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Abstract	Despite the Great Recession has long been declared over (IMF 2010), many countries in the European Monetary Union (EMU) are still trapped into a process of painful macroeconomic readjustments, need for structural reforms, precarious public finances and high levels of public debt. This paper surveys the different factors that still hamper recovery in the Eurozone in the light of existing literature and of the several fiscal and monetary policy measures that have been undertaken since the 2007-2009 financial and economic crisis. The aim is to highlight the institutional features that allow macroeconomic imbalances to persist inside the EMU, and stand in the way of the structural reforms needed to restore growth. In its conclusions, the authors exemplify a policy package aimed at addressing those challenges: a Eurozone-wide unemployment benefit scheme, financed through a tax on macroeconomic imbalances.

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The Euro's Three Crisis: a Reassessment

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1 Introduction

On December 9th, 2014, Christine Lagarde, Managing Director of the International Monetary Fund (IMF), was guest speaker in the opening ceremony of the new academic year at Bocconi University. In that occasion, she endorsed the recent job market reform approved by the Italian Parliament, but she was also quick to stress that additional measures would be needed to move the country again on a sustainable growth path.

While Ms. Lagarde was at the podium, stock markets all over Europe were tumbling, dragged by the largest slump that the Athens stock exchange had seen in almost 30 years. Fears over snap elections, where the anti-austerity party Syriza could win an outright majority, drove stock prices down 11%, and the yield curve for Greek government bonds inverted. Banks' shares where hit heavily, losing up to a quarter of their value (FT 2014b).

These two episodes are very telling on the state of Eurozone economies: despite the Great Recession has long been declared over (IMF 2010), many countries in the European Monetary Union (EMU) are still trapped into a process of painful macroeconomic adjustments, need for structural reforms, precarious public finances and high levels of public debt. All these issues, through the channel of a fragile financial sector still deeply intertwined with their home sovereign, take a heavy toll on the real economy of the Euro area, and cast dark shadows of price deflation, sclerosis and Euroscepticism on the long-term sustainability of the common currency.

This paper surveys the different factors that still hamper recovery in the Eurozone in the light of existing literature and of the several fiscal and monetary policy measures that have been undertaken since the Great Financial Crisis of 2008 (GFC). The aim is to highlight the institutional features that allow macroeconomic imbalances to persist inside the EMU, and stand in the way of the structural reforms needed to restore growth. In the final sec-

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tion, we exemplify a policy package aimed at addressing those features: an Eurozone-wide unemployment benefit scheme, financed through a tax on macroeconomic imbalances.

The guiding principle for the analysis will be the framework proposed by Shambaugh (2012) of three interrelated crises (sovereign debt, banking sector and competitiveness) that exacerbate the wedge between *core* and *peripheral* countries.[1]

2 Three crisis

2.1 Growth, inflation and competitiveness

Since the fall of Lehman Brothers in September 2008, the Eurozone has been hit by negative shocks across three main dimensions (Shambaugh 2012): (a) the lack of a strong recovery from the GFC that would match the rest of advanced economies; (b) high levels of public debt and lack of consistent fiscal discipline; (c) a fragile financial sector, still supported by extensive liquidity provisions by the European Central Bank (ECB).

Advanced economies in the OECD are expected to grow on average by 2.6% in 2015, while the Eurozone will only reach 1.4% (OECD 2014). As the rightmost section of Figure 1 shows, growth rates remain uneven across the EMU, with the peripheral countries (green line) suffering the biggest decline in output they have experienced since the GFC. After the initial slump, they almost entirely missed the brief recovery of 2009-10, while core countries (red line) regained pre-crisis levels of GDP per capita. The growth path was largely unaffected by the Greek sovereign debt crisis of Spring 2010; it was only when questions where raised over the sustainability of public finances of larger economies, such as Italy or Spain, that the recovery dramatically slowed down in the core and the periphery entered its second recession. For this reason, we have marked the Sovereign Debt Crisis (SDC) in 2011:Q2, and we will maintain this demarcation throughout. It is worth noting that the overall performance of core countries has been consistently better than the floating European control group (Sweden and U.K., blue line). Therefore, the common currency *per se* may not be what slows down the recovery in the Eurozone.

With persistent economic depression came deflation. In the period from the introduction of the Euro and the GFC, the ECB has been very effective in maintaining average inflation in the Eurozone near the 2% target (Figure 2).

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1. We focus on those countries in the Eurozone that joined the European Union before 2004 (EU15). With the exception of Finland and Austria, they are also the original signatories of the Maastricht treaty. Hence, we contrast a *core* Eurozone (Austria, Belgium, Finland, France, Germany, Luxembourg and the Netherlands) with *periphery* Eurozone (Greece, Italy, Ireland, Portugal, Spain). As a reference point, we will also consider EU15 members that decided to keep their currency floating against the Euro (Sweden and the United Kingdom). They certainly are very different in terms of productive mix and external economic relations, but at the same time they are both advanced economy deeply integrated with the Eurozone. Therefore, if assumed to be near opposite ends of the spectrum, their average values can arguably work well as a synthetic benchmark exposed to free-floating exchange rates with its trade partners. Values in Figures 1-4 and 6 are area averages across countries weighted by real GDP (nominal in Figure 8).

