of period n becomes:

$$\begin{aligned} \frac{db_n}{da} = & \frac{db_n}{da|_{dr=0}} \\ & + \underbrace{b_0(1+r-g) \sum_{i=1}^n \frac{dr_{i-1}}{da} - pbal \sum_{i=1}^n (1+r-g)^{n-i-1} \sum_{k=i+1}^n \frac{dr_{k-i}}{da}}_{\text{cumulative effect of apparent interest rate on debt evolution}} \end{aligned} \tag{15}$$

where $\frac{dr_i}{da}$ is the variation of the apparent interest rate at period i and $\frac{db_n}{da|_{dr=0}}$ is the debt-to-GDP variation calculated in the previous section with constant interest rates. A negative $\frac{dr_i}{da}$ indicates that consolidation effort improve market's confidence in government bonds and reduce yields. To describe the variation of yields, as a function of debt, deficit, market expectations and market short-termism is expressed as $\frac{dr_i}{da}$. Yields vary by assuming that they depend on the expected solvability of the government given the level of rates. Yields depend on the expected level of debt at a certain horizon h assuming baseline rates: a small h

means that financial markets are short-sighted and high h means that financial long-sighted. Assuming adaptive expectations in a sense that agents revise them if the actual level of debt differs from what was expected, we thus have:

$$\mu_i = \frac{dr_i}{da} = \gamma_h \frac{db_{i+h}}{da} \Big|_{dr=0} \quad (16)$$

where μ stands for the yield sensitivity to structural primary balance, growth perspective and other external factors that affect confidence and γ_h for the yield sensitivity to the debt level.⁸

The variation of the debt-to-GDP ratio at the end of the period n then becomes

$$\begin{aligned} \frac{db_n}{da} &= \frac{db_n}{da} \Big|_{dr=0} + \underbrace{b_0(1+r-g)\gamma_h \sum_{i=1}^{n-1} \frac{db_{i-1+h}}{da} \Big|_{dr=0} - pbal \gamma_h \sum_{i=1}^n (1+r-g)^{n-i-1} \sum_{k=i+1}^n \frac{db_{k-1+h}}{da} \Big|_{dr=0}}_{\text{cumulative effect of apparent interest rate on debt evolution}} \\ &= \frac{db_n}{da} \Big|_{dr=0} + \underbrace{b_0(1+r-g)\mu n - \frac{pbal\mu}{r-g} \left[(1+r-g)^n(n-1) - (1+r-g) \frac{1-(1+r-g)^{n-1}}{g-r} \right]}_{\text{cumulative effect of change in market sentiment}} \\ &\quad + \underbrace{b_0(1+r-g)\gamma_h \sum_{i=1}^{n-1} \frac{db_{i-1+h}}{da} \Big|_{dr=0} - pbal \gamma_h \sum_{i=1}^n (1+r-g)^{n-i-1} \sum_{k=i+1}^n \frac{db_{k-1+h}}{da} \Big|_{dr=0}}_{\text{cumulative effect of change in expected debt}} \end{aligned} \quad (17)$$

The predictions of economic theory on the effects of fiscal policy variables on interest rates are not univocal. The traditional Keynesian analysis well represented by the IS/LM model stresses the role of deficit: an increase in deficit tends to increase government yields and consequently interest rates via demand pressure. A similar argument holds for New Keynesian DSGE models, that incorporate a Taylor rule by which interest rates react positively to future inflation generated by the increased demand due to a deficit increase or a devaluation/depreciation of the currency. These models however refer to short-term interest rates, while the relevant rate for the economy is probably the long-term interest rate, which better reflects marginal productivity of capital.

Table 4 provides a summary of the literature documenting the effects of fiscal variables on interest rates. Despite some dispersion in the estimates, higher fiscal deficits and public debt ratios seem to lead to higher interest rates too. On average, the available evidence suggest that increases in public deficits and debt ratios of around 1 % of GDP may entail long-term interest rate rises of around 50 basis points and about 5 basis points, respectively. Both estimates are compatible as a permanent increase in deficits by one point of GDP would increase the debt to

⁸ It is to be remarked the assumption that financial markets are assumed not to take into account the consequences of their own behaviour on debt evolution. This seems coherent with the assumption of myopic behaviour.

Table 4 Fiscal consolidation and the cost of debt

Studies	Sample	Short term int. rates (5 years)	Long term int. rates (10 years)	Approach
Engen and Hubbard (2004)	US (1976–2003)	Debt 0.28	Debt 0.30	Vector auto regression (VAR)
Gale and Orszag (2004)	US (1956–2000)		Deficit 0.3/0.7	LS and ML estimates
Eaton and Fernandez (1995)	Survey of literature		Increased debt levels raise the probability of default. Higher public debt increases risk premia	Literature review
Manasse et al. (2003)	47 economies with market access (1970–2002)		Increased debt levels raise the probability of default. Higher public debt increases risk premia	Logit and binary recursive tree analysis
Laubach (2010)	US (1976:1–2006:2)	Deficit : 0.23 Debt : 0.032 for the 5 year-ahead 5 year forward rate	Deficit : 0.20–0.29; Debt : 0.022–0.044 for the 5 year-ahead 10 year forward rate	LS and IV regression
Thomas and Wu (2009)	US (1983–2005)	Deficit : 0.48–0.60	Deficit : 0.30–0.46	LS regression
Dai and Philippon (2005)	US (1970:1–2003:3)		Deficit : 0.4–0.5	VAR that incorporates a no-arbitrage affine term-structure model with a set of structural restrictions to identify fiscal policy shocks
Ardagna et al. (2004)	16 OECD countries (1960–2002); (1975–2002)		1 % of GDP increase in primary deficit: +10 bp (static specification) +150 bp (P-VAR) Non-linear effects of public debt	Panel and Panel VAR

(continued)

Table 4 (continued)

Studies	Sample	Short term int. rates (5 years)	Long term int. rates (10 years)	Approach
Ardagna (2009)	16 OECD countries (1960–2002) yearly data		Deficit : 0.24–0.42 Debt: 0.04–0.06 interest rate increases by 162 basis points in periods of worsening primary government balance and decreases by 124 basis points on average in consolidation periods	Panel
Faini (2006)	10.A members (1979–2002)	Debt: 0.53		Panel
Codogno et al. (2003)	9 EMU founding members (1999–2002)		Debt: Lowest in Netherlands 0.05; highest in Portugal 0.08 Debt ratio of 50 points higher than Germany: +47.5 b.p.	Time series inspection and SURE estimates
Bernoth et al. (2004)	13 EMU countries (1999–2002)		Debt ratio of 25 points higher than Germany: +30 b.p	Panel
Barrios et al. (2009)	7 Euro area countries (2003–2009)		Government surplus: –0.024 Debt : 0.003	LS and IV regression
Schuknecht et al. (2010)	12 countries (1991–2002)		+marginal debt (benchmark country): 0.09 b.p. before 2008; 1.18 b.p. after.	Panel
European Commission (2010)	10.founding members (1999–2009)		Debt: 12–18 basis points	Panel
Iara and Wolff (Iara and Wolff 2010)	11 EA countries (1999–2009)		Debt: 0.93–1.40	Panel (GMM)

Source Commission services' calculation

GDP ratio by the same amount and have thus a cumulative effect in interest rates of the same order of magnitude. However, these effects may be non-linear. The effects on government yields are expected to rise with the stock of public debt, mainly via the risk premium linked with sustainability concerns. Accordingly, insofar as fiscal consolidations succeeded in reducing public debt, their associated short-term pain would be lower the larger the initial stock of public debt.

4 The Responses of Public Debt to Fiscal Consolidations

The comparison between the critical multipliers and the available empirical evidence of fiscal multipliers in the literature shows that it is not impossible that in the current situation consolidation leads to higher debt in the short run. This Section looks at how the multipliers affect the debt dynamics following a consolidation, before the next Section introduces possible effects of consolidations on interest rates and moves to look at debt dynamics from a more medium-term point of view.

As shown in Eq. (9) the evolution of the debt ratio, in the absence of any effect on government yields, it is the sum of same three effects: (1) the cumulative effect of growth on debt, this effect being larger the larger initial debt stock and the higher the multipliers; (2) The cumulative effect of growth on government balance, which increases with the size of the multipliers and the size of automatic stabilisers, and; (3) the cumulative effect from the adjustment of government balance, with this effect being inversely related to the number of years and the size of the consolidation implemented.

The first two effects are act to increase the debt ratio, while the third acts to decrease it. One way to look at the medium-term effects of a consolidation, then, is to consider the number of years n^* (hereafter “the critical year”)⁹ necessary for the consolidation to lead to a decrease in debt with respect to a baseline scenario. In terms of Eq. (9) this is equivalent to the number of years necessary to bring $\frac{db_n}{da}$ to zero (or be negative).

The critical period n^* is different from the number of years required for the debt to go below its starting value in year 0 unless the baseline is the steady state of constant debt ratio. Figure 1 shows illustrative paths for the debt under baseline and consolidation scenarios, for a constant baseline in the left-hand panel and an increasing one in the right-hand panel. It shows that, while in the case of a stable baseline scenario n^* coincides with the year in which the debt level returns to its level in the consolidation year, this does not happen when the baseline scenario is increasing and the solid line representing the path of debt-to-GDP ratio following a

⁹ Notice that n^* represents the number of years starting from the year of consolidation. If consolidation is implemented in year 1, n^* represents the critical year. Therefore $n^* = 1$ means that there is no debt increase at all, while $n^* = 2$ indicates that the debt increase lasts one year and so on.

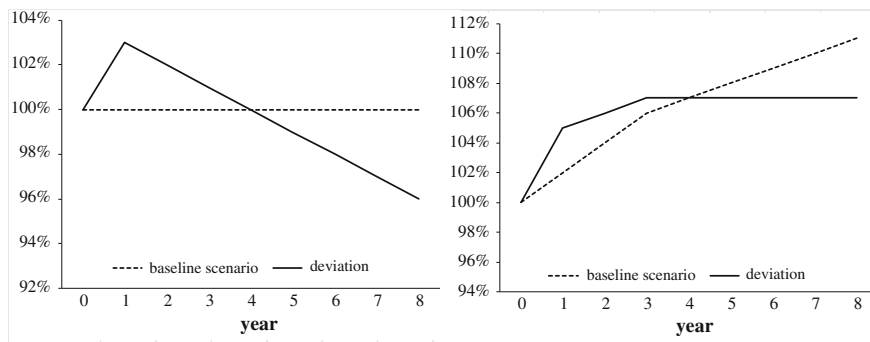


Fig. 1 Critical year and underlying debt trend. *Source* Commission services

consolidation returns to the starting level only after crossing the dotted line representing the baseline scenario (if ever). When looking at the effects of a consolidation on the debt, the relevant comparison depends on the aim of the exercise. The debt trajectory under a consolidation should be compared to the baseline debt if we are purely interested in the effect of the consolidation per se; however, if there is an overall question of debt sustainability the debt after a consolidation will also need to be compared to the actual starting level of debt.

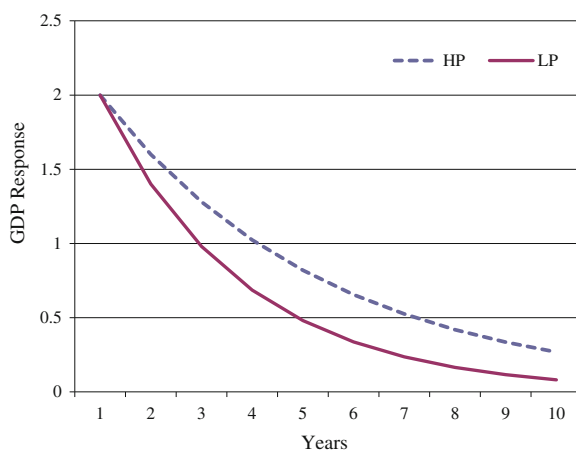
In order to model debt dynamics and calculate the value of the critical year n^* under different consolidation scenarios, to run debt simulations under different consolidation scenarios, a clear picture of the reaction of GDP to consolidation in future years (\hat{m}) is necessary, bearing in mind that it is likely to change over time. The higher the multipliers in the first year and the longer the change in GDP induced by the consolidation, the larger the value of n^* and the longer it will take for a consolidation to be effective.

The fiscal multipliers can be very persistent or can decay rapidly in the first years. This is represented by the output response following a convex, autoregressive path. Such an AR1-shaped curve is similar to the shape of GDP responses which can be found in New Keynesian DSGE-based assessments of multipliers for various (but not all) types of consolidation. Figure 2 shows two stylised GDP responses following a consolidation of 1 % of GDP, under low and high persistence.¹⁰ The main difference between the two paths thus concerns the persistence of the effects of the consolidation.

Over the medium-term, changes to the average effective interest rate are as important a factor for the debt to GDP dynamics as the growth rate of GDP. The impact of consolidation on average effective interest rates is more visible in the medium-term than in the short-term, with limited first-year impact on the debt level.¹¹

¹⁰ See Eq. (13). The persistence parameter is the ratio between the responses of two consecutive years if the long-run impact of fiscal consolidation is null.

Fig. 2 Stylised paths of GDP impulse responses used in the simulations. *Source* SCPs and Commission services



As shown in Eq. (17), taking into account the effects of changes in apparent interest rates adds a fourth element to the drivers of debt dynamics that affects n^* critically. The interest rate effect consists of the increased (or decreased if the interest rate diminishes) future debt burden related to the increased interest payments on the rollover of existing debt stock, and, second, the increased payments on the new debt related to future deficits.

The sign of this effect however, is not clear cut as it depends crucially on the way market expectations are generated.¹² The normal case, in line with the results of the literature presented in Sect. 3, is the case in which a consolidation improves the market's confidence in government bonds and reduces yields so that a consolidation leads to a lower average effective interest rate r . In this case, the effect of a consolidation on debt is reinforced and debt-to-GDP ratios are likely to decrease at a higher speed (or increase less) than with constant yields. If, on the contrary, the market reacts to consolidation by increasing yields and consequently average effective interest rates, the effect of this term is the opposite. Such an effect would be unusual, but by no means just a theoretical possibility.

¹¹ A more immediate impact can be seen on the yield of government debt, which may react more abruptly as borrowing goes up or down. The more muted effect on the interest rate is partly driven by the fact that only a share of overall debt needs to be reissued in any one year and so the effect on the average (or apparent) interest rate is more modest. An increase in interest rate of 50 basis points has a modest impact in the first year if 20 % of the debt is rolled over every year: for example with debt ratio at 100 % and a 20 % rollover, 50 basis points increase means an additional 0.1 % increase in deficit/debt. Nevertheless, in difficult times, there have been sizeable increases in the apparent interest rate that can be observed in the data. For example, between 1974 and 1975 the apparent interest rate increased from 15.7 to 22.2 in Denmark, while it increased from 8.3 to 15.2 in Portugal between 1980 and 1981. Conversely to these large sharp increases, decreases are often more gradual even when sustained, as was the case for the countries with higher yields at the entry in the EMU.

¹² Of course, other variables such as the conduct of monetary policy also affect this term.

In the simulations ahead it is assumed that the change on average effective interest rates is driven by the risk premium so that the change of the average effective interest rate r_i due to a consolidation a is expressed as

$$\frac{dr_i}{da} = \mu + \gamma \frac{db_{i+h}}{da} \Big|_{dr=0}$$

The parameter h , de horizon of financial markets, plays a key role. In particular $h = 1$ indicates that markets look at the debt in the year of the consolidation, which implies a high degree of myopia of financial markets.¹³ In this context, a high sensitivity of interest rates to the debt ratio could actually lead to increases in public debt levels. This could happen if a consolidation increases the debt ratio due to the denominator effect, which then leads to increase in interest rates which then further increase the debt ratio and so on. A positive μ means that the decrease in the risk premium due to the decrease in structural deficit does not offset the increase in central bank's real rates due to deflationary pressures.

The way $\frac{dr_i}{da}$ is expressed allows for the impact of quantitative effects of consolidation on interest rates to be easily factored into the analysis. Such effects can be very relevant in crisis situations and are not well modelled in linear models. The formula does, however, have the disadvantage that it does not take into account the spreading of the changes of government yields on the rest of the economy—or de facto it assumes that such effects are relatively small—because the path of the multiplier is independent from the reaction of interest rates.¹⁴ Moreover, the linear form of the interest rate function prevents from taking into account thresholds effects, another characteristic which the literature shows being potentially relevant in crisis periods.

4.1 The Distribution of n^*

To study the impact of each parameter of the equation on the value of n^* , we simulate a randomly distributed vector $(b_0; m; \mu; \alpha; \beta; \gamma; g, r, pbal, \epsilon)$ respectively initial level of debt, impact multiplier, response of interest rates to changes in short-term growth and fiscal outlook, persistence of the multiplier, long-run multiplier, sensitivity of interest rates to government debt, baseline nominal growth, baseline nominal rate, baseline primary balance and semi-elasticity of

¹³ It is to be remarked the assumption that financial markets are assumed not to take into account the consequences of their own behaviour on debt evolution. This is a simplifying assumption which has very reduced practical impact if myopia is interpreted as backward-looking behaviour or if the horizon in question is as short as one or two years. Notice that the formula could apply to new emissions as well, without substantive.

¹⁴ Notice that if interest rates decrease with consolidation, the formula for the change in r reinforces the possibility of undesired effects. In DSGE models multipliers decrease with interest rates.

budget balance to GDP. Each parameter follow a normal distribution except for γ that follows a gamma distribution to better account for the fact that it is assumed always positive and with a higher probability of high values than with a normal distribution (“fat tail” effect). Table 5 below summarizes the distribution of each parameter during a crisis episode:

We calculate the value of n^* for each combination of these parameters and different values of the market horizon h , and given the size of their confidence interval we estimate their marginal impact on the value of n^* in a linear equation, summarized in Table 6.

The parameters having the biggest impact on n^* are, in descending order of impact: the impact multiplier, the response of interest rate to consolidation, the initial level of debt, the sensitivity of rates to expected debt, the multiplier persistence, the semi-elasticity of budget balance, the baseline nominal growth and the long-run multiplier. The baseline nominal rate and primary balance have almost no impact on n^* .

The relevance of the parameter that measures the reaction of interest rates to debt— γ —highly depends on the short-termism of the markets: with short-sighted markets (low h) the higher the sensitivity of rates to solvability, the less effective is consolidation in bringing down the debt ratio under the case in which multipliers are above the critical value. On the contrary with more rational markets the higher is the sensitivity to solvability the more efficient is consolidation. The non-significance of baseline interest rate depends on the fact that changes induced by consolidation are large and affect n^* and it should not be interpreted as a claim that sovereign yields are irrelevant.

The value of the baseline scenario does not substantially affect the critical year: n^* increases only modestly with baseline growth, average effective rates and output gap, and decreases moderately with the baseline primary balance. On the other hand, the multipliers are relevant. Impact multipliers have a significant impact on debt dynamics since an increase in multipliers by one point leads to a 6 quarters increase in n^* . The long-term multiplier and the semi-elasticity of budget balance have a similar impact on n^* .¹⁵

Finally, a general picture of the previous results shows that for any given debt-to-GDP ratio, the value of n^* increases with the impact multiplier when consolidation has no effect on yields. A three year horizon is reached only with very high debt (140 % of GDP) and multiplier at around 1.4.

In what follows we will try to characterize the conditional distribution of n^* , the probability that debt diverges following a consolidation and the size of the peak in debt in the cases where it does not diverge. Indeed, as we have seen, in most cases, if the impact multiplier is higher than the critical multiplier, debt increases on

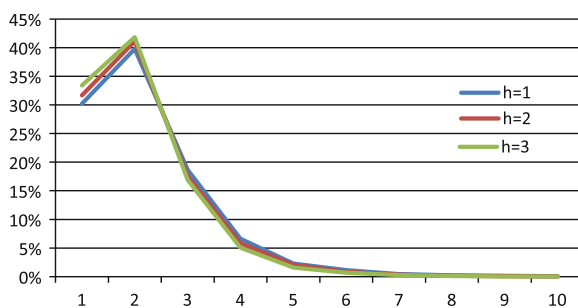
¹⁵ Given these result in what follows it is assumed to set real growth, apparent rate, primary balance, output gap and long-term multiplier at zero and the budgetary semi-elasticity at 0.5. Multiplier persistence is fixed at 0.7.

Table 5 Distribution of parameters affecting n^*

	b_0	m	μ	α	β	γ	g	r	p_{bal}	ϵ
Min	0.16	-1.14	-0.53	0.36	-0.36	0.00	-0.05	-0.06	-0.05	0.30
Max	1.82	2.78	0.74	0.94	0.34	0.44	0.10	0.09	0.03	0.68
Median	1.00	1.00	0.00	0.65	0.00	0.03	0.02	0.02	-0.01	0.50
Std	0.20	0.50	0.15	0.08	0.10	0.04	0.02	0.02	0.01	0.05
95 % confidence interval	[0.61; 1.40]	[0.02; 1.98]	[-0.3; 0.29]	[0.5; 0.8]	[-0.2; 0.2]	[0; 0.13]	[-0.02; 0.06]	[-0.02; 0.06]	[-0.03; 0.01]	[0.4; 0.6]

Table 6 n^* and markets horizon

	b_0	m	μ	α	β	γ	g	r	pbal	ϵ
Confidence interval size	0.79	1.96	0.59	0.3	0.39	0.13	0.08	0.08	0.04	0.2
Impact on nstar $h = 1$	1.0	3.1	1.1	0.5	0.1	0.7	-0.3	0.0	-0.1	0.4
Impact on nstar $h = 2$	0.7	2.9	0.9	0.5	0.1	0.1	-0.1	0.0	-0.1	0.3
Impact on nstar $h = 3$	0.6	2.6	0.9	0.4	0.1	-0.2	-0.1	0.0	0.0	0.3

Fig. 3 Stylised paths of GDP impulse responses used in the simulations**Table 7** Distribution function of n^* for different markets horizon

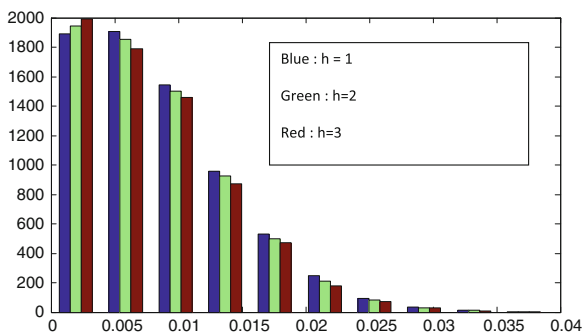
	$h = 1$ (%)	$h = 2$ (%)	$h = 3$ (%)
$P(n^* \leq 4)$	98.74	99.19	99.33
$P(n^* > 4)$	1.26	0.81	0.67
$P(n^* > 10)$	0.04	0.00	0.00
$P(n^* = \text{inf})$	0.00	0.00	0.00

impact and slowly decreases as GDP returns to its long-run level and primary balance is higher.

In the basic case where all parameters are independent, which seems unlikely but provides a good ground for comparison, the distribution of n^* is described in Fig. 3 and Table 7. The simulations yield a close to 1 probability that consolidation becomes efficient in less than four years, with almost surely no divergence. Debt always goes back below the baseline level in less than 4 years in most cases (10 years markets' myopia is high), with a peak at two years: in 50 % of the cases, debt increases on impact with respect to the baseline but falls below baseline the year after the consolidation started. Moreover, with relatively low values of gamma and linearity between debt and rate, it is almost impossible to generate cases of divergence, and the value of n^* does not depend on markets' degree of myopia.

Finally Fig. 4 shows the distribution of the size of the peak—which is the maximum increase of debt relative to the baseline—among cases where debt increases on impact but does not diverge. The maximum increase in those cases is of 4 % points and the distribution is similar to the distribution of n^* . For the different values of h , the correlations between n^* and the size of the peak is comprised between 0.78 and 0.81, which confirms the fact that the impact

Fig. 4 Distribution of the size of the peak of increase in the debt ratio



parameters are the most important parameters, the persistence and dynamics of rates accounting for about 20 % of the variation of n^* .

Nevertheless it seems unlikely that the parameters are independent. Indeed there are some arguments in favour of specific correlations. For instance, it can be argued that agents are more Ricardian when government debt is high, thus leading to a smaller impact multiplier when debt is high (negative correlation between m and b_0). Also, markets may be more concerned about the overall sustainability of public finance when debt is high, and thus be more inclined to welcome a reduction of the primary deficit (negative correlation between μ and b_0) and more sensitive to variations of debt (positive correlation between γ and b_0). Also, a deeper analysis of economic mechanisms gives two arguments in favour of a high positive correlation between impact multipliers and the response of interest rates. Firstly the IS-LM model suggests for instance that the impact on GDP of changes in government balance highly depends on the reaction of interest rates, highly linked to the interest rate on public debt: if rates decrease with consolidation the multiplier is likely to be low. Secondly if the multiplier is high, markets that are sensitive to short-term growth may increase the risk-premium on government bonds.

To determine the distribution of n^* one needs to make assumption on the values of these correlations. We focused our attention on four specific pairwise correlations: the initial level of debt with the impact multiplier, with the response of interest rates and with the sensitivity of rates to expect debt, as well as the correlation between the impact multiplier and the response of interest rates. We first draw the results with the following correlations:

The distributions of n^* stemming from the correlations in Table 8 are shown in Fig. 5, while the corresponding distribution function is summarized in Table 9. Divergence is here possible in 0.09 % of the cases when the degree of markets' myopia is high, and the distribution of n^* is slightly moved to the left with more than double the probability that n^* is higher than 4. The distribution of the size of the peak resembles the basic case's one with higher maximum values of the peak (around 7 % points), and the correlation between n^* and the size of the peak remains high (comprised between 0.5 and 0.8) (see Fig. 6).

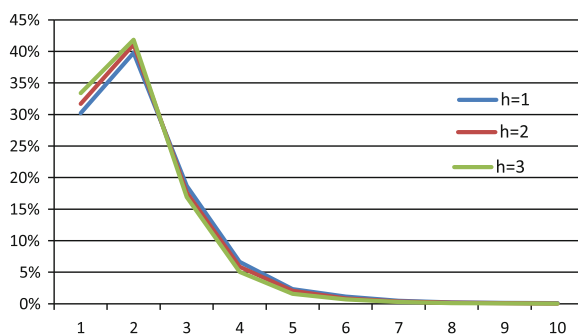


Fig. 5 Distribution function of n* from correlations in Table 8

Table 8 Parameters correlations

$\rho_{b0,m}$	-0.5
$\rho_{b0,\mu}$	-0.5
$\rho_{b0,\gamma}$	0.7
$\rho_{m,\mu}$	0.9

Table 9 Distribution function of n* from correlations in Table 8

	h = 1 (%)	h = 2 (%)	h = 3 (%)
P(n* <=4)	97.06	97.80	98.40
P(n* > 4)	2.94	2.20	1.60
P(n* > 10)	0.21	0.11	0.04
P(n* = inf)	0.09	0.00	0.00

4.2 Debt Responses and N* Under Specific Configurations

The left panel of Fig. 7 shows the debt-to-GDP ratio dynamics for the low-persistence multipliers path under different assumptions about the impact multiplier. The baseline scenario is one of a constant debt ratio of 100 % of GDP. The Graph shows debt dynamics for a persistence rate of 0.5,¹⁶ with first year multipliers of 0.5, 1 and 1.5. All values for the first-year multiplier that lie below the 0.7 level will correspond to an improved debt ratio from the first year—this is so by

¹⁶ 0.6/0.7 is the ratio of second to first year GDP responses in the case of composition-balanced permanent consolidation in European Commission (2010). This is the basis for the choice of 0.5 as low persistence and 0.8 as high persistence parameters. Note that the persistence in the following years is however, smaller. Values of the GDP responses broadly constant for the first three years are very commonly found in VAR estimates. This would make raise an hump-shaped GDP response with the consequence that the debt increases following a consolidation would be reversed only after three years for values of the impact multiplier of 1.5. This being the only difference, the case is not developed here.

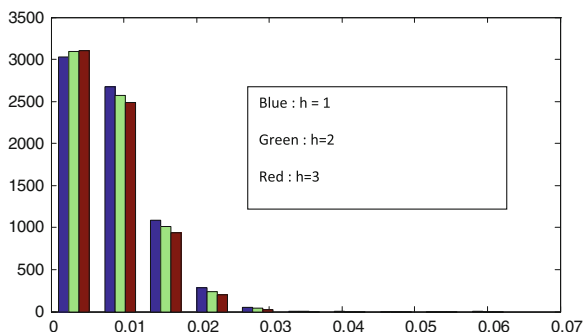


Fig. 6 Distribution of the size of the peak of increase in the debt ratio from correlations in Table 8

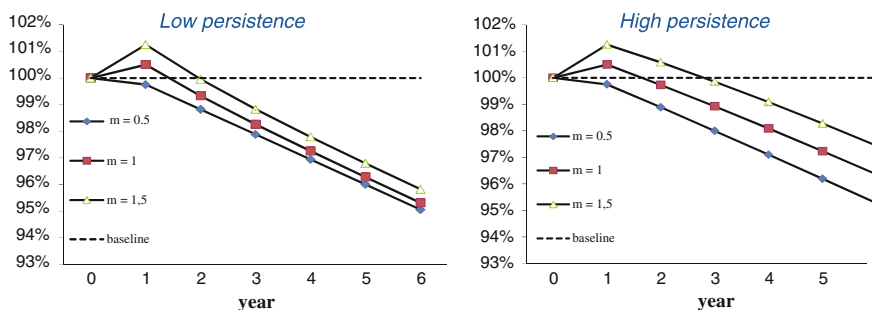


Fig. 7 Debt dynamics (baseline steady state, $b_0 = 100\%$), no effect on interest rates

construction as the 0.7 level corresponds to the critical value for the multiplier. It should be noted that a first year multiplier of 1.5 is on the high side of existing estimates as it is the estimate of a temporary consolidation based on government spending.

The right panel of Fig. 7 shows the case for a high persistence parameter (0.8) of the GDP response. The higher persistence of the effects of consolidation generates longer-lasting negative effects from fiscal consolidation. If the first-year multiplier is 1.5 the consolidation-based debt increase lasts for one more year so that three years are needed—taking into account the fact that year 1 is the year in which the consolidation is implemented—before debt goes below baseline.

Figure 8 show the effects for the two cases of low and high persistence of changes in the interest rate on the critical number of years n^* under the condition that the first-year multiplier is 1.5. It can be seen that the critical number of years before the debt is reduced to below its starting level in absence of effects on the interest rates remains the same as shown in Fig. 7, for the case without interest rates, for changes in the interest rates which are in line with empirical evidence. In the simulation, if market confidence reacts positively to a consolidation the number of years needed to bring debt levels back to original values reduces,

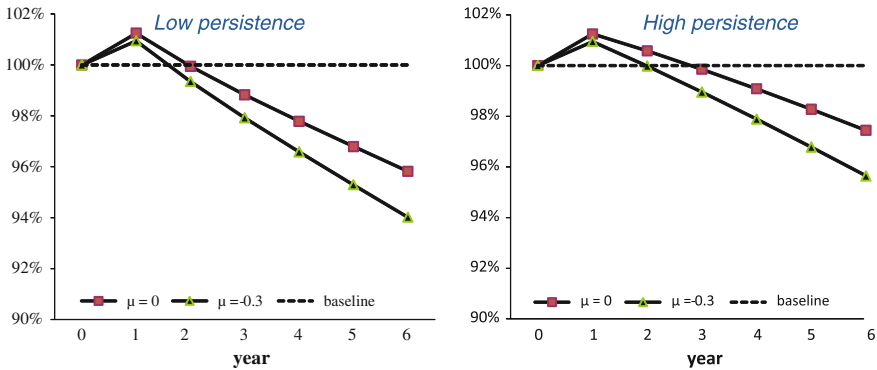


Fig. 8 Debt dynamics (baseline steady state, $b_0 = 100\%$ and $m = 1.5$) with effects on interest rates

especially in the case of high persistence of multipliers. Again, the persistence of the multiplier affects critically the number of years needed for the debt ratio to resume to initial values prior to the fiscal consolidation.

The size of the consolidation effort does not affect n^* though. A higher fiscal effort entails a higher initial increase of the debt ratio. However, such a higher fiscal effort also implies that the pace of debt reduction after the initial rise is also quicker, thereby leaving the value of n^* unchanged.

4.3 Financial Markets Myopia

So far, the possibility of a dynamically undesired effect on debt ratios from consolidation does not emerge out of the models presented and the likely values of key parameters. However, the presence of financial market myopia can change this. This myopia can be seen in the contradictory requirements sometimes made by rating agencies when they refer to the need to consolidate public finances while also noting the adverse effect of negative short term growth prospects in their notation process, without apparently noticing the short term negative relation between the two variables at least in the short term.

Myopia is measured by the numbers of years ahead that the markets looks at (h): if markets are very myopic the changes in interest rates consequent to a consolidation are solely driven by the debt of the year immediately following consolidation, while if markets are extremely rational the interest rates are solely driven by the expected debt ratio at the steady state. Expectations are adaptive in a sense that agents revise them if the actual level of debt differs from what was expected.

In line with the literature it is assumed that $\gamma > 0$; in the analysis it will be used a value of $\gamma = 0.03$ as found in Laubach (2010) and it is assumed that μ lies

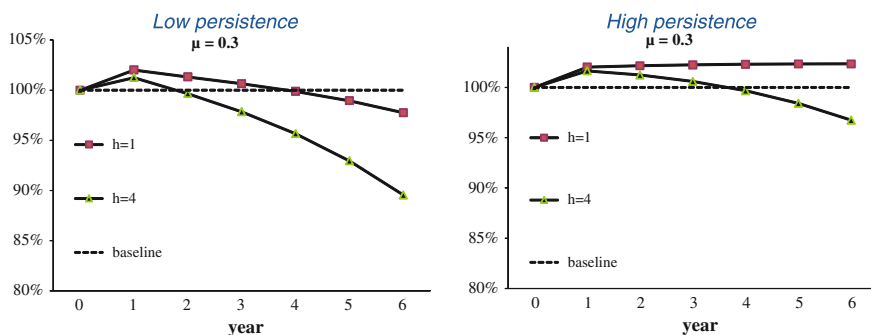


Fig. 9 Debt dynamics under myopia in financial markets

between -0.3 and 0.3 . Thus negative values reflect the normal reaction of yields to consolidation, while positive values represent the case in which interest rates increase with improvements in government balance for reasons that are not related to the debt level.

Figure 9 shows how debt dynamics would evolve under different degrees of myopia and different values for the multiplier, under a high-persistence and low-persistence specification respectively. The presence of highly myopic financial markets can play a role in increasing the number of years after which the debt ratio remains above baseline but that only in very extreme cases would they really lead to a debt increase in the medium run.

In low persistence models debt increases following consolidations reinforced by the behaviour of the markets can verify only if consolidation does not bring any benefit in terms of immediate yield reduction and each point of increase in the debt ratio entails an increase in the average effective interest rate of 100 basis points, a value more than 30 times larger than average estimated values.

In high-persistence model, n^* increases by one or two years if the reaction of the financial markets to consolidation is non-standard. However, consolidation-led debt increases happen only if myopic market reactions are 20 times larger than average estimates, even when the first year multiplier is as high as 1.5.

The existence of undesired effects could in principle be driven by very high impact multipliers (above two) and high persistence in presence of more standard behaviour of the financial markets. Under values for $\frac{dr_i}{da}$ allowing for a consolidation-led debt rise, short-termism in the financial markets can become critical and change the critical number of years before debt-to-GDP falls below baseline through an effect on average effective interest rates. Even with large undesired effects in the financial markets a high myopia can have relevant effects. Under a low persistence of the effects of consolidation, when no dynamically undesired effects are generated, n^* diminishes from 4 to 2 when the financial markets adopt a medium-term horizon. The horizon of the financial markets becomes more

relevant when the persistence is high, because less myopia reduces n^* to 3.¹⁷ Figure 9 takes an extreme case to show the relevance of financial-markets myopia: a case in which impact multipliers are very high ($m = 2$), persistence is high and financial markets react contrary to expectations. In this case, $h = 4$ is necessary to avoid a fully divergent debt dynamics.

4.4 Country Implications

The previous sections have considered debt dynamics from a medium-term point of view. However, in order to extrapolate from the analysis presented and be able to draw conclusions about individual countries, the underlying situation in these countries must be taken into account. Countries with high and/or rapidly increasing debt are likely to be on a non-sustainable path of fiscal policy and need to consolidate government finances—especially when they are under market pressure. Comparing countries on the basis of the critical year only could be very misleading, in that the underlying situation can be extremely different, especially in terms of debt dynamics.

In order to gain a full picture, Tables 10 and 11 present five groups of results for low persistence and high persistence models respectively. Columns two to six show the critical number of years that allow debt ratios to be below baseline following a 1 % of GDP consolidation in the 2011 primary structural balance. Second, columns eight to eleven—under the title “ n_0 ”—present the number of year that are necessary for the country’s debt-to-GDP ratio to return to its 2011 level following an adjustment by 1 % of GDP in the primary structural balance in 2011. Third, column seven gives an indication of the underlying debt dynamic of the EU countries. The projections of the baseline are based on the Commission services’ 2012 Spring forecasts (up to 2013), and the macro-economic scenario of the 2012 Ageing Report (European Commission 2012a). Column eight indicates the first year in which debt is projected to touch again the debt level of 2011.¹⁸

Taking this baseline scenario, five possible parameter configurations are presented. The first three in which average effective interest rates follow a normal market reaction (i.e. they decrease by 30 basis points upon consolidation and increase by 3 basis points with debt), and multipliers are low, average or high (first-year multiplier of 0.5, 1 and 1.5 respectively). The last two consider a high first year multiplier of 1.5 associated with a only debt effect (and no immediate impact from consolidation) and strongly myopic reaction to consolidation by financial markets (both effects induce undesired debt dynamics).

¹⁷ It should be noted that $h = 2$ already would reduce sensibly n^* .

¹⁸ “Inf” stays for infinity, i.e., the country’s debt is diverging, one means that the country’s debt is converging.

Table 10 Potential impact of a 1 % of baseline GDP consolidation on the critical year and return to 2011 debt levels—low persistence

Member States	Member n*										High m, myopic markets	High m, only debt effect	High m, normal markets	Average m, normal markets	Low m, normal markets	Baseline n0	High m, myopic markets
	Low persistence					High persistence											
	Low m, normal markets	Average m, normal markets	High m, normal markets	High m, only debt effect	High m, myopic markets	Low m, normal markets	Average m, normal markets	High m, normal markets	High m, only debt effect	High m, myopic markets							
BE	1	2	2	2	4	inf	2	2	3	5							
BG	1	1	1	1	1	inf	3	3	4	4							
CZ	1	1	2	2	2	inf	4	5	5	5							
DK	1	1	2	2	3	inf	5	5	6	6							
DE	1	2	2	2	3	1	1	1	1	2							
EE	1	1	1	1	1	inf	4	4	5	5							
IE	1	2	2	2	5	inf	≥10	≥10	≥10	≥10							
EL	1	2	2	2	≥10	inf	≥10	≥10	≥10	≥10							
ES	1	1	2	2	3	inf	≥10	≥10	≥10	≥10							
FR	1	2	2	2	3	inf	4	5	6	7							
IT	1	2	2	2	6	2	2	2	2	3							
CY	1	1	2	2	3	inf	3	3	4	5							
LV	1	1	1	2	2	5	1	1	2	2							
LT	1	1	1	1	2	inf	2	3	3	3							
LU	1	1	1	1	2	inf	6	7	≥10	≥10							
HU	1	1	2	2	3	1	1	1	2	2							
MT	1	1	2	2	3	inf	1	2	2	7							
NL	1	1	2	2	3	inf	≥10	≥10	≥10	≥10							
AT	1	1	2	2	3	4	2	2	3	3							
PL	1	1	2	2	2	1	1	1	2	2							
PT	1	2	2	2	4	8	5	5	5	6							

(continued)

Table 10 (continued)

Low persistence		n0										
Member	n*	n0					n0					
States		Low m, normal markets	Average m, normal markets	High m, normal markets	High m, only debt effect	High m, myopic markets	Baseline n0	Low m, normal markets	Average m, normal markets	High m, normal markets	High m, only debt effect	High m, myopic markets
RO	1	1	1	1	1	2	5	2	2	2	3	3
SI	1	1	1	2	2	2	inf	≥ 10	≥ 10	≥ 10	≥ 10	≥ 10
SK	1	1	1	1	2	2	inf	≥ 10	≥ 10	≥ 10	≥ 10	≥ 10
FI	1	1	1	2	2	2	1	1	1	1	1	1
SE	1	1	1	2	2	2	1	1	1	2	2	2
UK	1	2	2	2	2	3	inf	≥ 10	≥ 10	≥ 10	≥ 10	≥ 10

Source: Commission services

Table 11 Potential impact of a 1 % of baseline GDP consolidation on the critical year and return to 2011 debt levels – High persistence
High Persistence

Member States	n*		n0		Low m, normal markets	Average m, normal markets	High m, normal markets	High m, only debt effect	High m, myopic markets	High m, only debt effect	High m, normal markets	High m, myopic markets
	Low m, normal markets	Average m, normal markets	High m, normal markets	High m, only debt effect								
BE	1	2	2	2	inf	2	2	3	4	3	3	≥10
BG	1	1	1	1	inf	3	4	4	4	4	4	5
CZ	1	1	2	2	inf	5	5	6	7	6	6	7
DK	1	1	3	3	inf	5	6	7	8	7	7	9
DE	1	2	2	6	1	1	1	1	1	1	1	2
EE	1	1	1	1	inf	4	5	6	6	6	6	6
IE	1	2	2	≥10	inf	≥10	≥10	≥10	≥10	≥10	≥10	≥10
EL	1	2	2	≥10	inf	≥10	≥10	≥10	≥10	≥10	≥10	≥10
ES	1	1	2	4	inf	≥10	≥10	≥10	≥10	≥10	≥10	≥10
FR	1	2	2	7	inf	5	5	6	9	6	6	≥10
IT	1	2	2	≥10	2	2	2	2	2	2	2	3
CY	1	1	2	4	inf	3	4	4	5	4	4	6
LV	1	1	1	2	5	1	1	2	2	2	2	4
LT	1	1	1	2	inf	2	3	3	4	3	3	4
LU	1	1	1	2	inf	6	≥10	≥10	≥10	≥10	≥10	≥10
HU	1	1	2	5	1	1	1	1	2	1	1	2
MT	1	1	2	4	inf	1	2	2	≥10	2	2	≥10
NL	1	1	2	5	inf	≥10	≥10	≥10	≥10	≥10	≥10	≥10
AT	1	1	2	5	4	2	2	3	3	3	3	4
PL	1	1	2	3	1	1	1	2	2	2	2	3
PT	1	2	2	≥10	8	5	5	5	6	5	5	≥10

(continued)

Table 11 (continued)

High Persistence		n0										
Member States	n*	Low m, normal markets	Average m, normal markets	High m, normal markets	High m, only debt effect	High m, myopic markets	Baseline n0	Low m, normal markets	Average m, normal markets	High m, normal markets	High m, only debt effect	High m, myopic markets
RO	1	1	1	1	1	2	5	2	2	3	3	3
SI	1	1	1	2	2	3	inf	≥10	≥10	≥10	≥10	≥10
SK	1	1	1	1	2	2	inf	≥10	≥10	≥10	≥10	≥10
FI	1	1	1	2	2	3	1	1	1	1	1	1
SE	1	1	1	2	2	3	1	1	1	2	2	2
UK	1	2	2	2	3	6	inf	≥10	≥10	≥10	≥10	≥10

Source: Commission services

Using high-persistence models as a basis for analysis, it emerges that—if one believes that in this moment first year multipliers are high, for example between 1 and 1.5—a 1 % of GDP consolidation will take maximum three years to show its effects on the debt ratio unless there is an immediate undesired effect of consolidation on interest rates. Countries for which $n^* = 3$ are in general high debt countries. This is in line with what was presented in the previous Subsection. However, a myopic effect of the financial markets in case of high persistence of the effects of consolidation on GDP not only increase n^* in (almost) all cases but can induce a fully reverse dynamic in high debt countries.

These results can then be compared with the corresponding column under “ n_0 ”, which provides the information relative to the number of years required to return to the 2011 debt ratio, following a 1 % of GDP permanent consolidation with respect to the baseline. All countries showing a ≥ 10 in the optimistic scenario have an underlying diverging debt dynamic: it indicates that even after consolidating the primary structural balance by 1 % point, and correspondingly decreasing debt, 10 years are not sufficient to bring the debt ratio at the 2011 level. The behaviour of more counter-intuitive cases like Luxemburg, Netherlands, Slovenia and Slovakia are explained by the inner dynamic of ageing costs, which will start having an impact on government balances in the course of the next decade. It is important to note that comparing n_0 with the baseline can be misleading: the fact that many countries decrease their n_0 from infinity in baseline to two simply by improving their balance by one GDP point does not mean necessarily that these countries will have solved their sustainability (ageing-related) problems with such a small consolidation. In fact n_0 is only the first year in which debt decreases back to the level of 2011 after a consolidation. If the dynamic of the ageing costs is increasing in the following years the debt will start increasing again, and this is not captured in the Table.

Comparing Tables 10 and 11 shows that higher persistence increases n^* by one year in many all cases and magnifies the impact of the underlying debt dynamic in case of myopic market behaviour, but that his parameter has a smaller influence than the underlying debt dynamics. The required total improvement in the structural balance over the period in order for the debt level to return to its 2011 level within nine years (for the countries that present a diverging dynamic) is in general below three points. Table 12 presents the parameter values assumed for the simulation.

It can be argued that the 1 % of GDP fiscal consolidation in the simulations does not correspond to the real fiscal effort being currently undertaken by a number of Member States, especially those under highest financial market pressure. In these cases, simulating fiscal consolidations of an order of magnitude of 2–3 % of GDP would better fit the current juncture. The 1 % fiscal effort was chosen for presentational and comparative purposes. However, it is worth noting that while the size of the consolidation effort does not affect n^* , it does matter both for the increase in debt with respect to baseline and for the determination of n_0 . Indeed, a higher fiscal effort than the 1 % considered in Tables 10 and 11 entails a higher initial increase of the debt ratio but also a quicker pace of debt reduction, thereby

Table 12 Parameter values assumed for the simulation

	Low m, Normal Markets	Average m, normal Markets	High m, Normal Markets	High m, no Confidence Effect	High m, Perverse Markets
m	0.5	1.0	1.5	1.5	1.5
Alpha			0.5 or 0.8		
Beta			0.1		
Mu		-0.3		0.0	0.3
Gamma		0.03		0.03	0.3
h		3		3	1

Source Commission services

leaving the value of n^* unchanged. However, the higher fiscal effort keeps helping to reduce the debt ratio more rapidly beyond n^* and consequently n_0 would turn out to be lower.

5 Conclusion

This paper has assessed the possibility of counter-intuitive effects of consolidations, whereby consolidations would lead to an increase rather than a decrease in the value of the debt ratio. It has shown that the risks of such effect to arise from consolidation in the present context are overstated under plausible assumptions, although over the short-term increases in the debt-to-GDP ratio may be likely, driven by the denominator effect.

A simulated simple empirical model showed that the presence or absence of undesired effects from consolidations on debt dynamics is primarily driven by the size of the GDP multiplier. According to model-based assessments and the available empirical evidence, it is likely that one-year multipliers are larger in the current crisis period than in normal times. We show that for normal values of estimated cyclical elasticities and at the debt levels currently observed in most of the EU countries, with such large multipliers, debt is likely to increase following consolidation in the short run.

However, for high but plausible values of the multipliers, such counter-intuitive effects are short-lived unless the multipliers have a high persistence, which can happen only in cases where the fiscal adjustments are repeatedly non-credible or if effects on interest rates are high and contrary to what is normally expected in consolidations. A fully self-defeating dynamic only occurs under very unlikely configurations, i.e., situations in which multipliers are very large while both the reaction of interest rates to the consolidation and the reaction of interest rates to debt developments are large. A high degree of financial market myopia is also required for these effects to exist.

Accordingly, for plausible configurations consolidation-induced debt increases are expected to phase out within three years or less. Longer horizons are only envisaged to hold for high-debt countries. On the other hand, the underlying diverging debt dynamics in a number of EU Member States imply that it will take many years, more than one decade in some cases, for debt levels to resume to current levels unless more consolidation is implemented. However, given the peak levels of debt ratios, the choice of a ten-year horizon for the analysis cannot be guidance for EU countries.

In this connection, it is worth noticing that the simulations of the paper do not reproduce the real fiscal efforts undertaken by a number of Member States, especially those under close market scrutiny. Rather, in these cases fiscal efforts of 2–3 % points each year, or even larger, correspond better to their current situation. However, the size of the consolidation effort does not affect n^* but affects critically the number of years needed to bring debt ratios back to pre-crisis levels, which is especially relevant in a context of rising debt ratios. Higher fiscal efforts entail a quicker pace of debt reduction after the initial increases. Hence, higher fiscal efforts would, in most cases, be needed to accelerate the process of debt reduction and would actually accelerate such a process even after the possible initial debt increase. However, in the special, peculiar cases where counter-intuitive effects from fiscal consolidation strategies are more likely, higher and protracted fiscal tightening might in principle also entail long-lasting divergent effects if financial markets continue to behave myopically. This underlines that especially in such cases, the credibility of the adjustment is crucial to provide financial markets with a long-term view.

Our paper does not answer to the question of whether there is a case in favour of immediate consolidation. The answer would in substance rely on the belief concerning the reaction of interest rates to consolidation and at the same time on the beliefs concerning the underlying behaviour of interest rates. If there exist threshold levels of debt at which the market reacts with large and sudden increase in risk premia so that baseline interest rates increase quickly, then improvements in the primary structural balance bring down the risk-premium for normal values of the parameters and markets do not display extreme myopic behaviour. Moreover, if multipliers are very resilient and debt is increasing, the future critical multiplier can be lower as its value crucially depends on the debt level at the beginning of consolidation, thereby increasing the likelihood of more pronounced undesired effects in the future. Furthermore, if there are threshold effects from the debt level, a larger consolidation would be required in the future.

Finally, if consolidations are repeated, especially in periods where multipliers are large and persistent, the effects on the economy tend to cumulate along the line and can, in presence of myopic behaviour of financial markets, bring about debt increases. This could be the case, for example, if fiscal targets were set in terms of headline variables and not in terms of cyclically adjusted or structural figures. In this situation it is possible that the scenario consolidation-debt increase-consolidation-further debt increase takes place as far as the current multiplier is higher than the critical multiplier. The same spiral can happen with deficits, but for

sensibly higher values of the multipliers. It is therefore relevant that policy recommendations are formulated in terms of a (path of) structural balances so that, once measures are taken, sufficient time is left for the effects of the consolidation measures to deploy fully.

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The Effects of Expenditure Shocks in Italy During Good and Bad Times

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Abstract We study the effects of expenditure shocks on macroeconomic developments in Italy over the period 1982–2011 with a Structural VAR model. We include foreign demand and public debt, imposing the government budget constraint. We find that movements in debt induce stabilizing reactions in net revenues. Expenditure shocks have positive and significant effects on economic activity. To study how fiscal multipliers vary over the business cycle, we estimate a Smooth Transition Vector Autoregression (STVAR) model, finding that the fiscal multiplier tends to be higher in recessions than in expansions.

1 Introduction

The large stimulus packages implemented by governments in most advanced countries to contrast the global recession that begun in mid-2008 have been at the center of a large debate (see Corsetti et al. 2010; Romer and Romer 2010) and brought renewed attention to the old question of the usefulness of fiscal policy to smooth cyclical fluctuations. More recently, a similar debate has been stimulated by fiscal consolidation policies.

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The theoretical literature provides limited guidance on these issues, as the qualitative effects of fiscal policy are model-dependent (see Cogan et al. 2009); the empirical evidence is still not conclusive either, although it suggests that fiscal expansions generally boost private consumption and output.¹

In this paper we contribute to the debate on the effects of expenditure shocks on the economy by providing new results for the Italian economy, based on a standard Structural VAR (SVAR) and a Smooth Transition model (STVAR).

We identify structural fiscal shocks using the methodology developed by Blanchard and Perotti (2002), owing to its capacity to deliver relatively efficient estimates in small samples, as recently stressed by Chahrour et al. (2010).² We add two variables—government debt and foreign demand—to the standard model found in the literature (5 variables: private GDP, inflation, interest rates, net revenue and government consumption).³

We believe that the inclusion of debt is important because it allows us to better understand the fiscal framework associated with the shock. In particular, we can analyze the reaction of fiscal variables—namely, government spending and net revenue—to changes in public debt.⁴ Empirical evidence (see Bohn 2007; Trehan and Walsh 1991; Hamilton and Flavin 1986; and Golinelli and Momigliano 2008) suggests that this feedback effect is generally important. In the case of a high-debt country like Italy, the influence of debt on the fiscal authorities' decisions is likely to be particularly large.

Other researchers have included public debt in a SVAR exercise examining fiscal multipliers. We broadly follow the methodology of Favero and Giavazzi

¹ See Coenen et al. (2010). The two main empirical approaches that attempt to assess the effects of fiscal policy have specific limits. Reliable and non-interpolated quarterly fiscal data over a sufficiently long period of time, a prerequisite for the VAR approach, exist only for a few countries. The “narrative” approach (i.e., Ramey and Shapiro 1997, and Edelberg et al. 1999) is resource-intensive and intrinsically subjective, making it almost impossible to apply across countries.

² Other approaches most commonly used to identify structural shocks are the sign restrictions on impulse responses (see Mountford and Uhlig 2002), the dummy variable one (see, e.g., Romer and Romer 2010) and the Choleski ordering one, (see, e.g., Fatás and Mihov 2001). The literature about the effects of fiscal policy using Vector Autoregression is large and to offer a comprehensive survey goes beyond the scope of this paper. See Blanchard and Perotti (2002), Perotti (2004), Fatás and Mihov (2001), Mountford and Uhlig (2002), Giordano et al. (2008), Ramey and Shapiro (1997), Edelberg et al. (1999), and Burriel et al. (2010) among many others.

³ A previous research (Giordano et al. 2008) focusing on Italy included, together with these five variables, also private employment. We exclude the latter to have a parsimonious (in terms of degrees of freedom) model, as well as to align our benchmark specification as much as possible with the usual practice in the literature. Nevertheless, in Sect. 4.3 we discuss the effects of adding private employment to the model.

⁴ Recent research suggests that, depending on whether or not an expenditure shock is reabsorbed in the medium-long term, fiscal multipliers may have different values (see Corsetti et al. 2009; and Ilzetzki et al. 2009).

(2007), who add a deterministic equation linking debt dynamics to the government budget balance.⁵

We also include foreign demand because of its strong influence on economic activity, Italy being a small open economy. As it can be safely assumed that foreign demand, measured by world demand, is not significantly influenced by Italian macro or fiscal variables, its inclusion in the VAR comes at a relatively small cost in terms of additional parameters to be estimated.

We study the effects of expenditure shocks by estimating a standard SVAR model and a STVAR one; the latter allows us to distinguish between regimes of recessions and expansions.

It has been often pointed out that the effects of fiscal policy may depend on the state of the economy (e.g., Parker 2011), but there is little empirical research trying to assess how the size of fiscal multipliers varies over the cycle. Baum et al. (2012) and Baum and Koester (2011) estimate, for different countries, a threshold Vector Autoregression (TVAR) model, finding that, on average, government consumption shocks tend to be stronger in recessions than in expansions. We broadly adopt the econometric approach used by Auerbach and Gorodnichenko (2012) for the US economy, but we diverge with respect to the variables in the model. In particular, in order to analyze the coordination game between fiscal and monetary instruments, we include also inflation and interest rates. The second difference is that we identify fiscal shocks on the basis of the Blanchard and Perotti (2002) strategy instead of using the Cholesky's decomposition.

The main results of this paper can be summarized as follows. Without distinguishing between states of the economy, we find that exogenous shocks to government consumption are largely transitory, falling to a negligible level after a few quarters. The initial impact of fiscal shocks on debt is gradually absorbed within 3 years, reflecting the positive reaction of net revenues. The effects on private GDP are positive and larger when public debt is included in the model. The inclusion of foreign demand, as expected, considerably improves the accuracy of the estimates.

When we distinguish between states of the economy, we find that the fiscal multiplier associated to a shock to government consumption is higher during recessions. This result may be due, at least partly, to a different response of interest rates, which show a significant increase only in expansions. This result is in line with the study of Christiano et al. (2009) for the US economy, which explains the higher effectiveness of fiscal policy in downturns than in expansions on the basis of the different behaviour of monetary policy.

The paper proceeds as follows. Section 2 describes the data. In Sect. 3 we outline the benchmark specification of the VAR model and our identification strategy. In Sect. 4 we analyze the effects of government consumption shocks. In

⁵ Chung and Leeper (2007) employ a conceptually similar approach. Creel et al. (2005) include public debt as an additional variable. This second approach allows the analysis of the effects of direct shocks on government debt. This, however, comes at the cost of estimating a higher number of parameters than actually needed, as the government budget constraint is disregarded.

Sect. 5 we assess the impact on our results of adding government debt and foreign demand. In **Sect. 6** we outline the specification of the STVAR model and in **Sect. 7** we discuss the results in the two regimes (expansions and recessions). We conclude with **Sect. 8**.

2 Data and Variables

We extend up to 2011:2 the database of quarterly cash fiscal data constructed by Giordano et al. (2008) for the period 1982:1–2004:4, on the basis of the Italian Ministry for the Economy and Finance Quarterly Report and the general government borrowing requirement published by the Bank of Italy.⁶ Our benchmark specification includes seven variables: private GDP (i.e., total GDP net of government consumption, y_t); the inflation rate (π_t) based on the private GDP deflator; the nominal interest rate on government debt (i_t); government consumption (g_t); net taxes (t_t); the debt-to-GDP ratio (d_t); and foreign demand (f_t).

Following Giordano et al. (2008), we include GDP net of government consumption instead of total GDP. This choice stems from the fact that cash government consumption has a different quarterly profile from the corresponding national accounts aggregate, which complicates somewhat the interpretation of the effects on total GDP of a shock to (cash) government consumption, as it cannot be assumed (contrary to the case of national accounts fiscal data) to have a one-to-one impact on aggregate demand. Moreover, excluding the government component of aggregate demand from total GDP allows us to answer directly the most relevant policy question, that is how the private sector reacts to a fiscal shock.

We construct the interest rate on government debt as a weighted average of the yield on short-term and on long-term government debt, where the weight is given by the share of debt obligations with maturity shorter than one year. Government consumption is the sum of government spending on goods and services and government wages. Net taxes are computed by subtracting government consumption, interest payments and investment from the borrowing requirement; therefore this variable includes monetary transfers as well as revenue.⁷

All variables, apart from inflation, interest rate and the debt-to-GDP ratio, are log-transformed, converted in real terms using the private GDP deflator and seasonally adjusted using the TRAMO-SEATS procedure.

⁶ We thank the authors for providing us with the original dataset. See Giordano et al. (2008) for a description of the sources and the construction details of the fiscal data. Quarterly national accounts data for general government accounts are only available from 1999.

⁷ We exclude public investment from our benchmark specification (as in Giordano et al. 2008), because we are not confident enough about the quality of the data. Results do not qualitatively change as a result of adding investment to either government consumption or net revenue, as shown in Sect. 4.2.

3 The Benchmark Specification

The reduced-form VAR is specified in level (as shown by Sims et al. 1990), in large samples it is possible to ignore the co integrating vector) and can be written as follows:

$$X_t = \sum_{i=1}^{k_1} C_i X_{t-i} + \sum_{i=1}^{k_2} \gamma_i d_{t-i} + \sum_{i=0}^{k_3} \delta_i \log(f_{t-i}) + U_t \quad (1)$$

where:

$$X_t = \begin{bmatrix} \log(y_t) \\ \pi_t \\ i_t \\ \log(t_t) \\ \log(g_t) \end{bmatrix} \quad (2)$$

k_1 , k_2 and k_3 are the number of lags for the variables included in the VAR, for the debt-to-GDP ratio and for the foreign demand variable respectively.

U_t is the vector of reduced-form residuals. k_1 , k_2 and k_3 are set to the minimum number of lags that delivers serially uncorrelated reduced-form residuals. In particular, they are set equal to 2, 1 and 1 respectively. The benchmark specification includes a constant and a deterministic linear trend. According to Eq. (1), past values of the debt-to-GDP ratio influence the current values of macroeconomic variables, which conversely influence the current value of the debt-to-GDP ratio according to the following law of motion:

$$d_t = \frac{1 + R_t}{(1 + \pi_t) \left(\frac{y_t}{y_{t-1}} \right)} d_{t-1} + \frac{g_t - t_t}{y_t} \quad (3)$$

where:

$$R_t = \sum_{j=0}^N \frac{i_{t-j}}{N} \quad (4)$$

Equation (3) represents the period-by-period government budget constraint, expressed as a ratio to total GDP. Changes in the interest rate on government debt i_t only gradually affect its average cost R_t in Eq. (4); we set $N = 20$, as 5 years is approximately the financial duration of the debt at the end of our sample.

Compared with Favero and Giavazzi (2007), we add Eq. (4) and include in Eq. (1) the actual yield at issuance instead of the average cost of servicing public debt. We do so to identify more precisely the reaction of financial markets to the state of the public finances. In fact, the yield at issuance responds immediately to investors' sentiments, while the average cost adjusts with a relatively long delay, depending on the maturity structure of government obligations. Moreover, the

yield at issuance is more directly relevant for investment decisions in the private sector.

We assume that the foreign demand dynamics can be approximated by an exogenous autoregressive process of the form:

$$\log(f_t) = \alpha + \sum_{i=1}^{k_4} \beta_i \log(f_{t-i}) + \zeta t + \varepsilon_t \quad (5)$$

where t is the time trend. According to Eqs. (1) and (5), while current and past values of foreign demand affect the current values of macroeconomic and fiscal variables, the reverse is not true. This assumption seems appropriate as Italy is a relatively small open economy.

As a measure of foreign demand, we follow Busetti et al. (2011), who compute the demand of Italian goods from abroad as:

$$f_t = \sum_{j=1}^N M_{j,t} \bar{q}_j \quad (6)$$

where $M_{j,t}$ corresponds to the total imports of goods by country j in volume at time t weighted by \bar{q}_j , the average ratio over the period 1999–2001 between Italian exports towards country j and total Italian exports. Busetti et al. (2011) construct this index for commercial partners both belonging to the Euro area and outside the EU. As a measure of global foreign demand, we consider the sum of the two indices.⁸

3.1 Identification Strategy

The reduced-form residuals associated with the fiscal variables, u_t^g and u_t^f can be written as linear combinations of the structural fiscal shocks and of the reduced-form residuals of the other variables in the VAR:

$$u_t^g = \alpha_y^g u_t^y + \alpha_\pi^g u_t^\pi + \alpha_i^g u_t^i + \beta_t^g \varepsilon_t^t + \varepsilon_t^g \quad (7)$$

$$u_t^f = \alpha_y^f u_t^y + \alpha_\pi^f u_t^\pi + \alpha_i^f u_t^i + \beta_t^f \varepsilon_t^g + \varepsilon_t^f \quad (8)$$

The α coefficients contain both the automatic elasticity and the discretionary change to the macro variables innovations, while the β coefficients measure the response of the fiscal variables to a structural shock. To estimate the α and β coefficients in Eqs. (7), (8) we follow the approach in Blanchard and Perotti (2002). First, we assume that, within a quarter, the discretionary change of fiscal

⁸ As a robustness check, we use also the world trade series obtained from IMF International Financial Statistics. The use of this series to measure foreign demand does not change results.

variables to innovations in the macro variables is zero. Using quarterly data, this assumption can be justified on the ground of decision lags in fiscal policy-making which last longer than three months. Secondly, we estimate the α in Eqs. (7), (8) using external information on the elasticities of government consumption and taxes to output, inflation and interest rate. Following Giordano et al. (2008) (Appendix B therein) in this paper, we set $\alpha_{\pi}^g = -0.9$, $\alpha_y^t = 0.3$, $\alpha_r^t = -0.4$ and all the other α equal to zero. In addition, we assume that government consumption does not contemporaneously adjust to revenues, i.e., we set β_t^g equal to zero. Consequently, we estimate β_g^t from Eq. (8) using OLS. We verify that even sizeable changes in these parameters do not significantly affect our results.