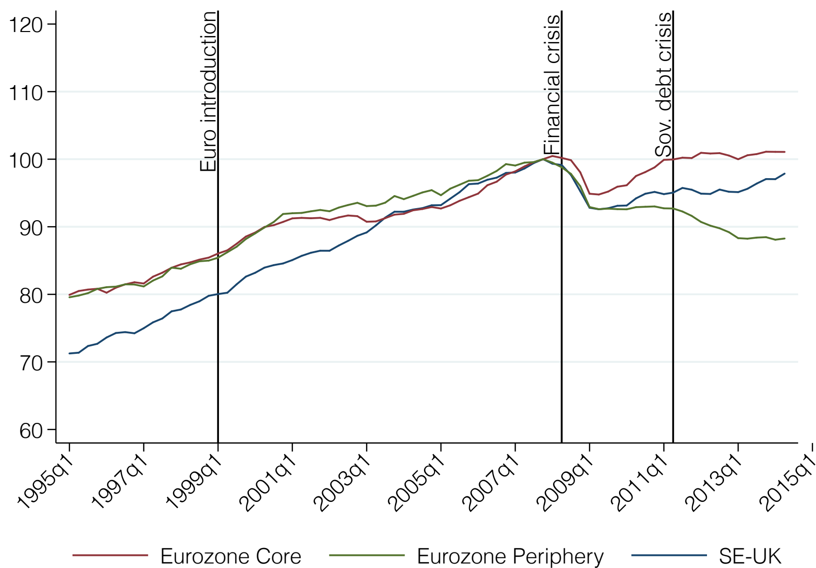

Figure 1: Real GDP per capita (2007:Q4 = 100).
Quarterly frequency. Source: OECD.

This result is even more striking considering that in this period the ECB was a newly-founded institution, with no-track record of independence to draw upon. This need for credibility required the Bank to be modelled on the most credibile National Central Bank (NCB) of the currency area, namely the Bundesbank, and to limit its objective to price stability. In practice, this means an asymmetric inflation target, under which anything below 2% is statute-compliant as long as it is reasonably close to the target in the medium-term (ECB 2011), but anything above must be corrected. This institutional *deflationary bias* of the ECB, coupled with the gap in inflation of roughly 1% between the core and the periphery, partly explains why the monetary authority was slow to react to deflationary pressures following both the financial and the sovereign debt crisis. As the peripheral economies where hit the most, their inflation became significantly lower of that in the core after the 2013:Q2, but average inflation at that time was only slightly below target. This post-crisis price dynamics poses three main problems to Eurozone economies, especially in the periphery:

(a) deflation brings an appreciation of the Euro relative to other currencies, especially when other major NCBs are expanding their balance sheets. This makes export more costly for trade partners;

(b) it increases the real value of debt, which means more impaired assets in the financial sector balance sheets and a heavier burden for debtor countries;

(c) it slows down the internal devaluation process of the periphery, as nominal wages are downward rigid.

Despite these issues, the competitiveness outlook seems to be improving, albeit at the cost

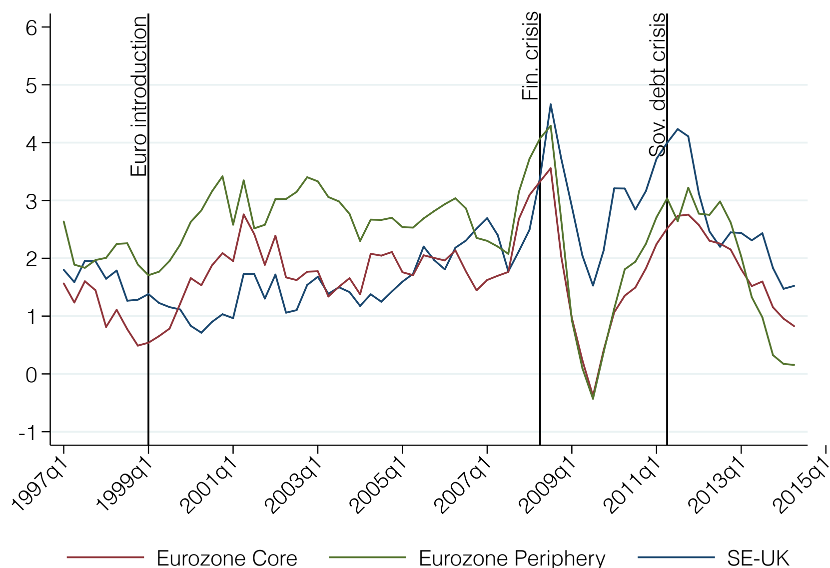

Figure 2: Harmonized Consumer Index Price inflation. Quarterly frequency (quarterly mean of changes from previous month). Source: Eurostat.

of large output losses. Figure 3 reports the movements in the Real Effective Exchange Rate (REER), an indicator of export competitiveness vis à vis trade partners. Following Wyplosz (2013) we center the data at the long term-mean for each area, which is a good proxy for the equilibrium exchange rate under the PPP assumption. The core countries (red line) realigned their export competitiveness with equilibrium exactly at the introduction of the Euro, and have maintained it ever since, with remarkably little volatility. The green line for the periphery has started to fall in 2009, and by 2013 it has largely realigned with its equilibrium value. This does not mean that, for instance, Greece or Spain are now as globally competitive as Germany or France, but it signals that current mix of productivity and export prices are close to equilibrium after the readjustment process triggered by the introduction of the Euro. But the graph also shows that if they could have devalued their currency in 2008 as our control group did (blue line), readjustment would have been much quicker.

Another consequence of the growth and competitiveness crisis is its impact on the internal macroeconomic balance of the Eurozone. The creation of the EMU has had a dramatic effect on the current account of peripheral countries: while it was roughly balanced and aligned with core countries before 1999, the introduction of the Euro coincided with the accumulation of increasing deficits (Figure 4). The financial crisis reversed this downward trend in an equally abrupt fashion, mostly due to a decrease in consumption of imports and inward capital flows. The realignment process further accelerated after the 2011 debt crisis, reaching a speed of 2% of GDP per year. After 2008, the core has kept increasing its current account surplus, though at a pace roughly half of the pre-crisis period.

Overall, the Eurozone seems to have completed the competitiveness adjustment process,

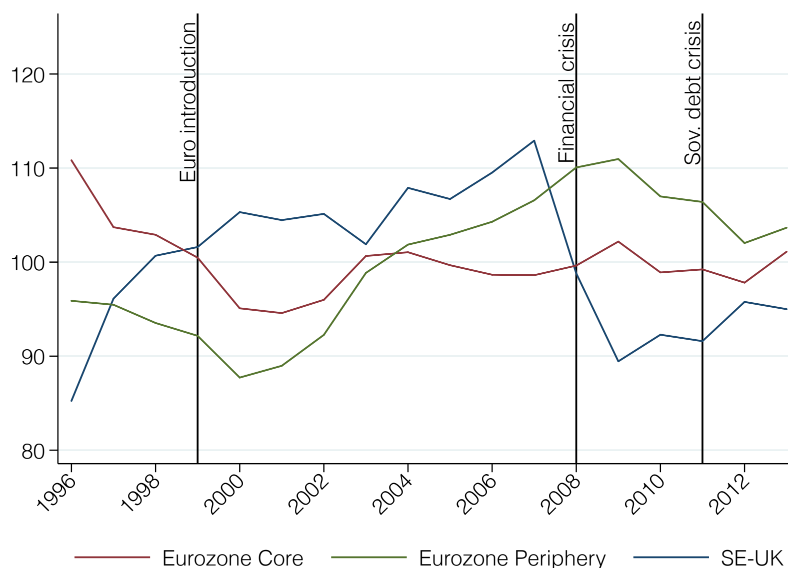

Figure 3: Real Effective Exchange Rate in deviation from long-term mean (mean = 100). Yearly frequency. Source: AMECO.

but at the cost of large output losses and deflation in the periphery. The central question, which we will explore in greater detail in Section 3, is how much of this realignment is structural and how much is due to the cyclical effects of fiscal austerity. The latter case is certainly unsustainable: if the recovery doesn't materialises, high levels unemployment in the long-run will become politically unsustainable. Equally, if the Eurozone starts growing again at a sustained pace, rising prices in the periphery may restore the competitiveness gap, and we may find ourselves back to square one.

The policy response to the growth problem has been largely left to the individual member states, with no coordinated fiscal expansion and, as we have seen, little action on the monetary policy side. It is arguable that austerity measures undertaken by peripheral countries after the sovereign debt crisis left them with little room to implement countercyclical spending. Uncoordinated expansions in the context of the EMU can also turn into a surge in imports, with little benefit to the domestic economy and a negative effect on the current account. This is even more likely if highly productive trade partners, such as Germany, are in the currency union.

The newly-elected Juncker Commission has laid out a plan for €315 billions of new strategic infrastructure, R&D and environmentally sustainable projects in the next three years (EC 2014). Although the details are still unclear, the plan presents several weak spots: the seeding capital amounts to only 8 billion euros, and is raised by defunding other parts of the EU budget; the European investment Bank is unilaterally involved with additional €13 billions, but usually contributes to projects that would obtain market backing anyway. Hence, there is a concrete risk of crowding out private investments; the combined EU public capital is

expected to be matched with €294 billions in private money, resulting in a leverage 5 times higher than comparable projects (Boeri 2014).

The only EU-wide programme currently the implementation stage is the so called *Youth Guarantee*, aimed at reducing the record-high level of unemployment for under 25-years-olds, who have been hit by the crisis more than other sections of the labour force (Banerji et al. 2014). Despite the total allocated resources are sizeable – €21bn a year, 0.22% of Eurozone GDP (IILS 2012) – the outcome vastly depends on the national employment and training services. If both are dysfunctional, the immediate effects will be limited, and the longer-term response of employment will depend on effective structural reforms at the national level.