Finally, we estimate the coefficients relating the reduced-form macro variables residuals to the fiscal ones by instrumental variables, using as instruments for u_t^g and u_t^t their corresponding structural shocks, uncorrelated by definition.

It is important to notice that the identification strategy for structural shocks does not depend on the presence of the debt-to-GDP ratio, as the latter follows a deterministic law of motion. In other words, Eq. (3) holds as an identity and therefore it does not add any shock to the ones already included in the VAR model specified in Eq. (1).

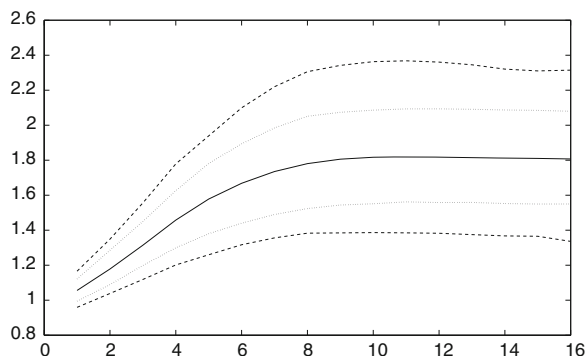
A problem with the fiscal shocks identified using the SVAR approach is that they may be anticipated by economic agents, owing to the delay between the announcement of fiscal measures and their actual implementation. In order to check for this possibility, we run Granger causality tests between the fiscal shocks estimated with the benchmark model and survey expectations about future policy actions and macro variables. The results do not support the hypothesis that fiscal shocks were anticipated.⁹

4 The Effects of Government Consumption Shocks

Figure 1 shows the response of the fiscal and macroeconomic variables to an exogenous shock (equal to 1 % of private GDP) to government consumption. In each panel the solid line represents the median response, while the dashed lines represent two sets of lower and upper bands, corresponding to the 5, 16, 84 and

⁹ As for survey expectations, we use the Consensus mean forecasts of (1) the annual growth rate of real GDP, private consumption, gross fixed investment, industrial production, consumer and producer prices, (2) unemployment rate (as a percentage of the labor force), current account and state sector budget balance, and (3) three-month euro-area interest rate and 10-year Italian government bond yield. Following Ramey (2008) and Kirchner et al. (2010a), the fiscal shocks at time t are regressed on a constant, its own lag and the previous forecasts made in period $t - 1$ for period t .

Fig. 2 Cumulative multiplier of government consumption on GDP (SVAR model). The curves represent the median and two sets of lower and upper bands, corresponding to the 5, 16, 84, and 95th percentiles of the distribution



95th percentiles of the distribution of the responses at each horizon, as commonly done in the literature.¹⁰

4.1 The Response of Fiscal Variables

Concerning the reaction of fiscal variables, two points are worth mentioning. The first is that the government consumption shock is largely short-lived, being equal to 0.1 % of private GDP already after four quarters. The second is that the higher public consumption is rapidly financed by higher revenues, which increase already in the first quarter, remain broadly constant at 0.2 % of GDP for 2 years and then slowly decrease. The rise in net revenue, ensuring that the initial surge in the debt is fully absorbed within 3 years, reflects their direct stabilizing discretionary reaction to the debt and, to a lesser extent, to the increase in private GDP (see below).

4.2 The Response of Output

After a shock to public consumption, the response of private GDP is positive and highly significant for approximately 2 years. The peak, reached at the fourth quarter, is equal to 0.25 % of GDP. Positive and significant effects of government consumption shocks on economic activity represent a relatively common result of the VAR literature (e.g., Giordano et al. 2008; Perotti 2004; Mountford and Uhlig

¹⁰ We compute confidence bands for IRF by bootstrapping. After estimating Eq. (1), we obtain fitted residuals $\hat{u}_1, \dots, \hat{u}_T$ normally distributed with zero mean and covariance matrix Ω . We draw errors from this distribution to simulate the system of Eqs. (1)–(5) L times. For each draw we compute the IRF as described in the previous footnote. Finally, we collect the α th and $1 - \alpha$ th percentile across the L draws. In the simulation we set $L = 1,000$.

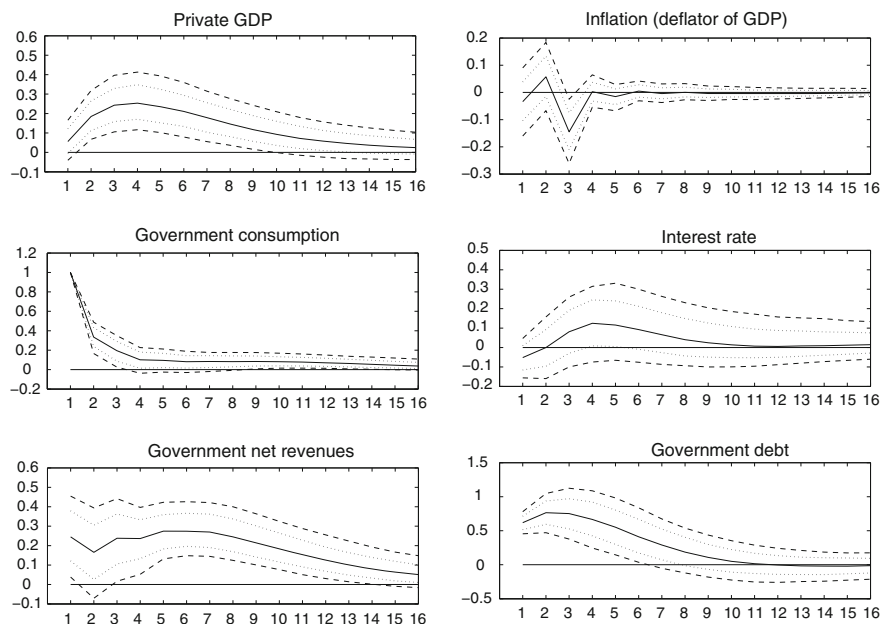


Fig. 1 Impulse responses to a positive government consumption shock equal to 1 % of private GDP (SVAR model). The curves represent the median and two sets of lower and upper bands, corresponding to the 5, 16, 84 and 95th percentiles of the distribution. Responses, except for inflation and interest rate, are deviations from the baseline and expressed in percentage points of private GDP. Inflation and interest rate responses are deviations from the baseline and expressed in percentage points

2002; and Neri 2001). The GDP response to government consumption is relatively small compared with standard textbook multipliers. This is due (1) to the fact that our analysis concerns only private GDP and (2) to the low persistence of the shock. To overcome these issues, we compute the cumulative multiplier (i.e., the ratio of the cumulative change in total GDP to the cumulative change in total government consumption)¹¹ charted in Fig. 2. The median value is equal to 1.04 on impact, reaches its peak (1.8) after 3 years and remains roughly constant thereafter. The confidence bands are relatively narrow compared with similar studies, with the 95th and the 5th percentiles of the distribution remaining above 1.3 and below 2.4 after the fifth quarter.

The median value for the long-run fiscal multiplier lies in the upper part of the wide range of estimates provided by the empirical literature. As shown in Spilimbergo et al. (2009), the relatively high value of the multiplier may be due to the debt-stabilizing reaction of fiscal variables. The transitory nature of the government consumption shock, rapidly compensated by higher revenues, and the

¹¹ Following Giordano et al. (2008), we compute total GDP in this context by adding the cash-based government consumption included in the model to private GDP.

small—and delayed—increase in interest rates do not pose a threat to the sustainability of the Italian public debt, notwithstanding its high level, making any precautionary savings by households unnecessary.

The response of private GDP is robust across alternative specifications of the model. Figure 3 shows the median response of private GDP to a government consumption shock in four alternative models. In the first, labeled “short-term interest rate”, we consider the interest rate only on debt obligations with a maturity shorter than one year. In the second, labeled “long-term interest rate”, we use the gross yield on debt obligations with a maturity longer than 3 years. In the third, “quadratic trend”, the specification of the VAR includes a quadratic trend instead of a linear one; in the fourth, “government investment”, we include government investment in our definition of government consumption.¹²

The results obtained with these alternative specifications confirm the hump-shaped pattern of private GDP and, apart from the “quadratic trend” specification for the quarters 6–10, they are well within the upper (95th percentile) and lower (5th percentile) bands of the GDP response in the benchmark specification. In the case of the “quadratic trend” specification, the lower impact on private GDP largely reflects the shorter persistence of the expenditure shock. The cumulative multiplier is very close to that for the benchmark specification.

The response of private GDP to a government consumption shock is more precisely estimated and slightly stronger than that reported in Giordano et al. (2008).

4.3 The Response of Other Macroeconomic Variables and of GDP Components

As Fig. 1 shows, the reaction of inflation to a government consumption shock is not statistically significant. This is in line with the analyses of Marcellino (2006), King and Plosser (1985) and Henry et al. (2004). The response of interest rates is relatively small, hump-shaped and never statistically significant. The existence of a positive relationship between interest rates and the level of government debt can be found in many empirical studies (see Bernheim 1987, Gale and Orzag 2002; Miller and Russek 1996; and Engen and Hubbard 2004). The results for inflation and interest rates are robust across the alternative specifications described in Sect. 4.2 with reference to Fig. 3.

¹² As additional robustness checks, we considered also model specifications in which (1) net revenues come first when identifying the shocks (in the benchmark model, government consumption is ordered first); (2) the reduced-form residuals of fiscal variables depend explicitly on the level of government debt; and (3) the average financial duration is set equal to 2 years instead of its end-of-sample value (5 years). We do not report these robustness checks, as estimates stay almost unchanged with respect to the benchmark specification.

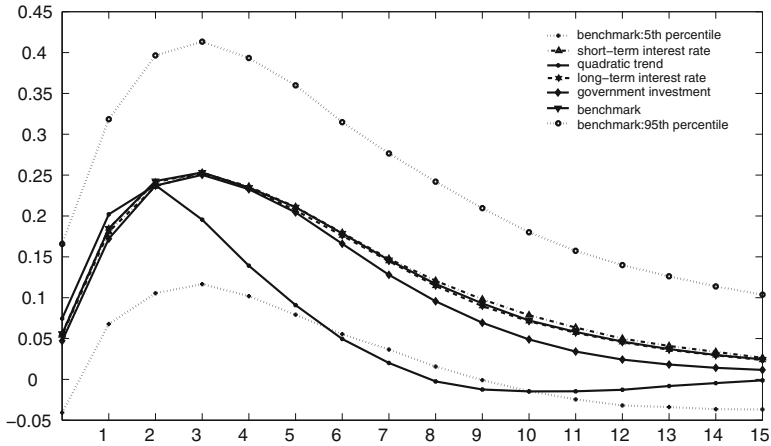


Fig. 3 Effects on private GDP of a shock to government consumption equal to 1 % of private GDP (SVAR model): benchmark specification and alternative models (median values; % of private GDP)

5 The Role of Government Debt and Foreign Demand

Figure 4 shows the impact of including public debt and/or foreign demand in the model on the median response of private GDP to a government consumption shock.

Compared with a five-variable model that excludes both public debt and foreign demand, adding public debt determines a stronger (twice larger on average in the

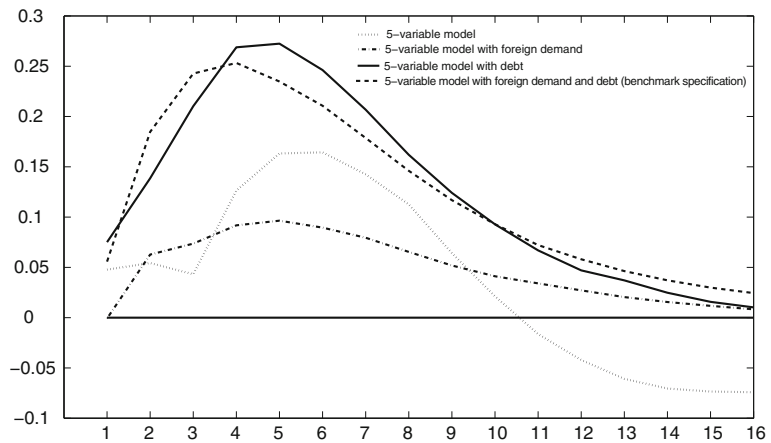


Fig. 4 Effects on private GDP of a shock to government consumption equal to 1 % of private GDP (SVAR model): benchmark specification and alternative models which exclude debt and/or foreign demand (median values; % of private GDP)

first 2 years) and longer lasting response of private GDP to a consumption shock. Adding also the foreign demand (so as to reach our benchmark specification) does not instead have a sizeable effect on the response of private GDP.

These results give support to the argument of Favero and Giavazzi (2007) that omitting debt in the model can result in biased estimates of the effects on GDP of fiscal shocks. The authors stressed the need to take into account the reactions of fiscal variables to changes in debt. In our case, these reactions would dampen the effects on output. On the contrary, we find a larger effect on private GDP, which comes from allowing a direct influence of debt on output.¹³

Figure 5 shows the impact of including public debt and/or foreign demand in the model on the accuracy of the estimates of the response of private GDP, measured by the distance between the 95 and the 5th percentiles of the distribution. The figure shows that adding foreign demand accounts for most of the improvement in the precision of estimates: the confidence band of the response shrinks almost to a third, on average. This is not a surprise, given its major influence on Italian macroeconomic developments. Adding the debt also improves the accuracy of the estimates further, but to a lesser extent.

6 The STVAR Specification

We also estimate a smooth transition vector autoregression (STVAR) model, based on the specification developed in Auerbach and Gorodnichenko (2012).

Our model uses the benchmark specification described in Sect. 3; Eqs. (2–8) remain unchanged, while Eq. (1) is substituted by the following four equations:

$$\begin{aligned}
 X_t = & (1 - F(z_{t-1})) \left[\sum_{i=1}^{k_1} C_i^E X_{t-i} + \sum_{i=1}^{k_2} \gamma_i^E d_{t-i} + \sum_{i=0}^{k_3} \delta_i^E \log(f_{t-i}) \right] \\
 & + F(z_{t-1}) \left[\sum_{i=1}^{k_1} C_i^R X_{t-i} + \sum_{i=1}^{k_2} \gamma_i^R d_{t-i} + \sum_{i=0}^{k_3} \delta_i^R \log(f_{t-i}) \right] + U_t
 \end{aligned}
 \tag{9}$$

$$U_t \sim N(0, \Omega_t)
 \tag{10}$$

$$\Omega_t = (1 - F(z_{t-1}))\Omega_t^E + F(z_{t-1})\Omega_t^R
 \tag{11}$$

$$F(z_{t-1}) = \frac{\exp(-\gamma z_{t-1})}{1 + \exp(-\gamma z_{t-1})}
 \tag{12}$$

¹³ Another possible explanation for the greater response of private GDP could be that the inclusion of debt led to a better identification of the exogenous fiscal shocks (as the endogenous reactions of fiscal variables to changes in debt were excluded). However, we compared estimated fiscal shocks obtained with and without debt and differences were negligible.

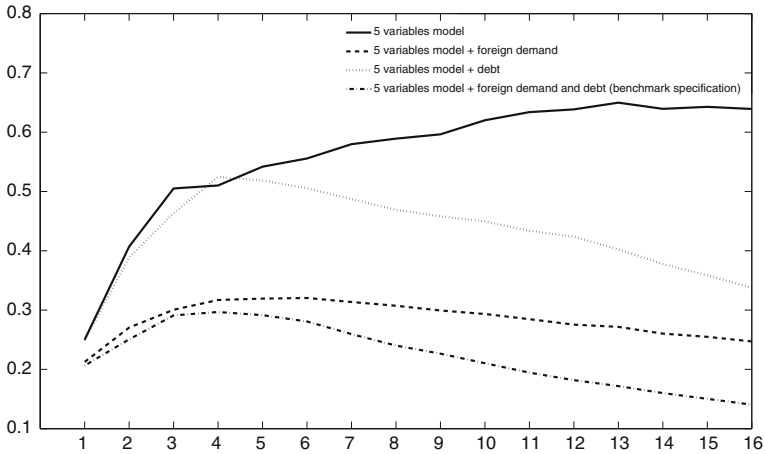


Fig. 5 Size of confidence bands of the estimates of the effects on private GDP of a shock to government consumption equal to 1 % of private GDP (difference between the 95 and 5th percentiles of the distribution of the private GDP responses; % of private GDP) in the SVAR model: benchmark specification and alternative models which exclude debt and/or foreign demand

U_t is the vector of reduced-form residuals, which are normally distributed with zero mean and time-varying covariance matrix (Ω_t). The variable z_t is an index of the business cycle: as in Auerbach and Gorodnichenko (2012), we focus on the twelve-quarters moving average of the private GDP growth rate (deviations from its trend, computed with an HP filter).

According to Eq. (9), the economic system can be described by a weighted average of two regimes, recession and expansion, where the lag polynomials $C^R(L)$

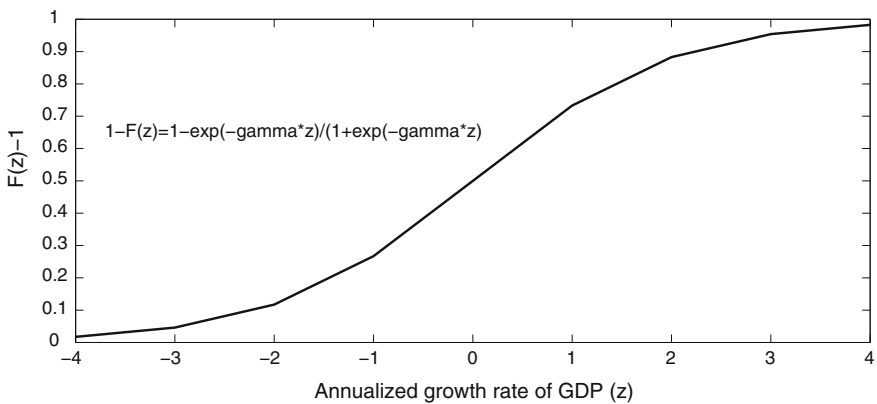


Fig. 6 Relation between the eight-quarter moving average of private GDP annualized growth rate and the probability to be in an expansion

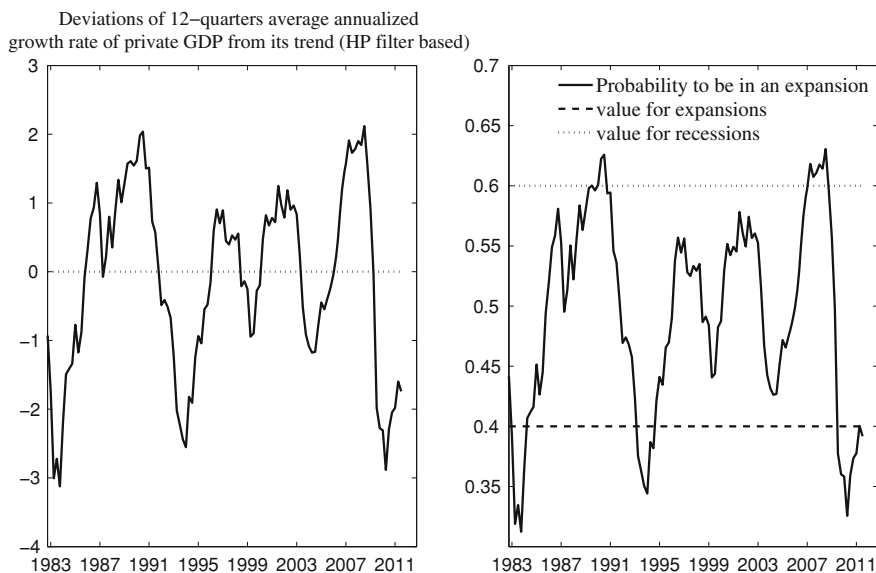


Fig. 7 z_{t-1} (left panel) and $1-F(z_{t-1})$ (right panel)

$R(L)$ and $\delta^R(L)$ describe the behavior of the system in the first and $C^E(L)$, $\gamma^E(L)$ and $\delta^E(L)$ in the second one. The weighting function $F(z_{t-1})$ identifies the probability to be in a recession (its complement is the probability to be in an expansion). The weighting function depends on the business cycle indicator z_{t-1} ; as we impose that $\gamma > 0$ in Eq. (12), the lower the z_t , the higher $F(z_t)$. Figure 6 shows the relation between the eight-quarter moving average of private GDP annualized growth rate and the probability to be in an expansion.

We estimate the model given by Eqs. (2)–(5) and (9)–(12) by using maximum likelihood methods. The left panel in Fig. 7 shows our business cycle indicator; the right panel shows the probability to be in an expansion, $1-F(z_{t-1})$. The eight-quarter moving average of private GDP allows to readily identify the four major recessions dated in our sample: the one at the beginning of the 80s, triggered by the second oil shock; the one at the beginning of the 90s, determined by the financial crisis; the strong slowdown in the initial years of the last decade and, finally, the last episode, influenced by the Lehman Bros.’ collapse.¹⁴ In order to produce the IRFs for expansions and recessions, we need two values for $F(z)$. For recessions we use $F(z) = 0.4$; for expansions, $F(z) = 0.65$. Approximately, these values correspond to, respectively, -2.50 and 1.5 for the deviations from trend of the twelve-quarter moving average of the private GDP annualized growth rate.

Before showing the results obtained in our analysis, it is worth mentioning that, when constructing impulse responses for a given regime, we assume that the initial

¹⁴ See ISTAT (2010).

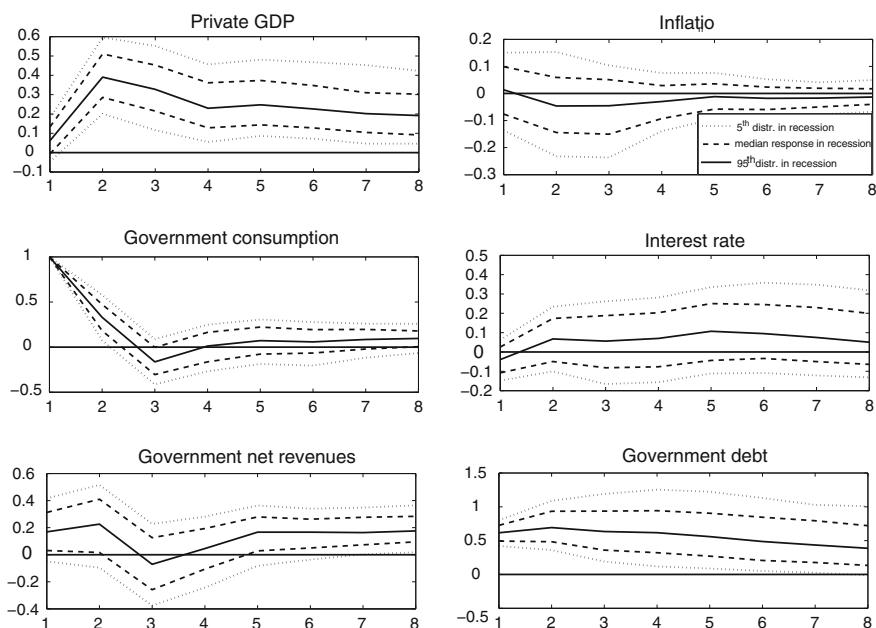


Fig. 8 Impulse responses to a positive government consumption shock equal to 1 % of private GDP during recessions (STVAR model). The curves represent the median and two sets of lower and upper bands, corresponding to the 5, 16, 84 and 95th percentiles of the distribution. Responses, except for inflation and interest rate, are deviations from the baseline and expressed in percentage points of private GDP. Inflation and interest rate responses are deviations from the baseline and expressed in percentage points

state of the economy does not change; in particular, we ignore any feedback effect from the fiscal shock to the type of regime. As this assumption becomes stronger the more we extend the time horizon of our analysis, we narrowed it to 8 quarters.

7 Distinguishing Across States of the Economy: The Effects of Government Consumption Shocks

Figures 8 and 9 show the response of the fiscal and macroeconomic variables to an exogenous shock (equal to 1 % of private GDP) to government consumption in a recession and in an expansion respectively. As in the previous IRFs, the solid line represents the median response, while the dashed lines represent the 5, 16, 84 and 95th percentiles of the distribution of the responses.

Concerning the reaction of fiscal variables, the results are similar to those obtained when we do not distinguish between the states of the economy. The government consumption shock is largely short-lived, though slightly less so in the case of expansions. The response of net revenues, positive in both regimes, is stronger and significant in the case of expansions (largely reflecting their direct

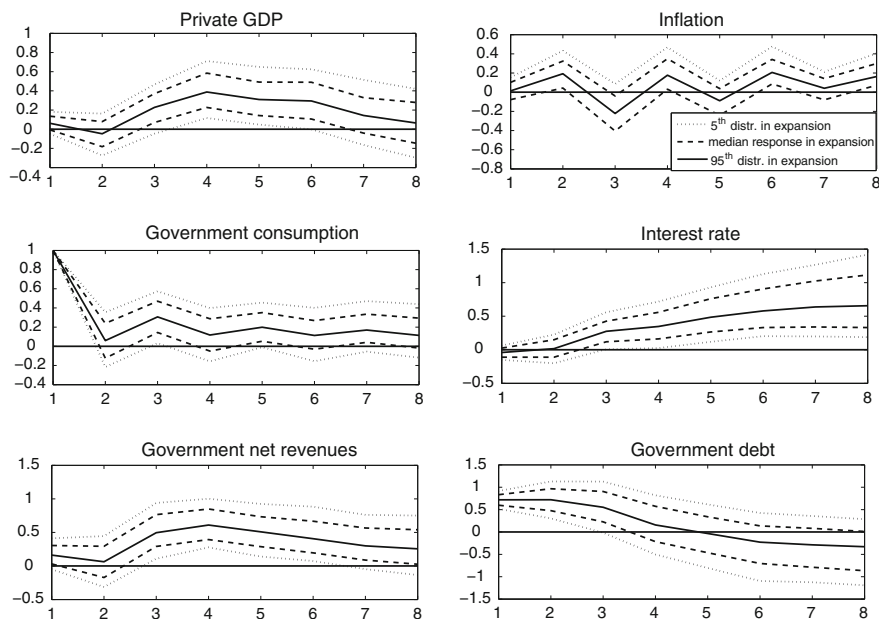


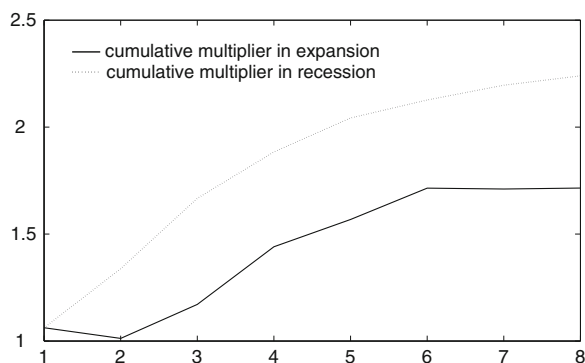
Fig. 9 Impulse responses to a positive government consumption shock equal to 1 % of private GDP during expansions (STVAR model). The curves represent the median and two sets of lower and upper bands, corresponding to the 5, 16, 84 and 95th percentiles of the distribution. Responses, except for inflation and interest rate, are deviations from the baseline and expressed in percentage points of private GDP. Inflation and interest rate responses are deviations from the baseline and expressed in percentage points

stabilizing discretionary reaction to the debt). The debt is fully absorbed within one year in the case of expansions; the absorption is more gradual in the case of recessions.

Under the expansionary regime, the response of private GDP is hump-shaped, negligible in the first two quarters and at the end of the second year; it is also statistically significant only in the fourth (when it reaches 0.4 %) to sixth quarters. Under the recession regime, the response of private GDP is more prompt (the peak effect of 0.4 % is reached in the second quarter), stronger on average and more lasting. Moreover, from the second quarter on, it is always statistically significant. The stronger reaction of economic activity to a positive government expenditure shock is shown by the median cumulative multipliers reported in Fig. 10. However, as the confidence bands of the estimates are relatively large, due to the limited number of observations and the non-linear nature of the model, the difference in the median multipliers across regimes is not statistically significant.

The reaction of inflation appears negligible in both states of nature. Finally, while during expansions the reaction of interest rates is positive and significant after the second quarter, in recessions they remain close to the baseline level throughout the time horizon.

Fig. 10 Cumulative multipliers of government consumption on GDP during recessions and expansions



8 Conclusion and Future Research

In this paper we study the effects of fiscal policy on private GDP, inflation, private employment and interest rate using a Structural VAR approach and relying on quarterly cash-basis fiscal data for the Italian economy covering the period 1982:1–2011:2. Compared with previous VAR-based research for Italy (Giordano et al. 2008), we introduce foreign demand and, modifying the methodology of Favero and Giavazzi (2007), public debt. We further extend the analysis to distinguish between the states of the economy, using the STVAR approach introduced by Auerbach and Gorodnichenko (2012). The main results can be summarized as follows.

The exogenous government consumption shocks that we estimate are largely transitory, independently of the method we use.

Without distinguishing between states of the economy, the debt surge following the expenditure shock is fully absorbed within 3 years, reflecting the stabilizing reactions of net revenue and, to a lesser extent, their increase due to the higher output. The response of private GDP is positive and significant for two and a half years and robust to various alternative specifications. The peak effect, reached at the fourth quarter, is equal to 0.25 % of private GDP.

The government consumption multiplier (1.8 at the peak) lies in the upper part of the wide range of estimates provided by the empirical literature. This may be due to the debt-stabilizing reaction of fiscal variables, in line with the idea that the effects of fiscal stimulus on economic activity depend positively on the soundness of fiscal policy (see, e.g., Corsetti et al. 2009). The transitory nature of the shocks that we observe and their small size may also have a bearing on the value of the multiplier.

Including foreign demand leads to a large improvement in the accuracy of the estimates. Our results also confirm for Italy the argument of Favero and Giavazzi (2007) that omitting the reactions of budgetary variables to the level of debt can result in incorrect estimates of the effects of fiscal shocks.

When we apply the STVAR approach, the IRFs are broadly similar to those obtained with the SVAR analysis, but some important differences between states of the economy emerge.

In recessions, the response of net revenues to the expenditure shock is weaker; as a consequence, the absorption of the initial debt surge is more sluggish than in the case of expansions, when it is completed within one year. The response of private GDP is more prompt, stronger on average and more persistent. As a consequence, the cumulative multiplier is higher throughout the time horizon, though the difference between regimes is not statistically significant. Finally, interest rates remain close to the baseline level, while in expansions their reaction is generally positive and significant. As already mentioned in the introduction, this could reflect a different monetary strategy between the two regimes (Christiano et al. 2009).

Finally, our empirical analysis could be strengthened along at least two lines. First, the assumption that the initial state of the economy does not change when constructing impulse responses for a given regime should be relaxed. Second, a wider set of business cycle indicators should be used.

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Part VI
EU Governance, Growth
and the Eurozone Crisis

EMU in Crisis: What's Next?

Francesco Paolo Mongelli and Ad van Riet

Abstract EMU is in crisis. Yet, there is a firm willingness among policy makers to do whatever it takes to restore trust in the euro. Over the past two years, new EU institutions were introduced, the governance and supervisory framework was overhauled, and a new intergovernmental treaty was signed. Also at the national level, there appears to be a broader understanding of the need for bank restructuring, ambitious fiscal adjustments, and deep structural reforms. Still, the challenges that need to be addressed to restore EMU stability are manifold and formidable. While the transition process is difficult and will take time, the 'old' EMU is changing into a 'new' EMU at a pace which a few years ago would have been unthinkable.

1 A Preamble

The financial crisis has been a traumatic event in the short history of the euro area. In fact, the crisis has been mutating over time and is thus far unprecedented in terms of financial losses and fiscal costs, geographic reach, as well as speed and synchronisation across mostly advanced economies. We can divide the euro area

The views expressed in this paper are those of the authors and should not be reported as representing the views of the ECB. The paper reflects data and information available up to mid-June 2012.

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crisis into three main phases. The first phase starts with the financial turmoil from August 2007 and runs until the collapse of Lehman Brothers in September 2008 that triggered the global financial crisis. The second phase comprises the subsequent Great Recession, whereby the impact on euro area economies took place mostly through trade contractions and money market disruptions that made funding more costly. The third phase is the sovereign debt crisis of the euro area, which emerged in spring 2010.

All along, the destructive potential of the crisis and the fall-out on several euro area economies and their banks and public finances is enormous. Greece, Ireland and Portugal are implementing macroeconomic adjustment programs, Spain is following suit with a program aimed at restructuring its main regional banks, Cyprus is holding discussions to get financial assistance, and market pressures on Italy are very high.

It helps to split the euro area crisis into a banking crisis, a growth crisis and a sovereign debt crisis affecting various countries by varying degrees (Shambaugh 2012). The complex interaction of these three crises is now undermining the very foundations of Economic and Monetary Union (EMU), as we are also witnessing an institutional crisis arising from the incompleteness of EMU's original architecture.

Yet, there is a firm willingness among policy makers to do whatever it takes to restore trust in the euro. There is a new realism and acceptance for change as nobody wants to run the risk of such a huge crisis again. Over the past two years new EU institutions were introduced, the economic and financial governance framework was overhauled and a new intergovernmental treaty was signed. Also at the national level, there appears to be a clear understanding of the need for bank restructuring, ambitious fiscal adjustments and deep structural reforms. The 'old' EMU is changing into a 'new' EMU, at a pace which a few years ago would have been unthinkable. Clearly, the crisis is acting as a catalyst (Bergsten and Kirkegaard 2012), forging new solutions, such as a roadmap for a stronger EMU architecture that entails the transfer of more national sovereignty to the euro area level (van Rompuy 2012).

Along this path the euro area is facing a twin challenge of transition:

- The **first transition is of an institutional and political nature**. It will take time to see a full display of the new EMU framework, as it needs to be explained, accepted and fully implemented at the political level. However, a roadmap with milestones towards the clear goal of deepening euro area integration and completing EMU will focus the minds and help to anchor financial market expectations.
- The **second transition is of a conjunctural and economic nature**. The therapies undertaken by most countries may sacrifice the level of economic activity in the short term. Product market liberalisation, labour market reforms and budget austerity can be deflationary at first (Brender et al. 2012). Thus, it will take a bit of time and perseverance to leave the balance-sheet recession behind and for an

economic upswing in response to these fundamental changes in institutions and governance to become fully visible.¹

Unfortunately the euro area does not seem to be granted the benefits of trust and time concerning these transitions. Even after many successive Euro Area Summits and national policy measures aimed at securing financial stability, tackling high sovereign debt and reviving growth, markets remained volatile.

The aim of our contribution is to provide various snapshots of the unravelling of the euro area crisis and in some sense to review some of the arguments of 'EMU-critics' versus those of 'EMU-advocates'. We raise some questions about where we stand and what we may be facing next, focusing on some of the main trade-offs and challenges for the euro area during this transition period. This is akin to a medical check-up that can be enriched and repeated ever so often. The questions we examine, in a brief manner given the limited space, are the following:

- Where do we stand? Given the role of three main fault lines, how have the intra-euro area imbalances developed over time and what does this imply for policies?
- What has been done so far? Have national economic adjustments been set in motion? Are there trade-offs related to the ongoing deleveraging process, fiscal consolidation and structural reforms? Which governance reforms have been carried out already or are underway?
- What was the ECB's response during the various phases of the crisis? Given the extensive monetary policy measures taken in a context of financial instability, is medium-term price stability in the euro area still ensured?
- Looking further ahead, what is next on the agenda of policy makers? What are the main challenges to restore EMU stability on stronger and broader foundations? How will a reinforced EMU benefit the ECB?
- How might the future for EMU look like? What might be some of the biggest hurdles for change: completing very significant reforms in some euro area countries and deepening euro area integration by sharing sovereignty?

A caveat is in order: at the time of writing (June 2012) EMU is still in crisis and our considerations are therefore only preliminary.

2 Where do We Stand?

We argue that the euro area crisis results from the interplay of various systemic risks.

As is by now well known, various global phenomena led to the accumulation of 'global systemic risk' over the last 15–20 years. This episode was characterised by the underpricing of risks building up in an increasingly interconnected financial

¹ Compare with the Hartz IV labour market reforms in Germany that over time supported a steady decline in unemployment.

system. The materialisation of such risks triggered the global financial crisis and the Great Recession, leading to a new, prolonged phase of deleveraging of unsustainably high levels of private and public debt.

This unfolding of the global financial crisis also revealed the ‘euro area systemic risk’ that was building up since the start of EMU in the form of rising intra-euro area imbalances in a financially integrated region. This process could go along unabated as a consequence of the virtual absence of effective correction mechanisms due to the incomplete architecture of EMU that in turn implied ineffective financial supervision and failing economic governance both at the national and European level. Moreover, reflecting the global underpricing of risk market discipline was virtually absent. To put it simply: the rules did not bite and the markets did not bite either. As a result of this complacency on all fronts, three fault lines opened up in the run-up to the EMU crisis:

1. Too easy credit, opening the way for housing and consumption booms.
2. Deteriorating competitiveness, undermining current account positions.
3. Unsustainable fiscal positions, making governments vulnerable to shocks.

The interaction between these three fault lines contributed to growing and persistent intra-euro area imbalances as reflected in net lending and borrowing positions of current account surplus countries (Belgium, Germany, Luxembourg, Netherlands, Austria and Finland) and current account deficit countries (the remaining euro area member states), respectively (see Fig. 1, taken from De Rougemont 2013).

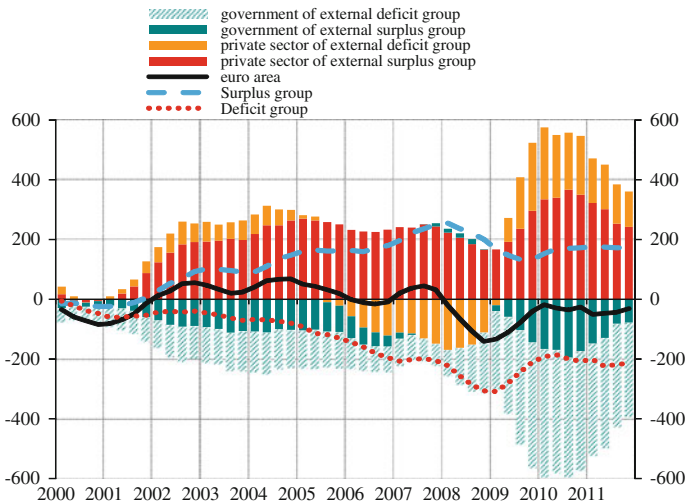


Fig. 1 Euro area net lending/net borrowing: split by current account surplus and deficit countries and their public and private sectors (in billion euro; four-quarter moving sums). *Sources* Eurostat, ECB. Latest observation: 2011Q4. *Note* Current account surplus countries: Belgium, Germany, Luxembourg, Netherlands, Austria and Finland. Current account deficit countries: the remaining euro area countries

The deficit countries as a group saw a steady widening of the current account deficit until 2009, associated with capital inflows, after which a moderate correction set in. The breakdown shows a large private sector savings–investment deficit between 2006–08, followed by a rapid turnaround into a surplus ‘enforced’ by the crisis. Moreover, the public sector showed a persistent net borrowing requirement, rising to a very high level after 2008. By contrast, the group of surplus countries saw a steadily rising current account surplus until 2008, accompanied by capital outflows, after which a small correction occurred. Underlying this picture is in particular a large private sector savings–investment surplus, whereas the public sector managed to eliminate its deficit by 2007—but then saw renewed net borrowing from 2009.

These persistent flows of net international lending and borrowing naturally had significant implications for how the liabilities of the various sectors were financed. The current account deficit countries witnessed a steady increase in their relatively low private sector debt leverage since 2000, fuelled by easy credit conditions since the adoption of the euro and the ample availability of foreign capital. This in turn implied an increasing vulnerability to bank financing and changing market sentiment, in particular rising interest rates and a ‘sudden stop’ or reversal in private capital inflows. The debt-to-GDP ratio of non-financial corporations rose steadily, while households even doubled their debt-to-disposable income ratio since 2000 (Fig. 2). With the exception of some seemingly ‘good pupils’ (Spain and Ireland), government debt ratios were not convincingly reduced and these rapidly reached unsustainable levels in the aftermath of the financial crisis and the Great Recession (Fig. 3), setting the stage for the sovereign debt crisis (van Riet (ed) 2010).

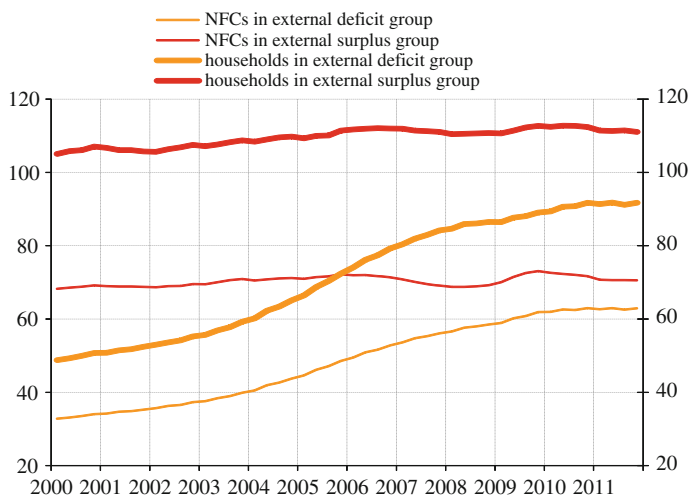
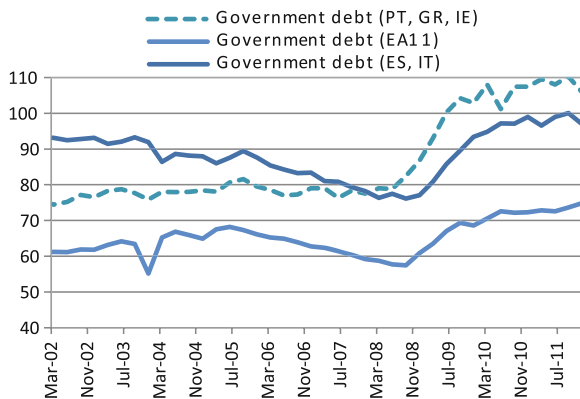


Fig. 2 Debt ratio of private non-financial sector: split by current account surplus and deficit countries (percentage of gross disposable income or GDP). *Source* ECB, Eurostat. Latest observation: 2011Q4

Fig. 3 Trends in gross government debt in the euro area (percentage of GDP).
Source Eurostat. *Note* EA11 consists of the euro area countries excluding Luxembourg, Portugal, Greece, Ireland, Spain and Italy; country groupings are based on unweighted averages



Current account surplus countries on the other hand experienced only a moderate rise in private sector debt leverage since 2000. The debt ratio of non-financial corporations was broadly stable, while households only slightly increased their already high debt exposure. While private debt was relatively high in this group, debt financing was facilitated by the persistent savings surplus of the private sector. Government debt ratios had been gradually reduced in the run-up to the crisis, but then rose quickly as the fall-out of the crisis hit the public sector. As the sovereign debt crisis in other countries intensified the current account surplus countries nevertheless enjoyed a ‘safe haven’ status and as a result saw major capital inflows driving down government bond yields.

As a consequence, the nature and size of the policy challenges differ from country to country. The need to adjust is most intense where private and/or public debt financing was based on weak banks, low interest rates or foreign capital and where competitiveness was allowed to deteriorate for many years. These euro area countries will face a prolonged period of deleveraging, fiscal consolidation and structural reforms with little room for manoeuvre to pursue different policy choices.

3 What has Been Done so Far?

What are the *economic adjustments* now under way, set in motion by the crisis; and what are the main trade-offs facing policy makers?

As regards credit conditions, the European Banking Authority (EBA) has already undertaken two stress tests of systemic banks, in 2010 and 2011, and it then set a target for higher capital ratios. For most banks, together with the forthcoming Basel III requirements this has triggered efforts to raise fresh capital, restructure and deleverage. This process is advancing steadily. The growth of bank lending to households and firms dropped sharply in 2009 and has since then been sluggish, which partly reflects the ongoing correction of past excesses in countries

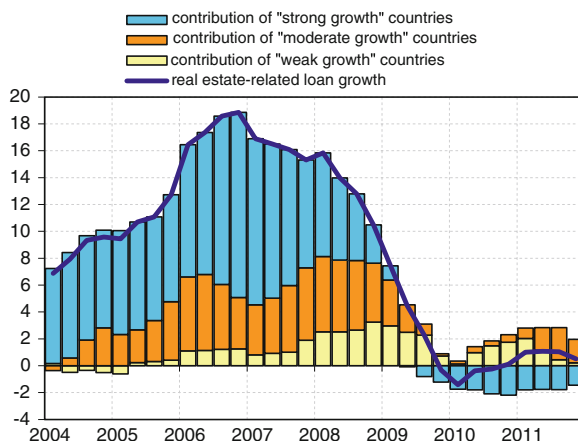


Fig. 4 Real estate-related loans to non-financial corporations in the euro area (annual percentage changes; contributions in percentage points). *Source* ECB. Latest observation: 2011Q4. *Notes* Real estate-related loans comprise loans to non-financial corporations engaged in construction and real estate activities. Countries with ‘strong’ (IT, ES, IE and GR), ‘moderate’ (FR, BE, FI and LU) or ‘weak’ (DE, NL, AT and PT) growth on the basis of 2006 national loan growth rates

with a real estate boom (Fig. 4). This suggests the need to tread a fine line between avoiding a credit crunch and promoting financial health.

As regards competitiveness, excessive unit labour cost (ULC) growth in current account deficit countries is slowing (Fig. 5), helping to improve their positions against competitors and rebalance the euro area economies. Part of the adjustment in unit labour costs is due to labour shedding rather than stronger output growth and wage cuts. This reflects that unviable production capacity had to be closed and the flexibility of the economy is generally too low to re-employ these redundant workers elsewhere. While the current account position of deficit countries is improving this also reflects lower import demand in the face of falling domestic output.

Considering fiscal policies, the consolidation of public finances is proceeding, as nearly all excessive deficit countries are reducing their (structural) deficits in line with their fiscal targets, despite in some cases considerable cyclical headwinds (Table 1). While most of these euro area countries are expected to have reduced their budget deficit to below 3 % of GDP in 2013, those subject to an EU/IMF adjustment programme are following specifically agreed fiscal targets.

Some progress is also being made with structural reforms of markets and institutions, in particular in troubled countries. Under pressure of the markets and of EU/IMF programmes, countries that undertook the largest fiscal consolidation efforts have also made most progress with structural reforms (Buti and Padoan 2012). Still, in view of rising unemployment and sluggish growth further comprehensive reforms will be essential. This appears to be the most difficult policy area to push forward, as it affects many vested interests.

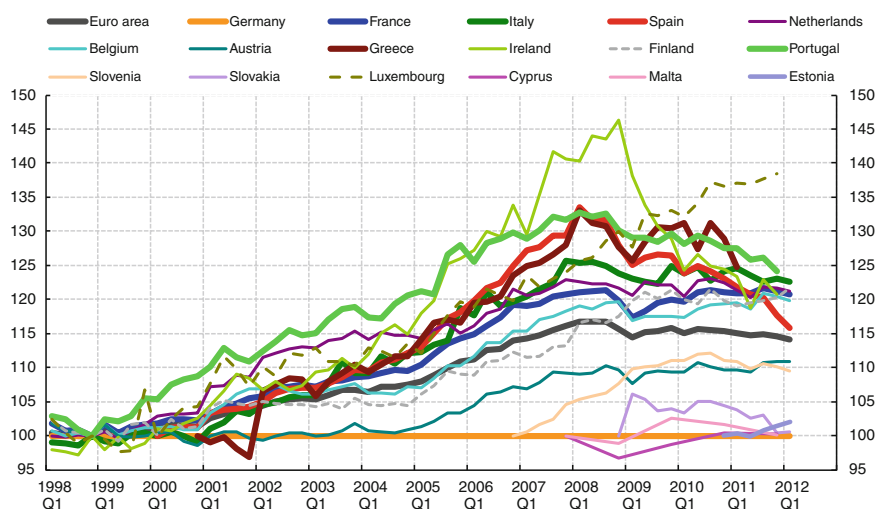


Fig. 5 Unit labour costs in euro area countries, nominal (index 1998Q4 = 100, relative to Germany, based on sa data). *Source* Eurostat. Quarterly data up to 2012Q1 except for Ireland, Portugal and Luxembourg (2011Q4) and Greece (2011Q1). Cyprus and Malta are based on the annual data, up to 2011. *Note* The ULC indices are set to 100 in the last quarter before the euro area accession of the respective country. The ULC developments presented for Greece and Portugal might differ from the calculations made by the National Central Banks. The quarterly pattern in Greek ULC is affected by substantial volatility in quarterly compensation of employees figures

Table 1 Structural budget balance of euro area countries (percentage of GDP)

	2007	2008	2009	2010	2011	2012	2013
Belgium	-1.3	-2.0	-3.7	-3.2	-3.4	-2.7	-2.6
Germany	-0.9	-0.8	-1.3	-2.3	-0.8	-0.4	-0.3
Estonia	-1.9	-4.8	-0.9	-0.5	-0.2	-0.8	-0.5
Ireland	-1.5	-7.3	-9.7	-9.6	-8.4	-8.1	-7.9
Greece	-7.8	-9.8	-14.7	-9.0	-5.7	-2.9	-4.5
Spain	1.2	-4.3	-8.7	-7.4	-7.3	-4.8	-4.8
France	-4.2	-3.9	-6.2	-5.7	-4.1	-3.2	-2.9
Italy	-3.1	-3.5	-4.0	-3.6	-3.6	-0.7	-0.1
Cyprus	2.7	-0.2	-5.9	-5.0	-5.5	-2.7	-1.7
Luxembourg	1.4	1.7	1.3	0.5	0.4	-0.6	-1.4
Malta	-2.8	-5.4	-3.5	-4.4	-3.3	-3.5	-3.3
Netherlands	-1.1	-0.7	-4.1	-3.8	-3.5	-2.4	-2.5
Austria	-2.0	-1.8	-2.7	-3.3	-2.4	-2.1	-1.8
Portugal	-3.6	-4.7	-8.6	-8.4	-6.2	-3.0	-1.3
Slovenia	-3.1	-5.1	-4.4	-4.5	-3.9	-2.2	-1.9
Slovakia	-3.7	-4.4	-7.7	-7.3	-5.1	-4.4	-4.6
Finland	2.8	2.7	0.8	-0.5	0.6	0.3	0.3
Euro area	-2.0	-2.8	-4.6	-4.4	-3.4	-2.1	-1.9

Sources European Commission's spring 2012 economic forecast, ECB calculations.

Our conclusion is that the economic adjustment process is advancing slowly, but steadily. A turnaround may have been achieved. Financial markets also appear to be giving some credit to those few distressed countries that show a firm and credible commitment to adjust (as evidenced by declining, but still very volatile sovereign bond spreads).

A further question is whether all necessary *governance reforms* in response to the crisis have already been carried out, or are still underway.

At the EU and euro area level the crisis has triggered frantic action, including frequent Euro Area Summits, to strengthen EU and EMU governance. To start with, the European Semester was introduced in 2011 as the new EU surveillance umbrella. Euro area governments and a number of other Member States furthermore agreed to a Euro Plus Pact containing a basket of policy measures for promoting competitiveness and convergence. Every year, the results will be assessed as part of the European Semester. The experience so far is that the time available is too short for a thorough examination of the budget and reform plans of 27 Member States and the commitments under the Euro Plus Pact. A greater prioritisation would be helpful in this regard.

Member States further undertook a full review of EU economic governance as part of the so-called 'six-pack' of legislative measures, which entered into force in December 2011. As a result, the Stability and Growth Pact (SGP) was reformed to make EU fiscal surveillance more effective and new requirements for national budgetary frameworks were announced to make sure that these meet minimum standards. To deal with the lack of an adequate mechanism for the surveillance of competitiveness and structural reforms, a new Macroeconomic Imbalances Procedure (MIP) was introduced, which is directly aimed at preventing and correcting the build-up of unsustainable imbalances in EU countries. A new financial sanctions regime for euro area countries moreover sets strong incentives for compliance with the reinforced EU surveillance framework.

This 'six-pack' will be extended by a so-called 'two-pack' of regulations focused on euro area countries. They should give more powers to the European Commission to assess and if necessary ask for a revision of draft national budget plans, subject countries with an excessive deficit to closer scrutiny and enhance surveillance of countries experiencing or threatened with financial difficulties. The Commission's proposals are currently under negotiation with the Council and the European Parliament.

Furthermore, all Member States except the United Kingdom and the Czech Republic signed in March 2012 a new Treaty on Stability, Coordination and Governance. The main element of this intergovernmental treaty is the Fiscal Compact, which *inter alia* requires the contracting parties to introduce a balanced-budget rule (in structural terms) in their national legislation and to ensure an automatic correction in case of significant deviations (for details see ECB 2012). In June 2012 this was complemented with a Compact for Growth and Jobs, an agreement including various measures at the European and national level, mainly to promote investment and the financing of the economy by mobilising EUR 120

bn.. These actions should also address to some extent the fear that forceful fiscal austerity in Europe could dampen growth in the short run.

Key elements of the strategy to ensure financial stability are the new ‘firewalls’ for troubled euro area countries (comprising the temporary EFSM and EFSF and the permanent ESM). The total firing power of these facilities is complemented by the financial assistance that is available from the IMF for countries under financial strain.

Last, but not least, new macro-prudential and micro-prudential supervisory institutions (ESRB at the macro-level and EBA, EIOPA, ESMA at the micro-level) have been set up. They are operational since 2011 and play a key role in supervising the financial system and the soundness of (systemic) financial institutions.

Overall, this reinforcement of EU and euro area surveillance and supervision is the most far-reaching reform since the introduction of the euro. Although the whole ‘quantum leap’ in economic governance that was recommended by the ECB was not (yet) achieved, the institutional framework of EMU has been considerably overhauled. This is a major achievement on the way from the ‘old’ EMU to the ‘new’ EMU, considering the challenge of introducing such changes quickly in the midst of a crisis. On the one hand, this should go some way in strengthening the ‘trinity of policy objectives of EMU’ comprising price stability, fiscal (and economic) stability and financial stability (Fig. 6). Their mutual interaction and

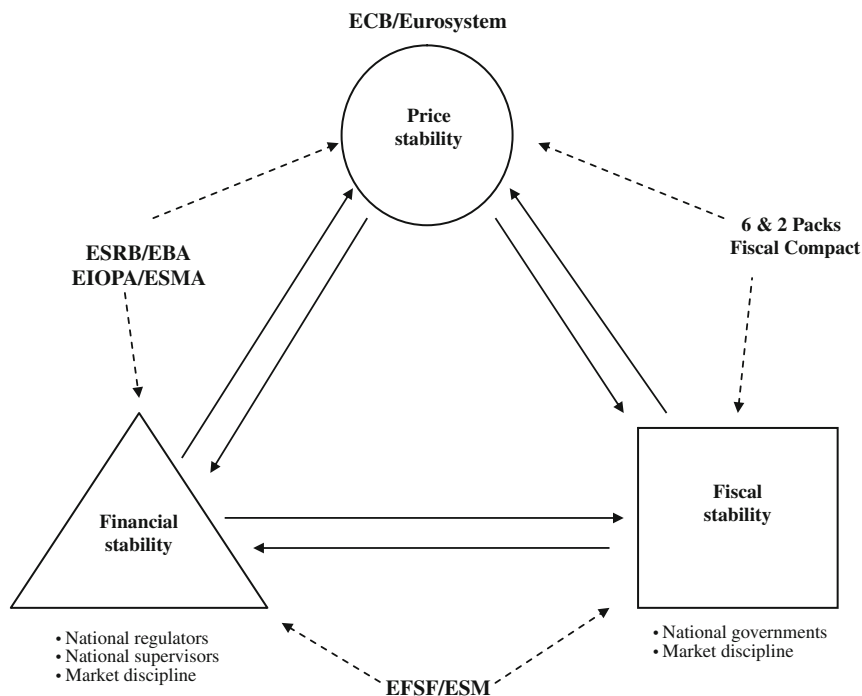


Fig. 6 The revamped institutional framework of the euro area

feedback effects would now seem to be under stronger control. As discussed in [Sect. 5](#), this should also relieve the burden on the ECB. There is also more acceptance and realism among the Member States about the importance of complying with these strengthened rules. On the other hand, the impact of this revamped institutional framework will have to be proven in practice. Moreover, the agreed changes in national and EU governance were not sufficient to raise confidence and trust in the euro. An even more fundamental redesign of EMU will be needed and thus the debate has moved on to the need for a 'banking union', a 'fiscal union', a 'competitiveness union' and a 'political union'.

4 The ECB's Response to the Crisis

How has the crisis affected the ECB's monetary policy? The ECB has been forced to take account of financial stability risks, impairments of bank balance sheets, market segmentation, and so on, while keeping its focus on medium-term price stability in the euro area. The response to the financial crisis and its fall-out was unprecedented, both as regards the standard interest rate measures and the non-standard monetary policy measures (see [Drudi et al. 2012](#)):

- The ECB cut its official interest rates to an exceptionally low level, close to the zero lower bound.
- The ECB provided enhanced credit support with a range of policy measures that work through the banking sector, notably by:
 - applying fixed rate full allotment (FRFA) in refinancing operations;
 - introducing more, larger and longer-maturity refinancing operations (LTROs);
 - relaxing the requirements for eligible collateral and widening the range of financial instruments accepted as collateral;
 - offering foreign currency lending to euro area banks and lending in euros to foreign central banks.
- Faced with dysfunctional markets that hampered monetary transmission, the ECB took further temporary measures focused on reviving securities markets, in particular through:
 - the Securities Markets Programme (SMP); and
 - two covered bond purchase programmes (CBPPs).

The analysis of the outlook for price stability benefited from the two-pillar monetary strategy that has been applied by the ECB since the launch of the euro, comprising a thorough analysis of both economic and monetary variables. The standard procedure of analysing monetary and credit aggregates in addition to macroeconomic variables offered a distinct advantage in the financial crisis when assessing the risk of a credit crunch. The ECB's operational framework was moreover flexible enough to allow for a timely and fast response when

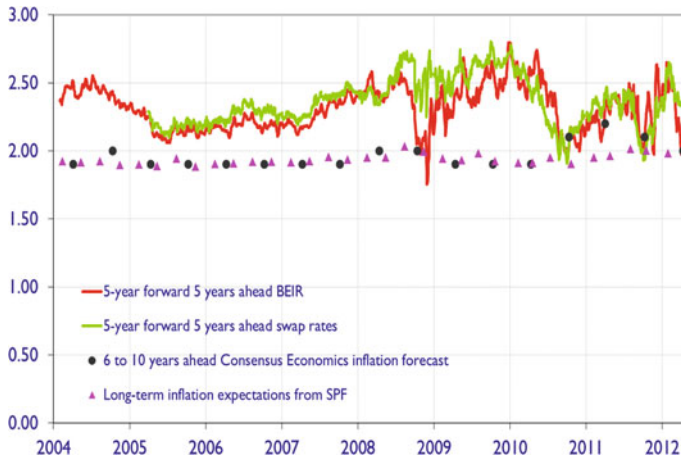


Fig. 7 Inflation expectations in the euro area: market- and survey-based measures (percent per annum). *Sources* Reuters, ECB, Consensus Economics. Latest observation: 9 May 2012. *Note* Market-based measures are based on break-even inflation rates (BEIR) and inflation-linked swap rates. Survey-based measures are taken from Consensus Economics and the ECB survey of professional forecasters (SPF). Rates are seasonally adjusted. Inflation risk premia usually cause market-based measures of longer-term inflation expectations to exceed survey-based measures

circumstances changed. As a result, euro area inflation expectations were successfully anchored during the crisis (Fig. 7) and the single monetary policy continues to be credible.

5 What's Next? Challenges for Regaining EMU Stability

The road back to a stable EMU is long and winding. We distinguish five forward-looking challenges to restore trust in the euro, but the list may easily be extended. While they are discussed one after the other, one should keep in mind that they are closely interrelated.

5.1 Challenge I: Raising Potential Growth

Since the start of EMU in 1999 potential output growth in the euro area has on average been mediocre and the outlook is even more subdued (Fig. 8). Taking data from the European Commission as a basis, the euro area barely reached an average annual potential growth rate of 2 % over the 1999–2011 period (thus including the Great Recession). For 2012–15 this performance is projected to be even lower, not much over 1 % per year. There are substantial differences at the country level.

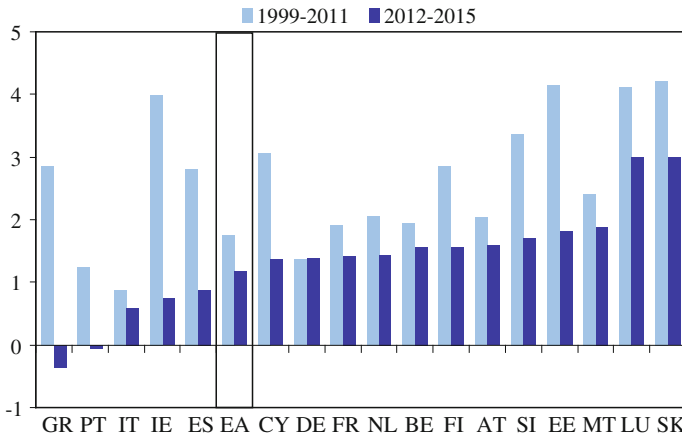


Fig. 8 Potential output growth in the euro area (percent per annum). *Source* European Commission. Period 2011–15: European Commission forecast. *Notes* Average growth rates per period. Countries in ascending order for the period 2012–15

While some of the distressed euro area countries in the past enjoyed potential growth rates above the euro area average, they are all expected to be (well) below the euro area figure in the next four years.

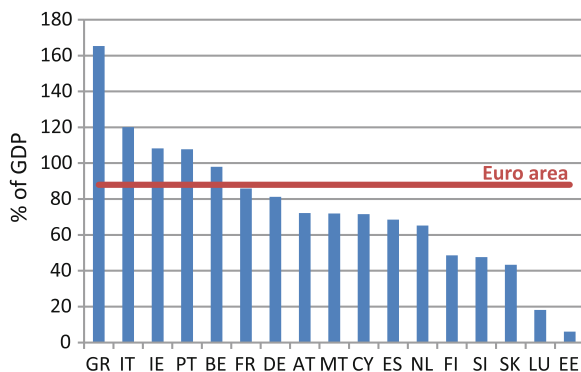
Stronger output growth will be needed to facilitate the deleveraging process, allowing both the public sector and were relevant the private sector ‘to grow out of debt’. This will be all the more important as high debt levels tend to act as a drag on output growth and the route of ‘inflating debt away’ is not available. Comprehensive structural reforms will be needed to strengthen the supply side of the economy and to make way for a fundamental improvement in competitiveness. Even when acknowledging that initially there may be adverse effects on demand, output and jobs, these negative short-term effects are often exaggerated (OECD 2012).