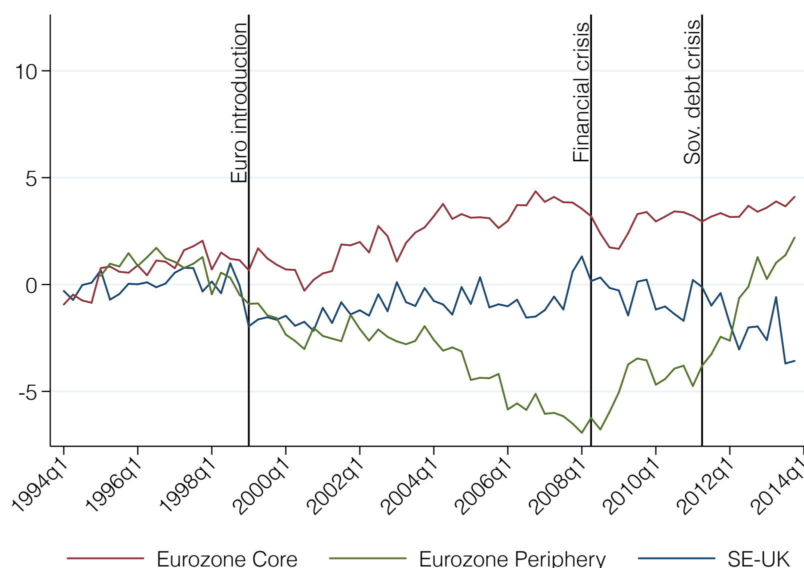

Figure 4: Current account balance as a percentage of GDP. Quarterly frequency. Source: OECD.

2.2 Sovereign Debt

As we have seen, the sovereign debt crisis largely halted the recovery process in the Eurozone (Figure 1). Doubts over the sustainability of debt levels due to insufficient growth in the periphery triggered the crisis in the first place, so this process is self-feeding. The absence of a mutual debt instrument (Eurobond) or sizeable transfers requires growth in each individual member state, further increasing the link from growth to public finances. The stark difference in market pressure after the spikes of 2011-12 is to be found in an energetic policy response to avoid a disorderly brake-up of the Euro area, which came from both concerted action of member states (EFSF/EFSM and ESM) and of the ECB. The Bank acted both directly through the temporary Securities Markets Program (SMP), and indir-

ectly through liquidity provisions to the financial sector (the so called *Sarkozy trade*). Most importantly, it announced the Outright Monetary Transactions scheme, aimed at offering long-term support to countries under ESM assistance though the secondary bond market.

The main recipe undertaken in the Eurozone to ensure debt sustainability over the long-term is fiscal austerity, i.e. the creation of large primary budget surpluses via spending cuts. To enforce budget discipline, the Stability and Growth Pact (SGP) has been strengthened in the so called *Fiscal Compact*, that added a *debt brake* rule for those countries exceeding 60% in debt-to-GDP ratio, and the *Sixpack*, that requires draft fiscal budgets to be vetted by the EU Commission. Given the past effectiveness of the SGP in ensuring reasonably balanced budgets (Figure 5) and the increasingly political role of the Commission, it is doubtful that a discretionary evaluation of budget under the threat of sanctions will improve the current situation (Passarelli and Villafranca 2014).

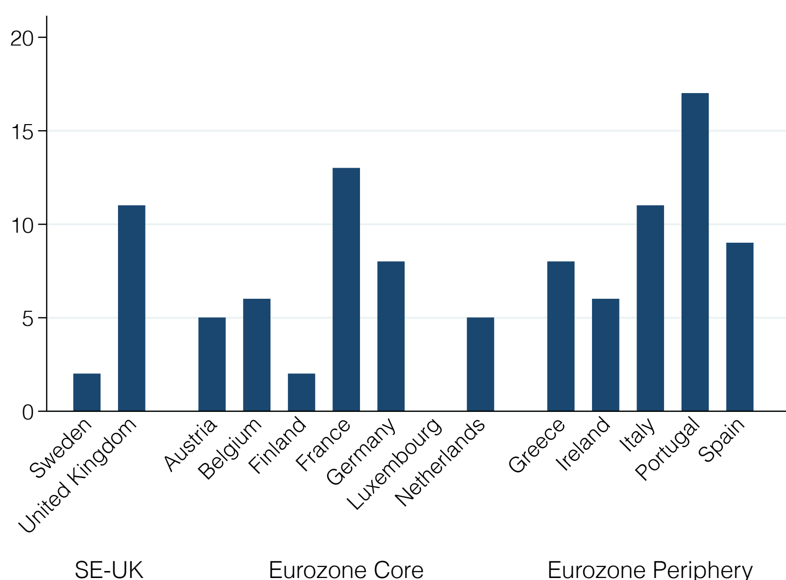

Figure 5: Number of years in which government budget deficit has been above SGP compliant threshold (3%) in the period 1994-2014. Source: Eurostat.

Moreover, the current strategy has been ineffective in terms of debt-to-GDP ratio (Figure 6). In the absence of a strong recovery, primary budget surpluses alone won't reduce current levels, as even low interest rates paid on the outstanding debt will surpass the grow rate of the economy.[2] That is even more true if the government spending multiplier is larger than 1, so that GDP falls more than the deficit does if budget cuts are implemented.