5.2 Challenge II: Fiscal Consolidation

Most euro area countries have a budget deficit above the 3 % of GDP reference value and are still faced with a rising government debt-to-GDP ratio from an already high level (Fig. 9). The reinforced EU fiscal rules demand that they rapidly correct their excessive deficits and proceed to a close to balanced budget or surplus in structural terms. Given low potential growth and a rising interest burden, they will need to sustain a relatively high primary budget surplus in order to be able to generate a declining government debt ratio. This is also important to make room for the growing budgetary costs associated with the ageing of society.

Fiscal austerity may be accompanied by short-term negative demand effects before the longer-run benefits become visible (Brender et al. 2012). This could occur

Fig. 9 General government gross debt of the euro area countries in 2011. *Source* European Commission spring 2012 economic forecast



especially if governments are not quickly rewarded by financial markets for pursuing a clear and credible strategy aimed at restoring fiscal sustainability. Past experience with large fiscal consolidations suggest to focus on a growth-conducive set of adjustment measures that favours spending cuts over tax increases in order to mitigate short-term negative output effects. To ensure political acceptance, the burden of fiscal adjustment must also be spread over the population in a fair manner.

5.3 Challenge III: Breaking the Negative Feedback Loop Between Sovereigns and Banks

A key reason why the euro area crisis drags on, is the fact that sovereigns and banks are caught in a 'deadly embrace', as reflected in the close correlation between their CDS spreads (Fig. 10). The euro area banking sector traditionally holds a large amount of government securities on its balance sheet, both from national and other euro area sovereigns, *inter alia* for use as collateral in the ECB's refinancing operations. As credit rating agencies downgraded troubled countries and Greece initiated a voluntary restructuring of its government debt with private debt holders, many banks got into financial difficulties. The stress tests organised by the EBA revealed the nature of their predicament. Some of the undercapitalised banks with impaired assets need substantial equity injections from their respective governments in order to survive, at a point in time when many of these governments are already highly indebted and risk being downgraded further.

To break this negative feedback loop, the ESM may be called upon once it comes into operation in October 2012. Apart from supporting governments, the ESM has the mandate to step in with financial assistance directly provided to troubled banks, in which case bank rescues can be organised without at the same time raising sovereign debt. Moreover, the ESM has been set up as an international institution with a large (paid-in and callable) capital base provided by the euro area countries. This implies that its own borrowing to finance its backstop operations

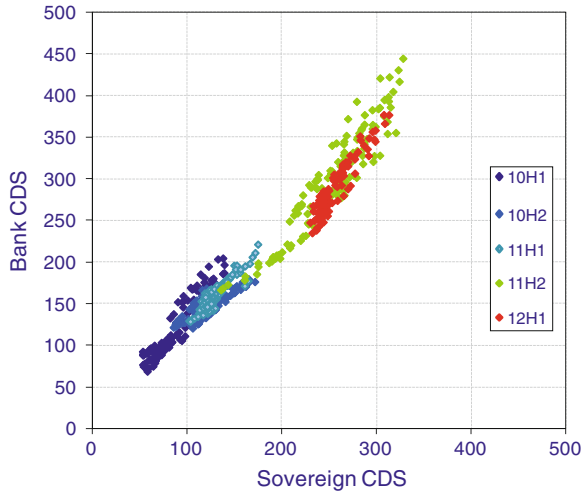


Fig. 10 Euro area sovereign and bank credit default swap premia (basis points). *Sources* Thomson Reuters Datastream and ECB calculations. *Notes* The latest observation is for 30 April 2012. The sovereign credit default swap (CDS) premia for the euro area are calculated as a weighted average of the five-year CDS premia of 11 euro area countries using the ECB’s capital keys as weights. The countries included are Germany, France, Italy, Spain, Netherlands, Portugal, Belgium, Austria, Finland, Slovakia and Ireland. The bank CDS premia are calculated as the simple average across ten large banks in the euro area. Each dot represents the pair (sovereign CDS premium, bank CDS premium) on a certain day in each six-month period from 2010H1 to 2012H2

for banks and sovereigns will not be directly rerouted to the balance sheets of its shareholders, as in the case of the EFSF.

5.4 Challenge IV: Developing a Genuine EMU

A comprehensive approach in tackling the EMU crisis requires above all progress on the political front, in particular by reinforcing the institutional architecture to make EMU more complete (Fig. 11) and generate the longer-term benefits of the euro that were promised to its citizens. At least four building blocks can be distinguished, largely along the lines of the so-called Four Presidents’ Report (van Rompuy 2012). They comprise:

1. A euro area authority (the Commission or a Euro Area Treasury?) to step up intervention in national economic policies when things go harmfully astray with serious adverse implications for other euro area members.
2. A financial union to decouple sovereigns and banks, with joint euro area supervision (by the ECB?) and common funds for bank resolution purposes, as

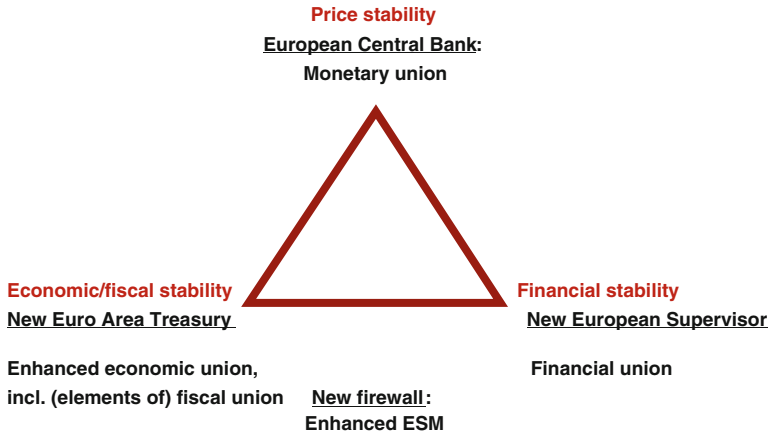


Fig. 11 Vision of future institutional framework of the euro area

well as for a minimum euro area wide deposit insurance (both funded by the banking sector?).

3. A (form of) fiscal union with effective control (by a Euro Area Treasury?) over national budgets and a moderate euro area budget to address common shocks; joint issuance of eurobonds could only be considered once a full fiscal union is in place, whereas it deserves further study whether jointly issued eurobills (with a relatively short maturity that mitigates the shared risks) could be acceptable in the interim period.
4. Elements of a political union to ensure democratic legitimacy and accountability.

In this set up the capacity of the ESM would need to be enhanced in order to effectively act as a safety net and backstop, both for solvent governments and viable banks that are under financial strain, subject to strict conditionality for recipients of financial assistance. The political implications from starting this journey of further European integration are enormous. In this respect, the crisis can also be seen as a political opportunity to complete the half-built house of the euro (Bergsten and Kirkegaard 2012).

5.5 Challenge V: ECB Exit From the Crisis Mode

The ECB is one of the most forceful voices in calling for a ‘quantum leap’ in governance, both at the European and national levels where appropriate, and a reinforced EMU. The ECB’s focus on conducting a single monetary policy for the euro area as a whole in turn requires an effective monetary transmission that is facilitated by integrated and functional euro area financial markets. The ability of

the ECB to exit from its current crisis mode for monetary policy is therefore crucially dependent on the return of confidence in the solvency of both euro area banks and sovereigns and trust in the future of the euro. While the ECB has stepped in with necessary monetary policy measures, it cannot solve the EMU crisis as such. This will require the strong and credible commitment of the euro area governments to do all what it takes to safeguard the euro and restore trust in the single currency.

Looking ahead, a stronger and mutually shared area-wide control over economic, financial and fiscal policies will hopefully help preventing unsustainable intra-euro area imbalances that could lead to contagion and EMU instability. This would also facilitate the task of the ECB to maintain price stability for the euro area. In addition, sound and stability-oriented national policies would contain the balance sheet risks that the ECB has accumulated in the context of the crisis.

Also in the future the ECB will no doubt contribute to financial stability as needed, in line with its mandate. At the same time, this commitment excludes acting as a lender of last resort for governments, as this was clearly prohibited by the Maastricht Treaty that laid the foundations for EMU. A deeper economic, financial and fiscal union based on political integration in principle reduces the risk of national political pressure on the ECB to conduct policies that may endanger price stability. Still, new risks to the ECB's independence may arise from efforts of new euro area authorities to coordinate the area-wide policy mix in a way that assigns a lower priority to price stability. These risks seem most evident if the ECB were given the new task of single supervisor for the euro area banking sector, a policy area which by nature is close to the heart of politicians. Whatever the future of EMU will look like, the ECB's independence in the conduct of monetary policy must be assured at all times.

6 Concluding Observations on the Future of EMU

The euro can provide a shield from outside shocks, secure the benefits of a credible world currency, and contribute to strengthening the single market and fostering internal stability. At the same time, the single currency can help governments in facing challenges that are 'too big to handle' for any euro area country alone (e.g. geopolitical challenges, global imbalances, and others).

EMU is now looked at comprehensively: each country is a stakeholder in the success of the others. In the medium- to long-term, EMU stability depends on price stability, fiscal (and economic) stability and financial stability, which are interrelated. Thus, EMU stability is also closely related to healthy financial markets and soundness of financial market participants, sustainability of household, corporate and government debt, and sustainable growth as well as economic responsiveness and resilience.

As discussed above, the future might see deeper integration involving (elements of):

- a financial union for financial stability;
- a fiscal union for fiscal stability;
- an economic union for economic stability; and
- a political union for democratic legitimacy.

Yet, this integration process entails more sharing of sovereignty and a higher degree of centralisation in new policy areas. A deeper EMU would help to counterbalance moral hazard from common financing facilities and resolution mechanisms. What matters is that the high intrinsic value of the euro—and the new constitutional framework—are perceived as worthy of the efforts to make it succeed.

New policies, new tools, new governance and stronger deterrents to ensure EMU stability are needed, but they will need time to be implemented and time to show their effects. There is still a lot of unfinished business, in particular to fill the policy vacuum of EMU by deeper integration. Making progress in these fields requires political courage and democratic legitimacy.

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Europe: Is Austerity Compatible with Endogenous Growth?

Luigi Paganetto and Pasquale Lucio Scandizzo

Abstract This paper revisits neoclassical and endogenous growth theory enlightening their link with austerity policies adopted nowadays in Europe. The main finding is that austerity is certainly harmful in the short run, if used as a policy instrument in a recession. Paradoxically, the only argument in favor of austerity is that it would give more power to future anti-cyclical policies (fiscal space argument). There is no evidence that it would improve development, moreover there is a weak support to the idea that it might contribute positively to resume endogenous growth. The main policy suggestion is that European economic policy has to be revised by adopting an endogenous growth perspective.

1 Introduction: What Happens in Europe?

The most recent data show that the Eurozone is lagging behind the rest of the world, where recovery and growth appear to be prevailing, even though still without a sufficient intensity. According to NBER, the USA recession ended in June 2009. In Europe, instead, the deceleration of recovery in mid 2010 has been significant and linked to the crisis of sovereign debt. Starting from the end of 2011, a real divergence has occurred between the evolution of the economy in the Eurozone and in the US (Fig. 1).

The greater weight of the aging population on pensions and health expenditure is a major handicap of the European public budgets (Fig. 2) and the fiscal

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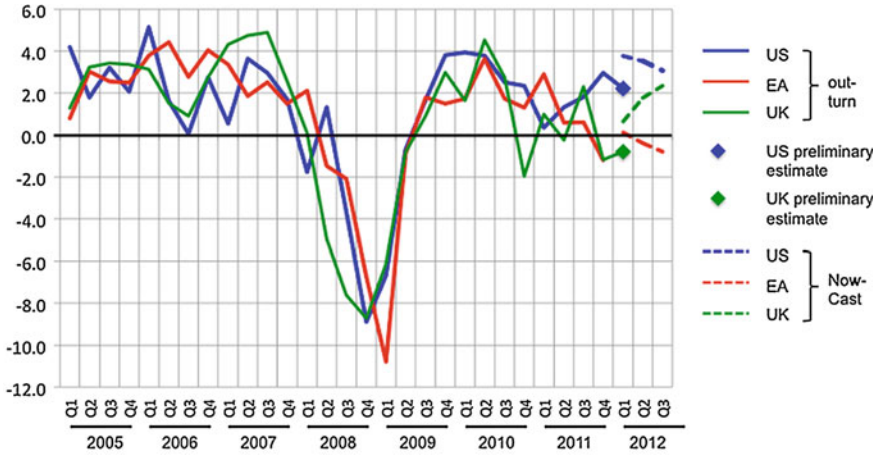
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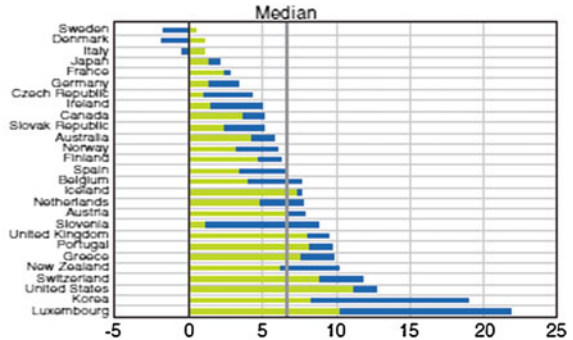


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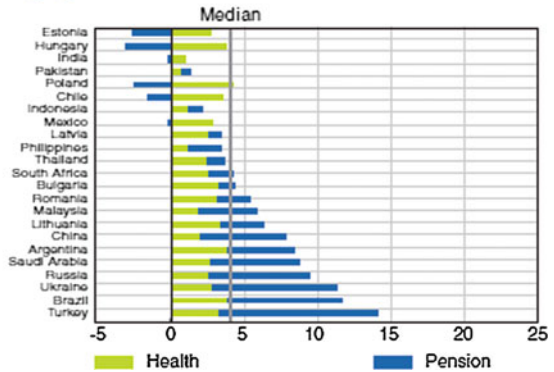
Fig. 1 Rate of growth of real GDP (OECD)

Fig. 2 Increase of budget expenditure forecasts for 2010–2050 as percentage of GDP (Cottarelli 2012)

Advanced economies



Emerging economies



adjustments necessary to stabilize debt and rebalance the accounts appear particularly demanding.

The disease of which is most difficult to cure Europe is the low rate of productivity growth. From this disease Europe is afflicted since the middle of the 1990s, when the process ended that had brought her to overcome the US in terms of growth of GDP per hour worked (Fig. 3). While the evolution of productivity is different in different areas, the tendency is of dynamism decisively below the other areas of the world.

The budget adjustments on one side and the persistence of low growth and stagnant productivity on the other have caused several economists to doubt that incisive fiscal discipline may be sustainably enforced for Europe in the present economic crisis, without further undermining its prospects for recovery and growth. The IMF itself, for long time criticized because of its tough stance on the necessity of fiscal austerity, has recently assumed a more problematic position, also because, with its lagging growth and financial difficulties, the European area risks to contribute negatively to the recovery of the rest of the world economic system.

In this paper, we propose to reconsider growth theory to try to respond to the troubling question on the appropriateness of fiscal austerity and its possible effects on growth. In particular, we start from the premise that this question is different from the simple consideration of the trade offs between demand and supply side policies, including the size of the multipliers and the possible climbing of a Laffer curve. Because of the seemingly long term disease of the European area, we are asking the different and more complex question of whether efforts exclusively directed to balance the accounts may not do more long term damage to an economy already in structural trouble.

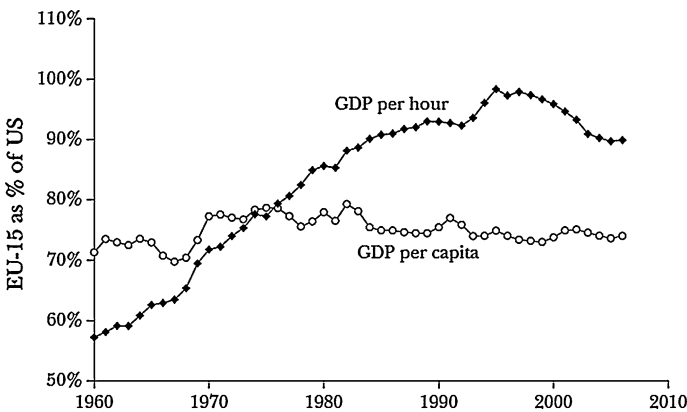


Fig. 3 *GDP per hour* of work and *GDP per capita* in EU-15 1960-2006 (relative to USA). (Source The Conference Board and Groningen Growth and Development Center, Total Economy Database, 2007)

2 Endogenous Growth and the Business Cycle

The purpose of the theory of the endogenous growth was first to overcome the imperfections of the models of Solow–Ramsey, incapable to explain sustained growth. Secondly, to provide to a much tighter model in which all the crucial variables involved in the growth mechanism: savings, investment, and technological knowledge, are the rational results of individual decisions. For these reasons, the theory of endogenous growth adopted Ramsey’s theoretical structure, where the saving is the result of the maximization of a representative agent and the balanced path of growth is seen as a trajectory of consumption and savings derived from the resolution of a problem of inter-temporal optimization of a rational agent. The literature on endogenous growth indicates as a necessary condition for perpetual growth, that the present rate of interest is a lower limit for ever. This has the consequence of ensuring that total factor productivity does not decrease towards zero, but keeps increasing in response to the accumulation of knowledge and human capital (see for example Jones and Manuelli 1997), so that savings are not carried to a level insufficient to feed sustained growth. In this perspective, the main object of the theory of endogenous growth was to develop economically significant ways to ensure increasing returns to scale to the factors accumulated. This happened both by dismissing the scarcity of natural resources, and by introducing endogenous technological progress. For what concerns the scarcity problem, for example, labor was transformed in a completely reproducible resource: human capital. For technical progress, on the other hand, the main characteristic of the theory is its capacity to endogenize technological progress as a benevolent externality, endogenous to the economic system, but exogenous to investment decision making (Romer 1994; Grossman and Helpman 1993; Aghion and Howitt 1998).

While the concept of an endogenous, but involuntary technological progress may seem paradoxical, it captures one key problem of economic growth: the fact that it cannot be the object either of individual or of collective decision makers. Individual decisors cannot supposedly increase growth, since its endogeneity depends on non internalized spillovers of their investment allocation. Policy makers, on their part, are equally impotent since they cannot act on the externalities created by capital accumulation and research and development as if they were voluntary goods. Because of the economies of scale associated with these externalities, in fact, any way to interfere with the private allocation would undermine the efficiency of the competitive solution, which is the main reason to describe technological progress as an external, rather than as an internal effect of investment allocation in a market economy. The government can intervene by improving the economic and the competing environment where endogenous growth takes place. This intervention may be accomplished through different channels, such as maintaining law and order, protecting intellectual property rights, regulating trade and financial markets, providing services and infrastructure. All these actions, however, can only pursue the objective of removing

obstacles and reducing friction, thereby creating a space where dynamism can turn freely into growth and growth can unfold optimally.

The endogenous growth theory did, therefore, put its finger on the crucial question: is it possible to “force” growth with appropriate policies? Its answer is no and equally negative are the answers of scores of other, less formal theories of growth, such as, for example, those of the institutional school and, in particular those theories that have tried to explain the divergence among the growth paths of different countries through their past and recent history. The last bastion of the institutional school, in particular, is well presented in the latest book of Acemoglu and Robinson (2011), where the authors argue that growth is the endogenous fruit of political institutions and that such a relationship is basically dichotomous: countries grow if their institutions are “inclusive” and decay if institutions are “extractive”. While it seems very different at first sight, further analysis of this distinction suggests that this type of endogeneity merely transposes to institutions what endogenous growth assumes for firms. In other words, institutions are seen as centers of appropriation and allocation of public goods and their decisions spill over onto the private sector of a market economy, fostering growth or causing decay, according to whether these spillovers (and not necessarily the decisions themselves) promote participation and the right economic incentives or not. Furthermore Acemoglu and Robinson (2012a, b) suggest that international economic linkages, and institutional choices of different societies are also entangled. Both in neoclassical and institutional endogenous growth, therefore, an idea emerges of the possibility that a virtuous circle (and, in the negative case of a vicious one) may result from a positive feedback between partial and uninformed decision making and its unplanned spillovers.

While it seems obviously related to the current economic performance of a country and its management, growth theory has typically been treated as a story about the long term. In Samuelson’s original presentation, in fact, the so called neoclassical synthesis explicitly assigned the long run to the domain of neoclassical growth, with full employment as a given characteristic and investment allocation to pursue sustained growth as its main policy problem. The domain of the short run, instead, was reserved to the Keynesian paradigm, with the capital stock as given and the pursuit of full employment through monetary and fiscal instruments as the principle policy objective. According to the Tinbergen tradition, if the two instruments: investment allocation and monetary/fiscal policies were independent, the neoclassical synthesis would admit a non contradictory solution, even though the intractability of endogenous growth from a policy intervention point of view would remain an unsolved problem. It appears, however, that in the past decades a slow and tortuous way of thinking has been developed around the idea that long term investment allocation may be negatively affected by any attempt at stabilizing incomes around a long term target through fiscal and monetary policies. An idea has also emerged, which tends to challenge the neoclassical synthesis from an opposite point of view: that long term unemployment may be compatible with growth, or, in other words, that multiple long run equilibria are

possible and that in some of them successful investment allocation may run counter to the achievement of full employment.

Neoclassical growth theory, on the other hand, both in its Solow–Ramsey and endogenous versions, is essentially a theory of *potential growth*, in the sense that it pays no attention to the economic cycle and to unemployment. The correspondent Keynesian theories of growth, instead, including the original Harrod Domar model and its advanced Kaldor-Pasinetti variants, are interested in explaining the pattern of *actual growth* and the possible ways to reconcile the economic cycle and the periodic unemployment of resources with a long term equilibrating mechanism. Such a mechanism can only be government intervention in the Harrod-Domar’s version, while it is an endogenous mechanism of redistribution between salaries and profits in the case of Kaldor and Pasinetti. In both cases, the Schumpeterian idea of “dynamism” as a necessary ingredient to foster accumulation and growth is essential, since investment depends on the level of the capital stock desired and this, in turn, is a function of the ambitions, the optimism about the future, the attitude to take risks, the greed and all that is implied by the Keynesian concept of “animal spirits” of the entrepreneurs.

3 The Relation Between Unemployment and Growth in the Short Run

Many accounts of the relationship between short and long run policies emphasize the fact that in the long run there is no positive effect of inflation on growth (see, for example, Draghi 2012), so that any apparent success of unemployment reduction through monetary policies is destined to ultimately vanish. While this is posited to be the consequence both of rational expectations and empirical evidence, a possibly negative effect of inflation on growth is also envisaged through its negative effect on savings. Stabilization through fiscal policy, on the other hand, may also be detrimental for long run growth, for two different reasons. On one hand, rationality implies that economic agents will discount the future negative effects of any expansionary fiscal policy as ultimately non sustainable. On the other hand, such a policy will bring about increasing government debts, which also tend to have negative effects on long term growth and are ultimately unsustainable. Finally, it is argued that expansionary fiscal policy has gone hand in hand with the attempt at constructing a non sustainable welfare state (Draghi 2012) and that the pursuit of equity can only be successful if it is implemented by redistributing the fruits of long term growth.

While monetary policy remains an instrument that most economists consider effective to deal with temporary liquidity crises, albeit in different measure (see, for example Bernanke 2010 and Taylor 2011), not only the efficacy of expansive fiscal policy is reneged both in the short and in the long run, but an opposite approach to fiscal consolidation is advocated in the name of the theory of fiscal

space. According to this theory, which has been especially advocated by the IMF, fiscal austerity is necessary precisely because it is necessary to regain the efficacy of fiscal policy as an anti-recession instrument. This efficacy, in fact, has been compromised by past government spending, the expansion of the welfare state and the maturing of unsustainable conditions for the entitlements of the health and the pension systems. Austerity thus is paradoxically needed to reconstitute conditions where autonomous government spending is again possible without increasing an unsustainable debt or without crowding out private investment.

In the case of fiscal policy, therefore, the argument linking its lack of efficacy to growth is both more tenuous and more tortuous. On one hand, it is argued, fiscal policy is ineffective because people anticipate that its intended positive effects (for example the increases in private expenditure from a tax cut) are going to be counterbalanced by later, possibly larger, negative effects in the form of a tax increase, a greater debt or both. On the other hand, in countries where government expansion and the long term conditions of the welfare system require a positive fiscal adjustment, tax increases and expenditure cuts are the only way to proceed that would not compromise further long term growth, by undermining the operator's confidence in the viability of the country economic system.

More generally, one can say that Keynesian policies to correct the cycle are considered unreliable or ineffective for a variety of reasons: their inflationary underpinnings, the neo-Ricardian arguments on the inter-temporal equivalence of taxes and expenditures, the importance of expectations not only of individuals, but also of the financial markets, and, above all, a general disrepute that has befallen on the alleged association between big government and Keynesianism. These reasons are well analyzed by Krugman (2011), who also demonstrates how they are often based on misunderstandings, biases and tendentious interpretation of the empirical evidence. In any case, they appear to be overridden by the preoccupation that expanding government expenditure could only be done by increasing public debt and this, because of the reaction of the financial markets, would cause a financial catastrophe. Furthermore, a more subtle line of thought (Cline 2012; Rogoff 2010) appears to argue that growth, rather than full employment should be the target of government policies and this goal is demonstrably associated with low inflation and low public debt (Draghi 2012).

4 Austerity and Growth?

The revolutionary Keynesian insight on the possibility that the economic system could fall into recession because of insufficient (effective) demand was captured in a small series of models of the Cambridge school. These models, all of the Harrod-Domar family, essentially rested on the idea that markets insured that growth was compatible with equilibrium between supply and demand of goods, but a similar equilibrium on the labor market could be achieved only by a non market mechanism: government intervention, income distribution, or both. Solow showed that

this dichotomy depended on the assumption of a fixed coefficient production function. If factor substitution was possible, in fact, full employment could be reached by merely letting factor proportion adjust in response to the (market) change of wage rental ratios. A flexible production function thus reconstitutes the capacity of the markets to produce growth and full employment, even though growth is not sustained and will eventually end if it is not rescued by some form of exogenous technical progress.

One can dispute the possibility that with a given stock of capital, even in presence of a flexible production function, equilibrium may be achieved in the goods and the factor markets if institutional obstacles, such as sticky nominal wages prevent it from doing so. As Krugman (2011) has persuasively argued, however, Keynes' insight is much broader than it appears from the Harrod-Domar types of models. His insight, in fact, can be interpreted as made of two parts: (1) first, demand may fall short of supply, because of expectations or other autonomous factors; (2) second, because of the autonomous nature of some of the determinants of effective demand, the differences between demand and supply cannot be simply removed by the workings of the price system. These two points can be the object of different interpretation, when they are related to growth. For example, in a recent article, Farmer (2012) reformulates these two important ideas, by arguing that search and matching costs in the labor market lead to the existence of a continuum of equilibria and resolving the resulting indeterminacy by assuming that the beliefs of stock market participants are self-fulfilling. The article thus does not invoke the assumption of frictions that prevent wages and prices from reaching their equilibrium levels, but reaches the same conclusion: an economy can be trapped in a steady state characterized by persistent unemployment, if government does not intervene in a way that changes agents' expectations.

A second argument linking the Keynesian prescriptions to growth is implicitly provided by the endogenous growth theory. In this theory, sustained growth is possible only if externalities are generated by private R&D activities and human or non human capital accumulation and these externalities influence positively technical progress. But what if negative externalities are also generated, that reduce the dynamism in the economy and cause technical progress to recede or delay? This hypothesis introduces the idea that a recession may be only partly the result of the business cycle. Its duration and depth may be instead the symptoms of a negative structural change: the deterioration of the balance between the positive and the negative external effects of the market economy, which voids the economy's endogenous capacity to sustain growth and accelerates its decay toward the Solowian state of zero growth. In particular, one can view the "animal spirits" as an externality, in the sense that beliefs, however rational, tend to impact on the economy independently of the intentions of the economic agents who hold them and, once aggregated across all agents, may self fulfilling or self defeating depending on the circumstances. Negative beliefs may thus undermine sustained growth by reducing the dynamism of the economy, deflating expectations about the future, and chronically reducing effective demand. As a consequence,

endogenous growth may turn into endogenous stagnation with long term negative consequences on the wealth and the well being of a country.

But what would be the reason of a similar situation? Can we really conjecture that a certain type of industrial development, together with some measure of positive spillovers from knowledge and human capital build up could carry also a collective loss of positive animal spirits and dynamism? An externality spills over from the action of the individual agent, who typically does not care and is not directly affected by it, but its cumulative effect on the economy may be powerful. For example, R&D activities may act as a factor of competitive advantage for a firm, but the knowledge created is diffused in the economy through the mechanism of imitation and induced innovation and may result in an increase in aggregate productivity above and beyond the original increase for the firm who produced it. A negative externality could act in the same fashion, in the sense that a negative spillover from an individual firm or a sector may have profound consequences on the loss of dynamism of the whole economy. The individual firm behavior that could give rise to such an externality could take many forms, but we can conjecture that it would essentially consist in ways to pursue private profit that destroy social capital. These ways include illegal and corrupt behavior, as well as a variety of actions aiming to secure monopolistic rents for the individual involved. If the individual is successful in obtaining monopolistic rents, this causes direct damage for the economy, but the most important damage may be the indirect, external effect that derives from the fact that such a behavior induces other firms to put resources in rent seeking, with a ballooning impact on the economy.

In their book on “Animal Spirits” (2010), Akerlov and Shiller introduce the concept of a “confidence multiplier”, i.e. a Keynes-Hicks multiplier augmented or reduced by the degree of confidence of the economic agents in the economy. If we consider growth, rather than the immediate effect of government expenditure or taxation, however, confidence may be properly considered part of the external effects generated by the working of a market economy. During the expansionary phase of the business cycle, confidence tends to raise, thus boosting consumption and investment. The economy thrives and growth proceeds at higher speed under the joint effect of a booming demand and an expanding supply. Vice versa, in the contractionary phase, confidence is low, demand lagging behind supply and growth decelerating. A temporary decrease in confidence should not undermine the dynamism and maintain the conditions of sustained, endogenous growth-indeed, several economists claim that recessions are good for productivity increases, because they force producers to innovate or perish however, it seems fair to conjecture that a permanent increase in the uncertainty of expectations may have a very negative effect on the prospects of increasing productivity through dynamism and innovation. Tax increases and expenditure reduction, furthermore, may undermine investment in R&D and human capital, further reducing the scope for technical progress and endogenous growth.

5 Conclusion

The words “austerity” and “fiscal discipline” evoke an image of frugality and order and a general sense of virtues lost that need to be recovered. Yet we should be aware of the fact that the underlying moral tale of thrift and restraint was shattered by the Keynesian critique and by conceptual constructs, such as those of effective demand and liquidity schedule, which have never been successfully challenged. According to these constructs, thrift and the various typologies of fiscal discipline may be misleading models of behavior for macroeconomic policies, because they do not take into account the tendency of economies to fall below their potential, and even collapse, because of lack of confidence, or, put in more extreme words, because of self fulfilling depressionary expectations. While fiscal corrections may become necessary if the economy is moving on an unsustainable path, one should carefully consider the costs and the benefits of transition, and, in particular, the danger that the correction may be even less sustainable than the path itself.

Is there a trade off between fiscal discipline and growth? To the extent that we believe in the story narrated by endogenous growth theorists, there may very well be for two distinct reasons. First, dynamism in an economy may be undermined by negative externalities arising from economic activities that run counter the positive externalities that are supposed to support endogenously sustained growth. Negative externalities may arise from rent seeking, corruption, and a number of other private and public vices. If fiscal discipline is exercised at the expense of R&D and human capital formation, as it has been happening for example in Italy in recent years, these dysfunctional characteristics of the economy are aggravated and the hopes for endogenous growth may be dashed permanently. Second, both tax increases and expenditure cuts are self defeating to the extent that they permanently reduce the confidence of the economic agents in the future of the economy, and directly dampen their dynamism and willingness to face entrepreneurial and investment risks. If this happens, the Keynesian multipliers are the smaller part of the story: the larger part, specially for our country, may be the loss, for a long time, of any possibility of endogenous growth.

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Germans at the Crossroad: Preserve Their Socio-Economic Model or Save the Euro?

Luigi Bonatti and Andrea Fracasso

Abstract Section 2 of the paper describes some peculiar features of the German socio-economic model and argues that there is a widespread consent in Germany on preserving it in the face of global, European and national challenges. Essential components of this model are the export-oriented manufacturing sectors. Painful reforms were implemented in the first half of the 2000s with a view to strengthening the international competitiveness of these sectors and the German ability to penetrate the fast growing emerging markets. The second section of the paper addresses the intra-euro imbalances and discusses the thesis according to which the creation of the euro ended up acting as an asymmetric shock that put in motion a process of real divergence between the member countries, exacerbating the historical core-periphery divide. The elimination of the intra-euro interest differentials made easier for the periphery countries to borrow and to postpone the adjustment necessary to close the gap from the core. By reference to Sects. 2 and 3, Sect. 4 discusses the economic rationale underlying the popularity among German commentators and public opinion of the moral hazard issue related to the bailing-out of the periphery countries. This discussion allows us to outline the dilemma faced by the Germans: incurring the relevant costs implied by the virtual renunciation to the no-bailout principle and the dissolution of the euro. To shed some light on the terms of this dilemma, the paper seeks to clarify how the German objective to remain also in the future a leading player in the world economy and to preserve its socio-economic model may be compatible with the political need to accommodate the requests of its stagnating euro-periphery partners (and save the euro).

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1 Introduction

If US, China and primary commodities exporting countries are clearly at the core of the global imbalances phenomenon, Germany and the countries in the (so-called) periphery of Europe (i.e., Greece, Ireland, Italy, Portugal, Spain) are at the center of the intra-European current account imbalances (See Fig. 1 and Table 1). Although European countries are economically integrated and despite both the Euro area and the European Union enjoyed nearly balanced current accounts over time, intra-European imbalances are not necessarily an equilibrium by-product of the economic integration. This is particularly the case in recent times as shown by the way such imbalances have developed and persisted, as well as by the problems that periphery countries are facing in refinancing their external (private and public) debts.

The European imbalances can be read as the result of the high heterogeneity in the countries' initial conditions at the time of the monetary unification and of asymmetric national responses to Europe-wide common shocks, on the one hand, but also, on the other hand, as the by-product of different growth strategies and national socio-economic models. This observation is crucial for a non-naïve evaluation of the German political stance in the debate on how to rescue the periphery countries of the euro zone. As we shall argue, most Germans refuse the provision of unconditional help to the periphery because this risks jeopardizing the German socio-economic model and reducing the competitiveness in global

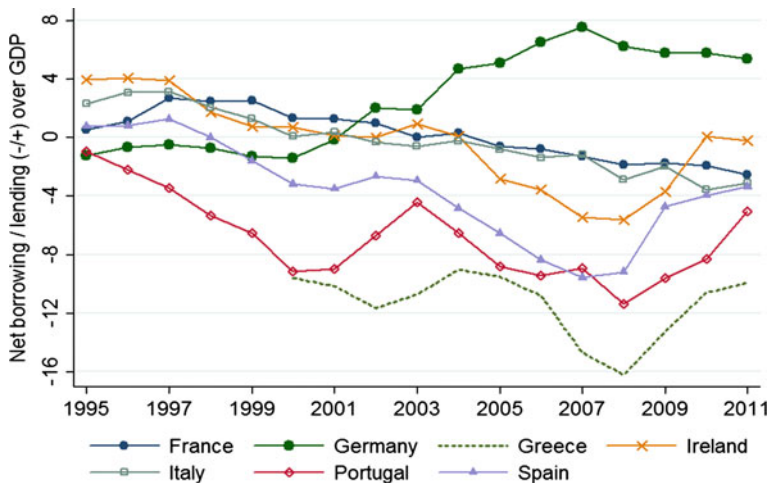


Fig. 1 Net borrowing/lending (% GDP). Source Eurostat

Table 1 Current account balances (% GDP)

	2000–2002	2003–2005	2006–2008	2009–2011
Portugal	−9.6	−8.3	−11.1	−9.1
Ireland	−0.7	−1.4	−4.8	−0.8
Greece	−7.2	−6.6	−13.6	−10.3
Spain	−3.7	−5.4	−9.5	−4.3
Italy	−0.1	−0.7	−1.9	−2.9
Austria	0.4	2.0	3.7	2.5
The Netherlands	2.4	6.8	6.8	6.8
Finland	8.2	4.8	3.7	0.8
Germany	0.1	3.9	6.6	5.9

Source Eurostat (average values over the periods)

markets. The failure to understand the importance that most Germans attach to the preservation of their socio-economic model and of the economic centrality of the country in the world economy has so far contributed to prevent the achievement of a pan European effort to solve the crisis.

In a nutshell, the German socio-economic model can be depicted as a strong industrial economic system, an inclusive (but also conservative) welfare state, disciplined fiscal and monetary policies, a peculiar educational system characterized by a vocational training program, a bank-based (relationship lending driven) financial system, and a heavily regulated service sector. The German socio-economic model is strongly connected with the German export-oriented and neo-corporatist economic structure. The factual implementation of this socio-economic model, though changing over time, has been ensured by the endorsement of an export-led growth paradigm which Germany embraced decades ago (see Lindlar and Holtfrerich 1997) and still follows nowadays (Sect. 2). This socio-economic model, also known as social market economy, distinguishes Germany from other developed countries of similar size. To understand (1) the German current account and financial performances (Sect. 2), (2) the contrasting boom-bust developments in the European periphery (Sect. 3), and (3) the resistance of the German authorities to the reiterated requests of the EU and the IMF to rebalance its economy and boost its internal demand (Sect. 4), one needs—as we shall argue—to juxtapose various German, EU-wide and global phenomena occurred in the last 2 decades with this German socio-economic background.

As we shall argue, there is a widespread support for the preservation of the German model and the political parties share a bipartisan aspiration of making Germany act as an authentic global player. This is the basis of widespread Germans' reluctance to prop up European periphery countries. Germans are indeed concerned that, lacking any credible mechanism to make directly enforceable the

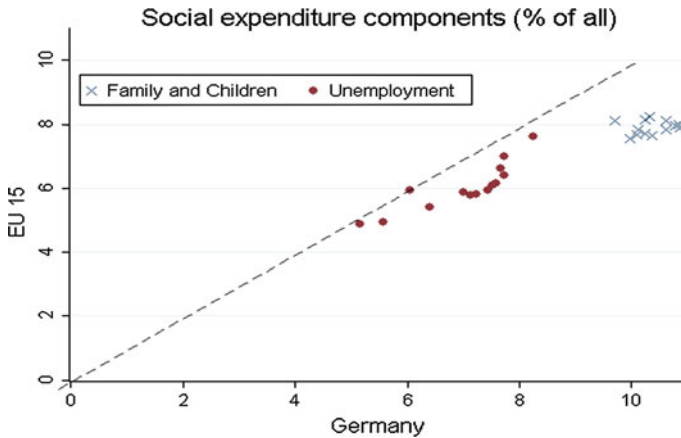


Fig. 2 Social expenditure for unemployment and family/children. Share of total. *Source* Eurostat

promises of structural adjustment by the periphery, further financial assistance and additional domestic demand on the part of Germany may end up encouraging (1) the postponement of the necessary adjustment in the periphery and (2) the establishment of a crystallized transfers union (a ‘gigantic Mezzogiorno’, to use Simon Tilford 2012’s words), which will eventually erode the bases of the German socio-economic model. This is, in a nutshell, the authentic dilemma most Germans believe to face: on the one hand, bailing out the periphery at the risk of renouncing to their own socio-economic model; on the other hand, facing the costs of the EMU dissolution.

Several economists and commentators pointed out that, irrespectively of the non-negligible responsibilities imputable on the periphery countries for their current state, Germany should not think as a mercantilist country in isolation, but should rather act as the (benevolent) hegemon of the European Monetary Union (EMU) it contributed to create. A successful adjustment process in the periphery in a period of global recession and financial deleveraging will be feasible (in the sense of politically and economically sustainable) only if the core countries expand aggregate demand and let wages and prices grow faster than otherwise. While we do not disagree on the observation that Germany can play an hegemonic (positive) role in the EMU only if it renounces to pursue economic strategies and policies that impose unnecessary costs on the other countries and if it realizes that structural and budgetary reforms become more difficult when the economy shrinks, we do believe that it should not be underestimated what is at the very heart of the political economy determinants of the German position in the current debate. Accordingly, we restrain from analyzing what Germany, the periphery and the European institutions should do to address the crisis and to reform the institutional design of the EMU. In what follows, we shall rather provide an evidence-based discussion of the political economy determinants of the Germans’ position in the current debate.

2 Germany's Socio-Economic Model and Global Competitiveness

2.1 *Social Market Economy and Neo-Mercantilism: At the Core of the German Model*

At the cost of oversimplifying a very complex socio-economic model in continuous evolution, it can be argued that, even after the re-unification process in early 1990, Germany has held tight to many features of the economy which characterized its post-WWII economic miracle. The combination of the liberal tenets of the economic theory of *ordoliberalism* and of the social protection principles borrowed from the Christian social doctrine formed the basis of the theory of social market economy (*Soziale Marktwirtschaft*). These have guided many institutional choices and policy reforms in the 1950s and 1960s, as well as informed other subsequent and current choices (see Siebert 2005). In particular, many ordoliberal thinkers and subsequent theorizers maintained that in order to sustain a market liberal governance and a dynamic entrepreneurial system while also addressing mass-democratic potential conflicts, both solid social and economic systems (better if founded on a widely embraced ethical basis) were to be developed and implemented in a unified framework.

Macroeconomic stability, inclusive social policy and a sustained growth of industrial production emerged as the key ingredients for the maintenance of the balance between the promotion of a competitive economic order and the achievement of continuous improvements in individual and collective well-being. Indeed, the realization of the social market economy model was purposefully supported by the German neo-mercantilist and neo-corporatist approach, characterized by an export-led growth model, disciplined macroeconomic policies, a dual vocational training system, the codetermination of firms' management by entrepreneurs and workers' representatives, bank-based credit allocation, and generous welfare state provisions. Ludwig Erhard himself (responsible for German economic policy until 1963 and then chancellor until 1966) is quoted (by Cronin 1996) to have said "foreign trade is not a specialized activity for a few who might engage in it, but the very core and even precondition of our economic and social economic order".

It is the tight connection between the social and the economic paradigms that makes Germany's outward orientation and its macroeconomic discipline so entrenched in most parties across almost all the political spectrum. Most Europeans fail to recognize that while Germany can be called upon—in a period of aggressive private deleveraging—both to assist EU countries facing contingent financial troubles and to contribute to expand the languishing European aggregate demand, it can hardly be asked to modify abruptly its export-orientation and to abandon its social model: this however, were a bailed-out periphery failing to address the adjustment process necessary to regain international competitiveness, would be a likely scenario.

Similarly, German political parties and their constituencies do not intend to make Germany more similar to the US, and they resist to the IMF and OECD suggestions of adopting a (US-inspired) economic model based on higher domestic absorption, more diffuse venture capitalism, higher levels of tertiary education and high-skilled jobs in the tertiary sector. This shift would require a general and profound change in the German society, which (at least at the moment) falls outside the range of changes that Germans are willing to undertake. Quite to the contrary, as we shall argue, Germany has invested in strengthening its traditional strategy by expanding the geographical reach of its firms (through trade and FDI) and of its foreign policy.

Furthermore, we notice that (part of) the ordoliberal theoretical apparatus inspiring the German consensus is still heavily influencing the theoretical debate on the best response to the current European crisis. Indicative signals in this direction appear the importance of price and wage adjustments in the redressing of current account imbalances (and the more limited importance attributed to persistent differences in aggregate demand, as discussed in Cesaratto and Stirati 2011) and the German unyielding faith in the (alleged) non-keynesian pro-growth effects of fiscal austerity measures.¹ This has to be born in mind in interpreting the German opinions as to what concerns the individual and collective reaction of EU member states to the crisis.

2.2 The Hartz Reforms: Change Not to Change

What written above helps to understand why social protection is such an important component of the German social model. This can be gauged also by considering the overall costs of social expenditures reported in Fig. 3. Germany scores high in terms of social expenditures—fact that has in turn required a relative high level of personal and corporate income taxation. The importance of unemployment subsidies and of measures to support the family and the children—in line with the widespread ethical concerns for income and family protection—, appears in Fig. 2. Albeit relatively expensive, the German welfare system has guaranteed individual and family-based protection against poverty and has helped to limit income inequality in line with the conception of social justice and solidarity discussed above (Fig. 4).

The long-lasting depressive impact of the German reunification, the unfavorable exchange rate parity between the Deutsche Mark and the Euro set at the time of the EMU, the global economic downturn in 2001–2003, the high costs of the welfare system, and its undesired effects on individual incentives reduced economic dynamism in Germany and contributed, together with the raising

¹ Dullien and Guerot (2012) discuss the impact of ordoliberal ideas on the main German political parties and their positions on economic issues.

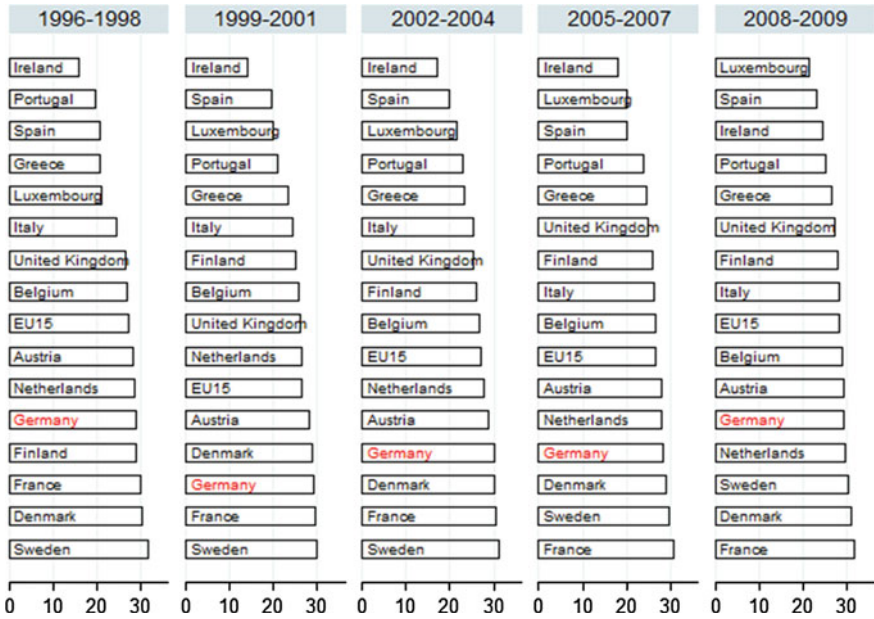


Fig. 3 Social expenditures (% ratio of GDP). Source Eurostat

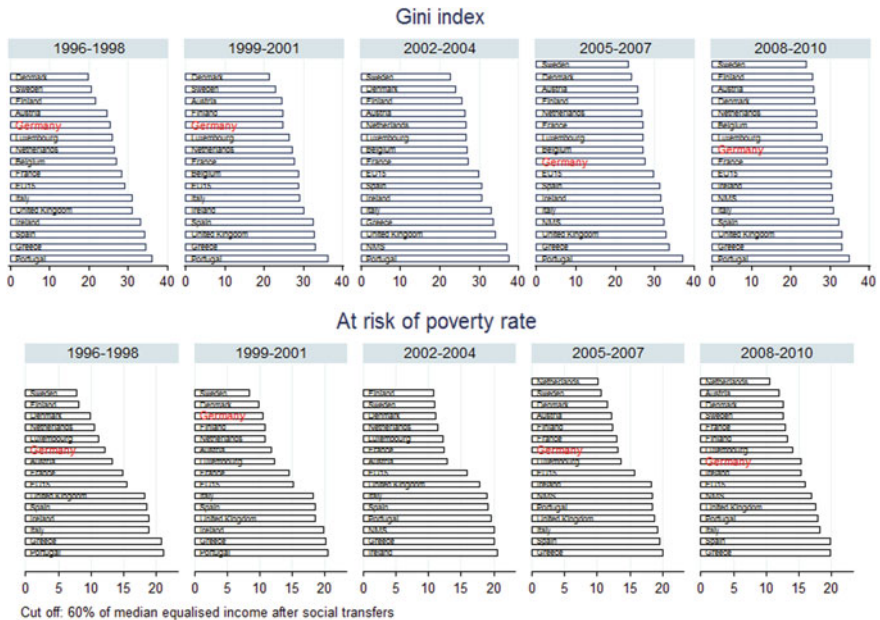


Fig. 4 Inequality (Gini index) and at risk of poverty rate (three-year averages). Source Eurostat

competition from the emerging economies, to lower the rates of growth in the first half of the 2000s.

When Germany was thus pointed as the “sick man of Europe” by the Economist, the red-green government led by Gerhard Schröder in 2003 approved the “Agenda 2010” and passed several liberal reforms (entered into force between 2003 and 2005) to reduce the degree of regulation of the labor market (wage negotiation, working hours, tax wedge, unemployment benefits) so as to increase the efficiency of the job search process, reduce reservation wages, improve activation policies, and increase employers’ flexibility.²

It could be argued that these reforms were at odds with the social market framework depicted above, as greater labor flexibility and lower social expenditures would diminish the social protection *coté* of the social market economy. Some experts in the fields, such as Bosch and Kalina (2008) even argued that the reforms will ultimately modify the overall social market economy model. Being their long-term implications as they may and focusing on the short term, we observe that the adopted measures were in fact coherent with the other aspects of the theoretical apparatus discussed in Sect. 2.1. Government interventions respected market conformity and strengthened the market-based adjustments in the labor market; the reforms gave emphasis on domestic solutions to address global challenges rather than on global redistribution of income and aggregate demand; most measures focused on improving Germany’s price and wage competitiveness as they are key drivers of its export-led growth model; moderate wage growth remained an explicit objective of the labor market reforms as this allows preserving firms’ international competitiveness and limits the expansion of the domestic demand in good times; the strengthening of market-based mechanisms to reduce unemployment was in line with the ordoliberal idea of modifying the incentive structure through institutional and legal solutions; the reduction of a large and distorting fiscal wedge on low-wage jobs was meant to tackle low-skilled workers’ mounting unemployment; the maintenance of an active participation of the unions in the making of key decisions for the firms (despite the non-negligible reduction in their coverage) confirmed the importance of codetermination; the emphasis on internal working-hours flexibility (through both working time accounts—*Arbeitszeitkonten*- and short-time work—*Kurzarbeit*) and temporary employment opportunities rather than on external job flexibility reflected the fact that the unions exchanged collective plant level bargaining for the safeguard of those jobs that firms’ loss in competitiveness would have caused; the extension of part-time, temporary and atypical contractual arrangements was meant to increase female participation (see Figs. 5, 6) while preserving a relatively large household production.³

² This package of reforms took the name of the Volkswagen’s personnel director, i.e. the Hartz reforms. See Burda and Hunt (2011) for a balanced discussion of the reforms and their effects.

³ As thoroughly discussed in Siebert (2005), the combination of social principles, ordoliberal tenets, and a paternal state did lead to inner conflicts and inconsistencies in the past, and it still does so. This notwithstanding, as argued in the main text, the main pillars of the socio-economic German model remain solid and visible.

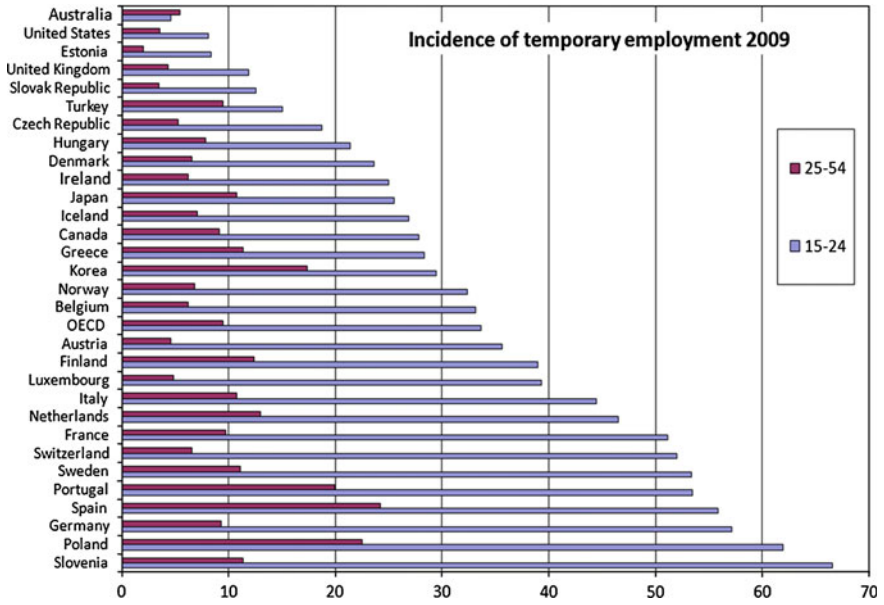


Fig. 5 Temporary employment over all employment in 2009. (15–24 and 35–54 years old). Source OECD

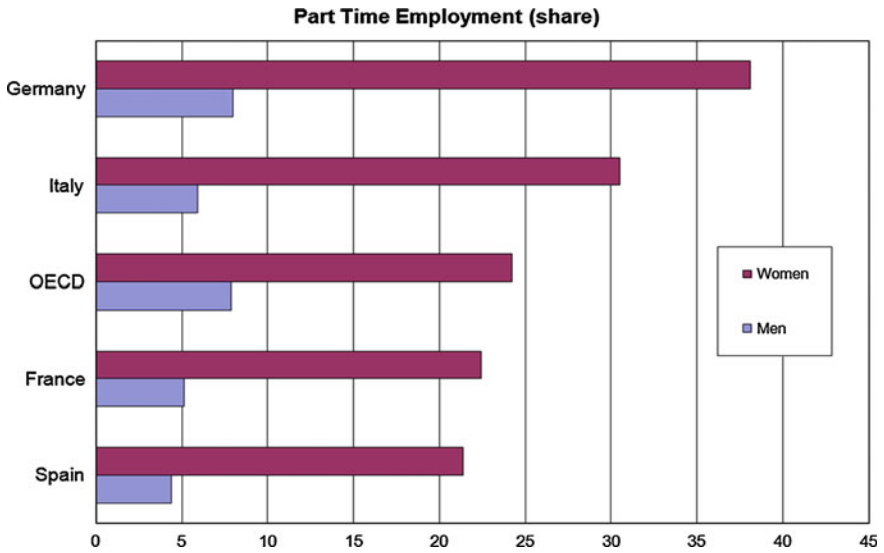


Fig. 6 Part-time employment over all employment in 2009 (women and men). Source OECD

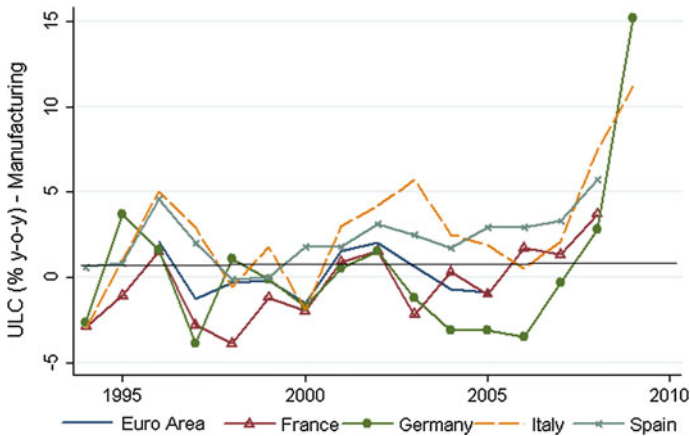


Fig. 7 Annual growth rates of unit labor costs in the manufacturing sector. Source OECD

We shall not discuss here the appropriateness and the effectiveness of these measures in setting individual incentives straight, activating the potential labor force, reinvigorating entrepreneurial dynamism, re-organizing human capital accumulation, boosting capital accumulation and innovation, and reducing the welfare state costs. What we draw the attention upon, instead, is the fact that these reforms stroke a new balance between the social and economic concerns at the basis of the German consensus. These reforms indeed reduced protection in favor of greater flexibility, which—as discussed above—was in turn conducive to wage moderation (Fig. 7). Yet, they fell short from being an attempt at dismantling the German economic model quite to the contrary, they were an attempt at rescuing it.⁴

As also argued in Glossner and Gregosz (2010), the preservation of the international competitiveness of the country's manufactures and the social order was the main goal of the reforms, in line with the abovementioned German neo-mercantilist and neo-corporatist approach favoring an export-led growth process based on the production of high-quality manufacturing and capital goods (see Fig. 9).

As we shall argue in Sect. 2.3, what has changed is the scope of Germany's outward orientation as Germany cannot be content anymore with just its European leadership. Its relative size in the Union would force the country to become soon the 'consumer of last resort' of the area (as the US did in the global economy in the last

⁴ As can be seen in Fig. 8, wage moderation has always been compatible with a very high compensation per hour of work, due to the high productivity of firms and to the specialization in high-quality manufacturing and capital goods.

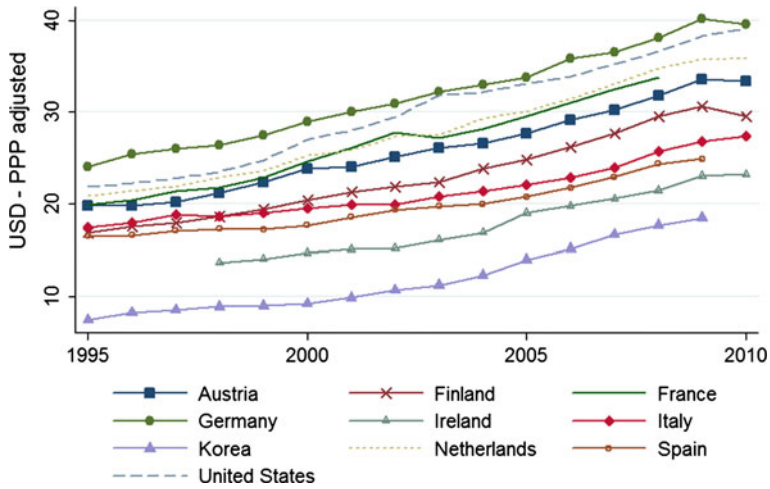


Fig. 8 Labor compensation per hour (US dollar in PPP)—manufacturing. Source OECD

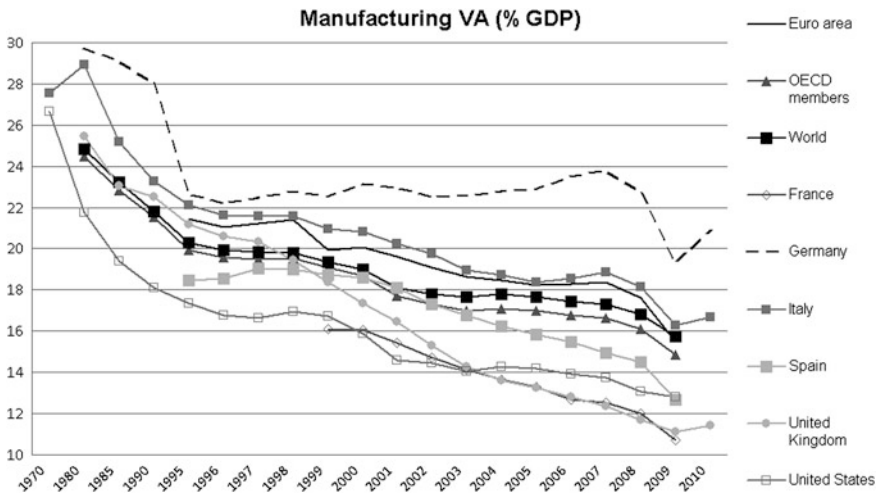


Fig. 9 Manufacturing sector, value added (% GDP). Source World Bank

few decades) rather than the ‘main continental factory’ (as China has been doing in the global economy). To prevent such transformation, a bipartisan agreement was easily reached at the political level to preserve the German socio-economic model:

Germany would have had to become a global player.⁵ Paradoxically, if the maintenance of the social market economy requires the safeguard of the neo-mercantilism export-led growth model, a reduction in several envelops of the social protection system was the instrument to ensure the overall preservation of such system. This reasoning lies at the very heart of the Hartz reforms.

Looking back at the post-WWI German history it is possible to find only a very limited time period (in the late 1970s) when the German authorities gave in to the Keynesian ideas and acted as the ‘locomotive of Europe’. This did not reduce unemployment as expected and almost all the parties (even the majority of the SPD, as the resignation of Oskar Lafontaine from the red-green government and the presidency of the party made evident) swore to focus on structural policy from that moment onwards. The features of the EMU project, which Germany contributed to determine, also confirm the limited importance attributed to income transfers and demand coordination within the EMU, as well as the restrictive stance that monetary policy will have had.⁶

That Germany is far from reconsidering its socio-economic model is confirmed by the reiterated and vein attempts by the IMF at recommending it to do so. As we shall discuss in [Sect. 3](#), albeit welcoming the labor reforms discussed in this section, the IMF suggested that Germany revisits its growth paradigm so as to reduce the dependence on external demand and to increase its output potential. More precisely, the IMF recommended to engineer a transition towards greater dependence of growth on domestic demand, higher productivity improvements in the tertiary sector, higher investment and innovation in areas outside Germany’s traditional strengths, more abundant risk capital, and more widespread life-long learning program (see IMF Staff report for the 2011 Article IV Consultation (IMF 2011a)). Since we shall come back on the issue in [Sect. 3](#), we do not discuss it further. It suffices to say that Germany has strongly opposed any significant concession on these lines.⁷

⁵ In an article for the “Welt am Sonntag” in 2009, Norbert Walter, chief economist at the Deutsche Bank from 1990 to 2009, wrote: “we don’t need to accept the short-sighted remedies proffered by Harvard economists and the advocates of the purchasing power theory of wages. There are more sensible options, but above all ones that are more sustainable. Since we Germans—like other societies—will soon experience the long-term ageing of our population, we are structurally on track to import more than we produce and export. Thus, our problem is not so much one of too little consumption at present, but rather of reliably financing our consumption in future, when pensioners are in abundance and there is a shortage of labour (i.e. for at least 2 decades after 2015).”

⁶ As observed also by Allen (2005), however, not all the key features of the ordoliberal, social market economy were transferred from the German to the EU level. The EU’s resistance to adopt a Social Charter, for instance, made impossible to export the wage-coordinating institutions able to support monetary policy and to ensure structural adjustment.

⁷ Clearly, the OECD and IMF suggestions are inspired by reasonable concerns for ensuring that growth in the long run has solid determinants. Yet it should also be noted that the very same countries that adopted the IMF-advocated model in the past are now trying to mimic Germany: strengthening their manufacturing sector, smoothing the transition of students to work, and enhancing social cohesion while preserving some flexibility in the labor market. More on this in [Sect. 3](#).

2.3 The Economic Export Performance: From an European to a Global Perspective

As reported in Table 1, Germany recorded ample current account surpluses in the last 10 years. In turn, the European periphery has, though to very different extents, run deficits over the very same period of time. The other countries of the periphery, as we shall discuss in Sect. 3, accumulated a series of trade deficits that can be partly explained in terms of their ongoing catching-up process (as the converge theory would predict, see Blanchard and Giavazzi 2002), but were determined also by persistent differences with respect to the core countries. Differences, for instance, in structural aspects (e.g., wage setting institutions, welfare state instruments, hysteresis of inflation, ...), in economic fundamentals (e.g., private and public debt, budgetary balances, demographic and migration trends, ...), in national conjunctures, and in the presence, or lack thereof, of housing and credit booms. In several countries of the periphery, a rapid increase in private lending and in real estate prices started after the introduction of the Euro, also thanks to the reduction in interest rates and perceived risks.⁸ Jaumotte and Sodsriwiboon (2010) show that (1) the decline in private saving rates was the driving force of the imbalances in the countries of the periphery of the Euro area and (2) current account deficits exceeded norms, i.e. what was explained by fundamentals and the local cyclical conjuncture.⁹ On the contrary, Germany, the Netherlands, Austria and Finland maintained or even increased over time their surpluses.

Wage moderation and price competitiveness helped the core countries to strengthen their advantage over the periphery of Europe. As shown in Fig. 10, the core countries enjoyed persistently lower rates of inflation with respect of the other European members and this, over time, led to a depreciation of their real exchange rates. But if the German large trade surpluses have to do with Germany's competitiveness and thriftiness, they are not merely a pan-European phenomenon. The impressive trade performance of Germany and the other core countries is not the mere reflection of the bilateral trade imbalances with the European periphery. Net German merchandise exports towards the periphery amounted to a limited part of the total net German exports.¹⁰ Figure 11 shows that the Italian trade deficits were as big as the bilateral imbalance with Germany, while Spain was running much larger multilateral deficits (*vis-à-vis* the great majority of its trading partners). This turns clearly out inspecting also Figs. 12 and 13.

⁸ Campa and Gavillan (2011) provide empirical evidence on the importance of a wave of over-optimism and of the housing bubble, and Barnes et al. (2010) come to similar conclusions.

⁹ The role played by structural and fundamental factors in determining the current account and the recent large current account imbalances is investigated by Barnes et al. (2010), Keirdrain et al. (2010), Vogel (2011), Coricelli and Wörgötter (2012), among others.

¹⁰ Precisely 7 % in 1996–1998, 19.5 % in 1999–2001 and 2002–2004, 23.5 % in 2005–2007, 18 % in 2008–2010, and 14.7 % in 2011—our elaboration on UN Comtrade data.

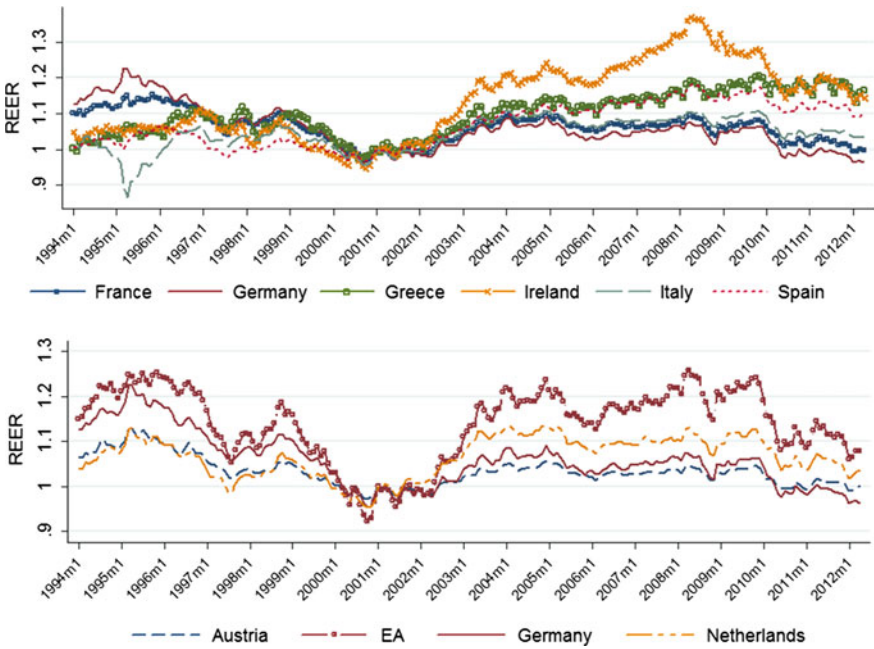


Fig. 10 Real effective exchange rates in Europe (*periphery above; core below*). Jan 2001 = 100. *Source* BIS (Weighted averages against 61 trading partners)

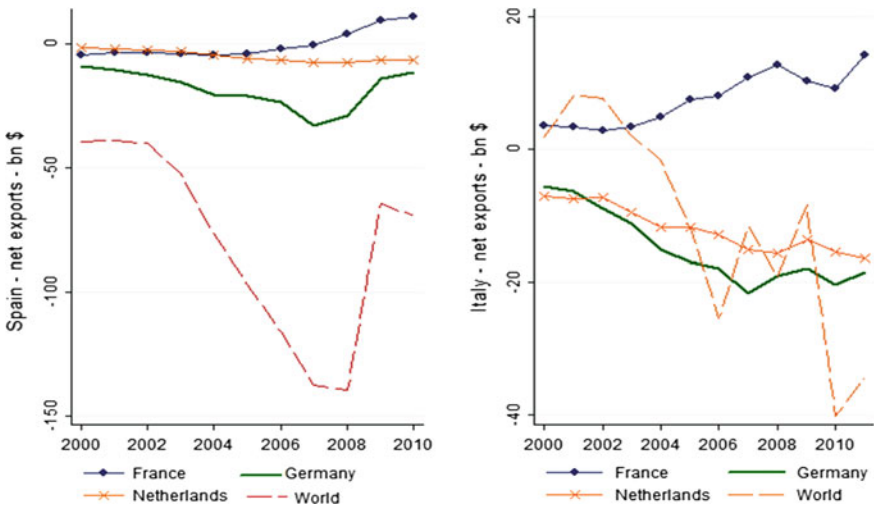


Fig. 11 Bilateral merchandise net exports (billion USD). Spain (*left*) and Italy (*right*). *Source* UN Comtrade

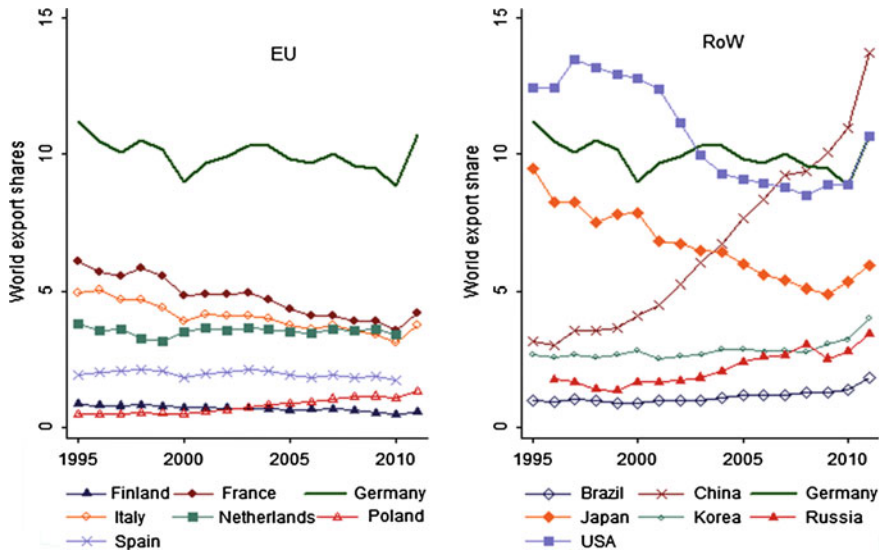


Fig. 12 Countries' world merchandise market shares (export). Source UN Comtrade

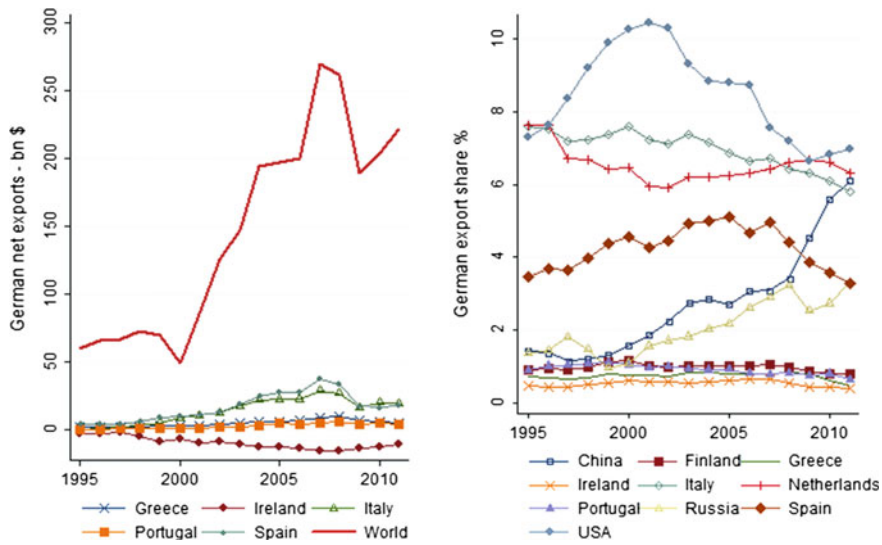


Fig. 13 German net exports across destinations (left). Selected countries' share in German exports. Source UN Comtrade

Figure 12 shows the world merchandise export shares of various countries. While France, Italy and many other industrial countries lost market shares over time to the benefit of the BRIC countries and of South Korea, Germany and the

Netherlands retained constant shares.¹¹ Figure 13 indicates that Germany increased its gross exports towards countries that are not in the European periphery: while the share of German exports directed to China and Russia grew steadily over time, the shares of those directed towards EU and other OECD countries fell progressively. Danninger and Joutz (2008) also find that Germany has been able to match the rapid growth of demand in global markets. This supports our interpretation of the German current economic policy goals: making Germany a global player, preserving its large manufacturing production in key (capital and skilled intensive) sectors, and penetrating the fast growing emerging markets.¹²

The IMF has calculated that one percentage increase in exports generates 1.5 percent increase in German output. Looking at the data for Germany, this implies that GDP growth was (and most likely remains) mainly driven by exports. Thus, if sustaining growth is a precondition for the preservation of the socio-economic model and exports are vital for growth, it should not surprise that the German leadership has become more and more concerned of expanding the German commercial prominence beyond Europe.¹³ Though large in absolute size, the European market promises lower expected gains than emerging markets. This is also why authorities in Germany have been strongly committed (in a peculiarly bipartisan way) to ensuring German primacy at global level in the medium term.

It is important to notice that the German price competitiveness would not be sufficient to generate the large trade surpluses discussed before. Although the economists endorsing the ordoliberal tenets would mainly focus on the expenditure switching effects of changes in international relative prices, also differences in aggregate demand and supply has played a role (as discussed in Schnabl and Freitag 2011), at least along two dimensions.

The first dimension is directly connected with the basic accounting identity stating that the current account balance is the difference between domestic saving and investment. Figure 14 focuses on aggregate demand and plots both investment and final consumption expenditures over GDP in various European countries as a ratio with the average in the EU 27. As can be easily seen, German domestic

¹¹ Guerrieri and Esposito (2012) discuss the similarities and the differences between the both outward-oriented German and Italian industrial sectors and investigate the determinants of the German relative strength.

¹² Norbert Walter, in the article mentioned before, wrote: “Germany would be well-advised to deploy its strengths where its markets are. We cannot sell either our cars, our airplanes, our pills, our CAT scanners or our trucks in the domestic market. The volumes required for effective production can only be achieved if we view the whole world as our market.”

¹³ Clearly, the European members are key commercial partners of Germany, whose remarkable export performance in the global markets remains also determined (for about 20 % of Germans’ total net exports in the mid-2000s) by the absorption of German merchandise from the rest of Europe. Should the euro collapse and the periphery devalue, it has been argued, Germany will certainly lose some of its price competitiveness and be hit. Still, it should be recalled that German production is specialized in sectors which do not directly compete with the periphery ones (as also shown by the egregious German export performance in the pre-EMU period).

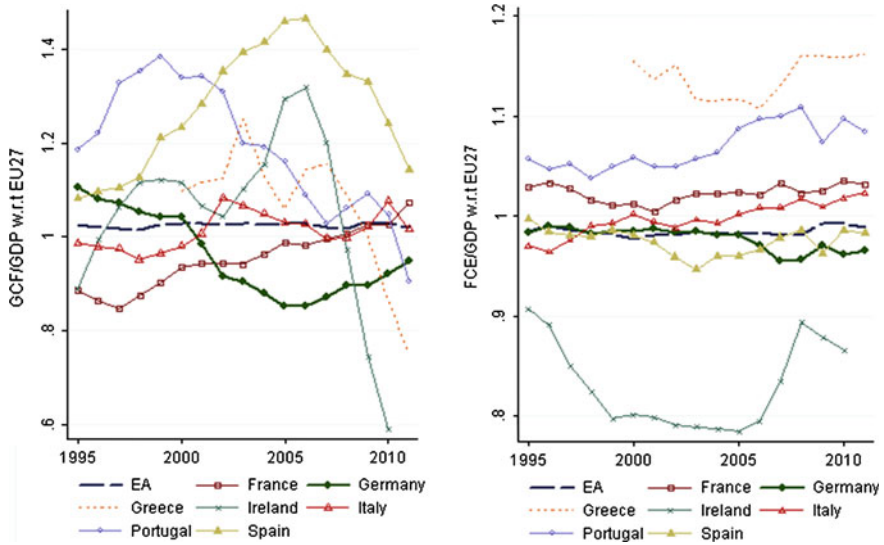


Fig. 14 Gross capital formation (*left*) and final consumption expenditure (*right*), as % of GDP, with respect to the EU27 average. *Source* Eurostat

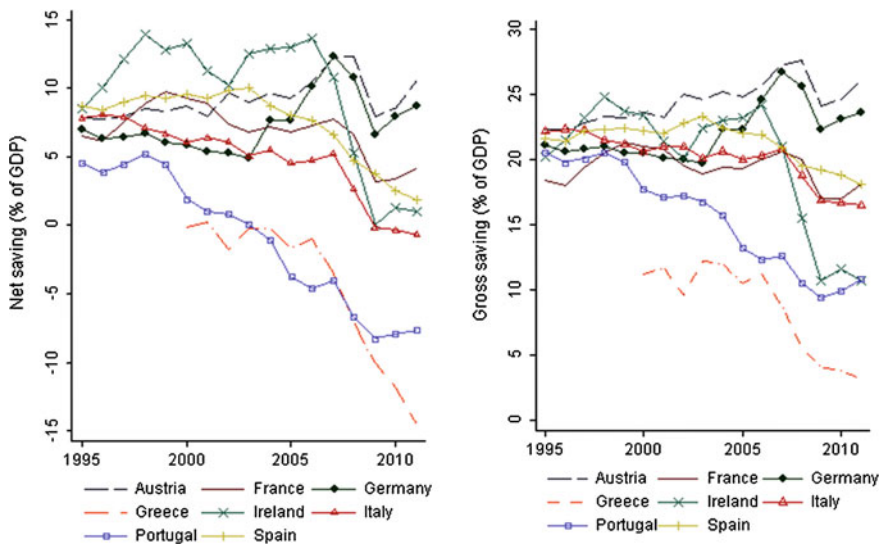


Fig. 15 Gross and net saving (% of GDP). *Source* Eurostat

investment and final consumption fell far below the EU average, while they boomed in Spain, Ireland, Portugal and Greece. On the contrary, as shown in Fig. 15, saving grew relatively more in Germany than in the EU, and they fell in the countries of the periphery (in line with Jaumotte and Sodsriwiboon 2010).

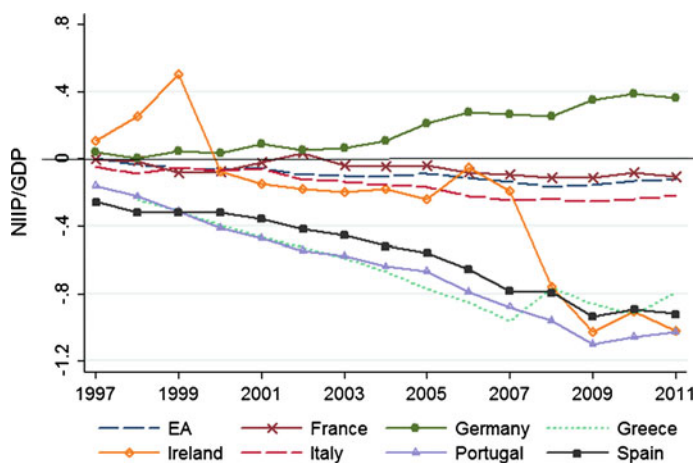


Fig. 16 Net international investment positions (% GDP). *Source* Eurostat

The second dimension is connected with the accumulation of foreign assets due the constant outflows of capital (as necessary to match the large current account surpluses): Germany, as can be noticed in Fig. 16, enjoyed a positive and fast-growing net international investment position. These transfers of domestic saving abroad contributed to ease the financing of foreign debt, the accumulation of excessive investment and durable goods, as well as the consumption of nondurables, in the periphery as well: though unpleasant to German ears, their own portfolio and investment choices contributed to support the imbalances which now many complain about. Figures 17 and 18 show clearly that the German banking system has grown considerably exposed towards the periphery countries. More precisely, it became exposed to all the countries where the real estate sectors have been booming; incidentally, most of them were in the periphery.

An important role behind both high saving and large capital outflows has been played by the corporate private sector (see Fossen and Rostam-Afschar 2012): firms accumulated extremely high saving through retained profits, and operated investment abroad via FDI, direct loans and portfolio flows. Such high saving and low investment in Germany, it has been argued, were mainly due to the underconfidence of the German entrepreneurs about the duration of an otherwise positive growth spell started in the second half of the 2000s (see Sinn 2010; Schnable and Freitag 2011). This lack of entrepreneurial dynamism and enthusiasm, it should be noted, is consistent with the rationale of the reforms of the social economic model undertaken through the Hartz packages discussed in Sect. 2 (Burda and Hunt 2011).

Foreign direct investment grew fast and their geographical diversification increased over time (see Fig. 19). Large FDI outflows continued to reach other OECD countries, in particular those hosting important financial and legal centers (such as Luxembourg, the Netherlands, Switzerland, US, UK). Yet, several Eastern

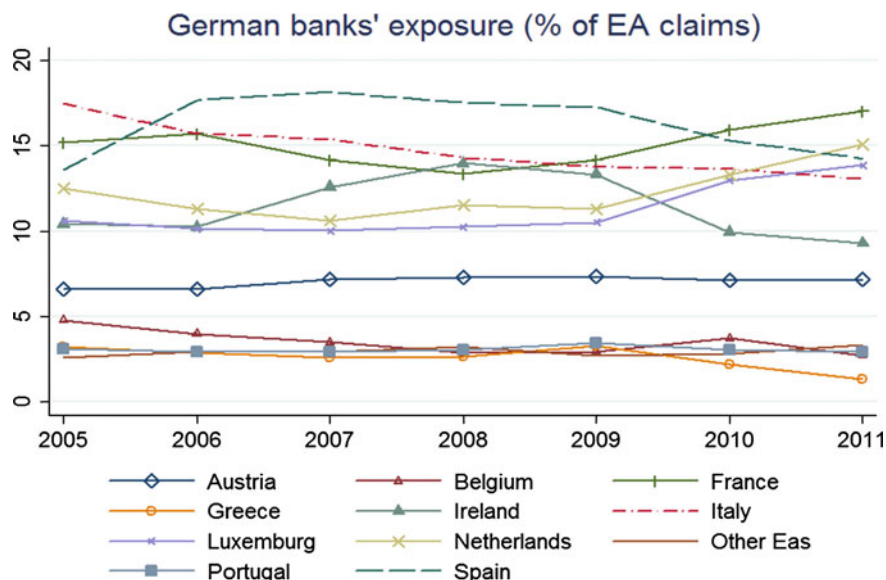


Fig. 17 German banks' exposure towards euro zone countries (%). Source BIS

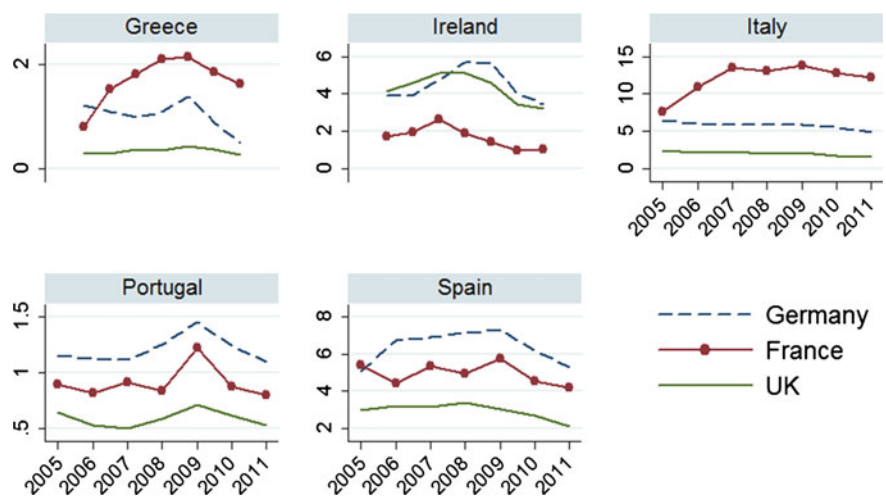


Fig. 18 Exposure toward the periphery countries of German, French and UK banks (% of total assets). Source BIS

European countries, once become members of the UE in 2004, started receiving generous flows of German FDI, in particular directed to the establishment of offshore production plants in line with the worldwide process of unbundling of the production chain (see Baldwin 2006). The decomposition of outwards German FDI across sectors shows that, among the manufacturing sectors, chemical and

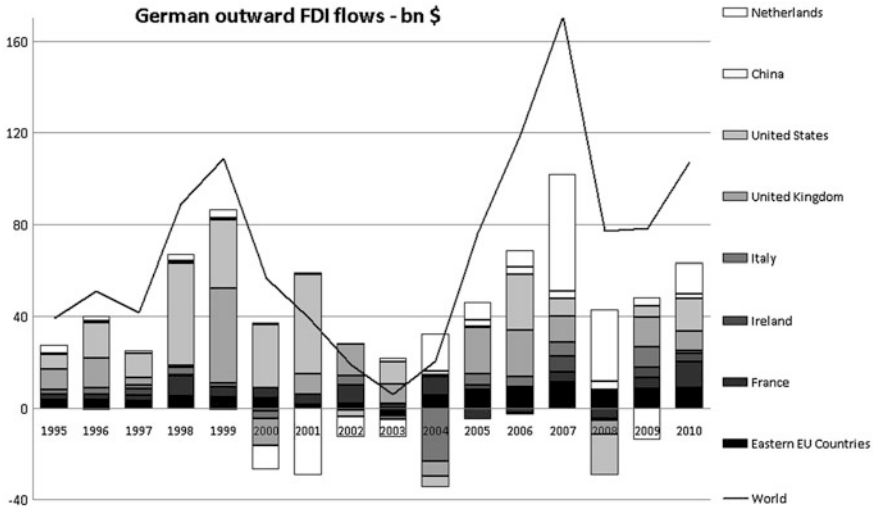


Fig. 19 German outwards FDI flows (billion USD), by destination. *Source* OECD

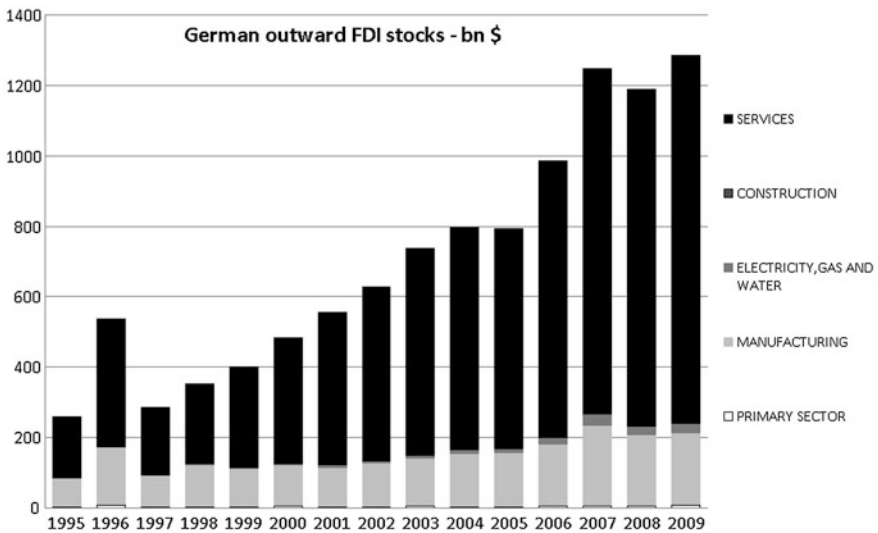


Fig. 20 German outwards FDI stocks (billion USD), by macro-sector. *Source* OECD

motor-vehicle activities continued to receive the bulk of German investment, although all manufacturing industries played a role in such expansion (see Fig. 20). These FDI flows accompanied the spreading of German companies abroad and also the increase in intra-industry merchandise trade (see Buch et al.

2005 for empirical evidence of two-way activities of German non-financial multinational enterprises). As shown in Guerrieri and Vergara Caffarelli (2012) and in Danninger and Joutz (2008), the regionalized production chains that Germany managed to establish have been a crucial determinant of Germany’s export performance in the 2000s.

Interestingly, although very often overlooked, most of German FDI went to foreign service sectors (73 % of all in 2007), in particular finance and insurance (46 %), as well as legal and business-related services (see Figs. 21, 22). As emphasized by Krautheim (2009), trade service sectors, which typically support the exporting activities of the German manufacturing companies, also received a relatively large share of FDI (17 % of all in 2007). Financial, in particular bank-driven, FDI grew dramatically in almost all countries during the hectic phase of financial globalization that characterized the first half of the 2000s. The Eastern UE enlargement and the adoption of the Euro in many historical partners added to this global cyclical conjuncture that favored heavy FDI outflows in the financial and insurance sectors. Although this trend has received little attention in the literature, we believe that it is consistent with the scant investment and productivity growth recorded in the domestic service sectors in the last decade (see Coricelli and Wörgötter 2012). It is worth noticing that the expansion of the German banks and insurance companies abroad contributed to facilitate the activities of the domestic manufacturing sector, by exploiting the banks’ involvement in the management of the medium-size German companies.

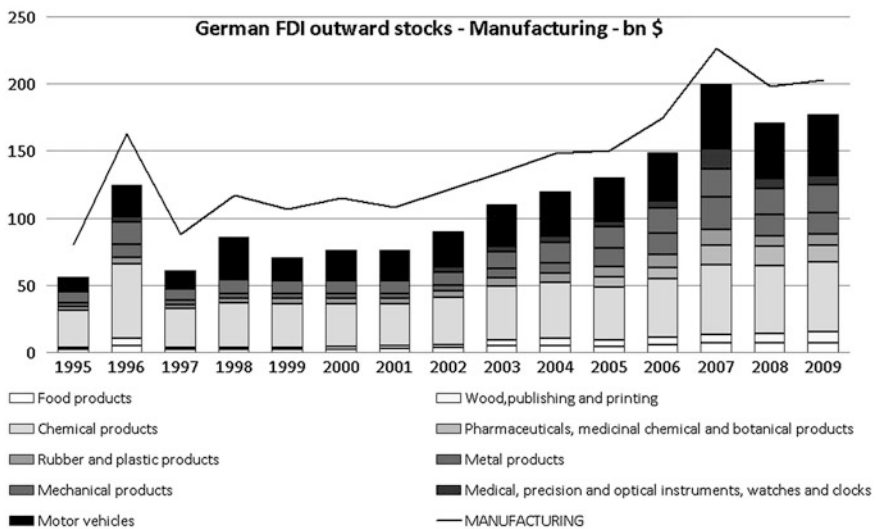


Fig. 21 German outwards FDI stocks in manufacturing sector (billion USD), by sub-sector. Source OECD

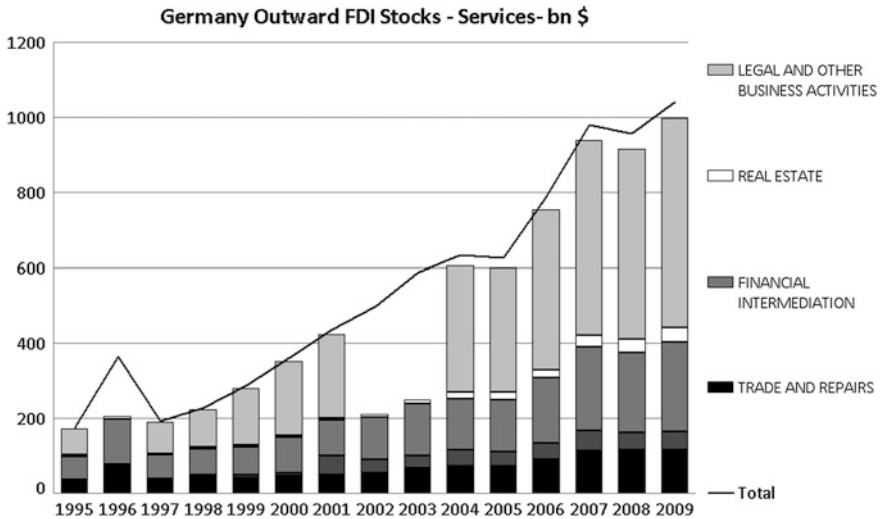


Fig. 22 German outwards FDI stocks in services (billion USD), by sub-sector. *Source* OECD

It should also be noted that, even though FDI in the secondary industry accounted in 2007 for only a quarter of all German FDI, these (all the more when directed to developing, transition and emerging countries) are typically less capital intensive than financial FDIs towards OECD countries: as maintained by Buch et al. (2005), the relatively low FDI stocks in the Eastern European countries and in the manufacturing industries hide a very large number of small FDI activities by small and medium German enterprises.¹⁴ This is perfectly in line with what emerges from the qualitative surveys on the determinants of German outward FDI. These analyses show that multinational companies in the service and manufacturing sectors undertake FDI mainly to achieve better access to fast growing foreign markets, while lower production costs is the principal motive only for a limited number of manufacturing industries.

The German political authorities have worked hard to promote the domestic firms and their foreign activities through various diplomatic means and through offering guarantees on FDI against foreign political risks. Besides normal diplomatic dialogue with foreign countries, German leaders endeavored to shield German outward investors with legal protection and Germany signed and ratified the largest number (i.e. 127) of bilateral investment treaties. The ambition of making Germany a global player is not the wishful thinking of some rampant

¹⁴ This should not hide the tremendous impact of large multinationals such as E.ON, Volkswagen Group, Siemens, Daimler, Deutsche Telekom, BMW, BASF, Bayer, Thyssenkrupp, RWE, among the others.

entrepreneurs, but a policy objective to be pursued through various political, legal and economic means.

A non negligible, yet minor, role in determining the accumulation of saving was also played by German households. Many factors contributed to maintain household saving high: a stubbornly high unemployment rates for certain groups of citizens in the 2000s; the higher employment risks brought about by the intensified off-shoring activities discussed above; and the reduction in welfare protection and the increase in atypical employment conditions brought about by the Hartz reforms.¹⁵

2.4 Challenges Ahead

The discussion in [Sect. 2.3](#) should not suggest that Germany will not face daunting challenges in securing its model.

Wage moderation, once the economy exited the very low growth period 1990–2005, is now more difficult to be preserved. In fact, remarkable nominal wage increases have been accorded during 2012 in several sectors, and they will likely be transmitted to other sectors. It is plausible that, now that German firms have recovered their competitiveness and re-organized their production processes, workers exploit local shortages of skilled manpower and push for cashing in larger shares of productivity gains.

This re-balancing mechanism reminds that envisaged for the Chinese economy by Ronald McKinnon and Gunther Schnabl: “Chinese workers would welcome higher wages and increase their consumption. Further wage increases would reduce the profit margins of Chinese export enterprises and force them to lift prices in international markets. The extremely high corporate saving rate would fall and the current account surplus would decline.” (McKinnon and Schnabl 2012, p. 690).

For sure, the flexibility introduced by the Hartz reforms and the unyielding threat of job offshoring put some limits to the growth of labor costs. Yet it is the very same success of the German performance that suggests higher employee compensation in the future: although the vocational training system has guaranteed the continuous formation of skilled workers fitting the German industrial structure, the domestic market for skilled workers has dried up in 2012. Notably, the government revisited in May 2012 the Blue Card immigration scheme so as to promote higher skilled immigration from the EU. This move is sensible but might be limited if migration flows end up raising social and political concerns.

¹⁵ Although it has been argued that household saving did not increase much if looked at in terms of the German GDP, it should be noted that the declining share of value added accruing to labor (due to the compression of the wages) would have suggested a reduction of saving.

Indeed, also the accumulation of high retained earnings, part of which have been transferred abroad through FDI and portfolio flows, can hardly proceed much longer. If the bulk of German FDI during the 2000s went to finance the expansion of German banks abroad, then Germany did give an important contribution to the financing of the booming housing sectors in Europe. Loans, portfolio flows and FDI towards construction and financial sectors and indebted countries should be read as signals of unpleasant German phenomena: lackluster domestic investment opportunities, large risk exposure to household and corporate debts in the European periphery, and increased financial interdependence with weaker EU partners.

Limited domestic investment, in turn, has contributed not only to wage compression, but also to greater reliance on foreign demand. Should the Euro appreciate against emerging market economies (or even disappear in favor of a Nordic new-Euro), German exporters would be in danger. It should not be forgotten that it took a decade for Germany to recover the loss of competitiveness determined by an unfavorable parity of the Mark with the Euro. As noted by Laurent and Le Cacheux (2007), this approach reveals that Germany has adopted a strategy proper of a small open emerging economy, not of the main member of the Euro area. Interestingly, this observation is somehow shared by the IMF (as appear from its bilateral surveillance reports) even though the Fund's and the French economists are moved by different concerns. The Fund insists that Germany changes its growth paradigm, becomes more like the US and substitutes an eventually constrained public expenditure with greater private consumption and investment; Laurent and LeCacheux, instead, advocate a surge in public expenditures and investment which could, in their view, have positive spillover externalities on the other EU members.

It has been observed that the German export *exploit* has been characterized by an expansion of exports along the intensive margin. This, together with the fall of private investment, signals limited innovation and modest entrepreneurial dynamism, which could become problematic once other large, mercantilist emerging economies will escalate the value chain and compete with (rather than trade with) Germany. This is, however, not a short/medium term concern which can guide politicians and inform citizens' positions. Moreover, this might count more or less according to the extent to which Germany will conserve its ability to innovate both in traditionally leading (high quality manufacturing) sectors and in new more technological advanced industries. It is in this respect that the so far successful vocational education system, at the basis of the German performance, may expose its limits: wider access to tertiary education, often advocated by the IMF, could indeed be useful in the long term for the country to maintain its technological leadership.

Also population aging represents an important challenge of which the German authorities seem to be aware. Aging clearly raises the fiscal costs of the welfare state and reduces the labor force. But it also worsens the skill-matching in the labor market, alters saving and investment behavior, and makes unemployment spells more difficult to redress. There is ample empirical evidence showing that prospective population aging tends to lead to current account surpluses. On the one

hand, thus, demographic change (i.e. the stabilization of prospective old-dependency ratio in Germany) could facilitate the reduction of trade imbalances without an outright modification of the growth strategy. On the other hand, ageing will strain public finances, make pressures for changes in the welfare system (see EU Commission 2011), and make more difficult the further expansion of industrial activities intensive of skilled, trained and flexible workers. Should the latter factors more than offset the former, demographic changes may contribute to bring about a switch in both the export-orientation and the socio-economic model in Germany.

For the sake of completeness, in this section we have addressed those ongoing transformations that may eventually lead to “endogenous” changes in the German socio-economic model. This said, it is important to realize that the German model is firmly supported by the overwhelming majority of the population and that most Germans worry more about the implications for their social model of rescuing the periphery than about the sustainability of the system in 15–20 years time.¹⁶

3 Germany and the Intra-Euro Imbalances

In the debate that accompanied the creation of the European Monetary System it was often stressed that the adoption of the Euro would have brought about a rapid convergence in the rate of change of unit labor costs among the euro zone member countries. It was thought, indeed, that the elimination of the nominal exchange rate as an instrument of adjustment would have forced the periphery countries with a history of higher inflation and more rapid growth of nominal wages to uniform their price and wage dynamics to the more disciplined core countries like Germany, in order not to lose competitiveness and jobs in the sectors producing internationally tradable goods. Furthermore, it was expected that the increased integration of the capital market in the euro area resulting from the disappearance of the exchange-rate risk, together with the imposition of tight limits to the possibility of governments to go into debt because of the provisions in the Stability and Growth Pact, would have determined net capital flows mainly to catch good private investment opportunities rather than to finance government spending.¹⁷ Consequently, it was widely believed that the current account deficits associated with these net capital flows would not have been destabilizing, being the outcomes of equilibrium processes driven by the search of higher returns and risk diversification (Blanchard and Giavazzi 2002).

¹⁶ Facing a question regarding the possible changes to make in order to overcome the European current troubles, only 21 % of the interviewed Germans chose the answer “One can only obtain important changes in our society by acting quickly, even if it means sometimes being radical”, against the 33 % at the EU27 level (European Commission 2012).

¹⁷ Positive evidence on this pattern is shown by Abiad et al. (2010), where Europe is shown to be the only area where capital flows “downwill” (i.e., from richer to poorer members).

Table 2 Cumulated inflation (1997–2007) in % (consumer prices)

	Germany	Greece	Ireland	Italy	Portugal	Spain
CPI	15.4	39.2	42.5	24.5	33.5	34.4
CPI (ex. food & energy)	12.3	38.5	44.7	23.8	34.0	30.9
HIPC	15.7	38.8	37.8	25.1	32.6	34.2

Source OECD

It may seem paradoxical, but exactly because of these prevailing expectations, the creation of the euro ended up acting as an asymmetric shock that put in motion a process of real divergence across the member countries (see Landmann 2011). Indeed, as soon as the periphery countries were accepted as members of the euro zone, they started enjoying much lower real interest rates than those they were used to, upon the anticipation that real convergence within the euro zone would have followed soon. The availability of cheap and abundant credit permitted the periphery countries to postpone the structural reforms necessary for ensuring a long-lasting convergence in productivity levels and competitiveness, to interrupt the efforts aimed at lowering the public debt-GDP ratio (Greece, Italy), and to expand domestic demand to the benefit of the importers and the non-tradable sectors of the economy (especially construction and real estate activities in countries like Spain).¹⁸ Savings generated in the core countries (as discussed in Sect. 2) were channeled through the banking systems to finance this expansion of demand, thus shifting “Europe’s growth forces from the center to the periphery” (Sinn 2010).

All this clearly exacerbated the historical core-periphery divide. To which added the fact that Germany (for the reasons discussed in Sect. 2) started implementing several reforms with a view to strengthening its international competitiveness in the production of those capital goods and consumer durables in which it traditionally enjoyed a comparative advantage.

The resulting divergent evolutions of inflation, wages and real interest rates could not be addressed by the European Central Bank (ECB). Monetary policy took into account the average inflation in the entire euro-area and the ECB’s monetary stance tended to be too loose for the overheated economies with inflation rates systematically above the euro-area average. Annual inflation differentials, in fact, were not very large, and this contributed to make the EU and national authorities pay no particular attention to them. But inflation differentials were persistent: once cumulated, as pointed out by Lane (2006), they were all but small. Tables 2 and 3 report various measures of cumulated inflation rates from 1997 to 2007 for Germany and the periphery countries: the consumer and producer

¹⁸ For a regional-wide discussion of the current account imbalances, see Barnes et al. (2010). The IMF country report on Spain, released in mid 2011, focuses on the experience of the Iberian country and illustrates how the combination of various factors (regulatory, fiscal, monetary) contributed to the building up of the imbalances (IMF 2011b).

Table 3 Cumulated inflation (1997–2007) in % (domestic producer prices)

	Germany	Greece	Ireland	Italy	Portugal	Spain
Manufacturing	14.2	48.3	25.0	24.2	33.3	29.9
Industrial activities	20.3	47.3	26.3	25.9	35.2	29.4
Investment goods	4.8	40.6	−17.1	17.5	N.a.	18.5
Intermediate goods	16.3	46.0	28.3	26.4	16.2	30.8
Durable consumer goods	10.0	31.3	42.1	13.6	15.2	26.3
Non durable cons. goods	10.3	39.4	32.7	17.2	15.6	24.6

Source OECD

prices in Spain, for instance, grew respectively 20 and 15 % more than the German ones.

The exchange rate of the Euro with respect to other currencies could not but mainly reflect the competitiveness of the core, thus tending to be over-appreciated for those periphery countries whose unit labor costs were growing faster (see Dadush et al. 2010; Buscher and Gabrish 2012). This contributed to aggravate the problem of competitiveness of these countries relative to China and Eastern Europe (see Ivanova 2012). The loss in the price competitiveness of these countries was observed and recognized in real time, but it was received with an approach of benign neglect: the appreciation of the real exchange rate was considered part and parcel of catching up process¹⁹ and the global phenomena of high financial innovation, high leverage and growing off-balance-sheet banks' activities (see Jordà et al. 2011; Shin 2012) alleviated the spending constraints that would have otherwise arisen in the periphery.

Fiscal rules, as those prescribed by the Stability and Growth Pact, proved ineffective to prevent imprudent macroeconomic policies, as booming economies like Ireland or Spain could conduct a pro-cyclical fiscal policy while remaining well below the 3 percent limit for the government deficit. With the benefit of hindsight, it could be argued that the EMU design reflected the widespread (misplaced) consensus on the Lawson doctrine (or Pitchford Thesis) for which “an external deficit originating in private-sector behavior should be of no concern” (Obstfeld 2012, p. 8).

¹⁹ In 2003, on his blog, even an experienced economist such as Brad DeLong wrote: “If development on the European periphery is successful, and if growth on the European periphery is rapid, then inflation on the European periphery will be rapid too. This means that, if euro zone-wide inflation is to be low, there must be deflation—falling prices—in the German-Belgian-French industrial core of the euro zone. [...] Yet as long as the ECB takes its goal to be low inflation euro zone-wide—rather than low inflation in the euro zone’s industrial core, with the developing periphery seen as a special case—it seems that the ECB has committed itself to a much more contractionary monetary policy than even the Bundesbank would have ever dared impose on the Bundesrepublik.” (3 April 2003, available at http://www.j-bradford-delong.net/movable_type/2003_archives/001264.html).

The discussion above suggests that the governments of the periphery countries had neither the institutional constraints nor the market incentives to implement fiscal policies aimed at slowing down the expansion of domestic demand, even when rising current account deficits and inflation differentials relative to the euro core were signaling that their economies were on a unsustainable trajectory. A similar absence of appropriate institutional arrangements and lack of incentives to internalize the long-term costs of excessive pay increases underlay the behavior of these countries' wage setters, which was crucial to determine the loss of competitiveness of the periphery relative to the euro core (see Carlin 2012).²⁰

Finally, it has been argued that fast growing domestic demand in the periphery (during the years preceding the crisis) benefited Germany by giving it the opportunity of counterbalancing its own weak domestic demand with persistent trade surpluses (see Cesaratto and Stirati 2011). However, it has also been argued that the counterparts of these surpluses were the outflows of capital directed to finance excess expenditures in the periphery (either directly or through the financial European centers as shown in Sect. 2) rather than investment at home, with a depressing impact on German wages, income and GDP growth (see Sinn 2010). Being that as it may, the latter line of reasoning explains why most Germans are not at all impressed by the argument that Germany has been the main beneficiary of the spending in the peripheral.

4 Save the Euro and/or Preserve the German Model?

Even as in the course of the 2000s it became apparent that the divergent dynamics of nominal costs per unit of product between core and periphery countries was causing a gradual but steady appreciation of the real exchange rate of the latter, which were rapidly accumulating external debt, financial markets failed to react to these evident signals of upcoming tensions (notwithstanding some precursory analyses warning about the growth in EU imbalances, such as Lane 2006 and Lane and Milesi-Ferretti 2007). Interest-rate spreads between core and periphery securities remained very low because of this markets' "irrationality", thus magnifying the forces driving the intra-euro imbalances discussed in Sect. 3.

Only the revelation of the true entity of Greece's public deficit (after years of misrepresented data), together with the recognition that most European banks were seriously exposed towards Greece, provoked a drastic change in market sentiment.

²⁰ It goes beyond the scope of this work to determine which countries are most responsible for the ill-designed institutional setting of the euro zone. Some politicians and scholars argue that Germany played a major role in shaping the system; on this basis, they also claim, Germany should now be more flexible and handf. Being it as it may, we recall than this work focuses on Germans, not on their political leaders. The German citizens may rebut to the criticism by observing that such ill-designed system did not cause the same troubles in all countries in the euro area, which reveals the role played by pre-existing country-specific weaknesses.

Mindful of the US experience, where apparently circumscribed troubles led to financial havoc (Brunnermeier 2009; Shinn 2009), investors started being concerned about the various weaknesses affecting the EU countries, such as the high levels of private and or public debt, the seriously unbalanced growth patterns (or the low-growth-performance, in the case of Italy), the remarkable inflationary pressures at work, and the collapse of real estate bubbles. This led to a more pessimistic assessment of the default risk inherent in the debt of all periphery countries. In retrospect, it is amazing to realize that investors remained anchored for so long to the false perception that no massive default could occur in the euro zone, in spite of the rapid accumulation of private and public debt occurring in the periphery.

The German insistence that private creditors should incur some loss because of their imprudent lending to periphery borrowers (the so-called Private Sector Involvement principle) is not only an homage to some abstract principle of responsible behavior and market discipline. From the German viewpoint (see, e.g., Sinn 2010), the necessity to sanction the mistakes made by these investors derives from the need to avoid the repetition in the future of a situation in which the virtual elimination of interest rate differentials (reflecting country-specific risks) within the euro zone depressed domestic investment in Germany and induced German savings to finance risky investment projects in the periphery. Consistently, the popularity of the moral hazard issue among German commentators and public opinion can be rationalized by noticing that the large capital outflows occurring after the introduction of the euro are deemed to be among the main culprits of the stagnant real wages and low growth that characterized Germany in the first half of the 2000s.²¹ Indeed, the need to keep unit labor costs compressed for preserving world competitiveness would have been compatible with a more rapid real wages and GDP growth in the presence of a higher domestic investment.

Hence, it is probably the case that the German reluctance to bail out—in a form or another—private and public entities in the periphery countries is more motivated by the future predictable consequences of these interventions (both at home and abroad) than by their current costs.

As well known, the German reluctance mentioned above is at the center of the stalemate in which the euro zone is currently entrapped. The high default-risk premium required by the financial markets to refinance the periphery's debt is not bound to decrease substantially without some (implicit or explicit) commitment on the part of the ECB to give it unlimited support. This commitment cannot be taken in the presence of a persisting veto by the countries of the euro-core. At the same time, it is apparent that in the current recessionary environment exacerbated by the restrictive fiscal policies conducted in all Europe, the high interest rates paid by countries like Italy and Spain on their government bonds will soon make their debt

²¹ We acknowledge that, as argued by those advocating a change in the German stance, moral hazard concerns cannot be easily applied in the presence of systemic financial troubles, global economic contraction, and self-enforcing negative feedback effects. In this paper, however, we do not assess but rather interpret the arguments animating the current debate.

economically and politically unsustainable. This should make clear that the dilemma faced by the German authorities has to do with the choice between incurring the relevant short and long-term costs implied by the virtual renunciation to the no-bailout principle, on the one hand, and the dissolution of the euro, on the other hand.

It seems likely that even in the case in which the German authorities will agree upon some form of decisive emergency intervention in favor of the largest periphery countries, they will not consent to any European fiscal arrangement involving systematic and substantial transfers of resources across countries. Most commentators have rationalized this opposition for the costs that these transfers would cause to the German tax payers in case of one or more defaults on the sovereign debt. In fact, as mentioned above, such firm opposition by the Germans is based on the argument that implementing large and continuous transfers to the periphery would amount to delink persistently the levels of private and public consumption in a certain area of the euro zone from its ability to generate its own income. This would create a self-perpetuating subsidized dependence and favor the perception that the local political class has not full responsibility for the well-being of the population. Even commentators who are critical of the German attitudes toward the European debt crisis admit that long-run fiscal transfers within the euro zone are not desirable for not running the risk of transforming the whole of Southern Europe into a large Italian Mezzogiorno (Wolf 2012; Tilford 2012).

Addressing the problem of competitiveness gripping the euro periphery would require a prolonged period of “internal devaluation”, namely a period in which internal prices and nominal wages will grow at a lower rate than their German counterparts. It is evident that a deflationary environment would make this realignment practically impossible: Germany should then accept to have an European monetary policy consistent with some higher inflation, in the faith that the periphery countries will keep the political determination and social discipline necessary to complete the painful adjustment process (instead of exploiting the more relaxed macroeconomic climate for increasing wages and public expenditures). In practice, Germany should see a raise in domestic inflation first and only subsequently the structural reforms abroad.²²

By the same token, the process of real convergence would be helped by some German willingness to increase its domestic demand more rapidly than in the past: as illustrated in Sect. 3, the divergence in price competitiveness was accompanied by persistent differences in domestic aggregate demand that have contributed to

²² Paul Krugman effectively summarized the situation in the following terms: “What could turn this dangerous situation around? The answer is fairly clear: policy makers would have to (a) do something to bring southern Europe’s borrowing costs down and (b) give Europe’s debtors the same kind of opportunity to export their way out of trouble that Germany received during the good years—that is, create a boom in Germany that mirrors the boom in southern Europe between 1999 and 2007. (And yes, that would mean a temporary rise in German inflation.) The trouble is that Europe’s policy makers seem reluctant to do (a) and completely unwilling to do (b)” (Krugman 2012).

create the intra-European imbalances. It is likely that a federal government with a social-democratic leadership in Germany will be more available to move some steps in this direction. Still, it should be noted, within the limits compatible with the preservation of the German socio-economic model illustrated in [Sect. 2](#). Indeed, the export-orientation of the German economy is in the interest of the unionized and relatively well-paid workforce of the manufacturing sector, which is still the core constituency of the SPD.

Before the creation of the euro, some economists and commentators thought that with the establishment of a unique European currency, which would have possibly become in a short while a serious competitor of the dollar as international reserve currency, the European macroeconomic policy would have soon followed the United States' tradition of benign neglect toward its current account balance. Relaxing the external constraint would have allowed a more expansionary management of aggregate demand in Europe, relying more on internal demand for creating jobs and generating income. Probably, one of the reasons explaining why we have not observed this development is that, as discussed in [Sect. 2](#), the core euro area countries see in their export-oriented sectors the main source of good jobs where the cooperation between employers and workers gave its best fruits in terms of productivity increases and social stability.

Furthermore, following the U.S. model would have required to put at the center of the economy largely no-unionized and de-regulated service sectors, hinging on a flexible job market able to provide low-wage jobs for the unskilled workers. This socio-economic model is not easily reconcilable with the history, the existing coalitions of interests, the institutions and the social norms prevailing in a country like Germany. However, the German economic and political leadership is aware that, in order to preserve its export-led model, Germany must remain competitive and defend its market share vis-à-vis the emerging countries, namely relatively to that part of the world economy which will grow faster in the next future. It is pointing at this objective that, as argued in [Sect. 2](#), Germany has made in the last decade reforms and invested important political capital. It is therefore unlikely that it will be willing to sacrifice these vital ambitions for accommodating its stag-nating euro-periphery partners.

5 Closing Remarks

The European monetary union represented a major asymmetric shock for the European countries. Germany entered the EMU after the re-unification of the East and West parts, a process which required large capital injections and public expenditures. Low output growth, wage moderation and a restrictive monetary policy by the Bundesbank contributed to make German inflation lower than the inflation in the periphery countries, which were instead booming (with the exception of Italy) due to credit and real estate bubbles fed by the EMU-induced convergence of the long-term interest rates.

Markets did not internalize the risks of too fast a process of integration. In particular, investors showed little awareness that small but persistent inflation differentials would have eroded the competitiveness of the tradable sectors in the periphery and reduced the real interest rates to levels conducive to housing and private debt bubbles. Nor the investors saw the limited commitment of most governments to preserve the fiscal discipline and/or the pro-reform stance previously adopted to fulfill the Maastricht convergence criteria. Ultimately, financial flows not directed to productive investment entrenched the existing socio-economic structural differences between the core and the periphery, thus postponing the structural adjustment needed to make the periphery converge towards the more disciplined price and wage-setting behavior of the core countries.

The Stability and Growth Pact (SGP), whose preventive and corrective arms were directed exclusively to constrain public budgetary policies, was not meant to address problems rooted in the private sector. Dealing with these latter was left to scant peer country pressure and ineffective soft coordination methods among the EU member states.²³ Similarly, there were no provisions to deal with the risks of the two-way bank-sovereign interdependence in a context characterized by fragmented regulatory and supervisory approaches. The EMU institutional design, in addition, lacked any of the fiscal transfer and risk-sharing mechanisms present in other federal monetary unions: this helps to explain why any significant transfer of resources is subject to tough intergovernmental political bargaining and to the kind of political economy issues that we address in this paper. Most likely, such unsatisfactory design of the EMU was the by-product of the ill-fated compromise between the preservation of states' fiscal, supervisory and regulatory sovereignty, on the one hand, and the coordination of budgetary policies and financial regulations, on the other hand.

Another important asymmetric shock that hit European countries in the 2000s was the enlargement of the European Union towards the East. This favored Germany for historical and geographical reasons and German firms exploited their proximity to the new member states by undertaking an intense process of foreign investment and outsourcing. As discussed in [Sect. 2](#), besides injecting new dynamism in the grim German economy, this contributed to wage moderation while it boosted domestic productivity and profits; moreover, by increasing domestic saving and reducing investment, it contributed to larger current account surpluses in Germany. Notably, the advantages accruing to Germany from the geographically asymmetric enlargement wave were an important and yet neglected issue affecting the convergence across the whole European Union.

All in all, thus, EU leadership appears to have failed to realize the importance and the asymmetric consequences on the various European members of the four major shocks of the last 2 decades (i.e., German re-unification, monetary

²³ Many observers, in particular Germans, pointed out that the SGP did neither contain the right incentives to adjust public finances in good times, nor operationalize the debt-related provisions in the Treaty of Maastricht. But that the Treaty and the Protocol failed to introduce means to fix structural differences within the EMU was not the subject of an equally intense debate.

integration, EU enlargement and increased global competition). Greater awareness would have suggested a different take on the creation and expansion of the European current account imbalances: greater focus would have been put on the persistence of structural differences and less on the degrees of fiscal austerity or on the speed of unemployment reduction (often driven by unsustainable bubbles).

History has shown that the public and the private sectors of the countries in the euro area reacted to the abovementioned shocks in a way conducive to larger structural imbalances and fragile financial and banking conditions. To put it bluntly, the core of the area (i.e., Germany) acted as an export-oriented neo-mercantilist global player (see Sect. 2) and investors overlook the risks of their external positions, while the periphery exploited easy and cheap external finance to prop the non-tradable sectors up and to postpone the reforms that would have reduced their distance from the core. This irresponsible behavior clearly extends far beyond the mere fiscal discipline, to which instead excessive weight has been and is still given.

As said, European Treaties put too much emphasis on setting rules with a view to enforcing fiscal discipline whereas too little attention was given to making sure that the structural convergence across countries would take place.²⁴ The recent introduction of an excessive imbalance procedure in the Stability and Growth Pact and the adoption of the Pact for the Euro (aiming at fostering coordination in wage setting, labor market and product regulations) indicate that greater attention is now attributed by the national and European institutions to the issue of real convergence. The discussion in the previous sections allows to understand the rationale of these important reforms. As far as greater fiscal integration (both coordination and transfers) will neither suffocate the incentives to achieving greater competitiveness in the periphery, nor exaggerate wage and fiscal expansion in Germany, the maintenance of the Germany's global ambitions and its socio-economic model is compatible with a partial bail-out of the periphery. If German interventions were accompanied by (current and prospective) real adjustment in the periphery, then greater economic integration, co-responsibility and convergence among heterogeneous members could be achieved, eventually.

But even though these European reforms are steps in the right direction, uncertainty remains very high. Can the long-term commitments of the incumbent (shaky) periphery's governments reassure their partners? Are the political drives and societal attitudes emerging in the periphery countries consistent with the

²⁴ Neither was Europe endowed with a system of fiscal and financial transfers to smooth cyclical fluctuations and share financial risks. These shortcomings, though critical for the current debt-bank crisis, are only partially related with the lack of response to the prolonged real divergence. In this paper we intentionally focus on competitiveness-related issues as the current account imbalances would not be closed, but most probably enlarged, by a bail out of the periphery not associated with any adjustment. While cyclical fluctuations in a common currency area can be easily smoothed by a system of automatic transfers (even with no conditionality attached), entrenched structural differences would be crystallized by the adoption of a cost-sharing system that does not ensure any adjustment.

changes in social and economic habits necessary to reduce their distance from the core?²⁵ Will their recent commitment to implement painful reforms last long? Will it last even after a German-led bail-out alleviating the pressure coming from the high interest rate spreads? At the time of writing, it is hard not to say that the most realistic answer to these questions is “no”. And until it will be so, Germans will uphold their concerns about the desirability of orchestrating a bail-out of the periphery.

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²⁵ Asked about the main challenges for the EU in the future, Spanish, Portuguese and Greek people appear to be mainly concerned about unemployment (which indeed particularly afflicts their countries) and little with public debt; Germans instead are overwhelmingly worried about public debt (which does not appear a real burden of their country); Irish and Italian respondents are equally and significantly concerned for both. (Question QA14, European Commission 2012). Notably, though worried by domestic unemployment, the great majority of Spaniards and Portuguese (75 % e 82 %) maintains that, to tackle it, more decision making at the European level should be welcome whereas only 57 % of the Germans are of the same opinion (with a EU average of 64 %).

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The Austerity Debate

Carlo Cottarelli

Abstract The austerity debate has been raging since 2010, when most advanced economies initiated a process of fiscal adjustment following the surge in fiscal deficits in 2008–2009. It is a complex, confused and ideological debate and this paper aims at bringing some clarity regarding the position taken by various commentators. It reviews the “fiscal hawk view”, which favors an aggressive/frontloaded reduction in the deficit; the “fiscal dove view”, which favors a postponement of the adjustment or even a fiscal expansion, at least in some countries; and the intermediate position of those who argue that some adjustment is needed, but at a steady even pace, without frontloading, except in countries facing pressures from markets (and even in this case, there would be a speed limit to fiscal adjustment). This intermediate position is the one that is deemed most appropriate in the current circumstances.

The austerity debate has been raging since 2010, when most advanced economies initiated a process of fiscal adjustment following the surge in fiscal deficits in 2008–2009. It is a complex, confused and ideological debate:

- It is complex, because the debate takes up different connotations depending on the economic context: fiscal austerity in Greece and in the United States are obviously pretty different things.
- It is confused because the terms of the debate are often not well-defined. For example fiscal tightening with respect to what? Last year’s deficit or previously-defined targets for the current year? Does fiscal austerity mean a front-loaded fiscal adjustment or simply any fiscal adjustment? And what counterfactual should we use in assessing the effect of fiscal tightening on output, one of the key issues at stake?
- It is ideological because it involves fundamental views on the way market economies work and the role of the state in a market economy.

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This note tries to put some order in this debate, drawing especially from some contributions in VoxEU, following an opening salvo by Giancarlo Corsetti (Corsetti 2012).

The debate has been raised by the conflict arising from the current macro-economic environment. On the one hand, economic conditions are still unsettled. On the other hand, the fiscal accounts are still in a pretty weak condition in most advanced economies. In almost two-thirds of these the debt-to-GDP ratio will still be increasing this year; and some 90 of them have a debt ratio above the 2007 level (Fig. 1, top panel). The average debt-to-GDP ratio is at its peak of the last 130 years, except for a brief period around the Second World War (Fig. 1, bottom panel).

In these conditions, almost all agree there is a need for fiscal adjustment aimed not only at stabilizing the debt ratio but also at lowering it over time. However, the key issue is the pace at which fiscal adjustment should take place and, more specifically, whether deficits in advanced economies should be reduced now, let's say in 2012–2013, or later when economic conditions have improved. And how should countries respond to further shocks? Should the automatic stabilizers be allowed to operate? Should structural deficits be allowed to increase? And how do country circumstances affect the answers to these questions?

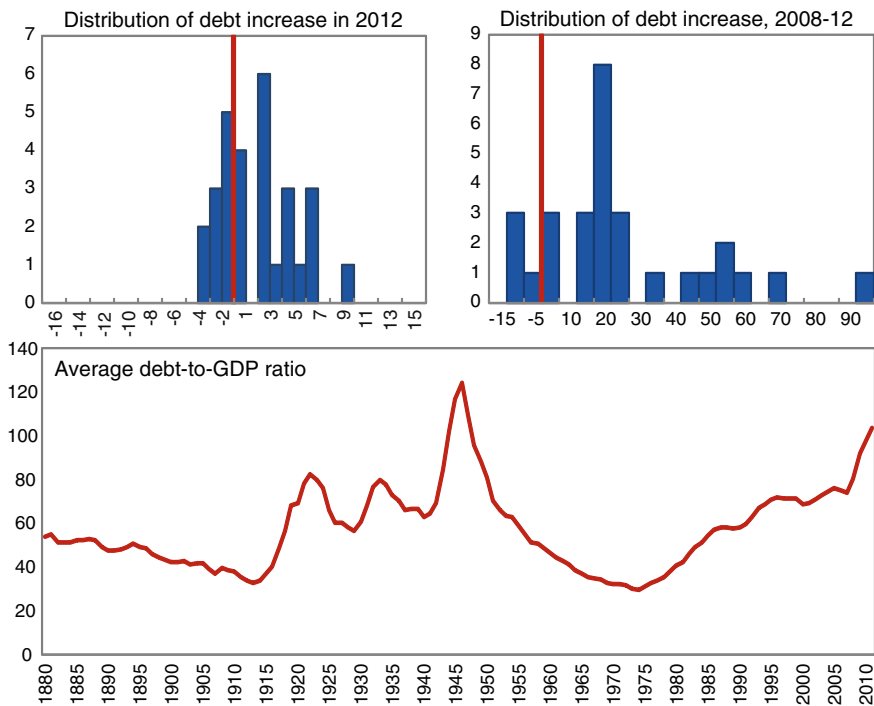


Fig. 1 General government gross debt-to-GDP ratios in advanced countries. *Source* IMF historical public debt database (see Abbas et al. 2010)

There are broadly three views in this debate, and several variants within each view:

- First, the fiscal hawk view, which favors an aggressive/frontloaded reduction in the deficit.
- Second: the fiscal dove view, which favors a postponement of the adjustment or even a fiscal expansion, at least in some countries, as it was done in 2009.
- Third, for lack of a better bird, what I will call the fiscal woodpecker view. The woodpecker is a very persistent bird: it takes time for him to achieve results but he is persistent and very efficient in achieving them over time. This is the position of those in the middle who argue that some adjustment is needed, but at a steady, even pace, without frontloading, except in countries facing pressures from markets (and, even in this case, there would be a speed limit to fiscal adjustment). This intermediate position is sometimes construed by critics as implying the absence of a position. On the contrary, it is a pragmatic approach with precise policy prescriptions for specific countries, although not the same prescription for all countries. And it is the one that, I believe, is most appropriate.

Let's first consider the fiscal hawk view. There are two main variants to this view.