The Juncker Commission seems to be acknowledging this aspect of the austerity strategy,

2. The fundamental debt sustainability equation is $\Delta d_t = (i_t - g_t)d_{t-1} - p_t$, where d_t is the outstanding debt-to-GDP ratio, i_t is the nominal interest rate, g_t is nominal GDP growth rate and p_t is the primary budget surplus over GDP. So if $0 < p_t < (i_t - g_t)d_{t-1}$ the ratio goes up anyway, even with a positive primary budget balance

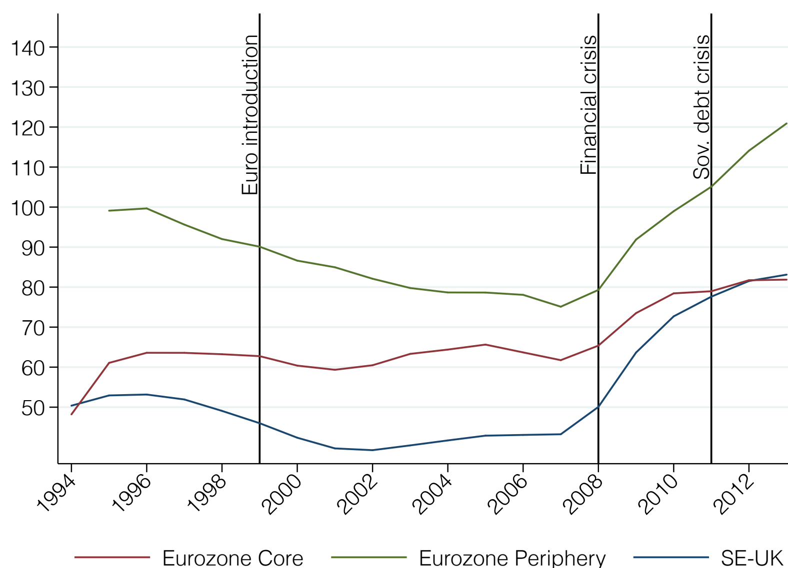

Figure 6: General government gross debt as a percentage of GDP.
Yearly frequency. Source: OECD.

and it is offering a larger degree of flexibility over fiscal compliance rules against the timely implementation of structural reforms (FT 2014a). Unfortunately, this compromise has its flows: if what constitutes sufficient reforming is well specified, countries may procrastinate adjustments up to the last minute without incurring into sanctions. In addition, large countries like Italy or Spain can exercise a form of *moral hazard*, leveraging on the fact that they are both influential at the EU level and pose a systemic threat to the survival of the Eurozone if default materialises. More generally, there is a tendency for members with greater voting power to favour open-ended formulations and late decisions on budget restrictions (Schure, Passarelli, and Scones 2007; Passarelli and Villafranca 2014). On the other hand, if conditions are left vague the threat of sanctions loses credibility.

It emerges therefore the need for a set of rules that are both outside the scope of political discretion, while at the same time gradual enough not to hit the prospects of recovery in those countries in need of adjustments. Before the creation of the Euro, substantial fiscal discipline was provided by ordinary market pressure in the secondary sovereign bonds market. Indeed, during the acute phases of the Sovereign Debt Crisis of 2011, many countries quickly implemented long-awaited structural reforms in the attempt to calm the markets.[3] But this disciplinary mechanism has been rendered toothless by the interventions to safeguard the survival of the European financial sector.

3. As an example, during the fall of 2011 Italy approved a structural reform of the retirement system in less than 40 days, after almost two decades of marginal interventions and policy reversals.

2.3 Banking Sector

In both crises that have involved the Eurozone, the financial markets have been the major focal point. Uncertainty over losses on assets tied to U.S. mortgages caused wholesale funding markets to freeze in 2008, and the ECB was forced to step in as an emergency liquidity provider. Non standard monetary policies included a sharp reduction of the target interest rate, a sizeable expansion of its balance sheet, increasing recourse to deposit facilities and repo operations (LTRO), a relaxation to collateral requirements and an increase in eligible counterparties (Reichlin 2013). In the absence of a centralised authority that could provide capital to distressed banks, losses helped to generate solvency problems to some institutions, and various forms of bank bailout followed suit virtually all member states. Given the importance of the banks in financing economies in the EMU, several financial institutions were significantly larger than their home economy's GDP (Figure 7, blue bar). The effect was twofold: (a) those countries that could inject capital (e.g. Ireland, Spain) found themselves with significantly increased debt-to-GDP ratio and deficit; (b) some banks where to big to be restructured, so their problems were simply deferred via ECB liquidity provisions.