The first variant argues that fiscal adjustment will not hurt growth and may even be expansionary, particularly if focused on expenditure cuts. The argument, which finds perhaps its roots in David Ricardo and its Ricardian equivalence, has been resurrected in terms of the possibility of an "expansionary fiscal contraction" by Giavazzi and Pagano (1990) and, more recently Alesina and Ardagna (2009) [see also Alesina and Giavazzi (2012)]. A somewhat more extreme version of this has been presented by Uhlig (2012), who argues that cutting public spending only reduces the measured GDP level but not the actual one.

The arguments in favor of an expansionary fiscal consolidation are not convincing in the current macroeconomic conjuncture. There is evidence [see Perotti (2012)], that a fiscal contraction could be expansionary but only when it is combined with an accommodating monetary policy or an exchange rate depreciation. However, interest rates at present are already at record low levels, and devaluation is not an option for euro area countries. One could still argue that a fiscal contraction could be expansionary in countries that are facing financial market pressure if it can bring down risk premia. But fiscal tightening announcements by euro zone countries have not been well received by markets, which seem to be afraid of the effect that fiscal tightening would have on growth. Indeed, in explaining the downgrade of several European countries in the spring of 2012 Standard and Poor's (2012) noted that: "we believe that a reform process based on a pillar of fiscal austerity alone risks becoming self-defeating, as domestic demand falls in line with consumers' rising concerns about job security and disposable income, eroding national tax revenues".

If we put all this together we can conclude that fiscal adjustment will be painful: GDP growth will be lower, of course with respect to a world in which there is no fiscal adjustment and markets are not worried about the absence of adjustment.

Indeed, the second variant acknowledges that fiscal adjustment will be painful, but argues that it is still necessary to go ahead with it. One reason is that absence of adjustment could leave countries exposed to the risk of a crisis, which, if it materialized, would have even larger costs. This argument is valid but does not imply that the adjustment should necessarily be frontloaded: it should be frontloaded if this is what it takes to avoid a crisis, otherwise a more gradual adjustment would be preferable. However, another reason used in support of frontloading painful adjustments is that adjustment in small doses is not politically sustainable [see, for example, Neumann (2012)]. The problem with this political economy argument is that the empirical evidence on whether cold turkey is better than gradualism is rather mixed (see, for example, Tsibouris et al. 2006). Moreover, if markets react negatively to frontloading because of anticipated negative growth effects, and spreads rise in response to a tightening, the resolve to persist with frontloaded fiscal adjustment may be weakened, not strengthened. So, altogether, this second variant is not very convincing either.

Let's now move to the fiscal dove view. This view has three variants.

The first one argues that there is no need to tighten fiscal policy now because there is no major underlying fiscal imbalance. Fiscal deficits are large in advanced countries but have been created by the recession and the related loss of revenues. Thus, they will go away when growth is restored. Moreover, governments are facing record low interest rates: this means that markets are not worried, it is easy to sustain a lot of debt, and it is profitable to finance even projects with very low real yields. Paul Krugman has often argued along these lines. I find this view too optimistic, even though, *ex post*, it may turn out to be right in at least some respects. True, we do not know the extent to which the output and related loss from the 2008–2009 crisis is permanent. We do not know whether interest rates on public debt will ever rise in line with the increase in public debt. We do not know whether the solvency of the U.S. will ever come into question. But that is precisely the point: there is just too much we do not know to conclude that there is no fiscal risk. The fact that interest rates are currently very low is not necessarily reassuring. We know too well that markets react late and sharply. Greek spreads remained low until late 2009. So there are risks, and when public debt is high it is very costly to underestimate the possibility of an increase in interest rates, as such an increase could move a country from a good to a bad equilibrium.

The second variant of the fiscal dove view is the fiscal twist story. This says let's commit to tighten later, when the economy is stronger, and this will give us room to expand today. A credible medium-term plan could deliver this. Moreover, governments can buy fiscal space by introducing pension and health care reforms with a long-term impact on spending. The IMF argued this in 2009 when it called for a fiscal expansion. The problem is that it is difficult to play this fiscal twist twice. When we say "we will tighten later" we need to keep in mind that, with respect to 2009, later is *now*. Revising medium-term consolidation plans

introduced in 2009, at the time of the fiscal expansion, would be costly in terms of credibility. Moreover, just promising fiscal rectitude in future good times is also made difficult by the poor record in adjusting during good times in the past, as underscored by the trend increase in the public debt-to-GDP ratio in most advanced economies since the mid-1970s (Fig. 1).

The third variant argues that fiscal tightening can be self-defeating. Laura Jaramillo and I have contributed to this view [see Cottarelli and Jaramillo (2012)] by showing that frontloaded fiscal tightening can lead to an increase in sovereign spreads, not to a decline, due to markets' current focus on the short-term negative impact of fiscal tightening on growth and debt ratios. However, we found that this effect is nonlinear, so it holds for large fiscal adjustment and should not be used to argue that no adjustment at all is needed. Others—Summers and DeLong (2012), Richard Portes (2012)—have used a different argument to support the counter-productive view, namely that keeping unemployment high will cause long-term losses to output and fiscal revenues, as people will lose precious economic skills and drop out of the labor market. If this is avoided through a fiscal expansion, output and fiscal revenues would be permanently higher and the fiscal accounts would actually be stronger. This is a powerful argument, and should be taken seriously. However, also this argument hinges on the assumption that markets will be forward looking and not penalize the temporary increase in deficits. This may hold, at best, for the U.S., which benefits from the reserve currency status of the dollar, but not for other countries. And even for the U.S., it cannot be taken for granted. In this respect, it is worth recalling the position recently taken by Raghuraj Rajan (2012), who has argued that trying to boost unemployment through more and more borrowing is self-defeating. Over the last few years, increased borrowing by, first, the private sector, and, now, the public sector has been used to compensate a loss of purchasing power due to underlying economic forces, partly related to globalization. He concludes that: "Rather than attempting to return to their artificially inflated GDP numbers from before the crisis, governments need to address the underlying flaws in their economies." In other words, a lot of the unemployment that we observe today would not be cyclical but structural.

Let's now move to the woodpecker view: countries should adjust at a steady pace, avoiding frontloading, if they can, but also procrastination. This view can be articulated in five more detailed points.

- First, the view acknowledges that there are costs if you adjust and costs if you do not adjust.
 - The cost if you adjust is lower short-run growth with respect to a scenario in which you do not adjust and fiscal risks do not materialize. There are likely to be nonlinearities here, with costs increasing with the size of the adjustment, as suggested by our econometric work.
 - The cost if you do not adjust is a possible surge in various risk premia. The Greek debt restructuring has broken the taboo of no restructuring in advanced economies, thus increasing default risk premia. Weak fiscal accounts can also lead to higher inflation and exchange rate depreciation risk for countries that

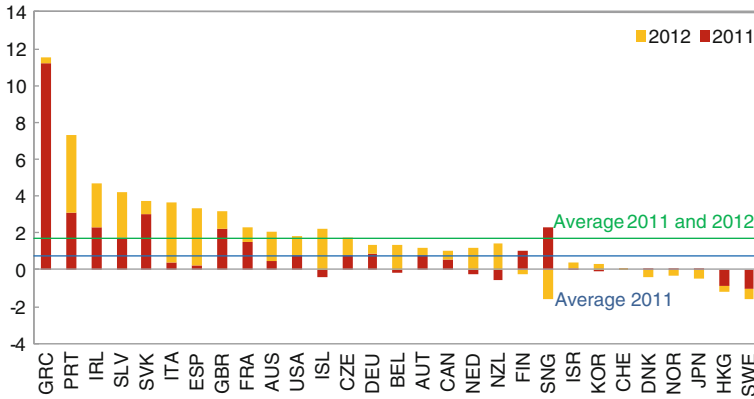
can print their own money (the fiscal dominance syndrome). There are also nonlinearities in this case, with costs more than proportionally higher for countries with larger initial fiscal imbalances, and weaker initial credibility.

- In these circumstances, countries with higher credibility, like the United States, that will likely face more favorable financing conditions, should adopt medium-term adjustment plans involving a gradual, steady adjustment defined in structural terms. What does “gradual” mean? Blanchard and Cottarelli (2010) argue that an annual pace of adjustment of about 1 % point of GDP was broadly appropriate on average for 2011, but of course the specific pace would also depend on the size of the initial imbalance and output developments, and would therefore have to be country-specific.
- Countries facing more difficult financing conditions would have to frontload the adjustment, obvious examples here are Spain and Italy. However, even for countries where frontloading is recommended there is a speed limit, again related to nonlinearities in the economic and social impact of fiscal tightening, which would imply that excessive fiscal tightening could backfire.
- Around the fiscal adjustment path defined in structural terms, the automatic stabilizers should in general be allowed to operate freely, but the underlying pace of adjustment should not be changed—short of major threats to economic recovery. This is because of the political and operational difficulties of changing fiscal plans once they are defined.
- In all cases, to minimize the output costs, it is critical to use other policies to support growth when fiscal policy is tightened. Monetary policy should remain expansionary (for example the IMF has noted some further scope for easing in Europe [see IMF (2012)]). It is critical to reactivate the credit channel, particularly in Europe, through the strengthening of the banking system (the IMF has long advocated the direct use of firewall resources for this purpose). And structural reforms in product and labor markets should be used to boost productivity and competitiveness. Finally, the IMF has noted that in Europe a major threat to growth remains the incomplete process of economic integration, including the uncertainties relating to the fiscal and banking architecture of the euro area.

So, this is the woodpecker view. It is slightly more complex than just repeating the tightening or the expansionary mantras. But it is a more pragmatic view.

What are countries doing in practice? Fiscal adjustment is proceeding at a pace that is more or less consistent with the woodpecker approach. The adjustment in the structural primary balance in 2011 and 2012, was about $\frac{3}{4}$ of a percentage point of GDP (Fig. 2).

Countries under pressure are adjusting more rapidly. The IMF has supported this approach for 2011 and 2012. If we look ahead, the main fiscal concerns are related to:



Source: Fiscal Monitor

Fig. 2 Change in the structural primary balance in advanced economies. Source fiscal monitor

- First, the so-called “fiscal cliff” in the United States: because of the expiration of past stimulus measures and the automatic budget cuts introduced when the debt ceiling was raised in 2011, without action the structural fiscal deficit would decline by over 4 % points of GDP in 2013, the largest annual cut since 1947. This massive fiscal withdrawal would be inconsistent with a continuation of the recovery: there is a need to make the adjustment more gradual. But this should be done in the context of a medium-term fiscal adjustment plan that is still missing in the United States.
- Second concern: the pace of fiscal adjustment in some European countries: here the risk is that of focusing on headline deficit targets, rather than structural targets, which would lead to excessively tight, and ultimately counterproductive, policies. Focusing on structural balances is also consistent with the spirit of the Fiscal Compact, with its emphasis on the goal of balancing budgets in structural terms. In this respect, the increased interest by the EU institutions in focusing on structural balances is encouraging.

To conclude, the austerity debate is likely to continue for as long as the fiscal adjustment process continues, which is likely to be several years. I argued that the best course of action is to:

- proceed at a steady pace, avoiding extreme solutions;
- follow a pragmatic approach involving country-specific fiscal strategies that take into account underlying fiscal fundamentals, financing constraints, and the state of economic activity;
- and use other policies to support growth while you are tightening fiscal policy.

This approach is perhaps less appealing from a communication perspective than the hawk or the dove views. Black and white solutions are always easier to understand. But it is the most reasonable and pragmatic one, and, ultimately, the best course of action.

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Part VII
EMU Policy and Public Debt

The Sovereign Debt Crisis in Europe: How to Move from Bad to Good Equilibrium?

Pier Carlo Padoan, Urban Sila and Paul van den Noord

Abstract We develop a stylised model for public-debt and growth dynamics with two equilibria, a “good” and a “bad” one. The “bad equilibrium” is characterised by the simultaneous occurrence, and adverse feedbacks between, high and growing fiscal deficits and debt, high risk premia on sovereign debt, slumping economic activity and plummeting confidence, whereas a “good equilibrium” is characterized by stable growth and debt and low risk premia. We believe the southern euro area countries are caught in a bad equilibrium and use this framework to identify policies that can help them to recover. The analysis shows that despite some output loss in the short run fiscal consolidation can help these countries escape from the bad equilibrium trap. More broadly, we find that a combination of financial backstops, structural reform and fiscal consolidation is most effective in helping these countries getting onto a sustainable path (JEL codes: E62; C33; C62).

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1 Introduction

Over the past few years, even prior to the breakout of the global financial crisis, new stylized facts have emerged in the macroeconomic environment. Public debt has grown significantly in almost all advanced economies, partly as a consequence of the crisis, fuelled by the drop in public revenues caused by the recession and partly also due to large public efforts, especially in some countries, to deal with banking crises. This has generated a negative feedback on growth with the possibility of a vicious circle of high debt, low growth and unsustainable public debt dynamics.

The increased role of confidence in driving macroeconomic performance and vice versa suggests these loops may result in a strong overreaction of markets, especially in the euro area where national banking woes and sovereign stress are strongly intertwined. Take interest rates on sovereign bonds for example. After the crisis of the EMS in 1992, and in the run up to monetary union, these converged significantly and spreads practically disappeared for a number of years. After the outbreak of the crisis markets overreacted in the opposite direction, amplifying risk assessment and contributing to the possible emergence of a ‘bad equilibrium’ in which weak growth and high risk premia feed onto each other.

Since the beginning of the crisis many countries have enacted structural reforms, often in tandem with fiscal consolidation measures (OECD 2012a), including importantly in the southern euro area countries that are currently exposed to severe market stress. This bodes well for the future, but time may be too short for the benefits of structural reforms to materialize and for markets to appreciate such improvements and translate them into lower risk premia. If markets are patient, debt sustainability would be easier and good equilibria could be reached where lower risk premia and higher growth reinforce each other. But if markets are impatient, or—in the case of the euro area—they see an opportunity to bet against the viability of the single currency, good equilibria may never be reached. Rather, bad equilibria, characterized by high risk premia and low growth may prevail, leading countries towards unsustainable debt dynamics. This calls for a coordinated action where available policy tools, i.e., fiscal, monetary, and structural policies, must operate in coordination to allow economies to move towards good equilibria.

While these general mechanisms are well understood, how they interact in a consistent dynamic setting is less clear. In this paper we provide a simple analytical framework to fill this gap. We develop a stylised model with two equilibria combining a negative relationship between debt and growth inspired by the work of Reinhart and Rogoff (2010) and the government’s inter-temporal budget constraint. We then use the model to identify empirically policies that can help a country caught in a bad equilibrium—a case that applies to a number of southern euro area countries—to recover. The model embeds three sets of policy variables: structural reform, fiscal consolidation and the use of financial backstops and institutional reform to reduce the risk premia built into bond yields.

2 A Stylised Model with a ‘Good’ and ‘Bad’ Equilibrium

A hallmark of the current macroeconomic environment is that an economy may find itself trapped in a ‘bad equilibrium’. One often hears the case made of periphery countries in the euro area being in such a ‘bad equilibrium’, which, as mentioned above, is characterised by the simultaneous occurrence, and adverse feedbacks between, high and growing fiscal deficits and debt, high risk premia on sovereign debt, slumping economic activity and plummeting confidence.

As a preliminary step we need to identify what such a ‘bad’ equilibrium is and what distinguishes it from a ‘good’ equilibrium. We define these concepts with the help of a stylized economic stock-flow model. The simplest version of the model has three equations. The first equation describes the negative relationship between public debt and economic growth (Y = output, D = real government debt and an over-dot indicates the change in the variable):

$$\frac{\dot{Y}}{Y} = a - b \frac{D}{Y} \tag{1a}$$

This equation is depicted in Fig. 1 as the downward-sloping straight line RR . RR stands for Reinhart and Rogoff (2010) who were the first to posit this relationship and to have tested it empirically. This negative relationship can be explained by e.g., crowding-out effects on investment or adverse expectations with regard to future taxation associated with high public debt. Growth is also affected by other factors, such as structural reforms, captured by the parameter a . This growth equation can be augmented with the short-to-medium run impact of financial conditions proxied by the interest rate r , and the fiscal policy stance proxied by the primary deficit as a share of GDP p (a higher interest rate depresses growth and a larger fiscal deficit supports growth):

$$\frac{\dot{Y}}{Y} = a - b \frac{D}{Y} - fr + gp \tag{1b}$$

The second equation is the budget constraint of the government and hence it is an identity. The budget constraint relates the primary deficit as a per cent of GDP (p) to the real interest rate r and real public debt D :

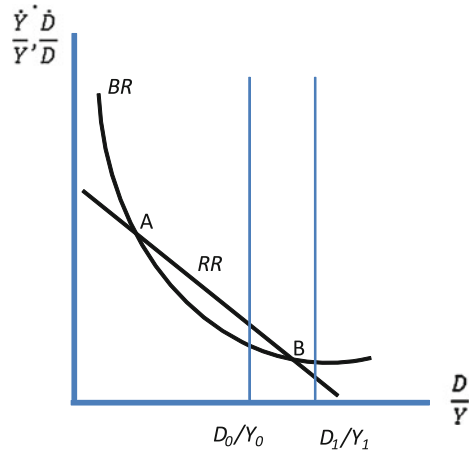
$$\dot{D} = rD + pY \tag{2a}$$

Dividing the two sides of the equation by D yields:

$$\frac{\dot{D}}{D} = r + \frac{p}{D/Y} \tag{2b}$$

This is the hyperbolic relationship between real growth of debt and the debt ratio depicted as BR (as in budget restriction) in Fig. 1. As the debt ratio increases, keeping p constant (hence assuming the country follows a nominal primary deficit

Fig. 1 Good and bad equilibrium. Note the horizontal axis measures the public debt to GDP ratio and the vertical axis the growth rates of public debt and output. *RR* is the relationship between growth and debt and *BR* the government's budget constraint. If the debt ratio is located right from the bad equilibrium *B*, it derails while output contracts at an accelerating pace



rule), the real growth of debt approaches asymptotically the real interest rate.¹ The intersections of the two curves correspond to, respectively, the “good” equilibrium (*A*) and the “bad” equilibrium (*B*). If the debt ratio is located in the interval between *A* and *B* (indicated by D_0/Y_0), output growth exceeds the growth of debt and hence the debt ratio is falling, until the good equilibrium *A* is attained: the good equilibrium is stable.

However, if the debt ratio is located right of point *B* (e.g., if the debt ratio equals D_1/Y_1), the growth of debt exceeds output growth. So the equilibrium *B* is unstable. Beyond *B* without drastic corrective action the debt ratio keeps on growing and growth keeps falling.

Finally we can assume that the interest rate r responds to the (expected) growth in the debt ratio and hence to the fiscal stance and (exogenous) factors (including contagion but also institutional reforms that change the perception of systemic risk, see below) captured by h . Accordingly, the third equation of our model reads:

$$r = h + c \left(\frac{\dot{D}}{D} - \frac{\dot{Y}}{Y} \right) \tag{3}$$

This simple model can be solved to yield expressions of both the ‘good’ and ‘bad’ equilibria, which read, respectively:

¹ The real interest rate is bound to increase if the debt ratio increases (see below) and hence the *BR* schedule will shift outward, but this is not shown in this diagram. Also, the depicted hyperbolic relationship is only valid in this form if the primary balance is in deficit. If it is in surplus the shape of the curve will change substantially, but still yield a good and a bad equilibrium with similar properties as described above. An analysis which includes the case of a budget surplus is presented in Padoan et al. (2012).

$$\left(\frac{D}{Y}\right)^A = \frac{[a + gp - (1 + f)h] - \sqrt{[a + gp - (1 + f)h]^2 - 4bp}}{2b} \tag{4a}$$

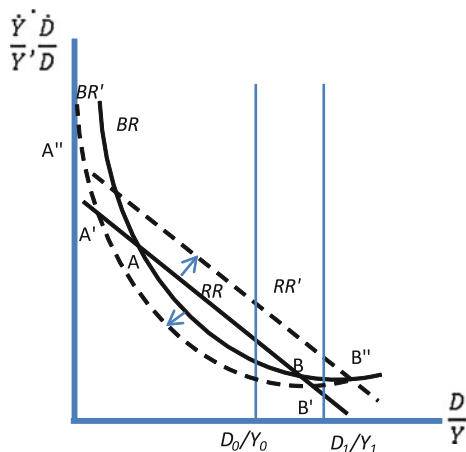
$$\left(\frac{D}{Y}\right)^B = \frac{[a + gp - (1 + f)h] + \sqrt{[a + gp - (1 + f)h]^2 - 4bp}}{2b} \tag{4b}$$

Equation (4b) shows that stabilizing policy (that moves the bad equilibrium B to the right) might include financial action to dampen contagion and lower the interest rate (h falls). Here the different timing of policy is of the essence. Firewall action can be very powerful in the short term but its effects can quickly fade away if not supported by further confidence building measures as the interest rate grows with the debt ratio. In our description a lower interest rate induced by financial policy can temporarily shift the bad equilibrium outwards. This shift can be made permanent only if the temporary backstops are followed up by institutional reform, such as the creation of a banking union that permanently eliminate systemic risk. According to Eq. (4b) structural reforms can provide further support by boosting growth permanently (a increases) and thereby shifting B further out to the right.

In a different paper (Padoan et al. 2012) we show that the impact of fiscal consolidation (p falls) will be more stabilizing the lower is the fiscal demand multiplier g , the stronger the impact of structural reforms, and the more effective is the financial backstop. It will have gone too far if, in spite of the impact of structural reforms and financial policy, it would have failed to lift the economy out of the bad equilibrium or worse. A strategy that would lead to unambiguous results is to use structural reforms to boost growth and fiscal policy to pursue fiscal consolidation while financial policy could provide the initial, yet possibly temporary, benefit in terms of a confidence bridge. A decline in the debt ratio, also prompted by higher growth, would allow for a permanently lower interest rate.

The impact of the strategy suggested above can be described as follows using Fig. 2. A fall in the primary deficit and a lower interest rate shift the budget constraint down from BR to BR' . However, if the debt ratio turns out to be located right of the points B and B' fiscal consolidation alone will not be enough to improve the debt dynamics in the short- to medium run. A combination of structural reform, fiscal consolidation and financial policy will likely be needed. Structural reform and a lower interest rate shift to the right the Reinhart-Rogoff relationship from RR to RR' while the lower deficit would shift it to the left, so we will have to assume that this growth depressing impact is more than compensated by the growth enhancing effect of structural reforms and financial policy. The initial positive impact of a lower interest rate on growth is reinforced later by the impact of structural reforms. In this case the bad equilibrium shifts further to the right, from B' to B'' . The debt ratio D_1/Y_1 is now located left of the equilibrium and has become sustainable. The economy now tends automatically towards the good equilibrium A'' .

Fig. 2 The impact of structural, fiscal and financial policies



3 Estimating the Model on Panel Data

In this section we report estimation results for the growth and interest rate Eqs. (1b) and (3), respectively, which we will use as the basis for simulations of both shocks and policy responses in the next section. A more extended discussion of these estimation results is presented in Padoan et al. (2012); here we report only our ‘preferred’ equations. The estimations are based on a sample of 28 OECD countries and spans over up to 52 years, from 1960 to 2011, depending on data availability. The source for most variables is the OECD’s Analytical Data Base. We purposefully used as broad a sample as possible, in order not to make results dependent on an arbitrarily chosen period or group of countries. We use annual data. The regression results are presented in Table 1.

3.1 The Growth Equation

The dependent variable in the growth equation is the 1-year forward annual real GDP growth rates, which we regress on the public debt ratio to GDP, the primary deficit ratio to GDP, the 10-year bond yield and a range of other explanatory variables. Taking the 1-year lead of growth as the dependent variable partly addresses the problem of endogeneity due to reverse causality and simultaneity between GDP growth and some of the explanatory variables. In addition, we use instrumental variables estimation so as to address any remaining endogeneity.

The equation includes a number of standard controls borrowed from Barro and Sala-i-Martin (2004), to capture conditional convergence. These controls include: *inflation rate* to control for macroeconomic stability; the logarithm of the *initial GDP per capita*, to control for the catching-up effects; *investment (gross capital formation) as share of GDP* to measure capital formation and to serve as proxy for

Table 1 Regression results

Dependent variable: 1 year forward real GDP growth rate		Dependent variable: 1 year forward real long-term interest rate	
Government debt/GDP (%)	0.0135 ^c (0.0071)	Growth in government/ GDP (%)	0.0628 ^b (0.0263)
Government debt above 82 (%)	-0.0258 ^a (0.0096)	Banking crisis indicator	-0.126 (0.393)
Primary deficit/lagged GDP (%)	0.0596 (0.0405)	EMU 'south' indicator	0.431 (0.379)
Real long-term interest rate	-0.216 ^a (0.0447)	Interaction—banking crisis and EMU "south"	1.855 ^c (0.976)
Banking crisis indicator	-1.645 ^a (0.399)	Interaction—debt growth and EMU "south"	0.103 ^a (0.0329)
Inflation rate (%)	-0.236 ^a (0.0431)	Real short-term interest rate	0.161 ^a (0.048)
Log of GDP per capita	-6.825 ^a (1.270)	Inflation rate (%)	-0.261 ^a (0.0422)
Gross fixed capital formation/GDP (%)	0.0236 (0.0398)	Trade openness	0.0129 (0.0096)
Mean years of schooling	-0.587 ^a (0.216)		
Trade openness	0.0313 ^a (0.0093)		
Population growth (%)	-0.0652 (0.256)		
Total dependency ratio	-0.0320 (0.0312)		
Year dummies	Yes		Yes
Observations	702	Observations	772
Number of countries	28	Number of countries	29

Note GMM IV regressions ^a $p < 0.01$, ^b $p < 0.05$, ^c $p < 0.1$. Standard errors in brackets. All regressions use country fixed and year effects. Instrumental variables are 1 period lags of government debt ratio and primary deficit ratio in the growth equation and 1 period lags of government debt ratio growth (and its interaction terms) in the interest rate equation. The reported standard errors are robust to heteroskedasticity and autocorrelation of order 2, respectively

the saving rate; *mean years of schooling* to measure human capital; *trade openness* measured as sum of total exports and imports as share of GDP; *population growth* and the *dependency ratio* to control for the evolution of labour supply.

We do not discuss the controls here and focus our attention on the variables of primary interest: the debt ratio, the primary deficit and the bond yield, along with a banking crisis indicator capturing potential negative effects on growth of banking crises as discussed in Reinhart and Rogoff (2009). The crisis indicator is based on

Laeven and Valencia (2008, 2010) and in constructing our regressor we have followed Cecchetti et al. (2011), meaning that it takes a value of zero if there is no banking crisis and the value of 1 if a banking crisis occurs.² In line with the convention this regressor is not lagged relative to the dependent variable, implying a simultaneous effect of banking crisis on growth.

As regards the impact of the debt ratio on growth we find evidence of a ‘threshold effect’, meaning that only beyond a certain threshold will public debt exert a negative influence on economic growth. The estimation procedure of the threshold follows Hansen (1999). The estimated threshold is 82 %, broadly consistent with findings by Reinhart and Rogoff (2010), Cecchetti et al. (2011), Checherita and Rother (2010), Elmeskov and Sutherland (2012) and Kumar and Woo (2010). The effect of government debt on growth below the threshold is 0.14 percent-point for every 10 percent-points increase in the debt ratio (it is thus positive for low levels of debt). However, every 10 percent-points increase in the debt ratio in excess of the threshold is found to subtract a statistically significant 0.12 % from growth.

The direction of the effects of the primary deficit and the interest rate on economic growth is also as expected, although the effect of the primary deficit is not statistically significant. Increasing the primary deficit as a share of GDP by 1 percent-point increases the growth rate by 0.06 % and an increase of the real interest rate by 1 percent-point has a negative effect on growth of -0.22 %. While the impact of the primary deficit is not statistically significant, the interest rate effect is strongly significant. In addition, the occurrence of banking crisis has a significant negative effect on growth, of -1.6 %.

3.2 The Real Interest Rate Equation

The left-hand side variable of this equation is the real 10-year sovereign bond yield, and the central explanatory variable is the growth rate of the debt ratio. Akin to the growth equation, we also include the banking crisis indicator on the right-hand side so as to capture the impact of banking crisis on bond yields. In choosing the controls we follow Laubach (2009) and Checherita et al. (2010) who estimate similar equations. The real short-term interest rate controls for the effect of monetary policy and monetary conditions more generally on long term interest rates, the inflation rate controls for macroeconomic stability and incomplete pass-through of inflation, and the measure of trade openness allows for the open economy and controls for potential effects of openness on capital flows and interest rates.

² In its original source this variable is available only up to 2009. We extended it by extrapolating the last observation to the next 2 years, assuming the countries that experienced financial crisis in 2009 were still in crisis in 2010 and 2011 (and conversely for countries not in crisis). We consider that the possible error thus committed is not too large.

To test if risk premia in southern euro area countries are more sensitive to adverse debt dynamics and banking crisis than other OECD countries, we include interactions of growth in the debt ratio and the banking crisis indicator, respectively, with a ‘southern euro zone’ dummy. This yields euro-area south specific estimates for the parameters c and h , respectively, in the theoretical model. The ‘southern euro zone’ dummy is equal to one for Greece, Ireland, Italy, Portugal, Slovakia, Slovenia and Spain and zero otherwise. The rationale for including these interactions emerges from De Grauwe and Ji (2012) who argue that euro area countries, being without control over their own money, are susceptible to movements of distrust. When such movements occur, the sovereign spreads of some countries, notably the ones with stronger perceived vulnerability, are likely to increase above what would be expected on the basis of the conventional fundamentals thus exacerbating differences among members of monetary union and increasing the risk of its break up. De Grauwe and Ji (2012) find that before the crisis the debt-to-GDP ratios in the euro zone do not seem to have affected the spreads, while after 2008 this relationship becomes significant. So it could be hypothesised that financial markets are less tolerant towards growth in debt-to-GDP ratios in the euro zone ‘periphery’. Our approach goes one step further than that of De Grauwe and Ji (2012) in that we assume the risk premium in southern Europe to be magnified (perhaps unduly so) not only with regard to developments in the debt-to-GDP ratio, but also with regard to the occurrence of banking crisis (acknowledging that the two may obviously be linked).

As shown in Table 1, we find that the growth of the government debt-to-GDP ratio affect long term real interest rates with a positive sign, as expected. An acceleration of growth in the debt ratio of 10 percent-points increases the real long term interest rate by 60 basis points, which is close to the effect estimated in Checherita and Rother (2010) on a sample of European countries. The occurrence of banking crisis does not have a significant impact on the long term interest rate. However, yields in southern euro countries are found to be much more vulnerable to financial stress than other OECD countries. Banking crisis in this region is found to raise the real bond yield by 150 basis points, whereas this effect is negligible in the rest of the OECD sample. Similarly, movements in the debt ratio have a much larger effect on the interest rate compared to the rest of the OECD, with the impact of a 10 percent-points acceleration in the growth in the debt ratio rising from 60 basis points to about 140 basis points. This provides evidence of the behaviour of markets as described by De Grauwe and Ji (2012).

4 Simulations

The econometric estimates reported in the previous section allow us to identify empirically the values of the parameters in the theoretical model and subsequently run shock and policy simulations.

4.1 Parameter Assumptions

Most parameter values can be directly inferred from the estimation results, with the exception of the “constant terms” a and h in the growth and interest rate equations, respectively. These comprise the overall constant term, country-specific fixed effects as well as the impact of the various control variables on growth and the interest rate, and hence vary across countries and over time. In addition, we also need to modify the growth equation to capture the threshold effect of public debt on growth. Consequently, the relevant growth equation reads:

$$\frac{\dot{Y}}{Y} = a - b_1 \frac{D}{Y} - b_2 M \left(\frac{D}{Y} - T \right) - fr + gp \quad (1c)$$

where M is a dummy variable taking the value of 1 if the debt ratio is above the threshold and 0 otherwise, and b_1 and b_2 represent the growth impact of the debt ratio below the threshold and the coefficient of the interaction term above the threshold, respectively. This equation can be re-written as:

$$\frac{\dot{Y}}{Y} = a' - (b_1 + b_2 M) \frac{D}{Y} - fr + gp \quad (1d)$$

in which $a' = a + b_2 M \times T$. This gives us a properly adjusted estimate of the constant term in the growth equation for the levels of debt above the threshold. We also need to make an assumption about the impact of movements in the bond yield on the effective average interest rate on government debt. We assume the latter to be a 5-year moving average of the market yield which appears to give a reasonable approximation for euro area countries.

The numerical parameters inferred from the estimation results, are reported in Table 2. The baseline parameters refer to the parameters excluding the impact of financial crisis and/or the country being part of the ‘euro area south’. The second column in table presents the parameters that apply to countries in the euro area south that are afflicted by banking and sovereign debt crisis. In line with the regression results, the parameter a is reduced by 0.016 to capture the estimated impact of banking crisis on growth. Similarly, the parameters c and h are increased

Table 2 Model parameters

	Whole sample pre-crisis	‘Euro area south’ post-crisis
a	0.028	0.012
b_1	-0.013	-0.013
b_2	0.026	0.026
c	0.063	0.103
f	0.216	0.216
g	0.060	0.060
h	0.027	0.046

by 0.008 and 0.015 to capture the stronger impact of, respectively, growth in the debt-to-GDP ratio and banking crisis in southern Europe.

4.2 Constructing a Baseline for the “Euro Area South”

The model can be used to carry out stylised dynamic simulations of policy impulses. To do so, we first need to set up a baseline trajectory of the economy after the crisis without subsequent policy responses to resolve it, which is done in four steps. All simulations are carried out for a period of 15 years, including the initial year “0”. In a *first* step a simulation is run in which all parameters are fixed at their values for the whole sample as shown in the first column of Table 2. For the initial value of the (exogenous) primary deficit p we take the whole-sample average (0.3 %). On the basis of these assumptions we compute the ‘good equilibrium’ debt ratio using Eq. (4b), which is estimated at close to 75 % of GDP.³ We then take this debt ratio as the initial value of the debt ratio in our simulations to ensure that they start off from a stable steady state (see the ‘steady-state’ dark solid lines in Fig. 3).⁴

In the *second* step, the impact of financial crisis is simulated by decreasing the constant term a in the growth equation in line with the estimation results (equivalent of a once-and-for-all decline in economic growth of 1.8 %). In addition, we shock the primary deficit p by 5 % once and for all to reflect the fiscal expansion that countries pursued (both discretionary and by letting automatic stabilisers operate) as activity slumped, and shock the debt ratio by 15 % of GDP in period 1 to reflect the fiscal cost of bank rescues. The size of these shocks is roughly calibrated on actual developments in OECD countries in the wake of the acute phase of the financial crisis in 2008/2009. As shown in Fig. 3, this set of shocks raises the sovereign risk premium initially, to fall back later, though not all the way to its initial (steady-state) level. Growth is declining and the debt ratio explodes: the economy is clearly pushed towards the ‘bad equilibrium’.

In a *third* step, we shock the sovereign yield (h) to bring it in line with the estimation results for euro area ‘southern’ countries, the picture is exacerbated further and in a *fourth* step we increase the parameter that gauges the sensitivity of the sovereign yield to public debt and growth developments (c), again to bring it in line with the estimation results for the group of euro-area ‘southern’ countries. As Fig. 3 shows, the thus resulting baseline for the (average) ‘euro area south’ country sees the sovereign bond yield peak at over 8 %, growth slide towards negative

³ On the basis of these assumptions the ‘bad equilibrium’ debt ratio is estimated to be close to 100 %.

⁴ We assume that southern euro countries start from the same 75 % level of good equilibrium debt. Hence we assume that their specific h and c values are triggered only after the crisis has hit, the lower value for a is not area specific, but applies to the whole sample after the financial crisis has hit.

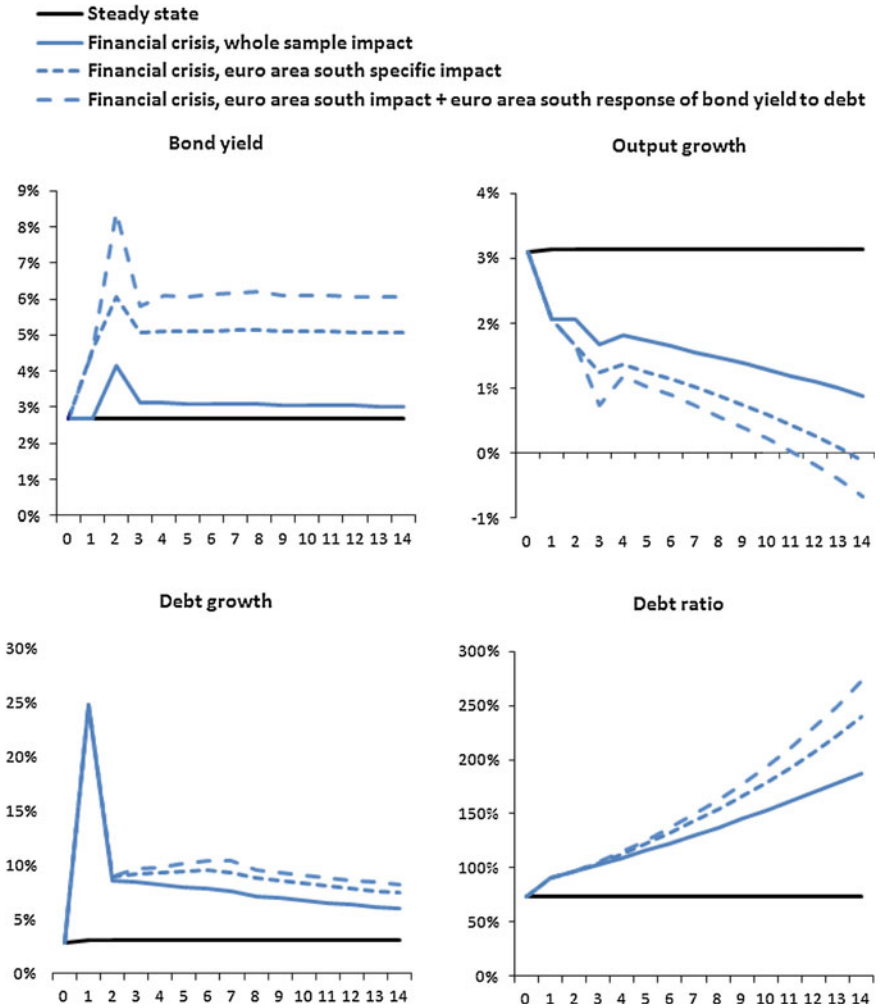


Fig. 3 Baseline simulation for “the euro area south”

territory and the debt ratio headed towards 200 % of GDP in 10 years time from the initial 75 %.

Obviously these results should be interpreted with caution; they indicate expected directions and rough orders of magnitude and should not be interpreted as ‘forecasts’. The main purpose of this simulation, as noted, is to construct a baseline that broadly gauges the macroeconomic performance of euro area southern countries in the wake of the financial crisis, against which the impact of policy responses can be assessed.

4.3 Getting the “Euro Area South” Back on Track

Onto this baseline three policy shocks are superimposed. *First*, fiscal consolidation is assumed to be implemented. The primary deficit is cut by 8 % points of GDP, in four steps of 2 % in each of the years 4, 5, 6 and 7 of the simulation period. This is roughly in line with the required fiscal consolidation effort to bring public finances back on a sustainable footing on average in the southern euro area countries (see OECD 2012b). As shown in Fig. 4, due to the negative demand impact of fiscal consolidation output growth is initially lower than in the baseline, but will eventually recover towards a higher growth path. The bond yield would be permanently lower (by about 100 basis points) and the rise in the debt ratio clearly less steep.⁵ The upshot is that fiscal consolidation is crucial for macroeconomic stability over the medium- to long-run, but also carries short-run costs. Even so, the economy is still on a ‘bad’ path.

Second, structural reform is then assumed to be implemented as and beginning to bear fruits in year 4, raising the growth rate eventually by 1 %, though in steps of only one-tenth of a per cent every year i.e., the parameter a is increased by cumulative steps of 0.1 % per year. This assumes both a strong effort and a large multiplier of structural reform, indeed close to the maximum attainable for a weighted average of distressed euro area countries based on recent estimates by Bouis and Duval (2011). There are no (net) negative growth effects of structural reform assumed for the initial period, roughly in line with findings in Cacciatore et al. (2012) suggesting that (some forms of) structural reform can be expected to bear fruit from the outset. In conclusion in this simulation growth-debt dynamics further improve, but the debt ratio is still increasing.

It is of key relevance to examine in a *third* simulation how financial support in addition to other policies –can bring the economy back onto a path towards the ‘good equilibrium’ by lowering the bond yield. There are two dimensions to consider: the size of the impact on bond yields and the duration. As to the size we assume financial policy to generate a sustained negative shock to h and c bringing the values of these parameters back to the OECD averages reported in Table 2 (i.e., we assume the elimination of the area-specific systemic effect plaguing southern euro members). To determine the required duration of financial support of this size we experimented with different durations (all starting in year 4). The purpose of this simulation is precisely to examine how long it would need to be sustained so as to ensure that the economy tends back to the ‘good equilibrium’. It turns out that in our model and setting the minimum period to obtain convergence towards the good equilibrium is 8 years. This is a very long period of time if the fall in interest rates is to be the result of a temporary intervention. However, it may be much more realistic if it is the result of institutional reforms that strengthen

⁵ According to OECD (2012b) this order of magnitude of fiscal consolidation would be sufficient to stabilise the debt ratio only if economic growth recovers, which is clearly not the case in this simulation.

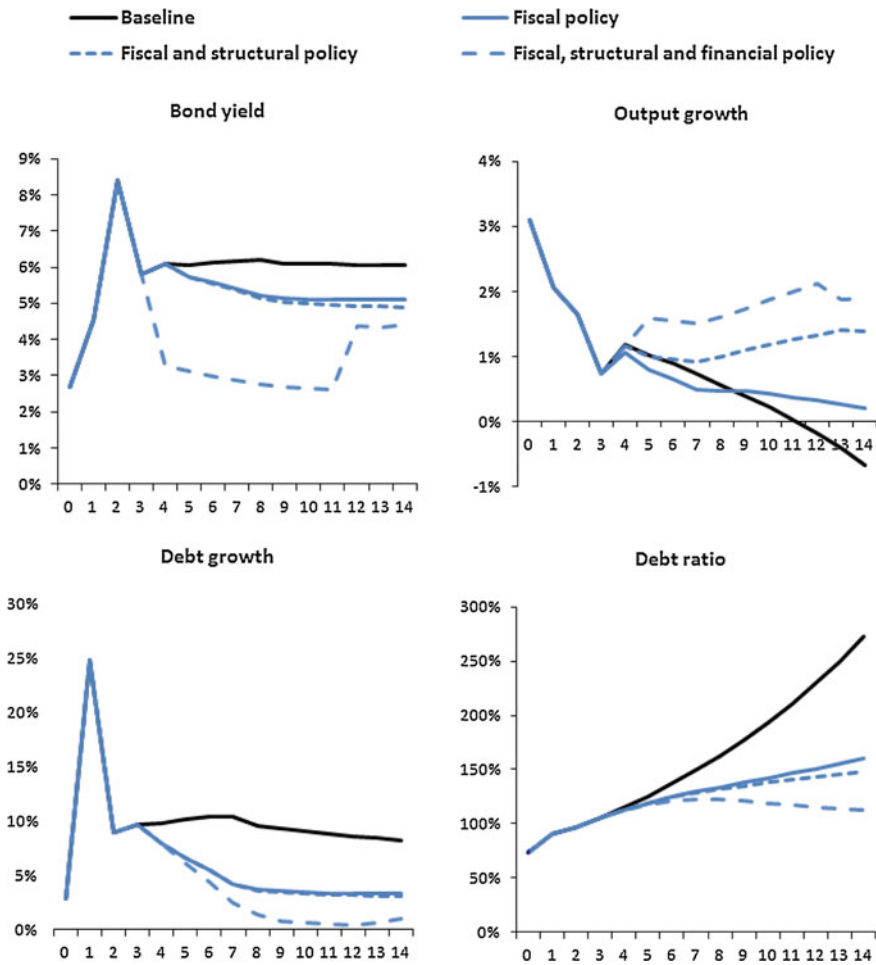


Fig. 4 Policy simulation for “the euro area south”

monetary union to the point of eliminating risks of break up and “contagion effects” in the weakest members.

As shown in Fig. 4, the bond yield substantially falls during this period, to rise again when the support is clawed back. Even so, this operation brings the yield onto a lower path permanently. The growth of the debt ratio is stemmed to eventually stabilise and next follow a slightly downward-sloping path. Output growth is on a gradual recovery path, despite a minor setback when the financial support ends. The upshot is that a sovereign confidence “bridge” with a duration of the order of 8 years would engineer a return to the ‘good equilibrium’, conditional on fiscal and structural policy action as laid out above. However, 8 years is quite a protracted period which would bear a substantial cost and runs against the intuition that financial backstops are temporary in nature. This suggests that a

stronger contribution to debt sustainability should come from structural reforms and fiscal consolidation and that a more permanent fall in interest rates can come as the result of institutional reforms aimed at strengthening the architecture of monetary union.

5 Concluding Remarks

In this paper we attempt to gauge the processes that trap countries in a ‘bad equilibrium’ of high and growing fiscal deficits and debt, high risk premia and deep recession. For this we develop a simple analytical framework rooted in empirical evidence. We have used it also to examine if and how a combination of fiscal consolidation, structural reform and financial backstops can help countries, notably the southern euro-area countries, to escape from the debt trap. From the analysis we infer the following three main conclusions.

First financial backstops are helpful to deal with a crisis situation and offsetting the risk of falling into a debt trap. However, their impact is limited and fades away relatively soon. In other words financial backstops only “buy time”. Time must be used productively for fiscal consolidation and structural reforms to bear fruits. At the same time if the reduction in bond yields is the consequence of deep reforms of monetary union it would assume a permanent nature, consistent with our simulation results, which show that the impact of financial backstop becomes relevant for debt sustainability only if protracted over time.

Second, our analysis confirms that the loss of fiscal policy space of countries in a bad equilibrium inevitably requires that fiscal action be directed towards consolidation, as reducing debt levels breed stronger growth and result in lower sovereign risk premia. It also confirms that fiscal consolidation initially may depress growth, but not to an extent where this would push a country into a bad equilibrium or prevent it from escaping from it. So, in a medium-term timeframe the trade-off between ‘austerity’ and growth does not exist. However, in the short-run it does, and this is complicating the political economy of fiscal consolidation. This is why it is particularly useful for countries in a bad equilibrium to be able to benefit from a ‘confidence bridge’ through financial backstops.

Third, there is a very important role for structural reform to help countries escape from a bad equilibrium. Since the beginning of the crisis many countries have enacted structural reform in tandem with fiscal consolidation measures, which bodes well for the future. We find that a boost to growth through structural reforms is key to facilitate the exit from bad equilibrium. As in the case of fiscal consolidation, however, the positive impact on growth builds up over time, thus potentially giving rise to a political economy dilemma. Once again, financial backstops to engineer positive interest rate-debt-growth dynamics already in the short run may help economies to overcome the high-debt trap. Even more importantly, institutional reforms that strengthen monetary union could bring about a permanent fall in interest rates that greatly facilitate debt sustainability.

To summarize, avoiding debt traps in monetary union is likely to require a well designed and implemented combination of structural reforms, fiscal consolidation and financial measures.

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Interest Rate Shock and Sustainability of Italy's Sovereign Debt

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Abstract Contagion from Greece, together with domestic political uncertainty in Italy, caused interest rates on Italian sovereign debt to spike in the second half of 2011. As shown in Fig. 1, the risk spread above German bunds for 10-year Italian government bonds rose from 200 basis points in early July 2011, to a range of 300–400 basis points after the July 21 Greek package with its new emphasis on private sector involvement. There was a second surge to the 400–500 basis point range in November through January, following the October 27 Greek package that insisted on a 50 % reduction in private sector claims.

Contagion from Greece, together with domestic political uncertainty in Italy, caused interest rates on Italian sovereign debt to spike in the second half of 2011. As shown in Fig. 1, the risk spread above German bunds for 10-year Italian government bonds rose from 200 basis points in early July 2011, to a range of 300–400 basis points after the July 21 Greek package with its new emphasis on private sector involvement. There was a second surge to the 400–500 basis point range in November through January, following the October 27 Greek package that insisted on a 50 % reduction in private sector claims.¹

Even after the improved prospects for implementation of fiscal adjustment under the new government of Mario Monti, on November 25 interest rates reached 6.5 % for six-month treasury bills, 7.8 % for two-year bonds, and 7.3 % for 10-year bonds.² By January 23, 2012, however, the short-term rate had fallen sharply

¹ Previously published as Policy Brief PB12-5, Peterson Institute for International Economics, Washington, February 2012. Reproduced by permission.

² Neil Dennis and Guy Dinmore, Italian short-term borrowing costs surge, *Financial Times*, November 25, 2011; and Datastream.

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(to 2.2 % for six-month bills) and the long-term rate had eased as well (to 6.1 %).³ The decline in the short-term rate reflected the major European Central Bank (ECB) initiative in late December, lending €489 billion to euro area banks for 3 years at 1 % interest.⁴

The decline in the long-term rate may reflect growing confidence that the Monti government will meet fiscal targets and also adopt growth-oriented reforms. Thus, on December 4 the government adopted a package of €20 billion in fiscal cuts designed to eliminate the deficit by 2013.⁵ Then on January 20 the government adopted a set of reforms intended to spur growth. These included the opening of competition among lawyers, taxi drivers, pharmacies, and gasoline stations and liberalizing the markets for gas and electricity, insurance, and local public services.⁶ Both the fiscal and growth reforms were in the form of decree laws that retain force unless rejected by parliament within 60 days.

The recent improvement in Italy's borrowing conditions is by no means assured to continue. A breakdown in the Greek negotiations with private creditors could cause a new round of contagion. Importantly, monthly amortizations of medium- and long-term debt are to rise from zero in December 2011 and January 2012 to €36 billion in February and €27 billion in March and again in April (Tesoro 2011a). Presumably the government could roll over these maturing bonds with one- to three-year obligations if necessary, in order to take greater advantage of market ease toward the shorter-maturity end given the ECB's lending program for the banks. Nonetheless, the heavy calendar of amortizations could again test whether and on what terms the government can access the bond market.

In its September 2011 *World Economic Outlook* (WEO), the International Monetary Fund projected a reduction in Italy's public debt ratio, from 121 % of GDP in 2011 to 114 % in 2016 (IMF 2011a). This projection is premised on an increase in the primary surplus from 0.5 % of GDP in 2011 to 2.6 % in 2012,

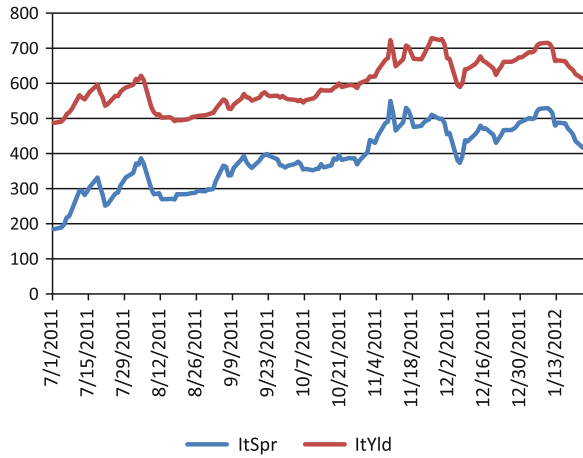
³ By February 1–6 the 10-year rate had improved further, falling to an average of 5.7 %. Data are from Bloomberg and Datastream.

⁴ Rita Nazareth, US Stocks Decline as ECB Lends Record Amount, Bloomberg, December 21, 2011.

⁵ The measures included an increase in the minimum pension age, a new property tax, a potential increase in the value added tax by 2 percentage points by September 2012, and new taxes on luxury goods. Cash transactions exceeding €1,000 were banned in an attempt to curb tax evasion. Giuseppe Fonte, Italy PM unveils sweeping austerity package, *Reuters*, December 4, 2011.

⁶ Guy Dinmore and Giulia Segreti, Monti unveils liberalization plans, *Financial Times*, January 20, 2012.

Fig. 1 Italy 10-year bonds: interest rate and spread over German bunds (basis points)
 Source Datastream



4.1 % in 2013, and 4.5 % thereafter. The growth rates assumed are relatively low even for Italy: an average of 0.78 % annually in 2012–2016.⁷ However, the September IMF projections assumed a relatively benign interest rate outlook. Thus, total net interest payments in 2012 implied an average rate of 4.5 % paid on the end-2011 gross stock of debt.⁸

In contrast, with public debt at about 120 % of GDP, if the average interest rate were to reach 7.5 % the interest burden would reach 9 % of GDP, raising serious questions of sustainability. However, only a fraction of the lower-interest outstanding debt must be rolled over each year. Of about €1.79 trillion in outstanding medium- and long-term debt, only about €190 billion needs to be rolled over (although about €130 billion in short-term debt must also be rolled over annually). So even after several years the average interest rate would remain well below 7 % despite a marginal rate of 7.5 %.

This policy brief examines the sensitivity of the Italian public debt outlook to a new higher-interest-rate environment, as well as to possible shortfalls from fiscal targets. The calculations apply a simple debt projection model (European Debt Simulation Model, or EDSM).⁹

⁷ Note that whereas the growth rates for 2012 and 2013 in the IMF baseline may be somewhat optimistic, because the government now expects a decline of GDP by 0.4–0.5 % in 2012 and zero growth in 2013, the fiscal assumptions are understated considering the new target of zero deficit by 2013 in the December fiscal package, in contrast to the 1.5 % of GDP deficit assumed in the IMF projections. Fonte, *op. cit.*

⁸ Net interest payments are €80.7 billion (the difference between primary and total fiscal balance). With financial assets at €328 billion, and assuming earnings at 2 % on these assets, gross interest payments are €87.3 billion, or 4.5 % of end-2011 gross debt of €1.92 trillion (IMF 2011a).

⁹ For a description of the model, see Cline (2011).

1 Baseline

Table 1 sets forth the relatively benign baseline used by the IMF in its September 2011 *World Economic Outlook* (IMF 2011a). As discussed below, subsequent updates (IMF 2011b; 2012a) show larger deficits and debt, but appear excessively pessimistic given private sector growth forecasts and recent fiscal measures. The reference baseline for this study thus remains the one used by the IMF in September 2011.

The first five rows in Table 1 show the macroeconomic assumptions in the baseline. Real growth rises to 1.2 % by 2016, but thereafter is set at the 2011–2016 average or 0.8 % per year. The GDP deflator rises at close to 2 % per year. The primary surplus follows the path described above (reverting to the 2011–2016 average of 3.5 % for 2017–2020, beyond the IMF projection period). Because the December 2011 fiscal package set a zero fiscal deficit for 2013 (corresponding to a primary surplus of about 5.5 % of GDP) and by implication beyond, the fiscal assumptions here may substantially overstate future deficits and thus err on the conservative side.

In the next block of the table, the first two rows show that the EDSM closely replicates the IMF's baseline projection of the ratio of public debt to GDP.¹⁰ The next three rows show three additional indicators of the debt burden: net debt relative to GDP, interest payments relative to GDP, and amortization (including short-term debt) relative to GDP. The IMF (2011a) places financial assets at €328 billion at end-2011, rising at about €5 billion annually.¹¹ After deducting these assets, net debt is about 20 % of GDP smaller than gross debt (end-2011).

The (IMF-based) baseline, with its moderate interest rates and sizable primary surplus target, brings the gross debt ratio down from 122 % of GDP in 2012 to 110 % of GDP by 2020. The interest burden peaks at 5.4 % of GDP in 2013 and then stabilizes at 5.3 % thereafter. Amortization is a relatively steady 15–20 % of GDP, of which about 40 % is annual rollover of short-term debt.

The elements contributing to the borrowing requirement are shown in the next section of the table. For reference, the amount of the primary surplus is first shown. The fiscal deficit is then shown, and is calculated as the amount of interest payments minus the amount of the primary surplus. The total net borrowing requirement equals the fiscal deficit, minus the amount of privatization receipts

¹⁰ The table presents an estimated decomposition of the debt into medium- and long-term (MLT) pre-2012; new MLT debt borrowed in 2012 and after; and short-term debt, assumed to be rolled over at the end-2011 level. The interest rate on pre-2012 debt is based on total interest payments after taking account of earnings on assets (at 2 %) and interest on short-term debt at a lower rate. For 2012 and after, the interest rate on new MLT debt is imputed at rates likely to have been applied at the time of the September WEO: a spread of 300 basis points above the German 10-year bund in 2012, 250 basis points in 2013, and 200 basis points thereafter. The bund rate is shown in the table as well, and is taken from IMF (2011c).

¹¹ The Organization for Economic Cooperation and Development (OECD 2011) places financial assets even higher, at €450 billion at end-2011.

Table 1 Public debt projections, Italy, baseline (billion euros and percent)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Real GDP growth (percent)	0.6	0.3	0.5	0.8	1.1	1.2	0.8	0.8	0.8	0.8
GDP deflator increase (percent)	2.0	1.6	1.8	1.8	1.9	2.0	1.8	1.8	1.8	1.8
Nominal GDP	1589	1621	1658	1701	1753	1811	1858	1907	1958	2009
Primary surplus (percent of GDP)	0.5	2.6	4.1	4.5	4.5	4.6	3.5	3.5	3.5	3.5
Fiscal deficit (percent of GDP)	4.5	2.6	1.2	0.8	0.8	0.7	1.8	1.8	1.8	1.8
Debt (percent of GDP)	121	122	120	118	116	113	112	112	111	110
Memo: IMF	121	121	120	118	116	114				
Net debt (percent of GDP)	100	101	100	98	96	94	93	93	92	91
Interest payments (percent of GDP)	5.0	5.2	5.4	5.3	5.3	5.3	5.2	5.3	5.3	5.3
Amortization (percent of GDP)	22.6	20.1	18.6	17.4	18.2	15.4	16.0	14.8	16.4	15.8
Primary surplus	8.5	42.6	68.7	75.7	78.6	82.8	64.5	66.2	67.9	69.7
Total deficit = net borrowing	71.1	41.7	20.2	14.5	14.1	12.8	32.9	34.2	35.2	36.6
Plus: amortization	359.3	325	308.8	296.1	319.2	279.6	297.6	282.8	320.6	316.9
MLT, pre-2012	155.1	193.3	152.9	122.5	131.7	77.2	85.7	58.3	86.1	69.6
MLT, new	0	0	24.2	42.0	55.7	70.7	80.2	92.8	102.7	115.6
ST	204.2	131.7	131.7	131.7	131.7	131.7	131.7	131.7	131.7	131.7
Plus: asset accumulation	23.6	7.3	4.1	0.7	4.2	4.4	7.4	7.4	7.4	7.4
Equals: gross borrowing requirement	454.1	374.1	333.1	311.3	337.5	296.9	337.8	324.3	363.2	360.9
MLT	248.2	242.4	201.4	179.6	205.8	165.2	206.1	192.6	231.5	229.2
ST	205.8	131.7	131.7	131.7	131.7	131.7	131.7	131.7	131.7	131.7
Debt, EOY	1924.2	1973.3	1997.6	2012.7	2031.0	2048.3	2088.5	2130.1	2172.7	2216.6
Memo: IMF	1924.2	1967.3	1991.3	2014.4	2039.5	2065.8				
MLT, pre-2012	1792.5	1599.2	1446.3	1323.9	1192.1	1114.9	1029.2	970.9	884.7	815.1
MLT, new	0.0	242.4	419.5	557.2	707.2	801.7	927.6	1027.5	1156.2	1269.8
ST	131.7	131.7	131.7	131.7	131.7	131.7	131.7	131.7	131.7	131.7

(continued)

Table 1 (continued)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Interest rate										
MLT, pre-2012	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047
MLT, new		0.06	0.058	0.055	0.056	0.057	0.057	0.057	0.057	0.057
ST	0.04	0.05	0.048	0.045	0.046	0.047	0.047	0.047	0.047	0.047
Memo: German bund rate	0.027	0.03	0.033	0.035	0.036	0.037	0.037	0.037	0.037	0.037
Implied overall rate	0.043	0.044	0.045	0.045	0.046	0.047	0.048	0.048	0.048	0.049
Net interest payments	79.6	84.3	88.8	90.2	92.7	95.6	97.3	100.3	103.1	106.3
MLT, pre-2012	80.5	84.2	75.2	68.0	62.2	56.0	52.4	48.4	45.6	41.6
MLT, new		0.0	14.1	23.1	31.2	40.3	45.7	52.9	58.6	65.9
ST	5.2	6.6	6.3	5.9	6.1	6.2	6.2	6.2	6.2	6.2
Financial assets (earnings)	6.1	6.6	6.7	6.8	6.8	6.9	7.0	7.1	7.3	7.4
Financial assets, EOY	327.8	335.2	339.3	340.0	344.2	348.6	356.0	363.4	370.8	378.2
Net debt, EOY	1596.4	1638.1	1658.3	1672.7	1686.8	1699.6	1732.5	1766.6	1801.8	1838.4

IMF = International Monetary Fund; MLT = medium- and long-term; ST = short-term; EOY = end of year

Sources: Author's calculations, IMF 2011a, Tesoro 2011a, and IMF 2011c

(absent in Italy's case). As shown, net borrowing needs ease from €71 billion in 2011 to only €14 billion annually in 2014–2016. The next row shows, however, that annual amortization needs are high, at above €300 billion (including short-term rollover). Amortization on existing medium- and long-term (MLT) debt is from Tesoro (2011a). Amortization on new MLT debt after 2012 is assumed to be at a rate of 10 % of the previous year's principal outstanding. The gross borrowing requirement is then the sum of net borrowing plus amortization plus increase in financial assets (with the latter set at the levels projected in the September WEO). The gross borrowing requirement for 2012 amounts to about €375 billion. For the 3 years of 2012–2014, the total gross borrowing requirement is €1.02 trillion.

The subsequent rows report total debt outstanding, once again distinguishing old MLT debt from new, and identifying short-term debt. For MLT debt, the year-end level is simply the previous year's debt, minus amortization in the relevant debt category for the year in question, plus borrowing during the year in the category in question.

The benign outlook in the September 2011 WEO-based baseline suggests sustainability of the debt because of the gradual reduction in the debt to GDP ratio (from 122 % in 2012 to 113 % in 2016 and 110 % in 2020). Net debt declines from a peak of 101 % of GDP in 2012 to 91 % by 2020. Although there is a slight reduction in the interest burden (from a peak of 5.4 % of GDP in 2013 to 5.3 % in 2014 and thereafter, the interest burden is relatively high even at the end of the period. In comparison, for the G-7 as a group, interest payments on public debt in 2011 averaged only 2 % of GDP, and are projected to rise to just 2.9 % by 2016 (IMF 2011a).

As noted, in its January 2012 updates the IMF projected more pessimistic outcomes for growth and fiscal performance than in its September baseline. It placed growth at -2.2% in 2012 and -0.6% in 2013, instead of 0.32% and 0.54% , respectively (IMF 2012a). The Fund projected the fiscal deficit at 2.8% of GDP in 2012 and 2.3% in 2013 (IMF 2012b) instead of 2.6% in 2012 and 1.2% in 2013 as in the September WEO. However, private sector growth forecasts anticipate growth of -1.2% in 2012 and 0.1% in 2013 (Consensus 2012). The Monti government's new fiscal program projects the fiscal deficit at 1.2% of GDP in 2012 and zero in 2013 (Tesoro 2011b). As a result, by end-2013 the cumulative deficit would be 3.9% of GDP smaller than in the January 2012 IMF projections, and 2013 GDP would be 1.7% larger.