The combined firepower of monetary and fiscal authorities was highly effective in preventing the collapse of the financial system (Giannone et al. 2012), but planted the seeds of the subsequent sovereign debt crisis in many respects. Firstly, the member states' new role as providers of capital backstop resulted in a progressive fragmentation of the previously deeply integrated financial system;[4] Secondly, it tied the fate of banks to the one of their national government's finances and vice versa. European banks hold large amounts of national sovereign debt on their balance sheets, so an increase in public debt yields impacts heavily on their capital. Therefore, a bank that could go bankrupt because of default by its home country had to rely on that same sovereign for any capital backstop. In addition, the ECB statutory inability to directly finance public deficits generated an incentive for governments to pressure banks within their jurisdiction to buy their debt, and post it as collateral for central bank liquidity provisions (Shambaugh 2012). Finally, under Basel rules, holdings of government bonds require less capital than loans, providing one more incentive to this process. As a result, national sovereign bond markets become thinner, country-risk is less diversified (*home bias*) and banks are more exposed to sovereign debt;[5]

Thirdly, the reduction of credit resulting from the wholesale funding freeze (*credit crunch*) hampered growth, especially in the periphery (Figure 8), depressing both prices and asset values on the banks balance sheets, and rendering existing budget deficits less sustainable. Fourth, it rendered the transmission of monetary policy through the credit channel more difficult.[6]

4. In other words, banks relied more other national banks for wholesale funding, as there was large uncertainty over the behaviour of foreign governments and banking authorities, and therefore counterparty risk was both higher and harder to assess.

5. It is worth noting that public debt is in principle a *safe* asset, so part of this increase relative to total assets naturally counter-cyclical (Reichlin 2013).

6. Even though it provided the ECB with a rationale for intervention that was fully compatible with its statutory mandate.

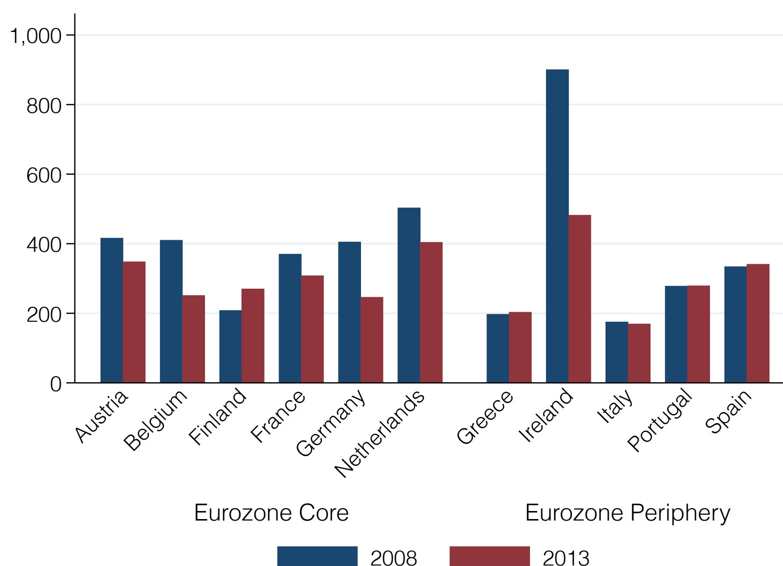

Figure 7: Total assest from domestic banks and branches/ subsidiaries of foreign institutions over nominal GDP (GDP = 100). Source: ECB (2014).

Braking this *marriage of convenience* between banks and their sovereign regulator has been a top priority in order to restore the health of the financial system. Indeed, it is evident from Figure 7 (red bar) that none of the Southern EMU members have witnessed reductions in banks assets relative to the GDP of the country in which they operate. If we interpret GDP as proxy for the maximum capital backstop that the economy can provide in a solvency crisis, then the process of asset substitution towards government debt has kept banks in the periphery as *leveraged* as they were before the GFC.

The ECB has recently published the results of a joint asset review (AQR) and stress test exercise, in order to assess the size of private capital shortfalls and reduce information asymmetry vis à vis investors. It was the first step in the implementation of the *Banking Union* strategy, which also features a reassignment of supervisory roles from the national authorities to the ECB, a common *Rulebook* for capital requirements, mutualised deposit insurance, a common resolution mechanism for insolvent banks and a future *Single Resolution Fund*. It is worth noting that the new regulatory framework is inspired to the principles of loss sharing, capital backstops and *bail in*, to avoid as much as possible the prospect of burdening a member's finance with the result of bank failures within its jurisdiction. Moreover, future plans over mandatory diversification of sovereign bond assets in banks balance sheets signal that home bias has been fully recognised as a source of fragility for the financial system.[7]

Finally, it is worth noting that the TARGET2[8] system performed very well as a liquidity pro-

7. *Sovereign debt rule change 'could prompt €1.1tn rebalancing'*, Financial Times, 16th Nov. 2014
8. TARGET2 is the abbreviation for the Trans-European Automated Real-time Gross settlement Express