As a consequence, the January 2012 IMF estimate for the 2013 ratio of debt to GDP, 126.6% of GDP (IMF 2012b), would be overstated by 3.9% of GDP in the numerator and understated by 1.7% in the denominator. Thus, if one applies private sector growth forecasts and the government's latest fiscal projections, the debt to GDP ratio would stand at 120.6% (applying the adjustments to the January 2012 IMF estimate for 2013). This level turns out to almost the same as projected in the IMF's September 2011 WEO (see Table 1). On this basis, the analysis here simply uses that baseline as the reference path rather than adopting the more pessimistic outlook in the January 2012 IMF updates.

2 Impact of Higher Interest Rates

The projections are considerably less favorable if the high interest rates of November 2011 are assumed to return and persist. In the high interest rate (HIR) scenario shown in Table 2, the interest rate block places the rate for new long-term debt at 7.5 %, and for short-term debt at 6.5 %. All other assumptions of the model, including for growth and the primary surplus, remain unchanged. (Table 2 reports only the elements of Table 1 that are changed in the high-interest scenario.)

As shown in the third row of Table 2, the effect of higher interest rates is to reduce substantially the improvement in the debt to GDP ratio achieved in the benign baseline. Thus, the debt ratio by 2020 stands at 118 % of GDP, a modest improvement from 122 % in 2012 but considerably higher than the 110 % reached in the baseline. The net debt ratio shows almost no improvement, easing slightly from 101 % of GDP in 2012 to 99 % by 2020. There is a much higher interest burden, with interest payments rising from 5.2 % of GDP in 2012 to 6.9 % of GDP by 2020 instead of stabilizing at 5.3 % as in the baseline.

Suppose that Italy sought to stabilize the debt to GDP ratio at 110 %, the 2020 level in the benign baseline. With nominal GDP growth at 3 % (1 % real) and the interest rate at 7.5 %, the required long-term level of the primary surplus would be 5.0 % of GDP.¹² In principle, then, Italy could sustain public debt even at the high 7.5 % interest rate so long as it achieved a primary surplus not much higher than the target of 4.6 % of GDP in the IMF baseline (by 2016; Table 1). Even so, such a scenario would seem vulnerable to the risk of a self-fulfilling prophecy of unsustainability because market fixation on a still high debt ratio could cause further escalation in the interest rate, potentially causing a credit-rationing situation in which at some high interest rate the supply curve for capital would become backward-bending.

The bottom line is that if interest rates were to return to their late-November peak and persist at that level but rise no further, the result would be to thwart the bulk of the earlier potential progress in reducing Italy's debt ratio over the medium-term, but not to provoke further increases in the debt ratio so long as fiscal adjustment targets were met (indeed there would still be a modest decline).¹³ The

¹² The debt-ratio-stabilizing primary surplus as a percent of GDP is: $\pi = \lambda (r - g)$, where $\lambda = \text{debt}/\text{GDP}$, r is the interest rate, and g is the nominal growth rate; see Cline (2010).

¹³ A somewhat more optimistic conclusion is reached by Banca d'Italia (2011: 14–15). In its baseline the debt to GDP ratio declines from 120.5 % in 2011 to 112.5 % by 2014. In its simulation increasing the interest rate on new borrowing by 250 basis points, there is still a decline in the debt ratio to 115.5 % of GDP by 2014. The difference reflects a more optimistic fiscal baseline (overall surplus of 0.2 % of GDP by 2014 instead of a deficit of 0.8 %, Table 1), and higher projected growth (an average of 0.9 % annually in 2012–2014 versus 0.55 %). The incremental impact of the higher interest rate scenario is broadly consistent with, albeit somewhat stronger than, that found here. A 2.5 % increase in the interest rate on new borrowing boosts the debt/GDP ratio by 2.9 % of GDP by 2014. In comparison, in the calculations here, an increase in the new borrowing interest rate by 1.7 % point above its baseline average of 5.4 % (MLT and

downside risk to a fragile sustainability of this nature would be that interest rates (and thus debt) would instead spiral further upwards because of a vicious circle of growing market anxiety about an excessive debt level.

3 Impact of a Lower Primary Surplus

Table 3 reports the results of reverting to the benign interest rates of the WEO baseline but placing a ceiling on the primary surplus at 2.5 % of GDP. In this case the debt to GDP ratio stays virtually unchanged over the decade, ending at 123 % of GDP in 2020. The lower primary surplus thus has a more damaging effect than that in the scenario for higher interest rates. (Again, all elements not reported in Table 3 remain unchanged from the values shown in Table 1.)

Finally, Table 4 shows the effect of an adverse combination of interest rates and primary surplus. The interest rates are at their late-2011 high levels throughout (same as in Table 2), and the primary surplus does not surpass 2.5 % of GDP (same as in Table 3). The result is a severe worsening in the debt problem. The ratio of gross debt to GDP reaches 132 % by 2020.

Figure 2 shows the trends in the four debt indicators for the four scenarios. The graph of the debt to GDP ratio confirms at a glance the contrast between significant improvement in the benign baseline; much less improvement in the high interest case and stagnation in the low primary surplus case; and escalation to a substantially worse debt burden if high interest rates and the low primary surplus occur jointly. The same pattern is broadly shown by the net debt ratio. The amortization rates are much more similar across the cases but begin to show the corresponding dispersion toward the end of the period. Importantly, the interest burden of the debt shows substantial escalation of the debt burden even in the high-interest-only (HIR) case, and is the worst in the joint HIR and low primary surplus case (HIRLPS). The interest burden rises slightly in the low primary surplus case, and as noted above, even in the benign base case the interest burden over time remains almost unchanged at a relatively high level.

4 Risk of a Liquidity Squeeze

Even at its peak levels, the interest rate shock to Italian public debt that occurred in the fourth quarter of 2011 would not necessarily be fatal to Italy's debt sustainability. Basically if it persisted it would prevent much of the improvement that

(Footnote 13 continued)

short-term weighted average) raises the debt/GDP ratio by 1.2 % of GDP by 2014. The difference reflects the Bank of Italy's use of summary elasticities of outlay with respect to the interest rate, in contrast to actual application to new borrowing projections in Table 2.

Table 2 Public debt projections, Italy, high interest rate scenario (billion euros and percent)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Primary surplus (percent of GDP)	0.5	2.6	4.1	4.5	4.5	4.6	3.5	3.5	3.5	3.5
Fiscal deficit (percent of GDP)	4.5	2.7	1.6	1.5	1.6	1.7	2.9	3.1	3.2	3.4
Debt (percent of GDP)	121	122	121	119	118	116	116	117	117	118
Net debt (percent of GDP)	100	101	101	100	98	97	97	98	98	99
Interest payments (percent of GDP)	5.0	5.3	5.8	6.0	6.1	6.3	6.4	6.5	6.7	6.9
Amortization (percent of GDP)	22.6	20.1	18.6	17.5	18.3	15.6	16.3	15.2	16.9	16.4
Primary surplus	8.5	42.6	68.7	75.7	78.6	82.8	64.5	66.2	67.9	69.7
Total deficit = net borrowing	71.1	43.7	26.7	26.1	28.7	30.5	53.6	58.7	63.4	69.2
Amortization	359.3	325.0	309.0	297	321.2	283.1	302.8	290.1	330.4	329.5
MLT, new		0.0	24.4	42.8	57.7	74.2	85.4	100.1	112.5	128.2
Gross borrowing requirement	454.1	376.1	339.8	323.8	354.1	318.1	363.8	356.2	401.2	406.1
MLT	248.2	244.4	208.1	192.1	222.4	186.4	232.1	224.5	269.5	274.4
ST	205.8	131.7	131.7	131.7	131.7	131.7	131.7	131.7	131.7	131.7
Debt, EOY	1924.2	1975.3	2006.0	2032.9	2065.8	2100.7	2161.7	2227.8	2298.6	2375.2
MLT, new	0.0	244.4	428.0	577.3	741.9	854.1	1000.8	1125.2	1282.2	1428.4
Interest rate										
MLT, new		0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075
ST	0.04	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065
Implied overall rate	0.043	0.045	0.048	0.051	0.053	0.055	0.056	0.058	0.059	0.06
Net interest payments	79.6	86.3	95.3	101.9	107.3	113.4	118	124.9	131.3	138.9
MLT, pre-2012	80.5	84.2	75.2	68.0	62.2	56.0	52.4	48.4	45.6	41.6
MLT, new		0.0	18.3	32.1	43.3	55.6	64.1	75.1	84.4	96.2
ST	5.2	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
Net debt, EOY	1596.4	1640.1	1666.8	1692.9	1721.5	1752.1	1805.7	1864.4	1927.8	1997

MLT = medium- and long-term; ST = short-term; EOY = end of year

Source: Author's calculations

Table 3 Public debt projections, Italy, low primary surplus scenario (billion euros and percent)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Primary surplus (percent of GDP)	0.5	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Fiscal deficit (percent of GDP)	4.5	2.6	2.9	2.9	3	3.1	3.2	3.3	3.3	3.4
Debt (percent of GDP)	121	122	122	122	122	121	122	122	123	123
Net debt (percent of GDP)	100	101	102	102	102	102	102	103	104	104
Interest payments (percent of GDP)	5.0	5.2	5.4	5.4	5.5	5.6	5.7	5.8	5.8	5.9
Amortization (percent of GDP)	22.6	20.1	18.6	17.6	18.6	16.0	16.8	15.7	17.4	16.9
Primary surplus	8.5	42.6	41.4	42.5	43.8	45.3	46.5	47.7	48.9	50.2
Total deficit = net borrowing	71.1	41.7	47.4	49.2	52.3	56.1	59.0	62.3	65.4	69.0
Amortization	359.3	325	308.8	298.8	325.3	289.6	311.9	299.7	340.4	339.7
MLT, new	0.0	0.0	24.2	44.7	61.9	80.7	94.5	109.7	122.5	138.4
Gross borrowing requirement	454.1	374.1	360.3	348.7	381.9	350.2	378.4	369.4	413.2	416.2
MLT	248.2	242.4	228.6	217.0	250.2	218.5	246.7	237.7	281.5	284.5
ST	205.8	131.7	131.7	131.7	131.7	131.7	131.7	131.7	131.7	131.7
Debt, EOY	1924.2	1973.3	2024.8	2074.6	2131.2	2191.7	2258.1	2327.8	2400.7	2477.1
MLT, new	0.0	242.4	446.8	619.1	807.4	945.1	1097.3	1225.2	1384.2	1530.2
Interest rate										
MLT, new		0.06	0.058	0.055	0.056	0.057	0.057	0.057	0.057	0.057
ST	0.04	0.05	0.048	0.045	0.046	0.047	0.047	0.047	0.047	0.047
Implied overall rate	0.043	0.044	0.045	0.045	0.046	0.048	0.048	0.049	0.049	0.05
Net interest payments	79.6	84.3	88.8	91.7	96.1	101.4	105.5	110.0	114.4	119.3
MLT, pre-2012	80.5	84.2	75.2	68.0	62.2	56.0	52.4	48.4	45.6	41.6
MLT, new		0	14.1	24.6	34.7	46.0	53.9	62.5	69.8	78.9
ST		5.2	6.6	6.3	6.1	6.2	6.2	6.2	6.2	6.2
Net debt, EOY	1596.4	1638.1	1685.5	1734.7	1787.0	1843.1	1902.1	1964.4	2029.8	2098.9

MLT = medium- and long-term; ST = short-term; EOY = end of year

Source: Author's calculations

Table 4 Public debt projections, Italy, high interest rate and low primary surplus scenario (billion euros and percent)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Primary surplus (percent of GDP)	0.5	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Fiscal deficit (percent of GDP)	4.5	2.7	3.3	3.6	3.9	4.2	4.4	4.7	5	5.3
Debt (percent of GDP)	121	122	123	123	124	124	126	128	130	132
Net debt (percent of GDP)	100	101	102	103	104	105	107	109	111	113
Interest payments (percent of GDP)	5.0	5.3	5.8	6.1	6.4	6.7	6.9	7.2	7.5	7.8
Amortization (percent of GDP)	22.6	20.1	18.6	17.6	18.7	16.2	17.1	16.1	17.9	17.6
Primary surplus	8.5	42.6	41.4	42.5	43.8	45.3	46.5	47.7	48.9	50.2
Total deficit = net borrowing	71.1	43.7	53.9	61.4	68.1	75.7	82.6	90.4	98.0	106.8
Amortization	359.3	325.0	309.0	299.7	327.4	293.3	317.6	307.7	351.1	353.8
MLT, new	0.0	0.0	24.4	45.5	64.0	84.4	100.1	117.7	133.3	152.5
Gross borrowing requirement	454.1	376.1	367.0	361.7	399.8	373.5	407.6	405.5	456.5	468.0
MLT	248.2	244.4	235.3	230.0	268.1	241.8	275.9	273.8	324.8	336.3
ST	205.8	131.7	131.7	131.7	131.7	131.7	131.7	131.7	131.7	131.7
Debt, EOY	1924.2	1975.3	2033.3	2095.3	2167.7	2247.8	2337.9	2435.7	2541.0	2655.2
MLT, new	0.0	244.4	455.2	639.8	843.9	1001.2	1177.0	1333.1	1524.6	1708.4
Interest rate										
MLT, new	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075
ST	0.04	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065
Implied overall rate	0.043	0.045	0.048	0.051	0.053	0.056	0.057	0.059	0.06	0.062
Net interest payments	79.6	86.3	95.3	103.9	112.0	121.0	129.1	138.1	146.9	157.1
MLT, pre-2012	80.5	84.2	75.2	68.0	62.2	56.0	52.4	48.4	45.6	41.6
MLT, new		0.0	18.3	34.1	48.0	63.3	75.1	88.3	100.0	114.3
ST	5.2	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
Net debt, EOY	1596.4	1640.1	1694.0	1755.3	1823.5	1899.2	1981.8	2072.2	2170.2	2277.0

MLT = medium- and long-term; ST = short-term; EOY = end of year

Source: Author's calculations

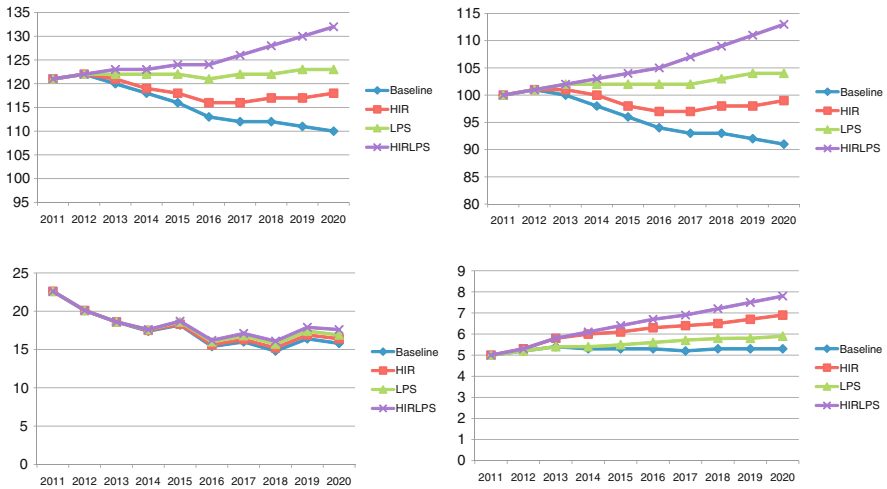


Fig. 2 European debt simulation model, Italy (with short-term debt, as of end-September, 2011)

otherwise would have occurred in the debt indicators as a consequence of fiscal adjustment aimed at a primary surplus over 4 % of GDP. However, at such interest rates, on the order of 7.5 %, there could be liquidity problems even if it were judged that Italy remained solvent at a debt ratio of slightly below 120 % that did not escalate over time. The fragile condition of the financial market for European sovereign debt in the wake of the Greek haircuts and the specter of possible exit of some economies from the euro means that it could prove difficult to avoid an upward escalation of the interest rate beyond late-November levels and even a failure to roll over debt coming due.

Monthly redemptions of short-, medium-, and long-term debt, which were €30.6 billion in November and €22.5 billion in December, eased temporarily to €15.2 billion in January, but then will surge to €53.1 billion in February and €44.2 billion in March (Tesoro 2011a). In the absence of a major policy change, it seems unlikely that ECB purchases through its Securities Markets Program (SMP) could provide a major part of the demand for the rollover financing. After virtually no net purchases in May through July, 2011, ECB net purchases in the program reached an average of €33 billion monthly in August–November 2011. However, the average fell to only about €7 billion in December 2011 and January 2012.¹⁴ Even if the ECB were to return to the higher pace of purchases in August–November, with Italy accounting for 57 % of total debt of the five troubled periphery economies (IMF 2011a), its share in the purchases would amount to no

¹⁴ Based on amounts outstanding in the weeks ending April 29, 2011 (€76 billion), July 29 (€74 billion), December 2 (€206.5 billion), and January 20, 2012 (€219 billion). ECB, *Weekly Financial Statements*, press releases. Available at www.ECB.int.

more than €20 billion monthly, far below the February and March amortization totals.¹⁵ Moreover, the ECB has emphasized that it sees even its recent SMP purchases as temporary, and has signaled strongly that it is not prepared to engage in much larger and prolonged purchases.

5 Conclusion

In terms of long-term solvency, Italy is not close to a precipice and could keep its debt ratio from escalating even if the recent peak interest rates on its debt (about 7.5 %) were to return and persist for a long time (but rise no higher). However, there is a considerable chance that Italy would face a severe liquidity squeeze under these circumstances. It thus behooves the official sector in Europe and internationally to move quickly to provide some credible lender of last resort vehicle in the immediate future. So far the October 26 pledge of leveraging the financing capacity of the European Financial Stability Facility (EFSF) and alternative proposals of launching euro area bonds jointly or with partial guarantees have bogged down.

The December 9 EU commitment to lend €200 billion to the IMF, to be supplemented by lending from other countries (especially emerging market economies with large reserves) was a useful first step toward building a firewall. Similarly, the ECB's large package of 3-year lending to the banks at end-2011 helped ease sovereign borrowing conditions. Nonetheless, further steps to expand the EFSF (and its successor European Stability Mechanism, ESM) or launch eurobonds should be pursued promptly, without lengthy procedural delay for institutional change. Constructing a credible lender of last resort would reinforce the momentum of recent improvement in Italian spreads, and go a long way to ensuring that a liquidity crisis does not provoke an Italian moratorium and thereby inflict severe damage on the Italian, euro-area, and world economies.

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¹⁵ Note further that the ECB's SMP purchases are on the secondary market. Nonetheless, their effect should be broadly comparable to purchases in initial auctions.

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Author Biography

William R. Cline has been a senior fellow at the Peterson Institute for International Economics since its inception in 1981. During 1996–2001, while on leave from the Institute, he was deputy managing director and chief economist of the Institute of International Finance. He is the author of 24 books, including *Financial Globalization*, *Economic Growth*, and *the Crisis of 2007–2009*. He is the coeditor of *Resolving the European Debt Crisis* (forthcoming 2012).

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EMU Sovereign Spreads and Macroeconomic News

Daniela Arru, Davide Iacovoni, Libero Monteforte
and Filippo Maria Pericoli

Abstract We investigate the link between macroeconomic news and sovereign spreads in the euro area at weekly frequency. Our focus lies in the role played by macroeconomic announcements. To this aim we augment a standard GARCH model with a synthetic measure for macroeconomic surprises obtained by aggregating deviations between data releases and market expectations on a set of indicators chosen for being closely watched by economic analysts and financial operators. We find that the dissemination of macroeconomic data on the US economy affects the level of sovereign spreads, i.e. the better the news the lower the spreads. Moreover, in many cases the dissemination of bad news on the euro area economy affects negatively the volatility, i.e. the worse the news the higher the volatility.

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1 Introduction

In recent years the issue of government bond spreads has received increasing attention. This can be, at least partially, motivated by the dramatic worsening of public finances and the surge in public debt stocks following the financial crisis and the recession that hit the real economy on a global scale. As a consequence, at the level of stock imbalances currently reached, even a small increase of interest rates paid on government bonds implies a significant loss of public resources.¹

The behavior of sovereign spreads has been also largely analyzed by the literature. During the last twenty years several works have investigated the determinants of sovereign bond yield differentials, but less work has been produced on the effects of macroeconomic announcements. This is at odds with the recent increasing interest among financial operators for the role played by macroeconomic fundamentals, especially after the financial crisis. In particular, market participants look in continuous time the news (the difference between data releases and market expectations) in order to translate as fast as possible these innovations in the portfolio composition. Currently many investment banks produce some indicator of macroeconomic news and publish them in their newsletters but there are no papers showing their relevance on government bond markets.

The literature before the introduction of euro was marked by contributions by Alesina et al. (1992), Favero et al. (1997) and Lemmen and Goodhart (1999). They conclude that the discrimination among sovereign bonds depends mainly on two factors that are identified respectively in the risk of exchange rate devaluation and the risk of default originated by the possibility that a sovereign state may be not able to reimburse its debt. According to these seminal contributions, sovereign spreads are mainly attributable to investors demands for risk premia.

The introduction of the euro, having substantially removed the risk of an exchange rate devaluation, has been accompanied by a significant tightening of sovereign spreads. Nonetheless, discrimination across sovereign bonds persisted to a very limited extent in the period following the constitution of the currency area but in the aftermath of the financial crisis sovereign spreads reached, for some euro area countries, historically high levels.

Contributions by Codogno et al. (2003) and by Geyer et al. (2004) find that global risk aversion, i.e. a global common factor, is the main determinant for euro area bond yield differentials and that country-specific factors have almost no relevance in explaining sovereign spreads dynamics. Public debt affects yields only during periods of increased global risk aversion, while liquidity factors, i.e. the extent of transaction costs implied by a specific market microstructure, play only a minor role.

Beber et al. (2009) and Favero et al. (2010) try to disentangle the relevance of default and liquidity risks in driving sovereign spreads. The former paper finds that

¹ The views expressed in this paper are those of the authors and do not involve the responsibility of the institutions to which they belong.

credit quality has the main explanatory power but the degree of liquidity of government bonds gains relevance during periods of low aggregate liquidity or in times characterized by high volatility in equity prices or in interest rates. The latter finds that the risk of default of a sovereign state is, as in Codogno et al. (2003), amplified by an international aggregate risk factor thus originating a 'principal component' shared by all euro area countries. The risk of illiquidity reflects idiosyncratic aspects of national sovereign bond markets but interacts negatively with the risk of default. An increase in the aggregate risk factor decreases liquidity premia thus reduces the impact of liquidity factors on sovereign spreads.

The widening of spreads since 2009 has spurred a renewed attention in the literature that has focused on the determinants of spreads inside the euro area. Many papers have analyzed how the pattern of sovereign spread determination changed during the financial and economic crisis. These works have recognized that after the failure of Lehman Brothers, issuer countries have been more strongly differentiated by investors, on the basis of the state of their fiscal imbalances and macroeconomic fundamentals. For instance, besides the major role played by the global risk aversion, Barrios et al. (2009) find that the combination of high risk aversion and fiscal/macroeconomic imbalances tends to increase the yields demanded by investors. This fact occurred mainly on the public bonds side, due to many factors such as the losses generated by bailout plans financed by governments, the rise of deficit induced by countercyclical discretionary fiscal policies and the high level of public debt reached in some euro area countries. Along the same line of analysis, Haugh et al. (2009) find supportive results as regards the relevance of fiscal imbalances during periods of increased global risk aversion. A strengthening in the market discipline during the financial crisis has been confirmed by the works of Mody (2009), Manganelli and Wolswijk (2009) and Schuknecht et al. (2010) where it is argued that markets are demanding more fiscal discipline to governments through higher credit risk premia. Lastly, Caceres et al. (2010) find that during the financial crisis the widening of spread is motivated not only by an increased global risk aversion, but also by the contagion of the sovereign debt crisis among euro area countries. To sum up, the main results are that, at least in the long run, observed spread dynamics can be largely explained by the following three main factors: the risk of default, the degree of liquidity of the government bond market and the attitude toward risk of international investors, i.e. global risk aversion. Moreover, many empirical analyses have shown that what matters is the interaction between idiosyncratic factors-specific to each country and global risk aversion, and that this is the reason why the contemporaneous correlation of interest rate spreads is quite high. As a consequence, in many applied studies a single common factor can explain a large part of observed dynamics in interest rate spreads of high-yields countries. This empirical evidence motivates those analyses attempting to understanding the nature of this common global factor and its interactions with others macroeconomic phenomena.

The recent euro area debt crisis, has dramatically increased the level and the dispersion of bond yields. An updated and fully fledged analysis of the macroeconomic determinants of the sovereign risk premia is in Di Cesare et al. (2012).

They find that the differentials on peripheral bond yields versus German bund are only partially explained by fundamentals and they provide empirical estimates on the levels consistent with macroeconomic factors. In light to rationalize their results they also propose to consider the insurgence of new factors, including the perceived risk of a break-up of the euro area.

Another strand of literature inspect the effect of news and announcements. Afonso and Strauch (2004) show that sovereign spreads are temporarily affected by fiscal policy announcements made by of euro area policy makers and Attinasi et al. (2009) concentrate on the impact of announcements on bank rescue packages. In this work we consider a different issue, as we concentrate on the role played by macroeconomic news on high frequency trading. An analysis on the impact of macroeconomic news on euro area government bond markets is missing, while the relevance of the news on asset prices and on exchange rates has already been tackled by Andersen et al. (2007) and Faust et al. (2007).

We then investigate the impact of macroeconomic data dissemination on EMU sovereign spreads. To this aim we construct weekly synthetic indicators of macroeconomic news for the euro area, United States and Japan as well as a global indicator for the world economy aggregating the news related to a set of statistical indicators chosen for their relevance in driving market confidence. We consider as news the pure surprise defined as the difference between a macroeconomic data release and the related market expectation. Our sampling frequency includes a minimal number of news-related events per period and at the same time reduces the extent of the temporal aggregation bias that would affect parameter estimates at lower frequencies. We propose a standard EGARCH model, where our news indexes are explicitly introduced, jointly with financial measures of risk factors. Our model is specified in order to insulate the effects of the diffusion of new data, therefore we need high frequency estimates and financial determinants. For there reasons our results should be interpreted in terms of short term trading effects of the news and should not be read referring to macroeconomic fundamentals.

The main stylized finding of this work is that the level and volatility of EMU sovereign spreads are both affected by US and European macroeconomic news. We find that the dissemination of better-than-expected data on the US economy affects negatively the levels, i.e. the better the news the lower the spreads. Moreover, bad surprises on the euro area economy affects negatively the volatility, i.e. the worse the news the higher the volatility.

The work is organized as follows: in paragraph 2 we illustrate the dataset, in paragraph 3 we describe the methodology followed for obtaining our proxies for macroeconomic news disseminated on the market, in paragraph 4 we present the model, in paragraph 5 we report the empirical evidence obtained from the econometric analysis, and paragraph 6 concludes.

2 The Spreads

We analyze sovereign spreads dynamics in the period 2005–2011 for Belgium, Greece, Ireland, Italy, Portugal and Spain.² This is a set of euro area countries characterized by a rapid and persistent increase of spreads level and volatility in the period following the financial crisis, even if on a different degree and magnitude. We follow the standard convention of defining sovereign spreads as the differences between national interest rates paid on government 10 years bonds and the corresponding interest rate paid for 10 years bonds issued by the Federal Republic of Germany. In the first part of the sample sovereign spreads have remained to historically low levels while, starting with the last quarter of 2008, the collapse of Lehman Brothers led to a significant widening of spreads for the set of countries included in the analysis, that became even larger with the worsening of the euro sovereign debt crisis. A simple inspection of data (see Figs. 1 and 2) reveals that sovereign spreads are characterized by a high degree of persistency and are clearly nonstationary.

As a first step of the empirical analysis, we have investigated over the order of integration of sovereign spreads by implementing the Augmented Dickey-Fuller (1979) and the Philips-Perron (1988) tests. From the p-values associated to the null hypotheses of the tests (Table 1) implemented on levels and on the first-order difference of the time series, we conclude that for all the six countries included in the analysis sovereign spreads are $I(1)$. This calls for an econometric specification where the variable of interest is the first-order difference of sovereign spreads that therefore is $I(0)$, i.e. a stationary process. From Figs. 1 and 2 it is also evident that weekly changes in sovereign spreads are characterized by the presence of volatility clusters, a quite common feature in the case of financial time-series, where periods of high (low) volatility are followed by periods of high (low) volatility. This evidence has led us to a GARCH model, which allows the modelling of volatility patterns observed on financial markets (Engle 1982 and Bollerslev 1986).

3 Macroeconomic News

This work focuses on the impact of macroeconomic data dissemination on government bond markets. In this section we describe the procedure followed to measure the news component embedded in these data releases. As a first step of the analysis, we have identified a set of indicators for macro-areas (United States, euro area, Japan and World), that are considered to be the most influential in driving the mood of investors on financial markets. The definition of the set of indicators largely reflects the classification made by the website of the exchange rate traders

² For a complete description of the sources of data on sovereign spreads as well of other time series in the foregoing analysis, see Appendix.

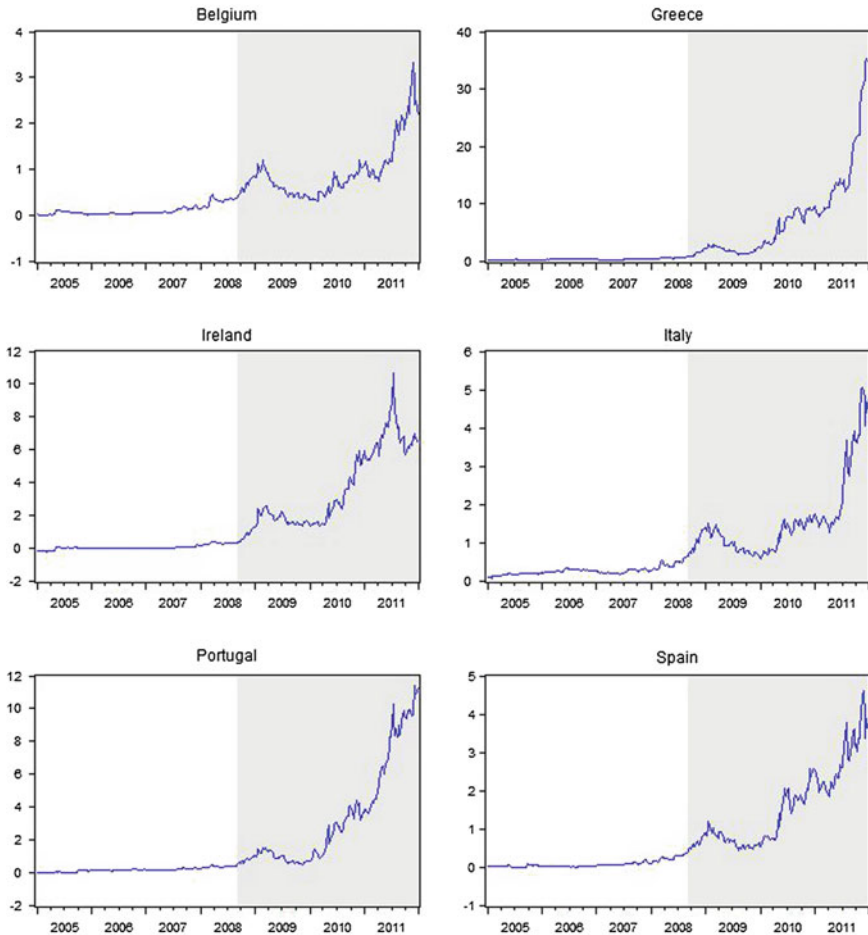


Fig. 1 Ten year sovereign spreads-levels, weekly data

community www.forexfactory.com, where economic news are classified as of “high”, “medium” and “low” impact on the market. Following these criteria, for the euro area we have chosen the following seven indicators which are closely watched by financial and economic operators and cover the main aspects of the business cycle: the flash estimate of the consumer price index released by Eurostat, the indicator of expected economic growth in the euro area released by ZEW (Centre for European Economic Research), the indicator of new orders in the manufacturing sector for industries of the euro area released by Eurostat, the volume of retail sales in the euro area, released by Eurostat, and the confidence indicator for consumers of the euro area released by the European Commission, the industrial production index released by Eurostat and the trade balance released by Eurostat. Similarly, for the United States we have considered the following monthly indicators: the level of nonfarm payroll employment, released by the

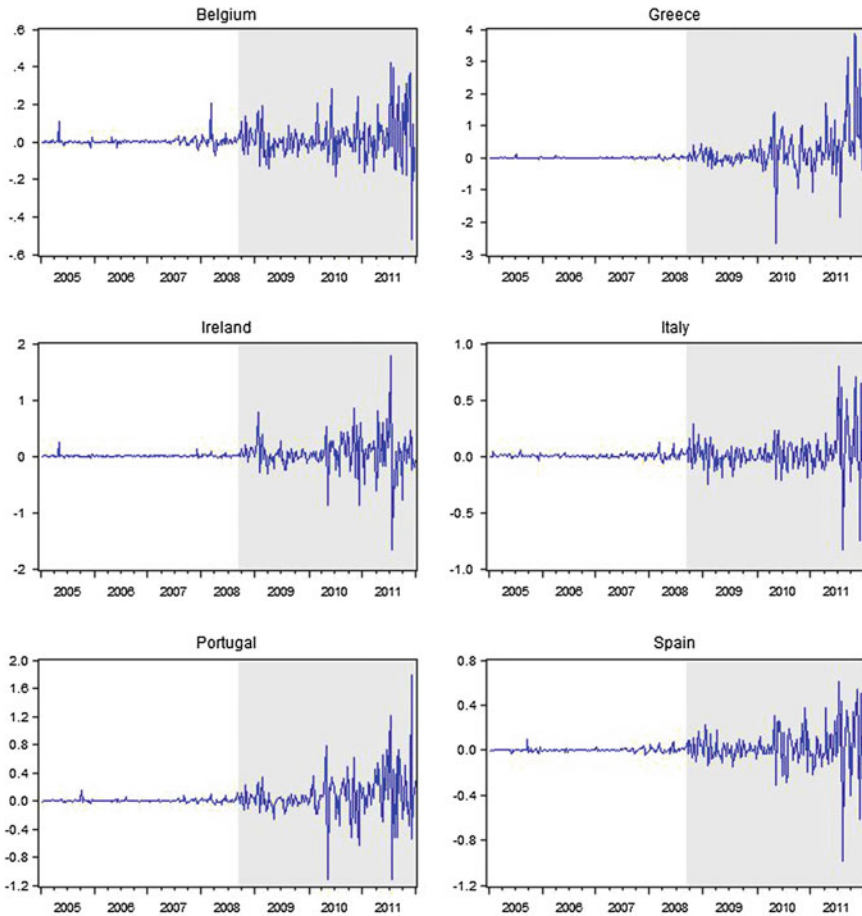


Fig. 2 Ten year sovereign spreads-changes, weekly data

Bureau of Labor Statistics, the volume of core retail sales (excluded autos) released by the Census Bureau, the Purchasing Managers Index (PMI) indicator in the manufacturing sector released by the Institute for Supply Management, the volume of new orders of core durable goods (excluded new orders in the transportation sector) released by the Census Bureau, the index of industrial production released by the Federal Reserve, the number of housing starts released by the Census Bureau, the trade balance released by the Bureau of Economic Analysis and the consumer confidence indicator released by the Conference Board. For Japan, we have selected the industrial production index released by the Ministry of Economy, Trade and Industry, the index of machinery orders released by the Cabinet Office, the trade balance released by the Ministry of Finance, the consumer price index released by the Statistics Bureau and the consumer confidence indicator released by the the Cabinet Office. Lastly, it has been computed a global

Table 1 Unit root tests

	Intercept	Trend	ADF	PP
<i>Sovereign spreads</i>				
Belgium	Yes	No	0.97	0.98
Greece	Yes	No	1.00	1.00
Ireland	Yes	No	0.97	0.95
Italy	Yes	No	1.00	1.00
Portugal	Yes	No	1.00	1.00
Spain	Yes	No	0.98	0.91
<i>Δ(Sovereign spreads)</i>				
Belgium	Yes	No	0.00	0.00
Greece	Yes	No	0.00	0.00
Ireland	Yes	No	0.00	0.00
Italy	Yes	No	0.00	0.00
Portugal	Yes	No	0.00	0.00
Spain	Yes	No	0.00	0.00

indicator of news as weighted average of the indicators for United States, euro area and Japan.³

For each of these indicators, we computed the news, i.e. the discrepancy between the statistics released by the aforementioned institutions and the median value of the forecasts prevailing on financial markets and surveyed by Bloomberg. Moreover, given that units of measurement differ across economic variables, following Balduzzi et al. (2001) and Andersen et al. (2005) we converted these absolute news in standardized news.

In detail, let us denote by x_{it}^j the announced value on the i th macroeconomic indicator available for the j area (where $j = \{Euro, Usa, Japan, World\}$) at date t , by $Med(E(x_i))$ the median value of the empirical distribution of forecasts as surveyed by Bloomberg and by $\sigma_{x_i^j}$ its historical standard deviation. Then we have computed a synthetic indicator of standardized macroeconomic news ($News_t^j$) in the j area according to the following formula:

$$News_t^j = \sum_{i=1}^{n_j} \left[\frac{x_i^j - Med(E(x_i^j))}{\sigma_{x_i^j}} \right] \tag{1}$$

where as explained in the preceding paragraph, the indicators have been chosen for having a relevant effect on financial markets.⁴

³ In order to weight the news of each macro-area, we have employed data on Gross Domestic Product in purchasing power parities.

⁴ In Figs. 3, 4, 5, 6 we show the weekly series in relation to the business cycle as proxied by weekly changes of industrial production estimated by linear interpolation of monthly figures.

Moreover, we have discriminated between positive and negative standardized news in order to assess if there is an asymmetric market reaction following the dissemination of economic news. Thus we have computed indicators for good ($News_t^{j+}$) and bad news ($News_t^{j-}$) released at date t for area j according to the following formulas:

$$News_t^{j+} = I[x_t^j > Med(E(x_{it}^j))] \times News_t^j \tag{2}$$

$$News_t^{j-} = I[x_t^j < Med(E(x_{it}^j))] \times News_t^j \tag{3}$$

where $I[.]$ is the indicator function, i.e. a function that is equal to one if the condition inside square brackets is satisfied (when the announced value is greater than the median forecast or vice-versa) and is equal to zero otherwise (when the announced values is lower than the median forecast or vice-versa).⁵ Lastly, these standardized daily indicators have been converted to a weekly frequency by summing the standardized news registered in a given week.

As the indexes of macroeconomic news constitute the focus of our paper, we consider their principal statistical features. An inspection of data reveals that the timespan 2005–2011 can be ideally divided into two subsamples identified by the collapse of Lehman Brothers in September 2008. Indeed, this event deeply affected not only sovereign spreads, but also the state of the real economy, leading to a reduction in the degree of forecastability of main economic indicators. The US economy has been hit on average by slightly better-than-expected data in the first part of the sample (Fig. 3), while the opposite happened in the second part. This means that on average financial operators surveyed by Bloomberg have been pessimistic in the first subsample and optimistic in the second one. For the US economy it is thus evident a slight shift of the empirical kernel towards left (Figs. 7, 8, 9 and 10). More generally, in the second subsample the standard deviation of the news distribution has increased in all the macro-areas considered. This is likely due to the overall higher degree of uncertainty caused by the recession. The worst week in terms of unexpected figures has been experienced by the US economy in September 2008, when it has been registered an unforeseen drop in industrial production while for the euro area the reason for the minimum value of the index, recorded in January 2009 (Fig. 4), is the fall to record-lows level of the confidence indicator. Similarly, our indicator registers a big drop in Japan following the earthquake/tsunami in March 2011 (Fig. 5). From the empirical distribution of the

⁵ Note that by construction the indicator of good news is always greater or equal to zero, while the indicator of bad news is always lower or equal than zero. In order to simplify the interpretation of the results, in the following we consider the indicator of good news with its (positive) sign, while we consider the indicator of bad news in absolute terms, i.e. without its (negative) sign. By so doing an increase in the (regressor) indicator of bad news corresponds to a situation where operators and analysts are surprised by a state of the economy worse-than-expected.

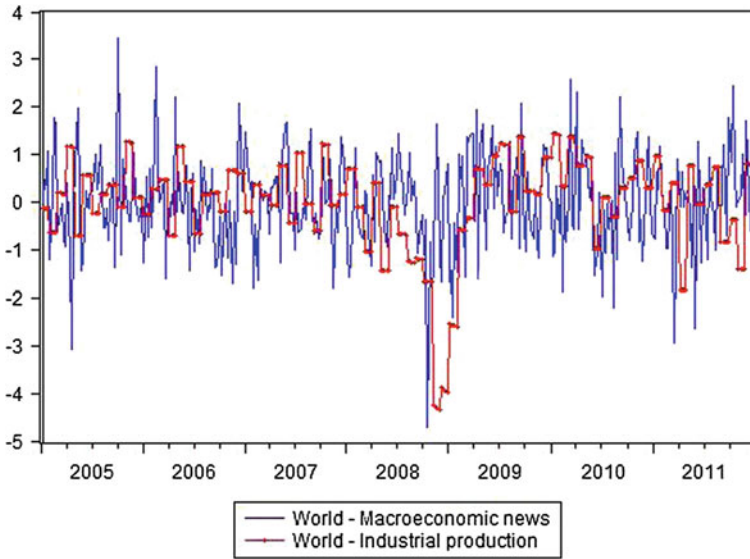


Fig. 3 World-indicator of news and the business cycle, weekly data

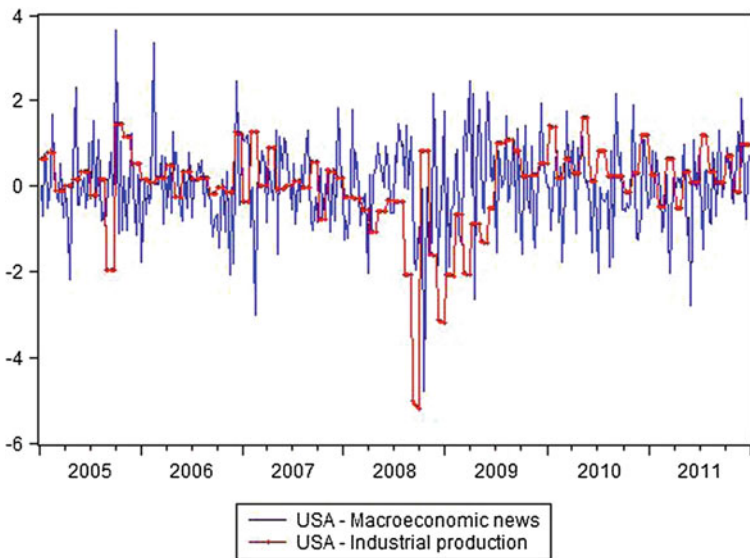


Fig. 4 US-indicator of news and the business cycle, weekly data

series it results that after the collapse of Lehman Brothers it has been recorded an increase in the dispersion of news, i.e. an increase in the degree of uncertainty affecting the business cycle. Lastly, an interesting feature of our series for surprises

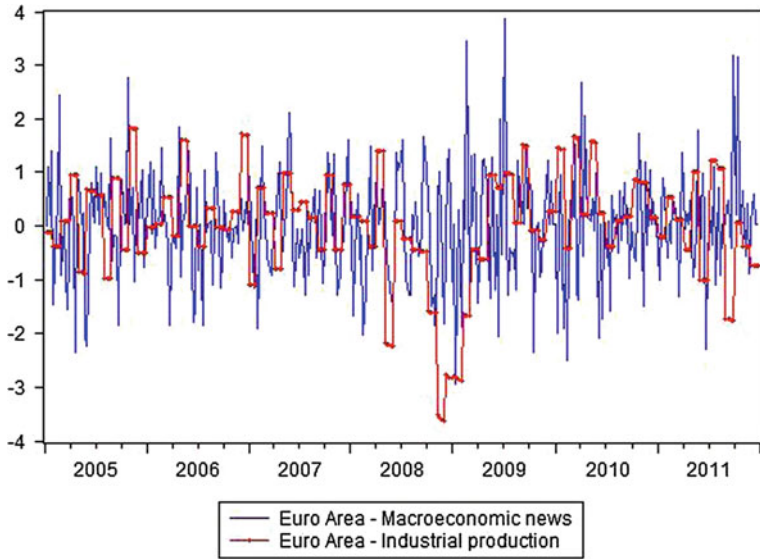


Fig. 5 Euro area-indicator of news and the business cycle, weekly data

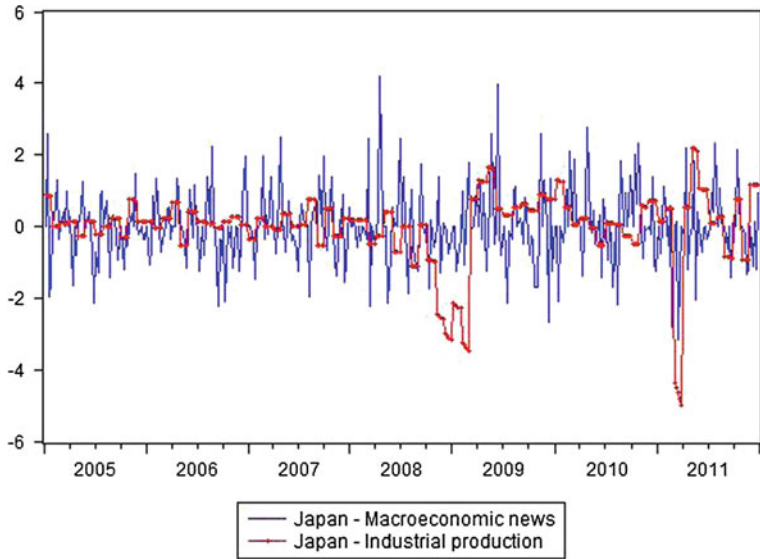


Fig. 6 Japan-indicator of news and the business cycle, weekly data

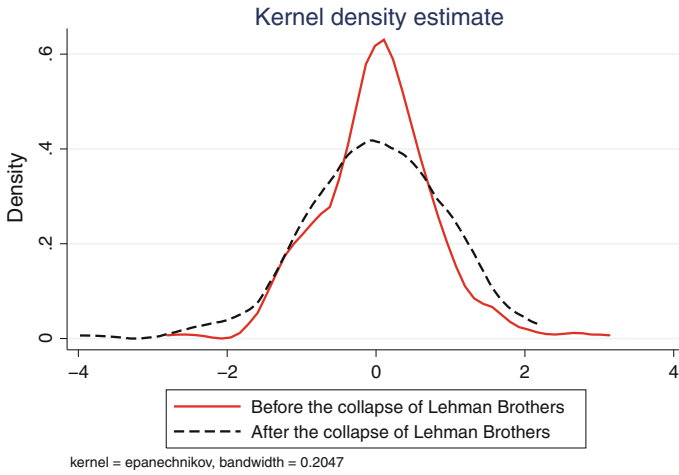


Fig. 7 World-empirical distribution of news

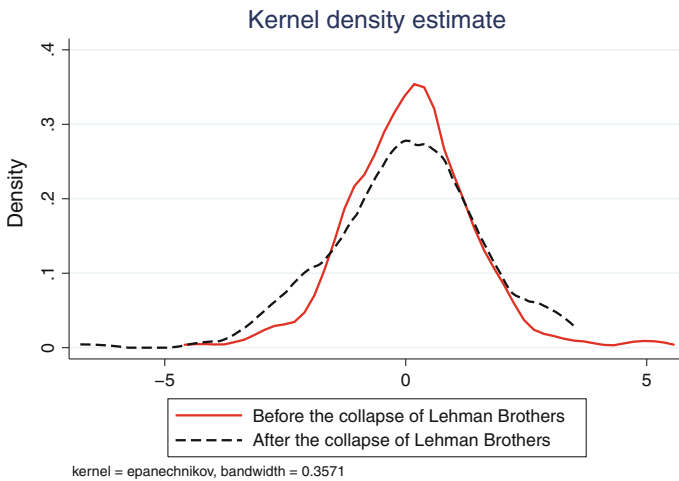


Fig. 8 US-empirical distribution of news

for the three macro-areas considered is that their are pairwise uncorrelated.⁶ Thus our indicators of surprises constitute true innovations, meaning that forecasts made on a given indicator rightly incorporate the information available for the remaining macro-areas.

⁶ The series for the World is a weighted average of the news indicators for the macro-areas and it is therefore correlated by construction.

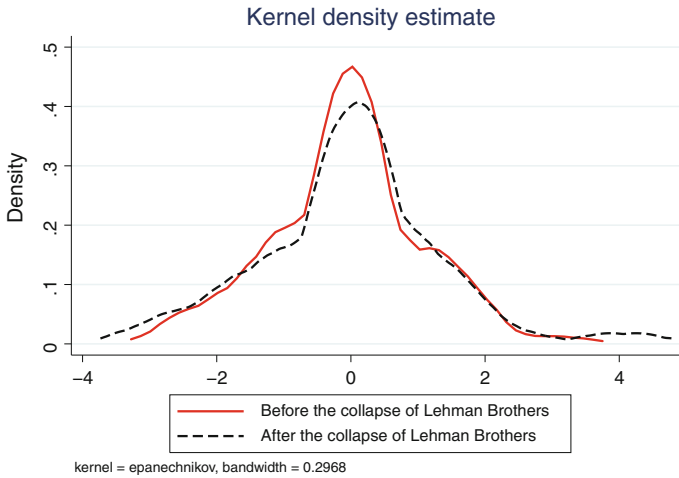


Fig. 9 Euro area-empirical distribution of news

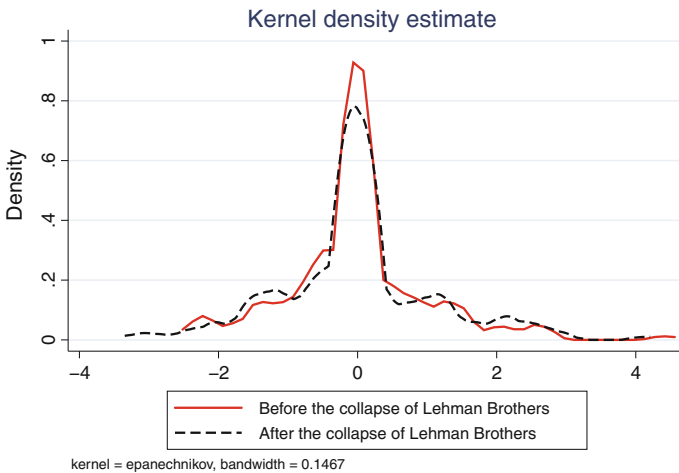


Fig. 10 Japan-empirical distribution of news

4 The Model

In order to capture the dynamics and volatility of sovereign spreads at weekly frequency, we have adopted as econometric specification, a slightly modified version of the Exponential Generalized Autoregressive Conditional Heteroskedastic Model (EGARCH thereafter) by Nelson (1991). In the proposed model the (stationary) first-order difference of sovereign spreads of a generic country (Δs_t) depends linearly on itself lagged up to the k th lag, on a set of m regressors

$(x_{1t}, x_{2t}, \dots, x_{mt})$ which include standard determinants that will be illustrated in the following paragraph, plus the measures of macroeconomic news introduced in the preceding paragraph. Modelling the spreads at weekly frequency we also consider financial determinants such as VIX and ITRAXX, that can capture in real time the changes in risk aversion. There is an issue of endogeneity of these indexes with the spreads, while the measures of news are exogenous. We therefore interpret our results mainly looking at the coefficients of the news. Our model has an error term (u_t) that is splitted into two components, which are respectively the conditional variance (h_t) and a white noise i.i.d. sequence (v_t):

$$\begin{aligned} \Delta s_t &= \beta_0 + \beta_1 \Delta s_{t-1} + \dots + \beta_k \Delta s_{t-k} + \beta_{k+1} x_{1t} + \beta_{k+2} x_{2t} + \dots + \beta_{k+m} x_{mt} + u_t \\ u_t &= \sqrt{h_t} \cdot v_t \end{aligned} \tag{4}$$

In turn, the logarithm of the conditional variance (h_t) evolves according to a EGARCH model and depends also on a set of regressors ($y_{1t}, y_{2t}, \dots, y_{lt}$) which are believed to affect the variance of the process, a set that includes the indicators for standardized macroeconomic news, while v_t is an i.i.d. sequence which follows the Generalized Error Distribution (GED thereafter), normalized to zero mean and unit variance:

$$\begin{aligned} \log(h_t) &= \alpha_0 + \alpha_1 \left| \frac{u_{t-1}}{\sqrt{h_{t-1}}} \right| + \gamma_1 \log(h_{t-1}) + \delta_1 y_{1t} + \delta_2 y_{2t} + \dots + \delta_l y_{lt} \\ f(v) &= \frac{v \cdot \exp[-(1/2)|v_t/\lambda|^v]}{\lambda^{[(v+1)/v]}(1/v)} \end{aligned} \tag{5}$$

where $\Gamma(\cdot)$ is the gamma function and λ is a constant given by:

$$\lambda = \left\{ \frac{2^{-2/v}(1/v)}{(3/v)} \right\}^{1/2} \tag{6}$$

The main advantage of this parametrization, with respect to other GARCH-type models, is that the variance of the process is constrained by construction to be positive regardless the results of the estimates. Moreover, the GED distribution includes as a particular case the normal standard distribution (if the GED parameter $v = 2$) but it can adapt to distributions characterized by thicker tails than the normal (if the GED parameter $v < 2$).

5 The Empirical Application

The model is estimated for Belgium, Greece, Ireland, Italy, Portugal and Spain using as determinants an autoregressive scheme, the Germany 10 year interest rate paid on government bonds, a dummy for the financial crisis, a proxy for global risk

aversion, the financial and the non-financial iTraxx indices, the VIX index of options volatility, national public debts and our indicators of macroeconomic surprises for the US economy and for the euro area.⁷ From the maximum-likelihood univariate estimates (see Table 2) of this EGARCH-type model it emerged statistical regularities as regards sovereign spread dynamics and volatility.

The first relevant point is that in all the six estimated models the GED parameter is much lower than two, which means that the normality assumption is rejected by data and our distributional hypothesis on the error component is justified.

Second, weekly sovereign spread changes are characterized by a remarkable degree of autocorrelation. Thus, starting from a general model with a sufficiently high number of lags, we have identified the maximum lag of the autoregressive terms entering the model for the conditional mean of the process. It turned out that in all the six countries it is sufficient to include just two lags in order to remove any significant autocorrelation left in estimated residuals. According to our estimates, an increase in sovereign spreads in a given week is associated to further increases in the following week, a phenomenon that is only partially reverted after two weeks and vanishes in the third week.

Another empirical finding is that during periods of increasing international interest rates, here summarized by an increase in the long-term interest rate on government bonds issued by the Republic of Germany, the rise of interest rates is only partially transmitted to the countries here considered, bringing about a decrease in sovereign spreads but this effect holds true only when spreads reach a certain threshold, i.e. in the period following the financial crisis. This effect is estimated by including in the model the Germany's interest rate interacted with a dummy variable that is equal to one after the collapse of Lehman Brothers and 0 otherwise ($\Delta R_{ger} \times Dummy_{crisis}$). It turns out that this term is always negative and strongly significant. However the extent of the transfer is variable from country to country, varying from around 75 % in the case of Ireland, to below 60 % for Italy.

We have also included the degree of riskiness of the real and financial sectors of the European economy measured by the non-financial and financial iTraxx indices.⁸ It emerges that the non-financial index affects positively sovereign spreads while the financial index has an opposite effect. This means that a worsening of the real side of the European economy implies a widening of sovereign spreads, likely due to the lower degree of sustainability of public finances associated to a worsening business cycle. In other terms, there exists a spillover of the riskiness from the real to the public sector of the economy. On the opposite, an increase in the degree of riskiness of the financial side of the economy lowers, *ceteris paribus*,

⁷ Data on weekly public debt to GDP ratios have been estimated by linear interpolation of quarterly data. For a complete description of the data see Appendix.

⁸ The iTraxx is a credit default swap index measuring the price required to hedge against the average risk implied by investment in a set of European stocks.

Table 2 EGARCH models

	Belgium	Greece	Ireland	Italy	Portugal	Spain
ΔS	<i>Spread equation</i>					
Constant	-0.00193 (0.00143)	0.01304*** (0.00232)	0.01099*** (0.00203)	0.00647* (0.00366)	0.00793*** (0.00159)	0.00371** (0.00168)
$\Delta S(-1)$	0.07832*** (0.02284)	0.14320*** (0.02633)	0.15764*** (0.02117)	0.07622** (0.03038)	0.19525*** (0.02256)	0.13067*** (0.02923)
$\Delta S(-2)$	-0.08670*** (0.02478)	-0.10959*** (0.02707)	-0.03190* (0.01877)	-0.13680*** (0.02994)	-0.07189*** (0.01802)	-0.17205*** (0.02660)
$\Delta GR_{USA(-1)}$	0.02237*** (0.00647)	0.02726** (0.01337)	0.02598*** (0.00590)	0.02813** (0.01381)	0.01570** (0.00858)	0.02517*** (0.00827)
$\Delta R_{GER} \times DU_{CRISIS}$	-0.26431*** (0.02875)	-0.41677*** (0.06153)	-0.23367*** (0.03104)	-0.42022*** (0.03358)	-0.34268*** (0.05372)	-0.29932*** (0.03628)
$DEBT(-12) \times \Delta ITRAXX_{FIN}$	0.01034*** (0.00132)	0.01951*** (0.00289)	0.00849*** (0.00073)	0.01554*** (0.00221)	0.00890*** (0.00200)	0.01691*** (0.00127)
$\Delta ITRAXX_{NF}$	0.06085*** (0.01433)	0.12484*** (0.02461)	0.05945*** (0.00867)	0.10906*** (0.02524)	0.06293*** (0.01630)	0.04650*** (0.01491)
$\Delta ITRAXX_{FIN}$	-0.85287*** (0.11586)	-2.02885*** (0.31384)	-0.19354*** (0.01992)	-1.52931*** (0.23754)	-0.55265*** (0.13727)	-0.56409*** (0.04888)
ΔVIS	-0.00012 (0.00024)	-0.00072* (0.00041)	0.00045*** (0.00008)	-0.00081* (0.00043)	0.00037 (0.00028)	-0.00049* (0.00028)
$NEWS_{USA}$	-0.00044*** (0.00015)	-0.00305*** (0.00040)	-0.00021 (0.00014)	-0.00166*** (0.00046)	-0.00088*** (0.00024)	-0.00010 (0.00028)
$NEWS_{USA} \times DU_{CRISIS}$	-0.00322** (0.00137)	-0.00233 (0.00371)	-0.01009*** (0.00233)	-0.00021 (0.00210)	0.00066 (0.00269)	-0.00394** (0.00194)
$NEWS_{EUR}$	0.00006 (0.00022)	-0.00011 (0.00034)	-0.00010 (0.00012)	0.00157*** (0.00058)	-0.00011 (0.00027)	-0.00026 (0.00029)
$NEWS_{EUR} \times DU_{CRISIS}$	-0.00170	-0.00188	-0.00105	-0.00784***	-0.00357	-0.00153

(continued)

Table 2 (continued)

	Belgium	Greece	Ireland	Italy	Portugal	Spain
<i>TREND</i>	(0.00171) 0.00004* (0.00002) 0.00000 (0.00000)	(0.00584) -0.00023*** (0.00004) 0.00000*** (0.00000)	(0.00371) -0.00015*** (0.00003) 0.00000*** (0.00000)	(0.00254) -0.00008** (0.00004) 0.00000*** (0.00000)	(0.00235) -0.00012*** (0.00003) 0.00000*** (0.00000)	(0.00241) -0.00007*** (0.00002) 0.00000*** (0.00000)
<i>TREND</i> ²						
<i>log</i> (σ_t^2)						
Constant	-0.68259** (0.31956) 0.31299***	-0.90942*** (0.25827) 0.40664***	-1.11106*** (0.33241) 0.34356***	-0.75703*** (0.29138) 0.39853***	-0.52432*** (0.18437) 0.29331***	-1.71568*** (0.52596) 0.51773***
$\left \frac{u_t - 1}{\sqrt{h_{t-1}}} \right $	(0.10150) 0.95354*** (0.02990) 0.22894*	(0.10259) 0.93004*** (0.02702) 0.43535**	(0.09459) 0.91187*** (0.03320) 0.57062***	(0.08316) 0.94984*** (0.02951) 0.16104*	(0.09649) 0.96350*** (0.01914) 0.19722*	(0.13975) 0.85908*** (0.05221) 0.58956**
<i>DU_C-RISIS</i>	(0.13440) 0.110822*** (0.03525) 0.13649	(0.18290) 0.06649** (0.03110) 0.19468*	(0.20959) 0.04580 (0.03526) 0.31752***	(0.09741) 0.00077 (0.00342) 0.12450	(0.10896) 0.07432** (0.03579) 0.13431	(0.24869) 0.08678*** (0.02513) 0.30778***
<i>AVIX</i>	(0.09571) 0.72***	(0.11138) 0.79***	(0.12131) 0.63***	(0.09844) 0.95***	(0.10909) 0.70***	(0.11138) 0.82***
GED Parameter	0.30	0.20	0.14	0.33	0.10	0.28
R-squared						

Sample period: 2005–2011, 361 observations included

Standard errors in round brackets

*, ** and *** denote respectively parameters significant at 10, 5 and 1 %

sovereign spreads, meaning that private and public assets are to some extent substitutable.

As regards the role played by macroeconomic surprises, our analysis reveals that in four out of six countries considered, sovereign spread changes are affected by the diffusion of surprises regarding the state of the US economy. On the opposite, it turned out that macroeconomic surprises for Japan and the World have no impact on the level and volatility of sovereign spreads in the euro area. These results are not reported but are available on request. In detail, the diffusion of good (bad) macroeconomic US news brings about a narrowing (widening) of EMU sovereign spreads. In other words, the better the outlook of the global economy, as proxied by the US business cycle, the lower the probability of a scenario characterized by unsustainable public finances. However, for the two countries (Ireland and Spain) where this effect is not significant we have found that it becomes strongly significant in the aftermath of the financial crisis. We have also investigated the role of macroeconomic news for the euro area but we did not find any significant effect that is reasonably stable across countries and time.

With regards to the variance equation, we have found that an EGARCH(1,1) allows to capture the persistency of the data generating process for the logarithm of the conditional variance and that no asymmetric terms are significantly different from zero in the aforementioned process.

As regards the determinants of sovereign spreads volatility, our analysis reveals that the financial crisis has been accompanied by an increase in volatility to an extent that is remarkably variable within the set of considered countries. In the aftermath of the financial crisis the conditional log-variance of the process has increased of a factor comprised between the value of 0.16, in the case of Italy, to 0.59, recorded in the case of Spain. The volatility implied in the Standard and Poor 500 Index is another factor that is relevant in driving the conditional variance. Lastly we have found that for three out of six countries there is also a significant impact of negative macroeconomic surprises related to the state of the euro area economy, which means that the release of bad news brings about an increase in the conditional volatility of spreads and vice-versa. On the opposite, we did not find any significant effect arising from positive surprises on the log-variance of sovereign spreads. This means that financial operators would react asymmetrically when learning about the current state of the European economy. These results thus confirm the existence of a leverage effect⁹ for the government bond market. This is a well established empirical regularity and is generally explained on the grounds that a drop in the value of the asset increases the financial leverage, which makes the asset itself riskier and increases its volatility (Bekaert and Wu 2000). Moreover, the asymmetric response of volatility to bad and good surprises is in line with the results obtained by other researchers, who have found that negative surprises increase stock prices volatility more than positive surprises (Hamilton 1994).

⁹ According to the financial literature, this effect corresponds to a negative correlation between past returns and future volatility.

6 Concluding Remarks

We construct weekly time series of macroeconomic news and we apply these indicators in estimates for EMU sovereign spreads. The econometric analysis, performed on weekly changes of the spreads in Belgium, Greece, Ireland, Italy, Portugal and Spain, shows that the data generating process is characterized by remarkable regularities for these countries. Our EGARCH is able to track the recent dynamics of the spreads, focusing on the short run rather than on fundamentals. Indeed, the model is tailored to identify the effects of macroeconomic announcements. We find that positive news on the state of the US economy imply a narrowing of EMU spreads and vice-versa. Macroeconomic surprises on the euro area business cycle affect the volatility of the series in three out of the six considered countries and are taken into account only to the extent that they are negative surprises.

Appendix: The Data

DEBT: public debt of the country, in percentage of Gross Domestic Product. Source: Eurostat. Weekly data have been estimated from data originally available at quarterly frequency by linear interpolation.

DU_{CRISIS}: dummy variable that is equal to zero before the collapse of Lehman Brother, occurred on 15 September 2008 and is equal to 1 for all successive dates.

R_{GER}: interest rate paid on the benchmark 10 year government bond issued by the Republic of Germany. Source: Datastream.

GRA_{USA}: global risk aversion, computed as the difference between the interest rate paid on BAA corporate bonds and the interest rate paid on US Treasury Bills. Source: Datastream.

ITRAXX_{FIN}: financials, corporate 10 year iTraxx index. Source: Bloomberg.

ITRAXX_{NF}: non-financials, corporate 10 year iTraxx index. Source: Bloomberg.

NEWS_{USA}: standardized macroeconomic surprises on the US economy. The methodology followed to construct this aggregated indicator is described in the text. The source of the announcements for the monthly elementary indicators and the associated median forecasts is Bloomberg.

NEWS_{EURO}: standardized macroeconomic surprises on the euro area economy. The methodology followed to construct this aggregate indicator is described in the text. The source of the announcements for the monthly elementary indicators and the associated median forecasts is Bloomberg.

$|NEWS_{EURO}^-|$: negative standardized macroeconomic surprises on the euro area in absolute value. The methodology followed to construct this aggregated indicator is described in the text. The source of the announcements for the monthly elementary indicators and the associated median forecasts is Bloomberg.

S: sovereign spread of the generic euro area country, computed as the difference between the interest rate paid on the benchmark 10 year government bond issued by a given country and the interest rate paid on the benchmark 10 year government bond issued by the Republic of Germany. Source: Datastream.

VIX: Chicago board options exchange market volatility index. Source: Bloomberg.

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Objectives and Instruments of Economic Policy in the Eurozone: How to Overcome the Crisis

Rainer Masera

Abstract The objectives of fiscal rehabilitation, monetary and financial stability, solidity of the banking sector in the Eurozone are correct. But, the timing and modalities of fiscal austerity and of recapitalisation of the banks envisaged in the Fiscal Compact and in Basel III are not consistent with resumption of growth and fiscal rehabilitation itself. Smooth, gradual and diversified fiscal adjustment must be pursued, instead of the current frontloaded, generalised approach. As to bank capital, the new Basel standard must be postponed and significantly revised, notably with respect to liquidity rules. In particular, it is necessary to introduce a recovery and resolution mechanism for the banks, accompanied by a European supervision framework for large banks. The prevailing conviction that banks will (nearly) always be bailed out with taxpayers' money must be broken.

1 Introduction

The global financial crisis of 2007–2009 was hardly overcome in the Eurozone. From late 2009 renewed fears developed, centred on the interaction of sovereign and bank debt and on concerns about illiquidity and insolvency of countries and large banks. The unresolved “too big to fail” issue implies that the negative loop is made more stringent and difficult to manage. The Eurozone is thus confronted with a recessionary phase which started six years ago. Recovery in 2013 may be

For a nation to tax itself into prosperity is like a man standing in a bucket and trying to lift himself up by the handle. Winston Churchill

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elusive. This paper argues that, unless the timing, implementation and combination of policies are changed, the prospects for growth and sustainable rehabilitation of public finances may prove illusory.

The Maastricht Treaty (1992) and the Stability and Growth Pact (1997) failed in their endeavours to limit deficit spending and debt levels, and to foster economic growth. This was partly due to the explicit breach of the fiscal rules, even by countries such as Germany and France (notably in 2003), but also due to unorthodox public sector accounting, off balance operations and utilisation of complex interest, currency and credit derivatives operations, engineered by the world's largest investment houses.

A revision of the Treaty and a more rigorous application of fiscal rules was necessary. In any event, the debt/income rise in the Eurozone, between 2007 to 2009, from 66 to 84 % was largely due to the combination of the bank bailouts and the cyclical impact of the global recession, not to fiscal profligacy. The policy response to the renewed tensions at the end of 2009 was centred on the tightening of the Stability and Growth Pact and on the creation of the European Financial Stability Facility (EFSF), aimed at providing financial assistance to Eurozone countries in difficulty. The EFSF crowded out the creation of a recovery and resolution framework for banks, as had been indicated in the de Larosière Report (2009) and as was implemented in the Dodd-Frank Act (2010) in the United States.

It is being recognised that a monetary union without fiscal and banking unification is inherently fragile, but the "recognition lag" is very long and decisive policy action has yet to be taken. The European Central Bank (ECB) has adopted a series of crucial measures to improve liquidity and to relieve the pressure on government debt of (peripheral) countries in difficulty. Had it not been for its Long Term Financing Operation (LTRO) of €489 billion on 22 December 2009, the Euro probably would not have survived market pressure. This was not an easy task: the divisions inside the Bank on the conduct of monetary policy have now become evident and generate uncertainty in the markets.

In sum, the objectives of economic policy in Europe in the past three years have been: (1) sustainability of public finances; (2) monetary and financial stability; (3) solidity and capitalisation of the banks. The conventional model which has been adopted, mainly on the basis of German indications, to pursue the above objectives was based on the following instruments: (1) fiscal austerity, based on the new *Fiscal Compact* (2012), cuts in expenditures, tax increases and structural adjustment measures in all European countries; (2) control of money to avoid inflation; (3) banks' recapitalisation. This combination of targets and instruments should ensure sustainable growth and stability.

The thesis developed in this paper is that we are in paradox: we start from correct premises and identification of objectives to arrive to questionable conclusions in term of instruments of economic policy and of financial regulation. A synthesis of the key points and links is offered in Figs. 1 and 2 (Masera 2012).

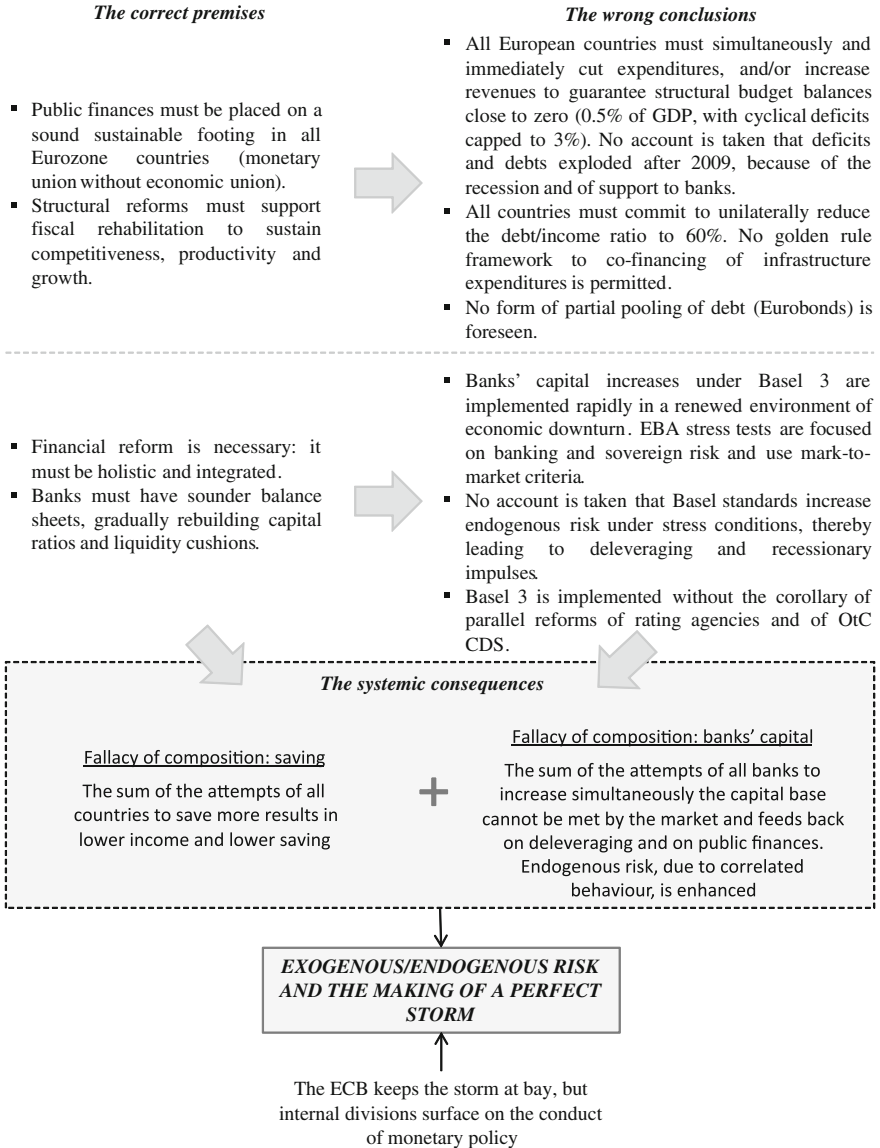


Fig. 1 The European paradox: from correct premises to wrong conclusions

2 A Graphical Synthesis of the Current Policy Approach

The stylised representation of the “German” policy model can be traced back to the ideas and economic thinking of Friedman and Lucas. The cornerstones of this approach can be simplified as follows: (1) the real macroeconomic supply function

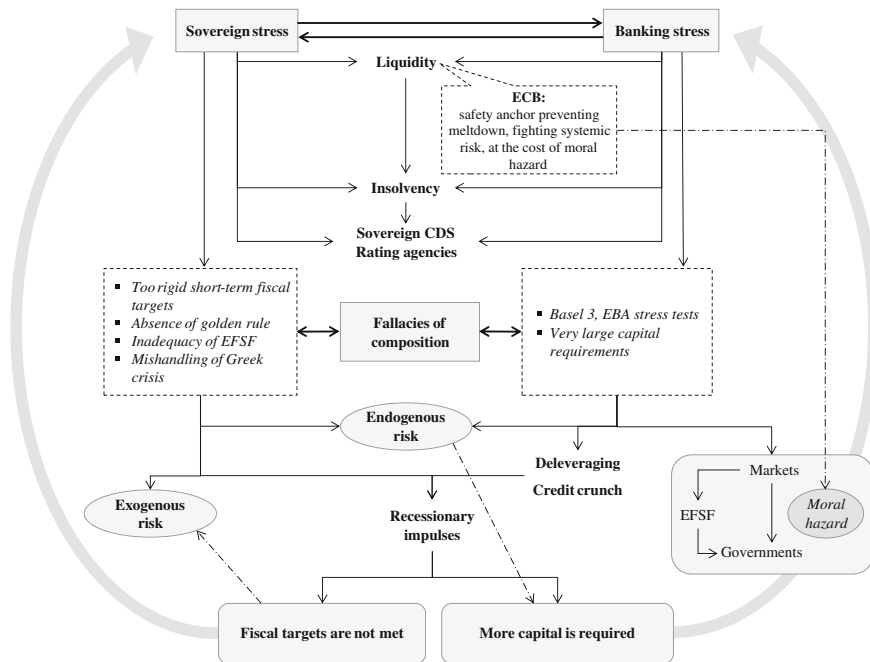


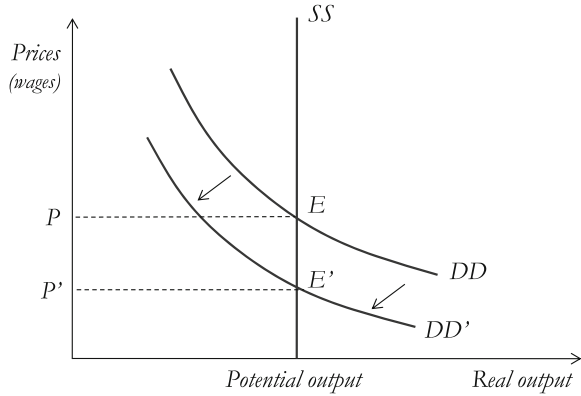
Fig. 2 The intertwining of sovereign and bank stress: the vicious circle and the making of a systemic risk scenario in the Eurozone

is fundamentally a vertical line, in the assumption that employment, even if hit by significant shocks, always heads back rapidly to its normal level; (2) money supply and demand processes are fundamentally stable, with the implication that any excess creation of base money with respect to potential output generates, more or less rapidly, inflation; (3) also the processes of supply and demand of bank capital in the markets are stable. Capital is not costly with respect to other sources of finance, according to a simplified representation of the M&M models (Modigliani and Miller 1958, 1963). It is therefore possible for banks to rapidly increase their capital ratios following the Basel III standard, without generating deleveraging and recessionary impulses.

2.1 Aggregate Supply and Demand

The “German” model hinges fundamentally on the aggregate supply and demand functions depicted in Fig. 3. Behind the idea that the Eurozone crisis may be solved by imposing very tight short-term restrictive fiscal measures there is a policy model based on the assumptions of: (1) flexible wages/prices, (2) efficient financial markets, and (3) rational expectations/behaviour. In this framework

Fig. 3 The implicit current policy model



market failure is not allowed and an inherent tendency to full employment (potential output) is assumed (a vertical aggregate supply *SS* curve). A restrictive fiscal policy leads to lower prices and wages with no significant impact on real GDP, which remains at its potential level. The demand curve shifts from *DD* to *DD'*. With flexible, efficient and rational markets the policy action does not affect equilibrium output, hence the economy shifts from *E* to *E'*.

2.2 Money Supply and Demand

The current reference point goes back to the traditional monetarist model, as reinterpreted by the Bundesbank:

$$M = \mu \times BM \tag{1}$$

$$BM = C + R \tag{2}$$

$$M = C + D \tag{3}$$

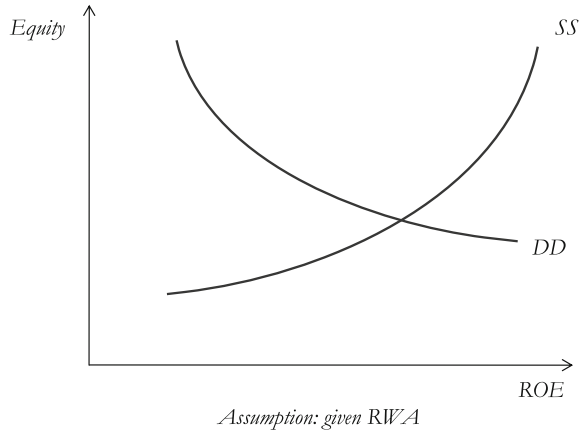
where *M* = money supply, *BM* = stock of monetary base, *C* = currency in circulation, *R* = bank reserves and *D* = bank deposits. Assuming that the *C/D* and *R/D* ratios are fundamentally stable, changes in money depend on changes in the monetary base.

As to demand, we write Eq. 4:

$$M = \frac{1}{V} \times PQ \tag{4}$$

where *V* = velocity of circulation, *PQ* = the value of total payments made in a year, which can be proxied by nominal income (*Y*). *V* is assumed to be broadly stable. It follows from the above equations that the monetary base should be engineered to grow by the Central Bank at a constant and low rate, correlated to

Fig. 4 Bank capital: conventional model



the rate of growth of potential real output (O), with a view to maintaining inflation as close as possible to zero (we do not enter here into the Friedman sophistication of the optimal growth rate of money with short-term nominal interest rates equal to zero).

In sum (Issing 2008):

$$\mu\Delta BM = \Delta M = \Delta P + \Delta O - \Delta V \quad (5)$$

2.3 Banks' Capitalisation

Equilibrium can always be achieved in a conventional model of bank capital. Banks' management faces a trade-off between Return on Equity (ROE) and Equity demanded (DD), given the market supply (SS).

For a given level of Risk-Weighted Assets (RWA), banks' management will decide its Basel-constrained demand of capital by maximizing its value function. A trade-off problem must be solved: risk-adjusted returns will be maximized. Higher levels of equity decrease non risk-adjusted returns ROE (Fig. 4); at the same time, higher levels of equity reduce the probability of default (and therefore banks' risk). The final effect in terms of risk-adjusted returns depends on the elasticities to equity of both ROE and Probability of Default (PD).¹

Supply of equity is positively correlated to returns adjusted for risk. For a given level of RWA, higher levels of ROE increase the supply of equity. This is true if

¹ *Ceteris paribus*, and disregarding taxes and costs of issuing different kinds of securities, more debt increases earning per share. But this is largely offset by a decline in this price-earnings ratio, because the risk of the earnings also goes up. The *ex ante equilibrium* return to equity holders (cost of equity to the bank) is a function that depends both on the risk of the banks' assets and the degree of leverage (Modigliani and Miller 1958, 1963).

the increase of ROE is mainly determined by an increase of the profitability of the bank and not only by a reduction of the equity. In the latter case, the positive effect on ROE will be more than offset by an increase of the PD and therefore by a reduction of risk-adjusted returns, which will reduce the supply of equity.

3 A Critical Assessment of the Current Policy Approach

3.1 *The Fallacy of Composition and the Aggregate Demand and Supply Processes*

The first false myth is that of a vertical supply curve. During the current prolonged crisis we (should) have understood that some of these hypotheses are flawed. In fact, a market failure is possible in a framework characterised by: (1) rigidities in the price/wage system, (2) financial markets not perfectly efficient, and (3) not fully rational expectations/behaviours.²

As is shown in Fig. 5, if prices and wages are downward sticky, a sharp fiscal contraction (a shift from DD to DD') does not leave output unchanged, since the aggregate supply SS is now upward sloping. The short-term equilibrium shifts from E to E'. In terms of the model of Fig. 5, there is a fallacy in assuming that what holds for each individual also holds for the sum of all individuals. Attempt by every economic agent to increase saving may result in less saving by the economy as a whole, as a result of less consumption, less investment, less output and employment.

The sustainability of public debt for a country which cannot monetize its debt is represented by the following condition³:

$$\left(\frac{PB}{Y}\right)_t \geq \frac{i-g}{1+g} \times \left(\frac{D}{Y}\right)_{t-1} \quad (6)$$

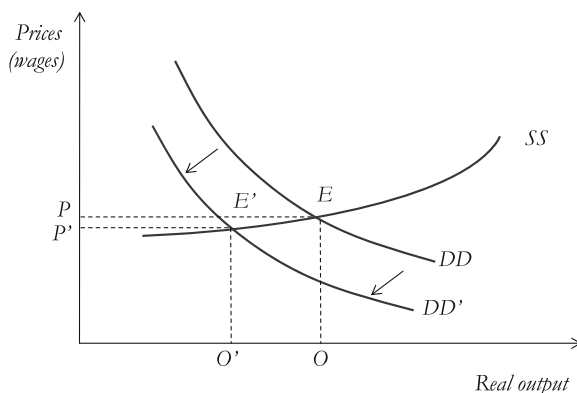
Where: PB is the primary balance (i.e. total revenue less expenditure excluding gross interest payments), i is the average nominal rate of interest on public debt (D), and g is the nominal rate of growth of the economy. For governments with high D/Y , swings in market confidence may be of crucial importance. More generally, there is a high exposure to rising interest rates and falling GDP (Y).

In the model of Fig. 3, expenditure cuts, tax increases and structural reforms make rapid adjustment possible: higher primary balance, lower i , same g . In the model of Fig. 5, expenditure cuts, tax increases and structural reforms may prove ineffective in the short run, fundamentally because g tends to 0, while the rate of

² On the analytics of these issues, see Hicks (1977), Grossmann and Stiglitz (1980), Frydman and Goldberg (2011).

³ For a compact guide to public debt dynamics and fiscal sustainability, see Escolano (2010).

Fig. 5 The fallacy of composition paradigm



interest on public debt may increase, because of concerns on debt sustainability, hence it becomes more difficult to improve the primary balance and to restore market confidence. Fiscal contraction makes the recession worse and derails growth.⁴ In this model the time horizon of adjustment measures becomes crucial to ensure the feasibility of fiscal rehabilitation.

3.2 *The Money Supply and Demand Processes Revisited*

The second false myth lies in the stability of the links between monetary base and money creation and inflation. The following charts speak for themselves: Fig. 6 shows the, admittedly, huge expansion of the ECB balance sheet in the decade of the Euro. But, as Fig. 7 indicates, this was more than offset by a decline in the

⁴ Support for the arguments presented can be obtained by comparing the IMF economic forecast of October 2009 and April 2012 for the Eurozone. The average anticipated real annual growth rate for the three-year period 2011–2013 was 1.9 % in 2009; it is now 0.6 % (with negative growth for 2012).

In the extreme case of Greece, GDP is expected to shrink by 11.6 % in 2011–2012, after a contraction of 6.8 % in 2009–2010. The Debt/GDP ratio went from 110.7 % in 2008 to 163 % in 2011 and was projected to reach 180 % in 2012. A de facto default became unavoidable: through the biggest sovereign debt restructuring in history, 85.8 % of those holding private Greek debt agreed to join a debt write-off deal, with a loss of 74 %, in March 2012, concurrently with further financial support from the EFSF and the IMF.

These views are widely shared. Reference can be made to recent studies of the IMF itself, which indicate that, while calls for fiscal stimulus would be out of place and counter productive, the severity of consolidation and its application in the various countries of the Eurozone should be carefully monitored. The arguments developed here can be summarized by the findings of Batini et al. (2012): «smooth and gradual consolidations are to be preferred to frontloaded or aggressive consolidations, especially for economies in recession facing high risk premia on public debt, because sheltering growth is key to the success of fiscal consolidation in these cases». See also Barkbu et al. (2012).

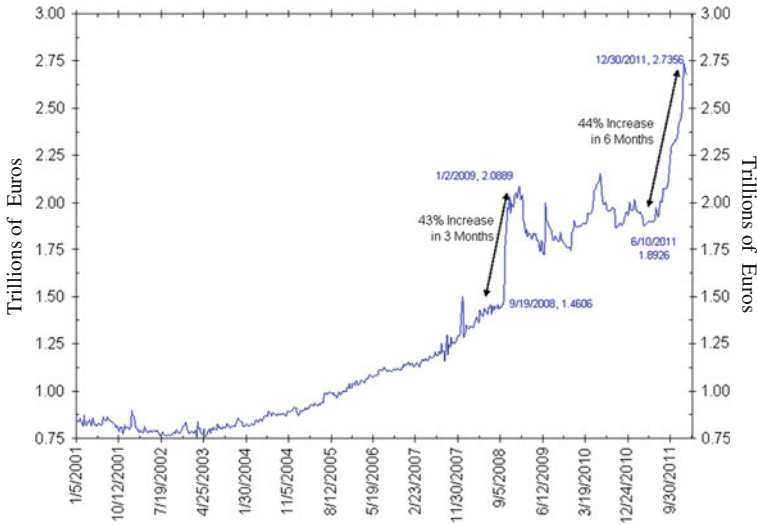


Fig. 6 The ECB balance sheet

multiplier (Fig. 8). The growth rate of money supply (M3) is low and even decreasing. As a consequence of the interaction between bank and sovereign debt risk, the normal interbank markets have dried up. Banks, as indicated by Fig. 9, hoard the monetary base creation. As to inflation (Fig. 10), the recessionary forces make for a lower rate of growth of prices in 2012, in spite of external pressures (key commodity prices and exchange rates).

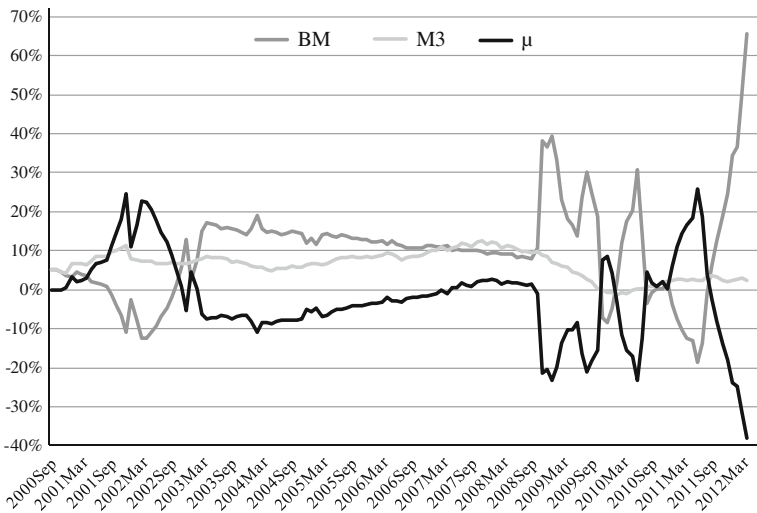


Fig. 7 Euroarea: BM, M3 and μ (annual % change)

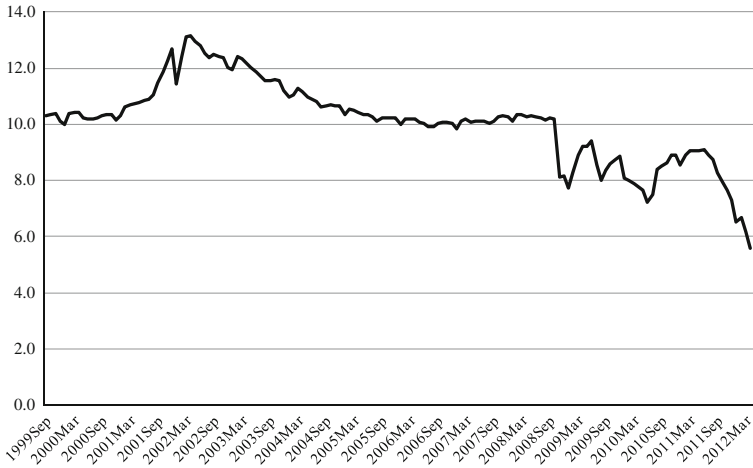


Fig. 8 Euroarea: M3 multiplier (absolute values)

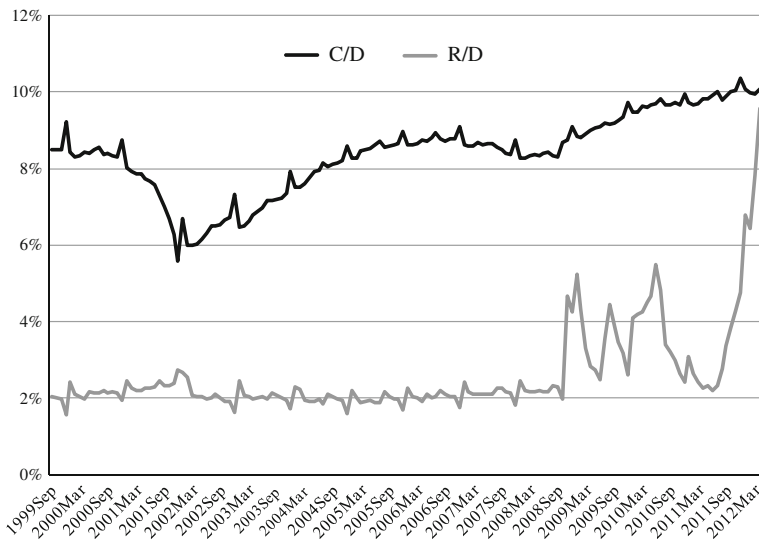


Fig. 9 Euroarea: C/D and R/D ratios (M3)

3.3 The Question of Bank Capital: Cost and Availability

The third false myth consists in assuming that markets are always able to satisfy the increasing capital requirements imposed by the Basel standards and by EBA, in the framework of the EFRS accounting rules. The fundamental distinction here is between equilibrium (*ex ante*) supply and demand schedules and conditions of

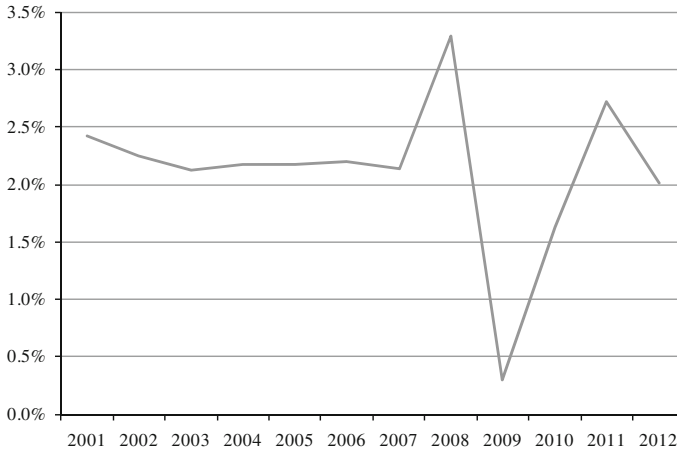


Fig. 10 Euroarea: inflation rate (consumer price index)

disequilibrium. As Miller himself (1995) had clearly explained, the M&M propositions are concerned with having equity, not with raising equity, especially in situations of distress. In other words, also in an M&M world, it is not true that increasing bank capital ratios in all states of the world has no impact on the overall cost of finance, and could even be possible in the market. The general a-critical statement that “bank equity is not expensive”, commonly expounded by central bankers and by some academicians is incorrect and highly misleading.⁵

Especially during a financial crisis, market supply of equity can be constrained. Market price of risk increases (investors’ risk appetite reduces). The supply curve for equity shifts downward and flattens (i.e. for a given level of ROE, investors will offer less capital than before because of their increased reluctance towards risk). Higher capital requirements imposed by regulators determine an exogenous floor on equity demanded by banks. This floor produces an upward shift of aggregate demand (for a given level of ROE, stringent capital requirements impose an extra-burden in terms of capital which is not optimal on a risk-adjusted basis). The consequence is market failure (Fig. 11).

⁵ Many analytical threads lead to the above statement. For obvious reasons of space, I make reference here to three main, related points. Raising equity, especially if the equity market signals condition of stress by pricing the stock well below book value, represents in general a transfer of wealth from existing equity holders to bond holders. More generally, imposing higher equity requirements under financial distress raises the cost of funding because of the “debt overhang” (Myers 1984). This goes back also to the adverse selection “lemons” syndrome (Akerlof 1970; Leland and Pyle 1977; Duffie 2009), especially as we move from fundamental to endogenous and to systemic risk (Danielsson et al. 2011; Zigrand et al. 2010). Finally, a third issue arises: the aggregation problem, to which specific reference is made in the text, when uncertainty prevails and most banks seem to require large capital injections.

Fig. 11 Bank capital: constrained market supply of equity

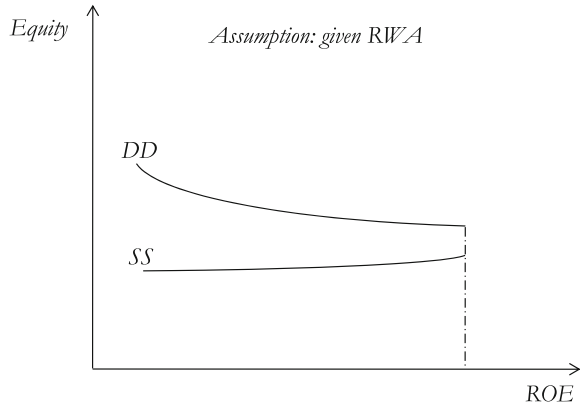
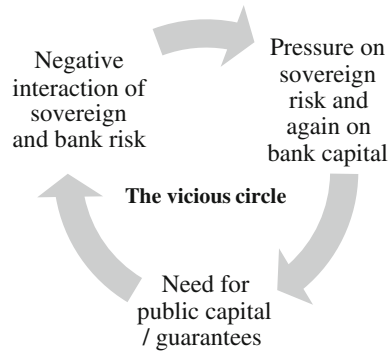


Fig. 12 The vicious circle



In this framework, banks attempt to de-lever their balance sheets from the assets side: credit contraction and hence debt reduction. They attempt to recapitalise through less credit and retained earnings. But, at the aggregate level, this means less credit, less growth (or recession), more bad loans, more capital required. In countries with sovereign debt difficulties recession and downgrading of public debt (and automatically of banks themselves and all other economic entities in the country affected) multiply the pressures on banks (Fig. 12).

The banks' aggregate capital issues and their destabilising impact are compounded by the endogenous/systemic risk considerations already illustrated. Warnings by the International Monetary Fund (€100 billion of new capital required and/or deleveraging of up \$3.8 trillion in assets through 2013⁶ and stress tests required by EBA marking to market government debt held by banks multiply endogenous risk and amplify destabilising market dynamics. The recent experience in Spain with the bailout of Bankia confirms that markets can be unable to

⁶ See IMF (2011, 2012).

respond to capital increases, recourse is made to domestic and European taxpayers money with evident moral hazard problems.

The wrong Basel approach to liquidity risk in banks and the endogenous risk implications for liquidity and solvency risks would have led to a perfect storm/systemic risk situation, had it not been for the crucial interventions of the ECB.

4 Conclusion

The fundamental objectives of the Eurozone—namely fiscal sustainability, monetary and financial stability, solidity and adequate capital in the banking sector—to overcome the recession and foster growth are correct and must be pursued. The points made in this paper refer to the timing and modality of fiscal consolidation and of recapitalisation of the banks. The therapy is broadly correct, but its implementation is unsatisfactory.⁷

It is not by multiplying the dosage of a medicine that the doctor achieves more quickly and more easily the health of the patient. Indeed, if one goes beyond established limits, the treatment becomes counterproductive; it creates more or less severe adverse effects, possibly leading to death. In the past, when leech therapy was the norm, multiplication of leeches was not uncommon to cure stubborn diseases, but the sufferer often succumbed to the treatment.

Smooth, gradual and diversified fiscal consolidations should be preferred to the current frontloaded, generalised approach. This is key to resume sustainable growth, and fiscal rehabilitation itself.

As to bank capital, there can be hardly a quarrel on the need to build a better capital structure for European banks. Even here, it is necessary to ensure a gradual process and not an immediate sharp adjustment, which the markets are unable to support. More generally, however, if the problem of a bank lies in its enterprise value, it is on the asset side (value creation) that adjustment must take place. This is the true lesson to be derived from the M&M approach. Put it otherwise, if the real profitability of a bank falls below the return on equity desired by the markets, extra capital *per se* will not represent a viable solution. Indications coming from price-to-book ratios show that this is a fundamental for many European banks. It is necessary in the Eurozone to introduce a recovery and resolution mechanism for the banks, accompanied by a European supervision framework for large banks. The prevailing conviction that banks will (nearly) always be bailed out with taxpayers' money must be broken.

Last, but certainly not least, the traditional monetarist links in money supply and demand processes have undergone significant changes, as was indicated in the paper. In any event, the mix between monetary and fiscal policy should rely on less rigid and rapid fiscal tightening. Under current circumstances, monetary base creation

⁷ See also Paganetto and Scandizzo (2011).

does not ignite inflationary impulses. Monetary policy must continue to be supportive. The ECB has already saved the Eurozone. The Bank should now be empowered to support the public debt of countries which have clearly committed to and embarked in rehabilitation of their public finances. This should be done directly, through bond purchases in the secondary market and, in perspective, indirectly by financing the European Stability Mechanism (ESM) (T/ESM 2012). The Bank might also be asked to oversee the supervision of large banks, as indicated above.

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From Collapse to Constitution: The Case of Iceland

Thorvaldur Gylfason

Abstract Most of the time, crises precede constitutions. Following a brief review of relevant historical background, this chapter aims to show why Iceland, after its financial collapse in 2008, is now at last on the road to adopting a new constitution to replace the provisional constitution from 1944. The aim is also to show how the constitutional bill of 2011 came into being with significant help from the general public. Further, the chapter outlines some of the key provisions of the bill as well as why and how it differs from the current constitution. The chapter concludes by offering a brief discussion of some potential obstacles to the adoption of the bill in parliament, the role of the public, and some lessons from, and for, other countries.

The author is Professor of Economics at the University of Iceland, and was one of 25 representatives in Iceland's Constitutional Council in session from 1 April to 29 July 2011, elected by the nation and appointed by parliament to revise Iceland's constitution. Readers unfamiliar with Iceland's situation may wish to consult Gylfason et al. (2010, Chap. 7) for background. The author thanks Ragnar Adalsteinsson, Rabah Arezki, Lýður Árnason, Vilhjálmur Árnason, Jon Elster, Eyjólfur Kjalar Emilsson, Benedikt Goderis, Gudmundur Gunnarsson, Pétur Gunnarsson, Jón Baldvin Hannibalsson, Gudmundur Hálfðanarson, Hjördís Hákonardóttir, Hjörtur Hjartarson, Valur Ingimundarson, Ólafur Ísleifsson, Örn Bárður Jónsson, Illugi Jökulsson, Helgi Skúli Kjartansson, Sixten Korkman, Svanur Kristjánsson, Katrín Oddsdóttir, Hermann Óskarsson, Sigríður Ólafsdóttir, Jón Thór Ólafsson, Lárus Ýmir Óskarsson, Agnar Sandmo, Birgitta Swedenborg, Ragnar Torvik, Mila Versteeg, Leif Wenar, and seminar participants at the Stockholm School of Economics for their encouraging and constructive comments on earlier versions of the text.

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1 Introduction

When countries crash, a natural thing for their inhabitants to do, *inter alia*, is inspect their legal and constitutional foundation to look for latent flaws and to fix them. This was, in fact, one of the demands of the ‘Pots-and-pans revolution’ that shook Iceland after the country’s spectacular financial crash in October 2008 when three banks comprising 85 % of the country’s banking system collapsed within a week and the domestic equity market was virtually wiped out overnight. The rest of the banking system crashed in quick succession. The ‘Pots-and-pans revolution’ owes its name to the boisterous banging of kitchen utensils by ordinary people from all walks of life who took to the streets and thus helped seal the fate of the government, forcing it to resign in early 2009 and to declare a new parliamentary election that the leading party of the pre-crash government—a grand coalition of the two largest political parties, the Independence Party and the Social Democratic Alliance—lost decisively, paving the way for the formation of a new government of the Social Democratic Alliance and the Left-Green Movement. These events went hand in hand with an initially unenthusiastic public investigation into what went wrong. A special prosecutor’s office was set up and the position of special prosecutor was advertized, but there were no takers. After some delays, the minister of justice appointed a special prosecutor to whom the Financial Supervisory Authority, under new post-crash management, had by early 2012 referred about 80 cases of suspected fraud before and surrounding the crash. Meanwhile, parliament appointed a Special Investigation Committee (SIC) which delivered a devastating report in April 2010, exposing criminal wrongdoing by the banks and serious negligence by several politicians and public officials (see Gylfason 2010). In response to the SIC report, parliament passed, in September 2010, a unanimous resolution, with 63 votes against zero, stating, among other things, that “Parliament resolves that criticism of Iceland’s political culture must be taken seriously, and emphasizes that lessons must be learned from it. Parliament resolves that the SIC report is a damning verdict of the government, of politicians, and of public administration...” (my translation).

When airplanes crash we do not turn the page. No, we insist on a full-scale investigation. The same must apply when banks crash, especially when they all crash at the same time. We owe it to ourselves as well as to others, including those who were hurt and also those who bailed us out. The National Transport Safety Board investigates every civil-aviation crash in the United States. In Europe, national Civil Aviation Accidents Commissions perform this vital role. Their principal concern is public safety as well as respect for the truth. In this regard, there is a case for viewing banking and finance the same way as civil aviation. This is why, when things go wrong, there needs to be a trustworthy mechanism in place to secure full disclosure. If national governments hesitate, the international community may want to consider mutually acceptable ways to fill the gap. Credible crash analysis is indispensable, lest history repeat itself.

After the collapse of communism in 1989–1991, the countries of East and Central Europe, all except Hungary which waited until 2012, adopted about 25 new constitutions (Elster 1995). South Africa adopted a new constitution 1994–1996 following the defeat of apartheid. After the recent regime changes in North Africa, several countries of the region are now about to revise their constitutions. Most constitutions are written or revised following economic or political upheaval of some kind because crises often trigger demands for a fresh start or expose flaws that need to be fixed. In quiet times, people and politicians most often feel they have other things to think about. There are exceptions, however, such as the constitutions of Sweden (1974) and Canada (1982) that were rewritten out of the blue without being triggered by crises.

2 From Seven Waves to Economics

Elster (1995) identifies seven waves of constitution making following the Declaration of Independence of the United States in 1776. First, during 1780–1791 the United States, Poland, and France adopted new constitutions, as did Sweden in 1809 and Norway in 1814. Second, following revolutions in Europe in 1848 several countries adopted new constitutions some of which did not last long, however, because the revolutions producing them were suppressed. The third wave swept Europe after World War I (1914–1918) when Poland, Czechoslovakia, and defeated Germany passed new constitutions. The fourth wave followed World War II (1939–1945) when Italy, Germany, and Japan had new constitutions more or less dictated to them by the victors. The fifth wave rose around the same time as the sun set on the colonial empires of the United Kingdom, France, and others in Asia and Africa after 1945. Those constitutions were most often derived from those of the former colonial powers. The sixth wave went up when authoritarian regimes in Southern Europe were driven from power in 1974–1978 and Greece, Portugal, and Spain adopted new democratic constitutions. The seventh and last wave swept East and Central Europe after the collapse of communism around 1990. In recent years, several Latin American nations have revised their constitutions, introducing novel provisions on environmental protection, among other things. Ackerman (1997) covers a similar ground, referring to the past 60 years as a “wave of constitutionalism.”

On the whole, the connection between constitution making and crises or other types of emergencies seems fairly clear. Elster (2012) points out that, because constitutions tend to be written in periods of social unrest, they tend to induce strong emotions and, frequently, violence. Elster (1995) distinguishes several types of crises or emergencies and how they gave rise to new constitutions. The upheaval caused by the revolutionary war in the United States 1775–1783 gave rise to the making of a new constitution in 1787. The French constitution of 1791 and the revolution of 1789 sprang in part from a common cause, namely, grotesque disparities of power and wealth that showed, among other things, in an average

height difference between the aristocracy and the working class of two to three inches (Komlos 2003). Likewise, the constitutions of France and Germany in 1848 can be traced to the revolutionary situation in Europe at the time. Iceland's constituent assembly of 1851 sprang from the same source, but failed to achieve constitutional reform even if it did succeed in engineering the abolition of the last vestiges of the Danish King's trade monopoly in Iceland. The French constitution of 1958, again according to Elster (1995), arose from the fears of Charles de Gaulle, later president, of the political outfall from the Algerian uprising against French rule. Defeat in war is another source of new constitutions as in Germany after both world wars and also in Poland after World War I and in Italy and Japan after World War II. Newly won independence is yet another source as in the United States in 1776 and in several countries in Asia and Africa after 1945. Notice the absence of financial crises from this list. The Great Crash of 1929 did not trigger constitutional amendments on either side of the Atlantic because changes to the general act of law—the Glass-Steagall Act of 1933, in particular—were considered sufficient.

In retrospect, one may wonder whether, in the United States, the Glass-Steagall Act separating commercial banking from investment banking activities to increase the safety of depositors and to reduce the likelihood and scope of future financial crises should, perhaps in conjunction with the establishment of the Securities and Exchange Commission in 1934, have taken the form of a constitutional amendment. The aim of Glass-Steagall was to protect ordinary bank customers from exposure to unnecessary and unwanted risk (Gylfason et al. 2010, Chap. 4). Had this protection been inserted into the constitution, the deliberate, some would say reckless, deregulation of banking and finance in the United States after 1980 would have been more difficult to bring about. Perhaps, the demise of Lehman Brothers in September 2008 and the ensuing international financial crisis could then have been averted. Admittedly, this trail of thought is complicated by the fact that, north of the border, only a few small banks failed in the 1930s. Canada's financial system has remained strong, even during the current global crisis. Yet, unlike US banks under Glass-Steagall, Canadian banks have always been universal, offering commercial banking services and investment banking services side by side without incident. For this reason, the separation of commercial banking and investment banking along the lines of Glass-Steagall has not been thought necessary in Canada, and not in Europe either. In view of Europe's recent banking problems, however, perhaps Europe needed Glass-Steagall all along. But Canada is clean. The erection of legal firewalls to separate commercial banking from investment banking cannot, therefore, be viewed as a necessary universal remedy against recurrent financial crises. Even so, the fact that Canada has never felt the need for such firewalls in its laws does not, by itself, undermine the argument for building such firewalls into the constitutions of countries such as the United States with a history of recurrent and contagious financial crises. To date, presumably in the interest of efficiency and flexibility in financial markets and on the grounds that laws and regulations are enough, no country has, to my knowledge, built such

firewalls into its constitution—except Ecuador, to be discussed when we return to finance in [Sect. 17](#).

Recent literature on the economics of constitutions makes several useful points that are meant to illuminate the discussion to follow. Congleton and Swedenborg (2006, pp. 2–3) define constitutions “as the fundamental and durable procedures and constraints through which laws and public policies are adopted,” including “a nation’s legal and regulatory setting, which might be considered a nation’s ‘economic constitution’.” Persson and Tabellini (2005) develop and test various hypotheses about economic outcomes—e.g., the size of the public sector—under different types of constitutions, contrasting presidential and parliamentary systems of government. Like Hirschl (2004), Ticchi and Vindigni (2010) stress the economic origins of constitutions, following Beard (1913) who argued that the US constitution was designed to reflect the interests of the economic elite at the time, including those of the members of the Constitutional Convention in Philadelphia, securing individual property rights as well as the best possible institutional framework for private enterprise. They compare ‘majoritarian’ constitutions (containing, e.g., ‘first-past-the-post’ or ‘winner-takes-all’ election systems rather than proportional representation) such as the constitutions of the UK, Canada, Australia, and New Zealand and also, to some extent, the US with ‘consensual’ constitutions characteristic of Northern Europe, showing how unequal societies tend to prefer ‘majoritarian’ constitutions. Acemoglu et al. (2011) analyze the pros and cons of constitutional checks and balances, pointing out, *inter alia*, that effective checks and balances are less likely to emerge when the political elite is well organized and able to influence or bribe politicians, especially in unequal societies. Acemoglu et al. (2012) discuss intertemporal aspects of constitution making, showing how the current rewards from adopting a specific constitution need to be viewed in the context of its likely implications for the future.

3 Constitutions Differ, Countries Differ

Constitutions resemble exchange rate regimes in that, due to multiple objectives, one size does not fit all. Some countries abandon flexible exchange rates and adopt fixed rates or join currency unions looking for greater price stability. Other countries prefer floating rates to fixed ones in the pursuit of flexibility. This is why some countries fix their exchange rates while others allow them to float and others still go back and forth between fixed and floating rates. This is the way it should be. Different exchange rate regimes across countries reflect different assessments of the relative merits of flexibility and stability.

By the same token, constitutions differ because they aim to accommodate multiple and sometimes conflicting objectives. One such conflict concerns the establishment of clear and firm yet flexible rules. Constitutions need to be clear and firm to avoid legal ambiguity and they need to be flexible to stand the test of time. A constitution that will not bend will break (Posner 2007). Different

constitutions reflect, in part, different assessments of the relative merits of clarity, firmness, and flexibility. Recent literature on rights protection in times of emergency illuminates one such conflict (Goderis and Versteeg 2012). Should countries always stick firmly to their commitments to human rights? Or should they be flexible?—that is, ready to sacrifice liberty for security. If, in times of emergency, majorities panic and fail to protect minority interests, there is a case to be made for sticking to prior commitments. Against this view, Posner (2007) points out that a constitution is not a suicide pact and that governments may have to compromise rights today to save lives tomorrow.

Besides, constitutions need to reflect local circumstances, customs, and history (Jacobsohn 2010). Against this point of view, other researchers claim that constitutions are, in fact, fairly standardized documents and rather similar across countries. Goderis and Versteeg (2011) show that constitutional provisions are often borrowed from other nations. Both sides have a point. If history shows some nations—Denmark, say—to be fairly disciplined, they may need relatively few basic rules or restrictions to regulate their behavior. If history suggests that some other nations—meet the Icelanders!—lack Danish discipline, they may for that reason need more detailed and less flexible laws and constitutions. Discipline or lack thereof need not reflect national character, if such exists, but may be the result of other circumstances such as, for example, institutions and age; Iceland is a young republic (est. 1944). Since 1939, the Icelandic króna has lost 99.95 % of its value vis-à-vis the Danish krone, for you to get my drift on discipline, political as well as pecuniary. So, if deep-seated lack of discipline or norms calls for more detailed rules to regulate behavior, perhaps we may have here part of the reason why Denmark's relatively brief constitution from which Iceland's constitution is derived seems to have served Denmark better than Iceland. Unlike Iceland, the Danes have on a few occasions made significant changes to their constitution from 1849, most recently in 1953 to prepare for their accession to the European Union. If so, perhaps countries with a history of high inflation—Iceland and Turkey, for instance—need more comprehensive constitutions than low-inflation countries, a testable proposition in principle. Further, the assessment of the relative merits of the aims of constitutions may change over time. For example, some observers have suggested that the checks and balances built so carefully into the US constitution in 1787 may have contributed to recent gridlock in Washington, DC.

Be that as it may, it seems clear that the absence of effective checks and balances in the provisional constitution of Iceland from 1944 made it possible for the undisciplined executive branch of government to assume too much power at the expense of both parliament and the courts. Three examples will suffice. First, virtually on their own, two cabinet ministers decided to enlist Iceland in the “Coalition of the willing” invading Iraq in 2003 without any consultation with, or even possible recourse for, the parliament. Second, after the Supreme Court of Iceland ruled in 1998 that the Icelandic system of fisheries management is discriminatory and thereby unconstitutional, the Court reversed its opinion in 2000 under visible pressure from the same two ministers. In 2007, the United Nations Committee on Human Rights expressed agreement with the earlier verdict by

issuing a binding opinion declaring the inequitable nature of the fisheries management system to constitute a violation of human rights and instructing the Icelandic government to rectify the situation (see International covenant on civil and political rights, CCPR/C/91/D/1306/2004, 14 December 2007).¹ Third, politically motivated judicial appointments and even nepotism have shaken public confidence in the courts. From 1926 to 2008, the Independence Party and the Progressive Party managed, through their exclusive control of the Ministry of Justice, to monopolize the appointment of all judges except for 5 years (1944–1947, 1958–1959, 1979–1980, and 1987–1988). Those are the parties that privatized the two state banks 1998–2003 in a manner that paved the way for them to be run to the ground in record time as laid out in the SIC report and other public documents (more on this in [Sects. 6, 7, and 19](#)).

Those were not isolated occurrences. On the contrary, they were part of a broad pattern. The supremacy of the executive branch over the legislative and judicial branches made Iceland's government in practice resemble a presidential system of government more than a semi-presidential or parliamentary one. This interpretation accords with the findings of Andersen and Aslaksen (2008) that, in democratic countries, (1) heavy dependence on natural resources tends to slow down long-run economic growth (the so-called 'resource curse') under a presidential system of government but not under a parliamentary system and (2) the distinction between a parliamentary versus a presidential system matters more for the effects of natural resources on economic growth than the distinction between a democratic versus an autocratic form of government.

The unchecked supremacy of the executive branch made it easy for the Icelandic government first to allocate valuable common-property catch quotas to vessel owners from the mid-1980s onward and then, in like fashion, join hands—some would say jump into bed—with the bankers, first selling the state banks to their political cronies at modest prices, Russian style, and then making sure that the banks would not be bothered too much by reserve requirements or inquisitive financial supervision. In return, the banks treated the political parties and individual politicians generously as detailed in the nine-volume, 2,300-page report by the Special Investigation Committee appointed by the parliament (SIC 2010, vol. 2, pp. 200–201, and vol. 8, pp. 164–170, available only in Icelandic except for a brief executive summary that leaves out the financial relations between the banks and politicians, but see also [Árnason 2010](#)). When the banks crashed, ten out of 63 members of parliament owed the banks more than one million euro each at the pre-

¹ In March 2012 the UNHRC “decided, in light of the measures taken so far by the State party to give effect to the Committee’s views, not to examine the case any further under the follow-up procedure, with a note of partly satisfactory implementation of its recommendation.” By “partly satisfactory implementation” was meant, according to an announcement from Iceland’s Ministry of Foreign Affairs in June 2012, that in February 2009 the “Minister of Fisheries ... reiterated on behalf of the government that it had been decided to strengthen the human rights provisions of the constitution and to consolidate that resources of the sea are a common property of the nation ...” (my translation).

crash exchange rate of the króna; their personal debts to the failed banks ranged from €1 to €40 million. The average debt of the ten MPs was €9 million. How many MPs owed the banks, say, half a million euro or more was not reported by the SIC nor is it known whether the loans of the failed banks to politicians will be repaid or written off. Bill Moyers, interviewing Simon Johnson, the economist, on PBS, told their viewers that the US financial industry donated \$180 million to political campaigns in 2008, or 60 cents per person. The roughly comparable Icelandic figure, according to the SIC report, not including the above loans, was \$8 per person in 2006, or 14 times as much.

4 Historical Background

But let's begin at the beginning. Iceland was granted home rule by Denmark in 1904. The Icelandic constitution of 1944, having been approved by 98 % of the voting public and adopted at Thingvellir, the ancient site of the parliament (the Althing, est. 930), was adapted from the Danish constitution following thorough debate that led to the substitution of a popularly elected president with potentially significant powers for hereditary king. The new constitution replaced the one handed down by Christian IX, King of Denmark, on the 1,000th anniversary of the settlement of Iceland in 1874, revised in 1920. The new constitution of 1944 was part of Iceland's unilateral but somewhat controversial decision 2 years earlier to separate as soon as possible from German-occupied Denmark. The separation was permitted by the union treaty between the two countries from 1918 when Iceland was granted sovereignty slightly short of full independence, the main difference being that, in the monarchical union of the two countries, Denmark continued to handle Iceland's foreign affairs even after 1918. The close connection between the adoption of a new constitution and the separation from Denmark explains the 98 % support for the constitution. Voting Yes was generally regarded as a national duty on the understanding that the constitution was meant to be only provisional and thus did not generate much public debate. Yet, with remarkable foresight, the governor of Iceland, Sveinn Björnsson, elected Iceland's first president in 1944, insisted on a popularly elected president, among the first such in Europe, rather than one chosen by the parliament as the politicians wanted. It helped the governor that dissension among the political parties made them dysfunctional to the point that they were unable to form a government. For that reason, in 1942, with the grudging consent of the parliament, the governor had appointed an extra-parliamentary cabinet. Meanwhile, the first scientifically conducted opinion poll in Iceland showed that 70 % of the electorate preferred a popularly elected president to one chosen by parliament.

According to the 1944 constitution, the president's powers were mainly two-fold. First, he or she had a catalyzing role to play in the formation of governments following parliamentary elections. Second, the president could refer laws adopted by parliament to a national referendum. The latter instrument lay dormant for

60 years, however, not being brought into use until 2004 when the parliament passed a law that would have broken up and effectively closed down the second largest television station and the second largest newspaper, concentrating control of the media in the hands of the government parties. The president exercised his constitutional veto right—that is, the right to refer legislation approved by parliament to a national referendum for acceptance or rejection—but the referendum to be held on the law in accordance with the constitution did not take place. Rather, the parliament, without explicit authorization in the constitution, withdrew the legislation.

This, in short, is how it came about that Iceland adopted Europe's first semi-presidential parliamentary government, that is, one where the president is directly elected by the people, and has significant powers *de facto* as well as *de jure*, and where the prime minister must enjoy the confidence of a popularly elected parliament (Duverger 1980). Today, Austria, Bulgaria, Finland, France, Iceland, Ireland, Poland, Portugal, and Romania all have semi-presidential governments, even if some constitutions grant more power to the president than others.

The parliament promised at once to quickly revise the provisional constitution adopted in 1944. First it promised to finish the job no later than 1946. This promise was not kept. Despite repeated attempts, the parliament never managed to agree upon a comprehensive revision of the constitution even if some revisions were undertaken on seven different occasions over the years mainly to adjust the article on parliamentary elections to demographic changes and migration, to transit from a bicameral parliament to a unicameral one, and to append, in 1995, new articles on human rights following the enactment of the European Convention on Human Rights in Iceland the year before. The enactment of the European Convention followed in the wake of a couple of legal cases that the Icelandic government lost in the European Court of Human Rights. It was against this background of broken promises that the pots and pans demanded a new constitution after the crash of 2008. Up against the wall or out of conviction, in uncertain proportions, the post-crash government elected in April 2009 acceded to this demand, setting the revision process in motion.

5 The Process

In effect, the parliament admitted its 65-years-old failure to produce a new constitution by resolving to have a popularly elected constituent assembly do the job rather than the parliament itself. There were two good reasons for the adoption of this approach. One was clearly the parliament's long-standing failure to deliver. The other was that, among other things, the constitution is meant to circumscribe the powers of parliament and to lay out the method by which MPs are elected, tasks that would create a conflict of interest if undertaken by the parliament itself. The problem is at least as old as the US constitution, the oldest written constitution still in force. In the Federalist Papers, Madison (1788) wrote: "In framing a government

which is to be administered by men over men, the great difficulty lies in this: you must first enable the government to control the governed; and in the next place oblige it to control itself. A dependence on the people is, no doubt, the primary control on the government; but experience has taught mankind the necessity of auxiliary precautions.” Popper (1966, p. 128) put the question thus: “How can we organize political institutions so that bad or incompetent rulers can be prevented from doing too much damage?”²

Goderis and Versteeg (2011) document the growing willingness of governments since World War II to constrain themselves by constitutional means, asking: “... Why would self-interested elites willingly constrain themselves by constitutional means? Because they fear revolution, is one answer (Acemoglu and Robinson 2000; Elster 1995). Because they fear electoral competition is another (Ginsburg 2003; Hirschl 2004; Finkel 2004). Other accounts are more ideological and suggest that constitutionalism is spurred by the traumatic experience of war and dictatorship and a belief that unconstrained politics can be dangerous (Zakaria 2003; Weinrib 2007). What all these explanations have in common is that they focus on the domestic determinants of constitution-making. Whether through the electoral market or through changing beliefs, the constitution is perceived as a national product.”

The Icelandic parliament decided in 2009 to proceed in three steps by (a) convening a National Assembly, (b) appointing a Constitutional Committee to gather information, provide analysis, and propose ideas, and (c) holding an election of Constitutional Assembly representatives. Thus, the parliament’s aim was to have a people’s constitution prepared rather than one written by the politicians themselves or their lawyers.

First, the National Assembly comprised about 1,000 individuals selected at random through stratified sampling from the national registry subject to certain constraints intended to secure equal representation of men and women of different age groups as well as of different parts of the country.³ Held in October 2010, if only for a day, the National Assembly produced a brief document highlighting the things it wanted to see in a new constitution, including, for example, equal voting rights and public ownership of the country’s natural resources. By law, the Constitutional Assembly was expected to consider the conclusions of the National Assembly.

The notion that the people should be involved in drafting their constitutions is gaining ground as the new ‘gold standard’ in constitutional design whereas, in the past, constitutions have been written mainly by alleged experts, sometimes even foreigners. For example, the post-apartheid South African constitutional assembly

² In this spirit, Brennan and Buchanan (1977) argue that farsighted, principled politicians should write tax laws aimed at restricting the expansion of the public sector rather than try to maximize their following in keeping with the teachings of the public choice school (Buchanan and Tullock 1962). See also Mueller (2000).

³ The National Assembly followed the example of a privately organized assembly convened in 2009 by a group of citizens experimenting with collective intelligence.

invited popular petitions and received many. The aim was, in part, to help build a sense of nationhood. It remains to be seen whether constitution-making processes with direct popular involvement actually produce different outcomes—constitutions that are more ‘indigenous,’ better tailored to local circumstances, or more effective. Ginsburg et al. (2009) review the theoretical and empirical relationships between the process of constitutional design and constitutional outcomes.

Second, the parliament appointed a seven-member Constitutional Committee comprising professionals from different directions, including law, literature, and science. The committee produced a 700-page report with detailed ideas concerning the composition of the new constitution, including suggestive examples of the text of individual articles as well as a thorough, clause-by-clause analysis of the constitution from 1944 and of specific issues, including the electoral system used in parliamentary elections and the management and ownership of natural resources. The committee also used its website to facilitate access to foreign constitutions and related literature.

Third, a national election of representatives of the Constitutional Assembly was held in November 2010. There were 522 candidates competing for 25 seats if competition is the right word. Most candidates let it suffice to put their names forward, without advertising their candidacy beyond posting a few articles on the internet and chatting with their friends on Facebook. The electoral method used was single-transferable-vote (STV), a system designed to ensure that if your preferred candidate has no chance of being elected or has enough votes already, your vote is transferred to another candidate according to your instructions, thus ensuring that few votes go to waste (see Balinski and Laraki 2010, p. 37). The STV system is used, for example, in Ireland (except in elections for the presidency and by-elections) and Australia as well as in local elections in Scotland. Some observers attributed the 37 % turnout in the Constitutional Assembly election to the STV system, claiming that choosing one to 25 candidates out of 522 was more off-putting than choosing one party slate out of, say, eight, the usual method. For comparison, voter turnout in the last three parliamentary elections was 83–87 % and in the last two municipal elections, 73–78 %. Others made the point that special elections generally attract fewer voters than general elections. For comparison, voter turnout in Iceland’s previous Constitutional Assembly election in 1850 was around 30 %. In the national referendum on the union treaty with Denmark in 1918, voter turnout was less than 44 %. Some have expressed concern that the election of 25 representatives on an individual basis from hundreds of scattered candidates may scatter the vote and weaken the bond between voters and representatives. Others argue that other voting methods, including proportional representation based on party slates with numerous safe seats, do not necessarily secure a stronger bond between the voters and their representatives.

The election campaign was exceptionally civilized, and quite different from parliamentary election campaigns. The political parties did not field candidates, partly perhaps because the two main opposition parties (the Independence Party and, though not quite as consistently, the Progressive Party) were against the constitutional project from the start. One reason appears to be that the two parties

that from 1930 until the crash of 2008 could rely on the support of about 50–70 % of the electorate between them have a vested interest in preserving the *status quo* that served them so well. To be sure, the Progressive Party advocated a new constitution before the 2009 election, making it the centerpiece of its platform only to reverse its position afterward. It does not help that the revision of the constitution is widely viewed as part of the necessary cleanup after the crash for which those two parties continue steadfastly to refuse to admit any responsibility even if they, together in government from 1995 to 2007, privatized the banks with disastrous consequences and their MPs, all of them, voted for the parliament's unanimous resolution of September 2010 accepting collective responsibility for "Iceland's political culture" (recall [Sect. 1](#)). Interest organizations did not field or openly support any candidates in the Constitutional Assembly election. The Independence Party office mailed a list of favored candidates to party members, but only two of them were elected.

The media, including state television and radio, did little to inform the electorate about the issues or the candidates who seemed to view one another as fellow advocates of a common cause rather than as competitors or opponents. No opinion polls were conducted to gauge the support for individual candidates, so no one knew which among them were most likely to be elected.