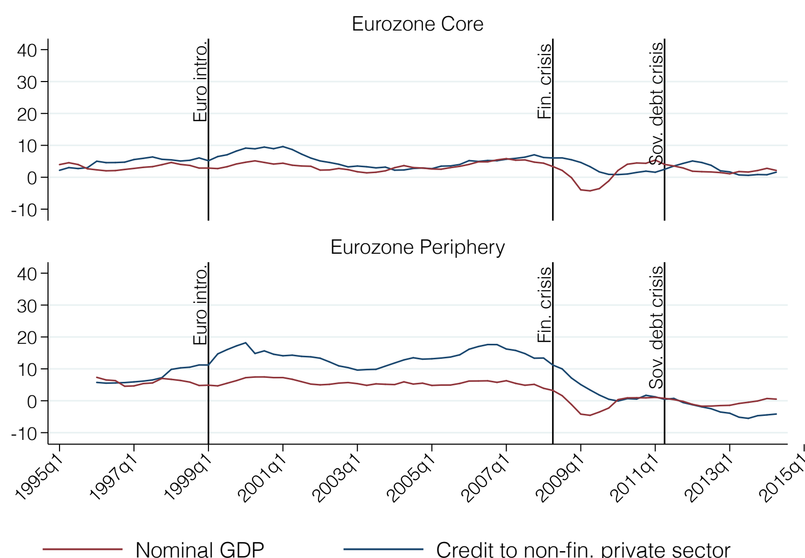

Figure 8: Credit to private non-financial institutions and nominal GDP (growth rates). Source: BIS, OECD.

vider for the financial systems of peripheral countries, and in turn as a way to finance current account deficits without imposing credit risk on the countries in surplus (all positions have the ECB as counterparty). It is arguable that without it, the combination of reduced credit and high interest rates prevailing after the GFC would have crushed economic activity in the periphery, and prevented the core fro recovering their claims on foreign debtors (Cecchetti, McCauley, and McGuire 2012; Bruni and Papetti 2012).

3 Institutional design flaws

In this section we will focus on the structural causes of the current stagnation, in the attempt to identify what aspects need to be addressed in order to restore the macroeconomic internal balance of the Eurozone. In a way, if in the previous section we have focused on the rightmost section of the graphs, we now look at the pre-financial crisis years.

When the Maastricht treaty was signed in 1992, policymakers and economists alike were already aware that the future Eurozone was not an *optimal currency area* as defined by Mundell (1961). It had low internal labour mobility, no sizeable cross-border fiscal transfers and relatively asynchronous business cycles despite deep economic integration (France being a notable example). Nevertheless, these features were expected to fade away relatively quickly once monetary policy was unified. The expectation was so powerful that national government bond soon became very close substitutes, regardless of actual macroeconomic conver-

Transfer system 2. It is the large-value cross-border payments and settlement system for the Eurosystem.

gence and the presence of an explicit *no sovereign bailout* clause. At the same time, a credible, unified central bank brought down the rate of inflation in the periphery (Figure 3), so that real interest rates increased relative to the core countries. The combined effects of higher returns without inflation or exchange rate risk resulted in a large inflow of private capital, which fuelled public and private consumption (Figure 8) to the detriment of investments and sound public finances.[9] This dynamics is evident in Figure 4: current account surpluses from the core are matched very closely by deficits run by the periphery. Credit-fuelled consumption had also a dramatic effect on competitiveness and productivity (Figure 3): factor prices soared in the periphery, also because productive investment was crowded out by asset bubbles (Spain and Ireland being notable examples).[10]

The financial crisis of 2008 brought to an abrupt end this expansion, in a way similar to other episodes of *sudden stop* as described by Calvo (1998). The price and current account dynamics after the fall of Lehman brothers are consistent with this interpretation. Peripheral countries found themselves in 2008 with uncompetitive economies, a sharp contraction in credit, consumption and asset prices, but also with the inability to devalue their currency in order to sustain exports. But these serious problems were overshadowed by the need of preventing a disorderly collapse of the global financial system. As the ECB flooded the market with liquidity and governments injected public capital in their banks, structural reforms were all but a priority. To make matters worse for countries such as Spain and Ireland, several financial institutions that were too large for their home economies had to be quickly nationalised, resulting in high levels of debt-to-GDP all over the Euro periphery.

It is arguable that this combination of severe undersupply of credit, high public debt and no reforms to regain competitiveness is largely responsible for the absence of recovery in the periphery after 2009. As Figure 1 shows, growth has absent in these countries (the green line is flat between 2008:Q4 and the sovereign debt crisis), and its dynamics significantly decoupled from the performance of core countries.

When these problems became evident again with the Greek sovereign debt crisis of 2010, the policy response has focused on avoiding a disorderly brake-up of the EMU. Given the current (lack of) pressure on sovereign debt instruments across the Euro area we can say it has been highly effective, but not significantly different in its longer term effects from the one we have just described. It is true that countries under the EFSF/ESM programme are bound to fiscal discipline and macroeconomic adjustments by the threat of discontinuing support (conditionality), but it is as well true that the real safeguard for the future existence of the Euro lies in the credible commitment of the ECB to do *whatever it takes* to preserve

9. For the latter, the overall political stance towards fiscal discipline played an important part. Indeed, Germany and France were spared the Excessive Deficit procedure in 2003 (Gros, Mayer, and Ubide 2004)