The elected representatives comprised a diverse group of people of all ages with broad experience from almost every nook and cranny of national life: doctors, lawyers, priests, and professors, yes, but also company board members, a farmer, a champion for the rights of handicapped persons, mathematicians, media people, erstwhile members of parliament, a nurse, a philosopher, poets and artists, political scientists, a theatre director, and a labor union leader, a good cross section of society. Some expressed concern that too few of the elected representatives came from the countryside, partly because voter turnout there was somewhat lower than in the Reykjavík area. Others considered this immaterial on the grounds that where you happen to live matters less than a good understanding of the needs of the country as a whole.

6 The Supreme Court's Intervention

The aftermath of the election proved less civilized. One unsuccessful candidate and two other individuals, all with connections to the Independence Party, filed a technical complaint about the design of the voting booths and such, claiming, among other things, that the ballot was not, in fact, secret even if the design of the voting booths was the same as in similar STV elections in Ireland and Scotland. The party connection matters because, of the seven politicians and public officials identified by the SIC as having neglected their duties as laid down by law, four were from the Independence Party whose former chairman and prime minister, suspected of criminal negligence before the crash, was indicted by parliament and, in April 2012, found guilty without punishment by a Court of Impeachment of

violating the constitution and the law on ministerial responsibility.⁴ Further, the party's chief executive officer for 25 years and board member of one of the three failed banks (Landsbanki, the bank favored by the Independence Party) has been sued by the winding-up committee of the bank for his part of the responsibility for the bank's demise, including the disbursement of huge sums of money to favored clients of the bank just before the collapse.

A bit of local banking history will help here. The privatization of the Icelandic banks 1998–2003 was deeply flawed. In a celebratory essay on the prime minister in 2004, presumably published with the subject's prior approval, the then editor of *Morgunbladid*, the unofficial Independence Party organ, wrote that, given that the Progressive Party had secured its claim to the second largest state bank, Búnadarbanki, the prime minister “considered it necessary that Landsbanki would land in the hands of persons within at least shouting distance of the Independence Party” (Gunnarsson 2004, p. 467; my translation). After the crash, the prime minister's office disclosed that the erstwhile St. Petersburg, Russia-based father-and-son team that ‘bought’ Landsbanki borrowed from Búnadarbanki a significant part of the sum they paid the state for the bank. In turn, the buyers of Búnadarbanki borrowed a significant part of their purchase price from Landsbanki and apparently presented a fake foreign partner to make their offer look more impressive. The debt from the Landsbanki purchase remains unsettled and, through compound interest, has more than doubled since 2003. Some politicians and their friends became very rich. Four years after the crash, the parliament has not yet decided to order an investigation into the privatization of the banks. But we digress.

After reviewing the complaints, the Supreme Court of Iceland (2011) declared the Constitutional Assembly election null and void in what must be the first instance of a national election being invalidated *in toto* in a democracy, on flimsy grounds to boot as outlined by Dr. Reynir Axelsson, a mathematician at the University of Iceland. Both the Supreme Court decision and Axelsson's analysis of it are available in English. Axelsson (2011) concludes his analysis as follows:

The only real and only significant deficiency in the election was that the Supreme Court spoiled it by a Decision which is demonstrably based on false reasoning and dubious sources of law. ... The Decision of the Supreme Court is not a judgment. It would therefore doubtless be theoretically possible to refer it to the courts of law; if the case then returns to the Supreme Court, all the judges of the Court would be disqualified and new judges would need to be appointed ad hoc. It is very unlikely that this route will be taken. As a result, the Decision of the Supreme Court will no doubt be allowed to stand as an extremely dangerous precedent in the history of the Icelandic judiciary.

The decision by the Supreme Court was widely seen as an attempt by vested interests to thwart the democratic process by killing the constituent assembly in its infancy. The strong opposition of the Independence Party to the constitution's

⁴ The former prime minister was found guilty on one count—not convening cabinet meetings on the banking crisis before the banks collapsed—but he was acquitted, though severely criticized by the Court, on three other counts. Two further counts had earlier been dismissed from the original six-count indictment by parliament.

being revised or redrafted outside parliament was clear. Furthermore, the Supreme Court's decision to invalidate the election may have been illegal. Icelandic law stipulates that, to invalidate the election of a specific representative, it must be proved either that the representative was ineligible by law to stand for election or that a fraudulent attempt was made to improve the representative's chance of being elected. The law does not permit the invalidation of the election of a representative on any other grounds (such as technical ones concerning voting booths, etc.). Accordingly, the Supreme Court did not have legal authority to invalidate the election *in toto*. No one bothered, however, to appeal the Supreme Court's decision to the European Court of Human Rights even if the European Court has overruled the Supreme Court of Iceland on several occasions in the past.

This kind of thing is not something you would ordinarily expect to happen in a Nordic country—Italy, perhaps, before Berlusconi, or Japan or Russia, but not Scandinavia. But then you would not either expect to see several high-ranking members of what throughout the history of the republic from 1944 onward was the largest political party in such deep trouble with the law, including the permanent secretary of the Ministry of Finance who is serving an unconditional two-year prison sentence for insider trading in Landsbanki stocks, a verdict confirmed by the Supreme Court in 2012.

The parliament reacted to the Supreme Court decision by appointing the 25 elected representatives to a Constitutional Council, revising accordingly the law governing the Constitutional Assembly. Of the 25 elected representatives, ten women and 15 men, all but one accepted the parliamentary appointment. The abstainer was replaced by the person who came in 26th in the vote tally. Probably as intended, the opponents of the project have used the Supreme Court decision to question the legitimacy of the Council, referring to it as an irrelevant 'conference' that no one needs pay any particular attention to. Others have asked: if the parliament wanted to appoint 25 people to a Constitutional Council, which 25 individuals would have been better suited to the task than the 25 who were elected through a process that not even the Supreme Court claimed was affected by the alleged technical flaws in question? This is a key point: the Supreme Court invalidated the election without suggesting that the election results had been affected by the problems cited.⁵

7 Constitutional Bill: Preliminaries

It was clear from the outset that the people wanted change.

⁵ When the presidential election of 2012 was challenged by three handicapped voters claiming that because they were forced to accept help from election officials in the voting booth the ballot was not secret, the Supreme Court reversed course, dismissing the complaint on the grounds that the election results could not have been affected by the alleged lack of secrecy.

In keeping with the conclusions of the National Assembly convened the month before, the answers the Constitutional Assembly candidates gave the media before the November 2010 election reflected a broad consensus that substantial changes in the constitution are needed. Based on the answers given by 23 of the 25 candidates who were elected (two did not participate), 19 out of 23 said they were in favor of changing the constitution, 22 were in favor of equal voting rights everywhere in the country, 22 were in favor of public ownership of natural resources, 21 were in favor of more frequent national referenda, 20 favored strengthening the right of the public to information, 20 opposed the right of cabinet ministers to retain their seats in parliament, 18 were in favor of preserving the right of the president to refer laws to a national referendum, 18 were opposed to allowing ministers to appoint public officials on their own, and 16 were in favor of allowing voters to cast their vote for individual candidates and not just for party slates. Last but not least, all 23 were against allowing the minister of justice (now minister of the interior) to appoint judges on his or her own. To understand the 23 out of 23, it helps to know that throughout the history of the republic an overwhelming majority of judicial appointments has been made by ministers belonging to the two long-dominant political parties, the Independence Party and the Progressive Party. According to opinion polls, public confidence in the courts has long been almost as low as public confidence in the parliament. The problem persists. In 2011, according to Market and Media Research, a leading pollster, only one respondent in three expressed great confidence in the judicial system compared with one in ten who expressed great trust in parliament.⁶ In sum, the elected representatives wanted more democracy, more respect for human rights, more checks and balances, more transparency, and less corruption.

Opinion polls suggested that the broad consensus among the elected representatives as well as among the 522 candidates reflected not only the sentiments of the National Assembly attended by about 1,000 randomly selected citizens, but reflected also public opinion. For example, the broad consensus among the representatives about the need to substantiate, or rather reclaim, the people's ownership rights to their natural resources accords with public opinion polls that have for many years consistently shown about 70 % of the electorate to be opposed to the discriminatory nature of the fisheries management system that has turned a small group of boat owners into billionaires and major political power brokers. The National Assembly echoed this popular sentiment. The Constitutional Council considered itself obliged by law to take the resolutions of the National Assembly into consideration. Therefore, no one needed to be surprised when the Constitutional Council approved and delivered to parliament a constitutional bill that, if ratified in a national referendum and approved by two successive parliaments, will entail a major overhaul of Iceland's constitution.

⁶ In view of Ackerman's (2004) hypothesis that, through popular involvement, people have a more positive view of their government and government institutions, it would be interesting to investigate empirically whether the delegates at the National Assembly remain as distrustful of parliament as the population at large.

Early on in the Constitutional Council's work it became clear that most of its members wanted to start with a clean slate, to write a new constitution from scratch rather than revise the existing one. Even so, the council reached a consensus, approving the bill after 4 months of work with 25 votes against zero, a remarkable feat, not least in view of the fact that the reforms proposed are quite far-reaching and radical in a number of ways. The bill stresses stronger checks and balances between the three branches of government as well as between power and accountability. It stresses transparency, fairness, protection of the environment, and efficient and fair exploitation plus national ownership of the country's natural resources. It aims to stamp out corruption and secrecy, yet leaves both words unspoken. At the same time, the bill promises continuity and stability by preserving and strengthening the semi-presidential form of parliamentary government laid out in the provisional constitution from 1944. In effect, while retaining a popularly elected president with potentially significant powers, the bill aims to move the Icelandic governance model from 1944 in the direction of 'constrained parliamentarianism' along the lines of the constitutional practice of Canada, Germany, India, Italy, Japan, South Africa, and many other nations (Ackerman 2000).

A short preamble in first-person plural sets the tone:

We, the people of Iceland, wish to create a just society with equal opportunities for everyone. Our different origins enrich the whole, and together we are responsible for the heritage of the generations, the land and history, nature, language and culture.

Iceland is a free and sovereign state, resting on the cornerstones of freedom, equality, democracy and human rights.

The government shall work for the welfare of the inhabitants of the country, strengthen their culture and respect the diversity of human life, the land and the biosphere.

We wish to promote peace, security, well-being and happiness among ourselves and future generations. We resolve to work with other nations in the interests of peace and respect for the Earth and all Mankind.

In this light we are adopting a new Constitution, the supreme law of the land, to be observed by all.

8 Some Highlights and Obstacles

Different Council representatives and different readers of the bill will no doubt produce different lists of their favorite provisions. Here I propose to present some of the highlights of the bill as I see it. I begin with the two articles that I find most important and that probably will engender the greatest resistance from the opponents of the bill. These two articles concern human rights in two dimensions, in the electoral system as well as in natural resource management. The emphasis on human rights in the bill reflects the evolution of international public opinion and the concomitant proliferation of constitutional rights round the world over the years. For example, in 2006, a third of the world's constitutions contained clauses

protecting the right of the public to information about government, as the Iceland bill does (see Sect. 12), compared with only 2 % in 1946. The right to life, protected by a third of the world's constitutions in 1946, most often without banning abortion, was protected in four of every five constitutions in 2006; the Iceland bill does, too. Goderis and Versteeg (2011, Table 1) document the evolution of 108 different types of constitutional rights from 1946 to 2006. Also, Goderis and Versteeg (2012) report that human rights deteriorated in the United States and elsewhere after 9/11 with increased violations against physical integrity rights at home and abroad. In countries with independent judicial review, courts could prevent such rights violations.

So why would some Icelandic politicians object to the afore-mentioned articles on the electoral system and natural resource management intended to safeguard human rights?

First, the constitutional protection of the principle of 'one person, one vote' plus the right of voters to cast their votes for individual candidates rather than or as well as for party slates will significantly hamper the reelection prospects of a number of sitting MPs. Put bluntly, this article will almost surely make some of them unelectable because they are the products of an electoral system that allows the political parties to allocate 'safe seats' to candidates with few accomplishments on record and hence with limited popular following. Asking some of those MPs to approve this article, therefore, is a bit like asking the turkey to vote for Thanksgiving. This is an important part of the reason for having constitutions written by representatives of the people, not by politicians. The main point is, however, that the one person, one vote part of the article is an essential aspect of human rights as foreign supervisors of Iceland's parliamentary elections have remarked repeatedly in their reports. Also, the National Assembly asked for electoral reform along these lines.

Second, in view of the generosity of the banks to political parties as well as to individual politicians tabulated in the SIC report, it appears likely if not almost certain (for authentication, see below) that some parties and politicians were also generously treated by the vessel owners to whom politicians granted free access to the fishing grounds through the allocation of freely transferable catch quotas. One example will suffice. In serious financial trouble, Iceland's main daily newspaper, *Morgunbladid*, has changed hands several times in recent years. For a short while, the paper was owned by the father of the Landsbanki father-and-son duo mentioned before (Sect. 6), but in 2009 he declared himself bankrupt in one of the largest personal bankruptcy filings on record anywhere (\$750 million). Then the paper was taken over by one of the privileged boat owners made rich by the gratis allotment of fishing quotas. Under this new ownership, Iceland's discredited prime minister 1991–2004 who went on to have himself appointed Central Bank governor and was summarily removed from the governor's office after the crash was installed as editor of *Morgunbladid*—roughly the equivalent of making Richard Nixon editor of the *Washington Post* to ensure fair and balanced coverage of Watergate. *Morgunbladid* now fights tooth and nail against the constitutional bill. No public investigation of the suspected financial dealings between boat owners and politicians has taken place. The removal of the boat owners' privileges as

stipulated by the bill will no doubt disappoint them as well as their friends and allies in the political arena. For another example, a former editor of *Morgunbladid* describes the consequences of the fisheries management system after 1990 as follows: “Rural MPs sided with the quota holders virtually without exception... It meant political suicide to rise against the quota holders in rural areas.” (Gunnarsson 2009, p. 206; my translation).

There is yet another, general reason why the Icelandic constitutional bill is likely to encounter resistance. The purpose of any constitution is, *inter alia*, to spell out the rights of the population *vis-à-vis* the state and other citizens. One person’s right is another person’s obligation. The stipulation of ‘one person, one vote’ aims to reduce the political influence of those whose votes have carried extra weight in past parliamentary elections. Rural voters are being asked to give way to others to promote equality. The declaration that natural resources belong to the people is intended to redistribute economic and political clout away from those who in the past were granted free, or, more recently, nearly free, access to fishing quotas, a common property resource by law since 1990. Privileged boat owners are being asked to give way to others for the sake of equality and justice. The clause on environmental protection aims to hold back those who want to be able to go on polluting the natural environment with impunity. Polluters are being asked to yield. The clause on the right to information aims to restrain the behavior of those who hitherto have benefited from unwarranted secrecy, and so on. Any constitutional referendum involves a contest between narrow special interests and the public interest.

Let me now review a few key provisions of the bill (Sects. 9, 10, 11, 12, 13 and 14 draw on Gylfason 2011a).

9 One Person, One Vote

Article 39 on elections to parliament states that “The votes of voters everywhere in the country shall have equal weight.” This is important because MPs from rural areas currently have much fewer votes behind them than their fellow MPs from the Reykjavík area, with far-reaching political and economic consequences. The same article states: “A voter selects individual candidates from slates in his electoral district or from nationwide slates or both. A voter is also permitted instead to mark a single district slate or a single nationwide slate, in which case the voter will be understood to have selected all the candidates on the slate equally.” Voters will thus be free to cast their votes for parties as now or for individual candidates on different slates. This matters because, among other things, corruption is more prevalent in countries with small electoral districts and party slates than in countries with large electoral districts where voters have an opportunity to elect individual candidates (Persson and Tabellini 2005, Chap. 7). In essence, article 39 stipulates that voters can vote for persons as well as parties, even across party lists, while also guaranteeing minimal representation of regions as well as one person,

one vote. Also, the article states: “The means of promoting as equal a proportion of men and women in the Althing shall be provided for in legislation on elections.”⁷

The continuing need for detailed constitutional provisions concerning the parliamentary election system stems from the fact that earlier changes of the electoral clause were colored by the insistence of the prevailing political parties on preserving their privileges through unequal voting rights. Throughout most of the twentieth century, the number of votes needed to elect an MP for the Reykjavík area was two, three, and up to four times as large as the number of votes needed in the rural electoral districts, in effect giving each farmer the ability to cast the equivalent of two to four votes in parliamentary elections. Until 2003, the provinces kept their majority in parliament even if nearly two-thirds of the people now live in Reykjavík. The deliberate bias built into the electoral law resulted, among other things, in a neglect of education in the provinces. Provincial politicians are often more interested in roads and bridges rather than education. Besides, too much education can sometimes feel threatening to the authorities, a well known phenomenon; think of Haiti under Papa Doc or Congo under Belgium: ‘*Pas d’élites, pas d’ennemis*’ (‘No elites, no enemies’). For another example, Italian colonial governors in Eritrea long followed a policy of restricted education to ensure Eritrean acquiescence (Wrong 2006, p. 67). Be that as it may, the electoral bias in Iceland, a *de facto* instrument of regional policy, slowed down the migration to Reykjavík as well as the lopsided transition from a rigid, quasi-planned economy toward a more flexible, mixed market economy, and resulted in a similarly reluctant and slow depoliticization of economic life, including the banks that were privatized as late as in 1998–2003, as said before, several years after the privatization of commercial banks in East and Central Europe and the Baltic countries was completed. In the parliamentary election of 1927, an extreme case, the Progressive Party obtained the majority of seats in parliament with one-third of the votes behind it, setting Iceland on a course of protectionist, inward-looking economic policies that lasted a generation or longer.

10 Natural Resources

Article 34 is as follows:

Iceland’s natural resources which are not in private ownership are the common and perpetual property of the nation. No one may acquire the natural resources or their attached rights for ownership or permanent use, and they may never be sold or mortgaged. Resources under national ownership include resources such as harvestable fish stocks, other resources of the sea and sea bed within Icelandic jurisdiction and sources of water

⁷ Gender equality through affirmative action might also be helpful in banking and finance in view of empirical evidence that women are more averse to risk than men (Barber and Odean 2001). Lehman Sisters might still be standing.

rights and power development rights, geothermal energy and mining rights. National ownership of resources below a certain depth from the surface of the earth may be provided for by law. The utilization of the resources shall be guided by sustainable development and the public interest. Government authorities, together with those who utilize the resources, are responsible for their protection. On the basis of law, government authorities may grant permits for the use or utilization of resources or other limited public goods against full consideration and for a reasonable period of time. Such permits shall be granted on a non-discriminatory basis and shall never entail ownership or irrevocable control of the resources.

By “full consideration” is meant full market price—that is, the highest price that anyone is willing to pay, e.g., in a market, at auction, or in an agreement with the state as agent for the resource’s rightful owner, the nation—for the right to exploit the resource in question. This marks a clear departure from current practice where vessel owners have been granted access to valuable common-property fishing quotas, first free of charge and then against nominal fees, a discriminatory and thereby also unconstitutional practice according to the United Nations Committee on Human Rights (2007). The Constitutional Council discussed the possibility of replacing “full consideration” by “fair consideration,” but the idea was rejected on the grounds that “fair consideration” might be perceived as a constitutionally protected offer of a discount to those granted permits for the use or utilization of resources. Further, the wording “fair consideration” would have introduced an element of discrimination into the bill in violation of the equality clause (article 6) because the clause on the right of ownership (article 13) states:

The right of private ownership shall be inviolate. No one may be obliged to surrender his property unless required by the public interest. Such a measure requires permission by law, and full compensation shall be paid. Ownership rights entail obligations as well as restrictions in accordance with law.

Like the constitution from 1944, the constitutional bill prescribes “full compensation” for private owners, and must treat all owners the same way.

The article on natural resources together with the articles on environmental protection is located in a chapter entitled “Human Rights and Nature.” This is done to underline the human rights aspect of natural resource management.

Notice also the reference to “the common and perpetual property of the nation.” Several constitutions (Chile, China, Ghana, Iraq, Kuwait, and Russia, to name a few) declare natural resources to be the property of the state. Some other constitutions are rather ambivalent or even silent on the subject of natural resources. For instance, the constitution of Nigeria lets it suffice to say that “the material resources of the nation are harnessed and distributed as best as possible to serve the common good.”

The Iceland bill takes a different route based on an explicit conceptual distinction between the ‘property of the nation’ and ‘property of the state.’ State property—office buildings, for example—can be sold or pledged at will by the state. The property of the nation is different in that it “may never be sold or mortgaged.” The wording “perpetual property of the nation” accords with the wording of the 1928 law about the national park at Thingvellir that states: “The

protected land shall be under the protection of parliament and the perpetual property of the nation. It may never be sold or mortgaged.” This means that the present generation shares Thingvellir as well as the natural resources belonging to the nation with future generations, and does not have the right to dispose of the resources for its own benefit. These restrictions are meant to refer to the natural resources themselves as well as to the rights attached to the resources.

In part to clarify the meaning of the nation’s, as opposed to the state’s, ownership rights to its natural resources, the article on natural resources is preceded by a corresponding article on cultural assets (article 32):

Valuable national possessions pertaining to the Icelandic cultural heritage, such as national relics and ancient manuscripts, may neither be destroyed nor surrendered for permanent possession or use, sold or pledged.

National ownership of cultural assets as well as of (renewable) natural resources is intended to impose on the current generation a duty to preserve the assets in question for unborn generations. State ownership involves no such duty.

11 Iceland’s Nature and Environment

Article 33 is as follows:

Iceland’s nature is the foundation of life in the country. Everyone is under obligation to respect it and protect it. Everyone shall by law be ensured the right to a healthy environment, fresh water, clean air and unspoiled nature. This means maintenance of life and land and protection of sites of natural interest, unpopulated wilderness, vegetation and soil. Previous damage shall be repaired to the extent possible. The use of natural resources shall be managed so as to minimize their depletion in the long term with respect for the rights of nature and future generations.

The article reflects increased public awareness of the need for environmental protection mirrored by an increasing propensity to adopt such provisions in constitutions around the world. Addressing the need to balance the rights of the present generation and future generations, and of man and nature, such constitutional provisions have become more detailed and specific in recent years, reflecting keener public interest in the importance of nature for the health and happiness of mankind. To underline their importance and the kinship involved, such provisions are included among the human rights provisions in, for example, the constitution of Finland. The Iceland bill takes the same approach, following also the example of France as well as some South American constitutions (e.g., Bolivia and Ecuador). In line with recent developments of legal thought about nature and the environment (reflected, e.g., in *La Charte de l’environnement* adopted by parliament as part of the French constitution in 2005), the traditional rights of man to exploit nature are balanced against the independent rights and protection of nature against excessive exploitation in the spirit of sustainable development. This has an important implication. Ordinary people can now seek legal recourse in matters

relating to environmental damage and their rights to enjoy nature. The provision “Previous damage shall be repaired to the extent possible” refers, *inter alia*, to grazing on other people’s or public lands, a major source of environmental erosion in Iceland over the centuries and to this day. Grazing was a source of conflict and of preventive legislation in medieval times as recorded in *Jónsbók*, Iceland’s basic law from 1281 to 1662. In 1662, the Icelanders relinquished their autonomy to the monarchy of Denmark and Norway, an arrangement lasting until 1874. That was the year when the king of Denmark granted Iceland the first rudiments of home rule plus a constitution, a precursor of the provisional constitution of 1944.

This discussion suggests another way to view the afore-mentioned provision on cultural assets. If Iceland’s nature and environment deserve constitutional protection, the cultural heritage of the country is bound to merit comparable protection. The Greek constitution takes the same parallel view of the protection of nature and culture, stating that “The protection of the natural and cultural environment constitutes a duty of the State.” Going a step further, the Portuguese constitution grants “Everyone, either personally or through associations that purport to defend the interests at stake, ... the right to *actio popularis* in the cases and under the conditions provided by law, notably the right to promote the prevention, the suppression, and the prosecution of offences against public health, the environment, the quality of life, and the cultural heritage, as well as to claim the corresponding damages for the aggrieved party or parties.” This Portuguese provision accords with environmental and cultural protection provisions in the Iceland bill which, however, does not extend those provisions to public health or the quality of life.

Article 35 on “Information on the environment and legitimate interests” states, *inter alia*, that “Public access to preparations for decisions which will impact the environment and nature, as well as permission to seek the intervention of impartial administrative agencies, shall be ensured by law.”

Articles 32–35 on cultural assets, natural resources, and nature and the environment mark a clear departure from the 1944 constitution which does not deal with those subjects at all. These articles stipulate ‘new’ rights present in many modern constitutions but hardly in any constitution written before the 1980s. Other novelties include the bill’s provisions about the right to information, freedom of the media, the appointment of public officials, independent state agencies, and national referenda to which we now turn.

12 Right to Information and Freedom of the Media

Article 15 contains the following provision: “Information and documents in the possession of the government shall be available without evasion and the law shall ensure public access to all documents collected or procured by public entities.”

Article 16 states:

... The freedom of the media, their independence and transparency of ownership shall be ensured by law. The protection of journalists, their sources of information and whistle-blowers shall be ensured by law. It is not permitted to breach confidentiality without the consent of the person providing the information except in the process of criminal proceedings and pursuant to a court order.

The precedent illuminating the provision on the right to information is the Swedish constitution which already in 1766 provided for the freedom of the press and right to information ('tryckfrihetsförordningen' in Swedish), including the right of the public to access to official documents. The Swedish constitution, with these provisions, preceded the French Bill of Rights of 1789 and the first amendment of the constitution of the United States in 1791. The right to information is an integral part of human rights and must be accorded similar protection as other human rights. The guiding principle is transparency which means that the legislature is not authorized to restrict the publication of information except subject to strict conditions. This general rule ('offentlighetsprincipen' in Swedish, also referred to as 'sunshine laws') means that everyone is guaranteed access to official documents, court proceedings, and open meetings where political decisions are made. Finland has similar provisions in its constitution.

The right of journalists to protect their sources of information differs fundamentally from the confidentiality of doctors and lawyers who have a professional duty not to share with others, even in court, confidential information they have acquired about their clients. By contrast, it is the professional duty of journalists to share their information with the public. The constitutional protection accorded to journalists does not apply to the information they have gathered, but only to the sources of the information. This is a key distinction underlying the constitutional protection of sources and whistle-blowers. Freedom of the media is an important pillar of democracy and, therefore, merits constitutional protection.

The two articles on the right to information and freedom of the media aim to increase transparency and help uproot a pervasive official culture of secrecy and submissive journalism. In Iceland, until recently, even the travel expenses of cabinet ministers and other public officials were not accessible to journalists or the general public. The problem persists. In the course of its work, one of the committees of the Constitutional Council was denied access to information about pension payments from the Pension Fund of Public Employees to those retirees receiving the highest payments. The request for this information was predicated on the common knowledge that some politicians and public officials receive multiple pensions, but names with amounts attached are kept from public view, a state of affairs that the constitutional bill aims to change.

13 Appointment of Public Officials

Article 96 is as follows:

Qualifications and objective viewpoints shall decide appointments to offices. When a Cabinet Minister makes an appointment to the posts of judge and Director of Public Prosecutions, the appointment shall be submitted to the President of Iceland for confirmation. If the President withhold his confirmation, the Althing must approve the appointment by a two-thirds majority vote for the appointment to take effect. Ministers shall make appointments to other posts as defined by law following recommendation by an independent committee. If a Minister does not appoint to such an office one of the persons regarded as most qualified, the appointment shall be subject to the approval of the Althing by a two-thirds majority vote. The President of Iceland shall appoint the chairman of the committee.

The reference up front to “qualifications and objective viewpoints” as well as the establishment of a civil service commission is intended to put an end to ministerial appointments of incompetent or acquiescent people to high office. The ban in the equality provision (article 6) against discrimination with regard to ‘political affiliation,’ among other things, serves a similar purpose. Appointment corruption is a serious problem in Iceland as can be inferred, for example, from the criticism of several aspects of public administration presented in the SIC report of 2010 as well as from opinions issued by the parliament’s ombudsman. Rather than have the minister of the interior appoint judges and the state prosecutor on his or her own, as was done until 2010 when the law was changed, the bill stipulates that either the president or a two-thirds majority in parliament must confirm the appointment. This provision is designed to make it unconstitutional for the politicians to revert to their old practice regarding judicial appointments. Likewise, rather than have ministers appoint other senior officials (e.g., cabinet secretaries and directors of key state agencies) on their own, the bill stipulates that such appointments must either follow the recommendations of an independent committee set up by the civil service commission whose chairman is appointed by the president or they must be confirmed by a two-thirds majority in parliament. The new, supervisory role conferred on the president plus the overlapping authority of ministers and parliament aim to disperse the power to make civil service appointments in an attempt to increase competence in public administration.

14 Independent State Agencies

Article 97 is as follows:

Certain agencies of the State which carry out important regulatory functions or gather information which is necessary in a democratic society may be granted special independence by law. The activities of such agencies cannot be discontinued, significantly changed or entrusted to other agencies except by an act of law passed by a two-thirds majority in the Althing.

This article is intended to safeguard the activities and independence of state agencies that need to be able to operate independently without undue political interference, especially agencies with important supervisory functions and information gathering responsibilities as necessary in a democratic society. In Council debates, some of the main agencies mentioned in this context were the Central Bank, the Financial Supervisory Authority, the Competition Authority, and Statistics Iceland in addition to the National Audit Office and the Ombudsman of the Althing for both of which the bill proposes constitutional protection. The article also aims to cover similar agencies charged with supervision and data collection concerning the environment. To be able to perform their duties, supervisory agencies need to be independent. Financial supervisory agencies, for example, need to be able to inspect bank operations without government interference or threats that parliament by a simple majority can dismantle them or disrupt their operations. The same applies to agencies charged with securing free and fair competition as well as to agencies gathering economic data or providing economic advice to the government and the public. The guiding principle behind this article is independence with accountability. Independent monetary policy must be guarded against the vicissitudes of political life. A central bank lacking independence will find it difficult to provide impartial economic counsel. The same applies to other institutions dispensing economic policy advice. Such institutions must stand ready to issue warnings about pending dangers on the economic front and to present inconvenient economic data and advice. This is why the bill stipulates that state agencies that have been placed in this category by law can only be dismantled by a two-thirds majority in parliament. Increased independence of state agencies needs to go hand in hand with external accountability as well as internal checks and balances.

The article on independent state agencies did not emerge from thin air. In 2002, the government decided to summarily abolish the National Economic Institute (est. 1974) on the grounds, among other things, that the economic analysis on offer from the commercial banks was enough. Subsequently, Statistics Iceland looked the other way while the distribution of disposable—that is, after-tax—income as measured by the Gini index became progressively less equal year after year due mostly to the government's deliberate shift of the tax burden from the most affluent groups in society to low-to-middle-income families. The government did this by tempting the rich to reclassify their labor incomes as capital incomes, taxed at 10 %, while essentially freezing the level of tax-free income with the result that inflation, through tax creep, made more and more low-income earners have to pay taxes. The ensuing increase in inequality brought Iceland's income distribution from approximate parity with the Nordic countries in the mid-1990s to near parity with the United States in 2007, a dramatic change denied by the government at the time (Gylfason et al. 2010, pp. 155–156). Before the onset of the crisis, increased disparity of income and wealth was one of several signs that Iceland was headed for trouble. Increased inequality also preceded the Great Depression in the United States 1929–1939 (Galbraith 1988, pp. 177–178).

15 National Referenda and Role of the President

The bill seeks to preserve and strengthen one of the hallmarks of the 1944 constitution, namely, the semi-presidential model of parliamentary democracy, in two main ways.

First, the constitutional right to refer to a national referendum laws passed by parliament remains unchanged in the hands of the president, and is, secondly, granted also to 10 % of the electorate. This means that even in cases where the president sees no reason to refer a piece of legislation to a referendum, valid signatures by 10 % of the electorate can nonetheless do so. Experience from other countries seems to suggest that higher thresholds such as 15 % are difficult to surpass (Direct Democracy 2008, p. 198). Hence, with a threshold of 10 %, national referenda are intended to be more commonly used than before, directly or indirectly. The aim is to boost direct democracy. Iceland has held only seven referenda in the past, for example about prohibition in 1908 and its abolition in 1933 as well as, recently, about state guarantees in connection with the Icesave dispute involving the Icelandic, British, and Dutch governments. The parliament has scheduled a consultative referendum on the constitutional bill under review here on 20 October 2012 as well as another one on European Union membership following the completion of the accession agreement between the EU and Iceland under negotiation since 2009.

According to articles 65, 66, and 67,

Ten per cent of the electorate can petition for a referendum on legislation passed by the Althing. ... The legislation shall become void if rejected by the electorate, but shall otherwise remain in force. However, the Althing may decide to repeal the legislation before the referendum takes place. ... Two per cent of the electorate may submit an item of business in the Althing. Ten per cent of the electorate may submit a legislative bill in the Althing. The Althing can submit a counterproposal in the form of another legislative bill. If a voters' bill has not been withdrawn, it shall be submitted to a referendum, as well as the bill of the Althing, if introduced. ... A referendum cannot be requested on the basis of these Articles concerning the State Fiscal Budget, the Supplementary Fiscal Budget, legislation enacted for the purpose of implementing undertakings under international law, nor concerning tax matters or citizenship.

The issues deemed unfit for referenda requested by 10 % of the electorate—the government budget, etc.—do not extend to the president's right to refer laws to a referendum. The president's right in this regard remains undiminished from current practice.

The guiding principle behind these three articles is the dispersion of power in order to bolster direct democracy through increased use of national referenda to absolve the parliament of particularly difficult and divisive decisions such as about EU membership or a new constitution. This article thus aims to encourage the outsourcing, or, better put, return, of some of the parliament's decision making to the people on the understanding that democracy means, in the words of Lord George-Brown, Britain's foreign secretary in the 1960s, in a public lecture in

Reykjavík in 1971, that “There shall be no one to stop us from being stupid if stupid we want to be.”

16 Anomalies

The constitution from 1944 contains several anomalies that remain in force because of the parliament’s inability to keep its 65-years-old promise to revise the constitution. Two quick examples will suffice to suggest the extent of the problem.

Article 29 of the 1944 constitution states that “The President may decide that the prosecution for an offense be discontinued if there are strong reasons therefor.”

Article 30 states that “The President, or other governmental authorities entrusted by the President, grants exemptions from laws in accordance with established practice.”

These examples show what can happen when constitutional provisions considered fit for a nineteenth century king are left at the disposal of a twenty-first century president. In their defense, the constitution makers of 1944 could have argued that article 13, stating that “The President entrusts his authority to Ministers,” means that the president cannot on his or her own grant “exemptions from laws in accordance with established practice.” But even so, articles 30 and 13 together mean that the president with a minister in tow could grant such exemptions, clearly an untenable situation. The candidates running for president in 2012 expressed widely different views of the powers of the president, a clear sign of interpretive ambiguities that the constitutional bill is intended to prevent.

17 Absent: Financial and Fiscal Issues

We now return to something completely different, a topic introduced in [Sect. 2](#). Does financial regulation belong in constitutions? Or is it enough to confine such regulation to laws—which, to date, is near-universal practice.

This is a fair question, especially in a country that has recently gone through one of the worst financial crashes on record, with grave consequences for many households and firms at home and elsewhere. According to Eurostat, 13 % of Icelandic households had great difficulties making ends meet in 2010 compared with 2–4 % in Denmark, Finland, Norway, and Sweden. The corresponding percentages in 2004 were 9 % in Iceland and 3–4 % in the rest of the Nordic region. These figures suggest that Iceland was not primarily a victim of foreign events. If that were the case, Nordic households should find themselves in similar difficulties as Icelandic ones. The question is particularly pertinent in view of the fact that Iceland’s Law on financial institutions from 2002, No. 161, article 52, states (I am not making this up): “Directors and managers must ... have an unblemished reputation, and must not in the last 5 years have been declared

bankrupt. They must not ... have been convicted over the past 10 years of a criminal offense under the Penal Code..." (my translation). This article appears to have been tailor-made for the afore-mentioned person who a few short years later declared personal bankruptcy to the tune of \$750 million, two-thirds of which he owed to the bank he owned and operated as chairman of the board. He told the SIC that he believed that the bank "had been very happy to have [him] as a borrower." His vice chairman was the long-standing afore-mentioned CEO of the Independence Party, now in opposition.

In Iceland, as I see it, bankers were not solely responsible for the crash of 2008. They simply went as far as they could with the passive or active permission of politicians. The root cause of the crash was the incestuous relationship between politicians and the owners and managers of the banks and other big firms. Bankers everywhere usually go as far as they can within the limits imposed on them by politicians through laws and regulations, and sometimes farther. Likewise, politicians usually go as far as they can in the pursuit of their objectives by making laws and executing them subject to the restraints imposed by the constitution, and sometimes also by public opinion. This is why it is common practice around the world to put in the constitution general provisions laying out the division of responsibility and power among the three main branches of government, checks and balances, and to delegate to the law specific provisions concerning day-to-day government, including its regulation of banks and other financial institutions. The constitutional bill for Iceland is in this spirit. The bill aims to sharpen the division of power among the legislative, executive, and judicial branches of government to contain the ability of the authorities to harm the rights and interests of the public. The articles concerning the right to information, freedom of the media, appointments to public office, the independence of key state agencies, and parliamentary investigation committees are, *inter alia*, intended to reduce the likelihood that the banks can again outgrow the government's ability to protect the people against the banks. Do these provisions suffice to prevent another crash? No. Probably no constitution can offer such a guarantee. All that a constitution can be expected to do—or the law, for that matter—is to lower the probability of yet another crash.

Would it have been better to include in the bill an article aimed at tying the hands of the banks? This could have been done by, for example, stipulating quantitative limits on the ratio of foreign debt to gross domestic product or on the ratio of the foreign exchange reserves of the central bank to some appropriate base such as the short-term foreign liabilities of the banking system. The latter ratio, by the Giudotti-Greenspan rule, must never be allowed to fall below unity lest the currency be exposed to heads-I-win-tails-you-lose speculative attacks, a well-known proposition since the outbreak of the Southeast Asian financial crisis in 1997. Not many countries have written such quantitative requirements into law. A rare exception, Bhutan's recent constitution features an article on the management of foreign exchange reserves as follows: "A minimum foreign currency reserve that is adequate to meet the cost of not less than one year's import must be maintained."

In US law, ‘prompt corrective action’ mandates progressive penalties against banks that exhibit progressively deteriorating capital ratios (Goodhart 2009). In this vein, would an article protecting and extending ‘prompt corrective action’ by enabling the authorities to take over banks before their legal insolvency, thus infringing on property rights to safeguard society, have belonged in the Iceland bill? In the end, it was decided to let it suffice to extend the article on the right of ownership currently in force by adding the words “Ownership rights entail obligations as well as restrictions in accordance with law” without granting the state explicit constitutionally protected authority to take over troubled banks.

Quantitative economic provisions are uncommon in constitutions for three main reasons. First, the desire for durability through flexibility is inclined against constitutional clauses involving economic variables. Second, such rules are easy to circumvent by adjusting statistical definitions. This, by the way, is also why the Iceland bill does not contain provisions specifying limits on the government budget deficit or on public debt. Besides, unlike Greece, the Icelandic economy did not collapse under the weight public debt. What brought Iceland to its knees was the escalation of private bank debt. Germany, badly burnt by hyperinflation in the interwar period, was until recently the only European country with such a provision in its constitution from 1949. The Hungarian constitution of 2012 stipulates that “Parliament may not adopt a State Budget Act which allows state debt to exceed half of the Gross Domestic Product.” However, it goes on to add that “Any deviation... shall only be possible during a special legal order, to the extent required for mitigating the consequences of the causes, and if there is a significant and enduring national economic recession, to the extent required for redressing the balance of the national economy.” Third, quantitative constitutional provisions, or even only legal ones, related to, for example, gross domestic product (GDP) would need to be accompanied by special rules concerning adjustment to a contraction of GDP, tempting the government to keep GDP in money terms artificially high and thus imparting an inflationary bias to the economic system.

Ecuador is an exception to the rule. Ecuador’s 1998 constitution included specific financial regulation clauses that specifically allowed the Central Bank to bail out private banks “for the next 2 years.” Unsurprisingly, Ecuador’s largest financial crisis, with huge bailouts that brought its national currency to an end, took place 1998–1999 (Reinhart and Rogoff 2009, p. 361). In a complete turnaround, Ecuador’s 2008 Constitution explicitly forbids bailouts and public take-overs of private debts. Specifically, Article 308 states: “The regulation and control of the private financial sector shall not transfer the responsibility of bank solvency, nor imply any guarantee by the State. Managers of financial institutions and those controlling the capital thereof shall be held liable for the solvency of said institutions.” Further, Article 312 was recently reformed by referendum, now forbidding bankers to own shares in anything but banks by stating that “Financial entities or groups may not possess permanent holdings, whether total or partial, in companies that have nothing to do with financial business.”

Had it been better to include such a provision on fiscal affairs in the Icelandic bill? The idea was discussed at length in the Council, but it was rejected. Again,

consider aviation. Locking the steering wheel can be a good idea under good flying conditions. In extreme weather or other emergencies, however, every pilot wants to be able to overrule the aircraft's computer. The human mind must always have the last word. This fundamental principle applies to constitutional economics no less than to aviation. Besides, it is easy to bypass such regulations by moving selected public expenditure items outside the government budget or simply to break the rules. Even France and Germany have violated the Maastricht criteria with impunity. Easily breakable rules do not belong in constitutions.

Interestingly, Germany's constitution does not impose similar restraints on monetary policy as on fiscal policy. The constitution stipulates that the Bundesbank's "tasks and powers can, in the context of the European Union, be transferred to the European Central Bank which is independent and primarily bound by the purpose of securing stability of prices." Here the German constitution is flexible as constitutions ought to be.

Justice Oliver Wendell Holmes (1841–1935) made the case for a 'living constitution':

A Constitution is not intended to embody a particular economic theory... It is made for people of fundamentally differing views, and the accident of our finding certain opinions natural and familiar, or novel, and even shocking, ought not to conclude our judgment upon the question whether statutes embodying them conflict with the Constitution of the United States.... The interpretation of constitutional principles must not be too literal. We must remember that the machinery of government would not work if it were not allowed a little play in its joints.

18 Icelandic Law and Lawyers

Legal studies in Europe rest, or should rest, on three main pillars. One pillar is the law itself. Another is human rights, especially the rights of men against the powers that be. The third pillar is the legitimacy of the law in the eyes of the people who, in democratic societies, are the sole source of power and the social rule of law. The three pillars reinforce one another. They constitute the basis of the rule of law in modern societies with just and lucid laws that the people choose to respect for their own benefit.

The teaching of law in Iceland rested for a long time on the first pillar alone. The legal profession was, and still is for the most part, preoccupied by law in a narrow sense of the term while human rights as well as the idea of the people, the nation, as the sole source and justification of the law ignited limited interest. It was not until 1995 that new articles on human rights were added to the 1944 constitution in accordance with the European Convention on Human Rights. The fact that the discriminatory nature of the Icelandic fisheries management system constitutes a violation of human rights (recall [Sect. 3](#)) has generated limited interest among Icelandic lawyers except for a few who specialize in human rights. When the Supreme Court of Iceland came under attack from the government following

the Court's 1998 ruling that the quota system is unconstitutional, 105 of 150 professors at the University of Iceland signed a public declaration in defense of the Court, encouraging the parliament to secure that the laws of the land accord with the constitution. No law professor (there were ca. ten of them at the time) was willing to sign the declaration. All judges and most of the senior lawyers went through the same five-year study program at the law department of the University of Iceland and few of them have chosen to supplement their education abroad. When, in 2012, the insider-trading case against the permanent secretary of the Finance Ministry, a lawyer, came before the Supreme Court (recall [Sect. 7](#)), half of the judges recused themselves, a sign of progress of sorts.

The teaching of human rights and related subjects has made progress in recent years in the law departments at Icelandic universities. Even so, many lawyers appear unconcerned about human rights violations in the fisheries management system or in the election system, two of the main issues addressed by the constitutional bill. Few lawyers have come forward to welcome those features of the bill while several lawyers have offered criticism of the bill, either in general, nonspecific terms or detailed technical criticisms reflecting a narrow vision of the laws, a view that underrates justice as well as the right of the nation to make its own constitution. As an example of the attitude to the constitutional bill of at least part of the legal profession, The Icelandic Lawyers Association organized a public meeting in December 2011 under the heading "Worries and doubts about the proposal of the Constitutional Council" (my translation) featuring a single speaker, a lecturer in the department of law at the University of Iceland and a former chairman of The Youth Organization of the Independence Party whose leader declared from the outset that his party would pay no attention to the work of the Constitutional Council. In a nutshell, the apparently predetermined attitude among many lawyers to the bill seems to be attributable to the historically close connection of the department of law of the University of Iceland and large swaths of the legal profession to the Independence Party, to the lucrative services that academic lawyers have rendered as advisors to governments led by or including the Independence Party, and to the apparent sentiment among many lawyers that constitution making is their prerogative, and theirs alone. Many lawyers, like many politicians, seem to view the Constitutional Council as an intruder on their turf. They were against—even boycotted, some would say—the election to the National Assembly because they did not seem to accept the third pillar of the social rule of law, that is, the idea that the people, the nation, are the sole source of the parliament's legislative authority. The invalidation of the National Assembly election by the Supreme Court needs to be viewed in this light (recall [Sect. 6](#)).

19 From Insourcing to Crowdsourcing

Let me now turn from the substance of the Icelandic constitutional bill to the method that was used to produce it (this section draws on Gylfason [2011b](#)).

Iceland has never been particularly good at outsourcing. Insourcing, on the other hand—self-dealing, that is—has been something of a national sport. For example, a few years ago first the nephew and then a close friend (you met him in [Sect. 6](#)) of the prime minister were appointed judges on the Supreme Court, appointments that created some controversy, and not only because of the personal ties. When a few years later the prime minister's son was appointed district judge, a more qualified applicant for the job sued the offending minister and was awarded financial compensation by the Supreme Court (much lower compensation, however, than a lower court had decided). (Both cabinet ministers mentioned in the preceding sentence were among the seven politicians and public officials referred to in [Sect. 6](#)). After the crash of 2008, to take another example, the government thought it better to appoint a domestic Special Investigation Committee, rejecting proposals for an international commission of enquiry that would have been beyond all suspicion of partiality. As it happened, the SIC did a good job, but that is another story (Gylfason 2010).

Its philosophy resting on all three pillars of the social rule of law, the Constitutional Council decided to do things differently. The Council decided to invite the people of Iceland to participate in the drafting of the constitutional bill on the internet, an arrangement that has attracted considerable interest in foreign media (see, e.g., *The Guardian*, 9 June 2011). This decision proved advantageous and trouble-free. It was known that ordinary people from all walks of life were interested in seeing the constitution revised, and were even passionate about it. Otherwise, 522 people would hardly have run for the 25 seats in the Constitutional Assembly. Surprisingly, perhaps, constitutions and constitution making seem to appeal to many people without any particular interest in legislative work or politics. Even more striking, to me, was the lack of enthusiasm of several academics, not only lawyers, with well regarded expertise when asked to contribute to the work of the Council.

The job was done in three overlapping rounds. First, each week, the Constitutional Council posted on its website some new provisional articles for perusal by the public. In a second round, usually 2–3 weeks later, after receiving comments and suggestions from the public as well as from experts, the Council posted revised versions of those articles on the website. Then, in a final round, proposals for changes in the document as a whole were debated and voted upon article by article, and the final version of the bill was prepared. At the end of the last round, each article was approved by an overwhelming majority of votes. The passage of the articles on the parliamentary election system and on natural resources (recall [Sects. 9](#) and [10](#)) was followed by spontaneous applause.

Judging by the traffic on the Constitutional Council website, the people of Iceland welcomed the Council's invitation to them to participate in the project. The Council received 323 formal proposals that the three committees of the Council discussed and answered. More than 3,600 written comments were posted on the website by visitors; the Council representatives answered many if not most of them. Nearly all the proposals and comments received proved useful in one way or another, not only what was said, but also the things left unsaid. If no one

objected to the provisional articles posted on the website, then perhaps we were on the right track. Almost invariably, the proposals and comments were polite unlike some of the entries that some contributors permit themselves to post on political websites. Fears that an open Council website might be drowned in gibberish, or worse, proved groundless. Why did the low standard of public political debate in Iceland pass the Council by? Perhaps it helped that the discussions in Council meetings were characterized by courtesy and mutual respect as well as by respect for the task bestowed on the Council by the people and parliament. Direct broadcasts on the internet as well as on television from Council meetings were regularly watched by about 150–450 viewers. More than 50 interviews with Council members and others concerned were posted on YouTube and they had, by late 2011, been viewed 5,000 times. The website contains much information on the work of the Council and related material, including press coverage at home and abroad, though unfortunately all of it in Icelandic except for the foreign coverage. The phone numbers and email addresses of Council members were accessible to all. The Council meetings took place in Reykjavík, not in some remote corner of the country as sometimes has been considered necessary elsewhere in the past to shield the constitution makers from special interest groups. The US constitution was written in Philadelphia, true, but in secrecy.

Even if the Constitutional Council emphasized cooperation with the public, the Council also actively sought the advice of experts, starting with the Constitutional Committee's 700-page background report packed with good ideas. Many experts advised the Council every step of the way, lawyers and others, in meetings as well as in writing. The Council could not seek the advice of all available and eligible experts. However, like everyone else, those who had points to make were welcome to do so. Departing from standard operating procedure in parliamentary work, the Council did not invite representatives of interest organizations to special meetings, but these organizations had the same access as the general public to the Council, its open meetings, and to individual Council members. This was an important benefit of the crowd sourcing aspect of the operation: it created a framework for inviting everyone to have a seat at the same table, something that special interest organizations in Iceland are not used to.

20 Lessons from, and for, Other Countries

It is too early to draw general lessons from the ongoing Icelandic experiment in constitution making because we do not yet know how the story will end. The national referendum that parliament, after 8 months of deliberations in committee, had resolved to hold concurrently with the presidential election on 30 June 2012 was derailed by filibuster by the minority opposing the bill on the grounds that they had not had enough time to consider the bill. Following further filibuster, parliament decided in late May 2012, with 35 votes against 15 with 13 abstentions, to hold an advisory referendum on the bill no later than 20 October 2012. It is

impossible to know whether the government will be able to hold onto its slender majority in parliament long enough to finish the game.

The parliament decided on short notice to reconvene the Constitutional Council for 4 days in early March 2012 for the purpose of responding to questions and suggestions proposed by the parliament, and then decided to append five specific questions to the Yes or No question about the bill as a whole in the upcoming referendum. The additional questions proposed by parliament were framed strictly within the context of the bill. One of the five questions is whether the voters want natural resources to be declared the property of the nation, Yes or No. Another question is whether the electorate wants the votes of voters everywhere in the country to have equal weight, Yes or No. Thus, it became clear that the parliament would not make any changes in the bill before putting it to a referendum. Even so, the parliament has said that some technical changes in wording, but not in substance, may be introduced before parliament votes on the bill after the referendum. The March 2012 meeting of the Constitutional Council offered alternative wording of a few provisions, including a shorter version of the provision on elections to parliament without any change in material content. The 1944 constitution requires a new or revised constitution to be passed by two parliaments with a parliamentary election in between.

In sum, the final outcome remains uncertain because the post-crash government that launched the project is weak and, apart from the prime minister, Ms. Jóhanna Sigurdardóttir, as well as a few other MPs, appears strangely unenthusiastic about its own offspring. There is also significant opposition to the bill from those who do not like to see their privileges reduced as is necessary for the sake of equal opportunity and human rights. The opponents, strongly opposed to equal voting rights and to national ownership rights to natural resources, among other things, happen to be the ones who most vehemently deny any responsibility for the 2008 crash, contrary to the clear evidence presented in the SIC report as well as to the parliament's unanimous resolution of September 2010 accepting the main findings of the report. In fact, on delivering its report in 2010, the SIC stated how struck it had been by the unwillingness of everyone interviewed by the committee to admit any blame for what went wrong (see also SIC 2010, vol. 1, p. 46). Collective admission of responsibility was all right for them, however, for if everyone is responsible, no one is.

Herein lies a serious challenge. Even in East and Central Europe that saw about 25 new constitutions come into being after 1990, the communists—clearly responsible for the collapse of their countries, and mostly admitting as much themselves, even to the point of apologizing for their mismanagement, or worse—contributed to the constitution-making efforts by their fellow citizens rather than try to sabotage them. Their successors wanted to include the communists in the process and, in most places, they accepted. A similar readiness to cooperate has not been forthcoming from the two political parties that governed Iceland from 1995 to 2007, privatizing the banks *à la russe* and thus laying the ground for their demise a few short years later. Instead, they declared from the outset that they wanted no part in the project, thereby turning their backs on the official position of

earlier leaders of their parties who repeatedly promised revising the constitution, and failed to do so time and again.⁸

Understandably, with this lack of cooperation from two of the five political parties represented in parliament, the rest of us cannot be expected to grant them a right of veto. Instead, we have to say to them: Everyone was free to run for the Constitutional Assembly, you had the same opportunities as everyone else to offer your services every step of the way, and now the bill is ready, having been approved unanimously by the Constitutional Council, so there is only one more thing we have to do to finish the work and that is to allow the people to decide in a national referendum where every vote carries equal weight. The opponents need to remember how the American constitution was approved in 1787–1788: by 89 to 79 votes in Virginia, 30 to 27 in New York, 187 to 168 in Massachusetts, and so on (Maier 2010). In Rhode Island, the only state to hold a popular referendum, it was rejected. But the rules of the game stipulated that approval by a simple majority of elected representatives in at least nine states out of 13 would suffice, and that was to be.⁹ Faced with such a prospect, the Icelandic opposition may still try to find a way to derail the promised referendum rather than risk losing it. If the people were to be denied the right to vote on the bill and the bill were to be shelved, against the odds, would they take to the streets, banging their pots and pans? They know how to. They have done it before. This is, indeed, an unusual situation for a Nordic country to be in.

Or is it? The recent history of the Faroe Islands, a self-governing dependency of Denmark since 1948, may be illustrative. After 10 years of preparation, a left-of-center coalition government readied the Faroe Islands' first constitutional bill, dated 2009, for a national referendum scheduled to take place in 2010. The government failed to finish its term and to deliver the bill to the promised referendum. A complicating factor was the Danish government's protestation that the bill is tantamount to a declaration of independence and thus is inconsistent with the Faroe Islands' status as a dependency of Denmark, a thorny issue that has bitterly divided the islanders since before 1948. A right-of-center government came to office following parliamentary elections in 2011, and shows no signs of intending to hold a referendum on the bill. Again, we do not know how the story will end. We do know, however, that there are strong private interests of boat owners and allied politicians in the new government aligned against the article on natural resources in the Faroese bill. Fully consistent with human rights, the article states that (a) the authorities are responsible for managing the country's natural resources (meaning fish), (b) the nation owns the resources and charges for their utilization or grants everyone equal access to them, and (c) the exploitation of the resources and the environment must be sustainable.

⁸ To be fair, one or two parliament members of the Progressive Party, the smaller of the two opposition parties, have expressed support for the bill. Likewise, some members of the governing coalition oppose the bill.

⁹ For a further comparison between Iceland in 2011–2012 and the United States in 1787–1788, see Gylfason (2012).

The full story is more nuanced. In fact, the Faroese constitutional bill can be traced to an economic crash in 1989–1994 when GDP contracted by a third like in the Soviet Union around the same time, the deepest country-wide economic slump on record in democratic Europe in peace time. After a few difficult years of crisis and its aftermath, including controversial Danish involvement in the restitution of the collapsed economy and political structure, a coalition of three separatist parties—i.e., parties in favor of full independence from Denmark—took in 1998 the initiative to prepare a constitution. Apart from representatives from all political parties, the government appointed a number of specialists in law, social sciences, and history to the committee. With the political parties involved, however, astute observers felt that there never was any realistic chance of sailing the ship to harbor, partly because the same politicians that were responsible for the economic crisis of 1989–1994 were heavily represented and partly because the divide between separatist and unionist parties was likely to block any agreement on the question of Faroese sovereignty. After a few false starts, the committee presented in 2006 a proposal for a new constitution to the government, its employer. Since then, the bill has been the subject of endless debates in parliament. Unlike its Icelandic counterpart, the Faroese project was not embedded in the people, but in the political structure. As in Iceland from 1944 to 2009, this setup was doomed. But, it is one thing for the Faroese parliament to kill a constitution bill drafted by a parliamentary committee as now seems possible or even likely and quite another for the Icelandic parliament to turn its back on a bill composed by a popularly elected and then appointed constituent assembly by denying the people the right to decide for themselves, as promised, whether to accept the bill or reject it. For this reason, the distinction between an advisory referendum and a binding one should be immaterial in practice. By the 1944 constitution, true, it takes two successive parliaments for a new constitution to come into force with a parliamentary election in between, but parliament would hardly fail to ratify a constitution accepted in a national referendum. The new bill simplifies the process by stipulating that a constitutional bill passed by parliament must be referred to a referendum and, if accepted, enters into force.

Even if the opponents manage somehow to kill the bill in Iceland, the bill is there, featuring, it is hoped, some ideas and formulations that may be worth considering for adoption in other countries. Moreover, the method by which the bill was produced may offer a model to other countries preparing new constitutions—for example, Egypt, Tunisia, and Turkey, to name just three current cases. Despite the world's largest per capita number of internet users, or 95 % in 2009, compared with 78 % in the United States and 35 % in Turkey (World Bank 2011), Iceland's experiment with constitutional crowdsourcing may raise concerns about unequal access because the unconnected 5 % are disproportionately old people. Even so, the democratic gains from granting easy access to a vast majority of the electorate seem likely to outweigh the losses from slightly unequal access, an apparently trivial disparity compared with the standard parliamentary practice of granting special interest organizations (farmers, vessel owners, bankers, etc.) privileged access to the legislative process. In fact, Constitutional Council

members also answered letters and phone calls. Even so, in countries with limited access to the internet, such as in the Arab world, crowdsourcing new constitutions might be seen to give significantly disproportionate voice to those with ready internet access. But then perhaps the well-connected minority is in a good position to sway new constitutions in the making in the direction of increased respect for human rights and democracy.

The main lesson from Iceland's crowdsourcing experiment, however, may be universal: Treat people with respect and they will respond in kind. Do unto others as you would have them do unto you.

21 Postscript

The advisory referendum was held as promised 20 October 2012. The voters answered the six 'Yes or No' questions on the ballot decisively in the affirmative. Presumably, the parliamentary majority's intention was to be able to say to the opposition afterward: Look, the voters not only accept the bill as a whole, but they specifically also accept several of its key individual provisions. This strategy worked. Voter turnout was 49 %, well above the Swiss average in more than a hundred referenda since 2000.

The questions and answers of those who took a stand were as follows.

1. Do you want the proposals of the Constitutional Council to form the basis of a legislative bill for a new Constitution? 67 % said Yes.
2. Would you want natural resources which are not in private ownership to be declared the property of the nation in a new Constitution? 83 % said Yes.
3. Would you want a new Constitution to include provisions on a National Church of Iceland? 57 % said Yes.
4. Would you want a new Constitution to permit personal elections to the Althing to a greater degree than permitted at present? 78 % said Yes.
5. Would you want a new Constitution to include provisions to the effect that the votes of the electorate across the country should have the same force? 67 % said Yes.
6. Would you want a new Constitution to include provisions to the effect that a specific proportion of the electorate could call for a national referendum on a specific matter? 73 % said Yes.

It is now up to the parliament to finalize the bill and to ratify it in keeping with the will of the people. The 1944 constitution stipulates that, for the bill to take effect, the next parliament, following a parliamentary election in April 2013, must also ratify the bill.

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Part VIII
Policy Recommendations

Conclusive Intervention

Maurizio Melani

Abstract In order to overcome the crisis further integration is needed in Europe. We need banking, fiscal, budgetary, and therefore political union also in the field of foreign policy and defense, together with a consolidation of the single market and a bold action with other main world actors for the establishment of rules to achieve stability and growth in a globalized world. In the history of the European integration process steps forward came out from crisis and each of them put the conditions for the inevitability of the next one. To follow now a different course is not an option.

I will start from the words of Prof. Brunetta about what has to be done in order to come out from the present crisis. As he rightly said, his indications do not differ much from those of the common part of the resolutions submitted to Parliament by the political forces supporting the Government in view of the next meeting of the European Council.

First of all there is the need to move towards a banking union, giving to the ECB supervisory and control powers, together with the possibility to intervene in order to reduce interest rates on the public debts of good behaving countries.

We then have to move towards a fiscal and budgetary union and therefore towards binding coordination and control of national budgets through an increasing devolution of powers to the European Institutions also in this field. The aim should be to reduce deficit and debt and to promote growth through selective interventions on innovation, R&D, energy and reduction of taxes on labour and production in order to support investments and consumption. And this should be done within a framework of structural reforms, liberalizations and other measures focused on the improvement of competitiveness.

Other crucial points should in this perspective be the consolidation of the single market, to be completed in all sectors, and an appropriate regulation of financial

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markets in order to bring them back to their original role of being an instrument to collect and convey savings for the financing of production and real economy. In this context, secondary markets and derivatives, which were born in order to provide guarantees, should not be allowed to be, as they are largely now, destabilizing factors detrimental to the productive system.

It is clear that in order to be effective such regulation should be extended at the global level as much as possible, whenever possible and wherever possible.

And this is a goal to be pursued within the G20 and other fora of the world economic governance.

Considering the importance that the external component has on growth, increasing efforts should be focused on the participation of the European economic system to the development of emerging economies where huge transformations are fostering demand and investment capabilities.

This will require, together with an effective promotion policy, a strong political action for more open markets and for the stability, at the world level, of currencies, commodities and energy prices, as well as bold steps forward in the field of common foreign and security policy in order to allow Europe to act effectively as a global player in a world with new main actors and new balances of power.

All this clearly shows the need of a fully democratically legitimized political union as the necessary outcome of a process which otherwise would not be sustainable.

The implementation of such a course of action needs a vision. The same vision that was present at all the steps of the European integration, especially when in front of crisis turning points were needed to relaunch the process.

This happened when, after the rejection by the French Parliament of the European Community of Defence, the Messina Conference in 1955 brought two years later to the Treaties of Rome. It happened again during the first half of the eighties when the process of the single market was launched. And again at the beginning of the nineties with the Maastricht Treaty and the process towards a single currency as an inevitable achievement needed to complete the single market and as a step which would oblige, those who choose to participate, to further progress on the way of integration.

Those who have been the main actors in all these phases, and among them on the first rank the Italians together with the French and German leaders of the time, were fully aware that each step could not be sustainable without the next. When the euro was introduced, those who made this strategic decisive choice had the well understood knowledge that the new currency would not survive on the long term without fiscal and political union, as the present events are showing us, and that therefore they were creating the conditions for further unavoidable steps.

It is just because of this history that I am more optimistic compared to much of what I have heard around this table. Some stressed that today's leaders do not have the qualities of those who led to the steps I mentioned before. But also in the past decades people often had a low consideration of the leaders of that

time, at least up to when successful results at each of the turning points were achieved.

I believe that also this time the survival instinct and the awareness of the consequences of a collapse will prevail, especially after the recent changes of government in some major countries which have brought to a new chemistry and new balances among the main actors.

If the results will be those we wish for, it will not be the victory of some at the expenses of others but the victory of all. And it will also be the victory of solidarity, long term vision and awareness of the common interest. These have been the main features of the whole process of European integration which brought after the Second World War to avoid the mistakes made after the previous world conflict when Germany was asked to pay an unsustainable price. In the late forties and in the fifties of the last century it was considered instead that the recovery of Germany and with it of the whole of Europe was the necessary precondition for the security and the prosperity of all.