10. There's a complementary explanation based on the entry exchange rates, which were partially negotiated at the political level. Germany wanted to enter strong as disciplinary device for post-unification reforms. France and the rest of Germany-syncronous economies followed. At the same time, the periphery wanted to enter with a low exchange rate, to continue with their model of export competitiveness. The result is the same: a higher real interest rate in the new Euro periphery, which triggered large inflows of capital from the core. Whatever the right story is, decisions on the initial setup of the EMU have been having large effects on the economic performance of the periphery in the last decade.

it. This is a key institutional aspect: on the one hand the rescue funds stacked up by Eurozone governments are potentially able to impose adjustments, but are insufficient to cater to the funding needs of large countries like Italy or France in case of severe tensions on their sovereign debts. Moreover, ESM liquidity provisions rest on the ability of constituent members to fund themselves with their national debt instruments, which will be severely limited during a sovereign debt crisis.[11] Finally, as exemplified by the recent tensions on the Greek stock market, the possibility of political renegotiation over conditionalities makes the whole package less credible in the eyes of private investors, perpetrating the fragility of the European financial sector.

On the other hand, the monetary authority can provide unlimited funds to support sovereign debt markets, but it has even less grip on national parliaments to impose adjustments and fiscal discipline. The ECB has no political legitimacy, hence it would be very hard for it to retain its firepower if deems reforms to be insufficient in a specific country. Even if the Bank exercised such a degree of discretionality, the ensuing tensions on the sovereign debt markets would likely pose a systemic threat to Eurozone financial sector and to the common currency itself. In this eventuality, the ECB would have no choice but to intervene, otherwise it would go against its own mandate.

In sum, it is possible to delineate a recurring pattern in the interplay between structural problems in the Eurozone and policy results: structural imbalances and fault lines in the construction of the single currency have been repeatedly masked by extensive provisions of liquidity from the core to the periphery. In the pre-crisis period it was private capital attracted by relatively high real returns. After 2008, it was the emergency response to the intertwined banking and sovereign debt crises. The latter measures have arguably been unavoidable to ensure the stability of the global financial system and the continuing existence of the Eurozone, but they have removed the strongest incentive for structural adjustments. The current settlement of *flexibility in exchange for reforms* side by side with the ECB watch over sovereign debt tensions is not significantly different from past responses, so it is not clear why in the future we will exit from this cycle of last-minute interventions that are unable to tackle the root cause of fragility (*too little, too late*), while paving the way for the next phase of policy inaction.

The social costs of this dynamic *status quo* are high: persistent unemployment and low growth are affecting a whole generation of young workers who cannot fully participate in the current labour market. Moreover, there is a renewed risk of *Eurosclerosis*, i.e. that if the current stagnation protracts even further, the depletion of human and physical capital in peripheral economies will have a permanent effect on the future economic potential. As Figure 9 shows, the Eurozone convergence process has halted, and there is tentative evidence that from the beginning of the crisis it has started diverging. It is not clear how a monetary union can survive if this trend continues in the long-run.

Finally, it is worth stressing that all these aspect interact with the political dimension of the

11. The ESM has authorised capital of €700 billions, but paid-in capital is only €80 (11%). Clearly, its actual lending capacity depends on the latter.

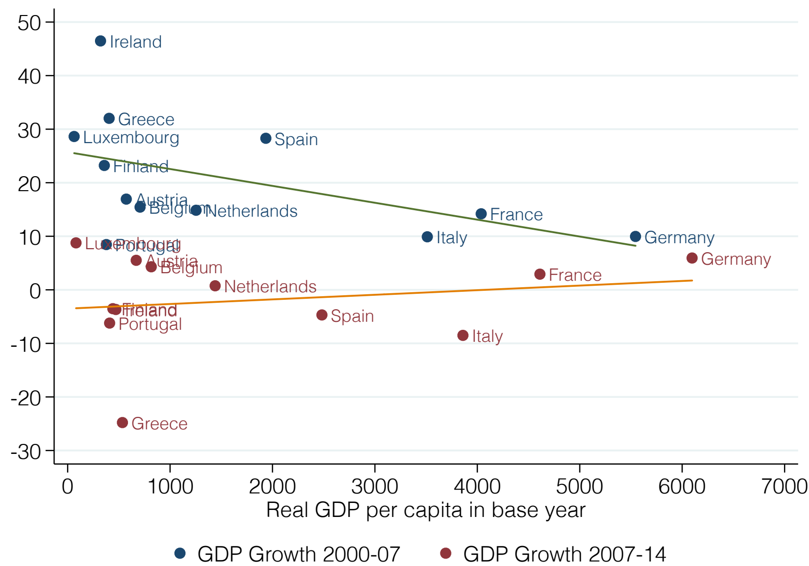

Figure 9: Cumulative Real GDP per capita growth in the next 7 years from base. *Blue dots*: base year = 2000. *Red dots*: base year = 2007. Source: OECD.

Eurozone. Stagnation, painful policy adjustments and recurring crises are taking a heavy toll on the consensus of national electorates towards the European unification project and the common currency. It is likely that structural solutions will require even more integration in terms of public spending, entitlements and labour market regulations, but all these steps will not be undertaken without strong support in the European Parliament and the consent of national governments. According to recent surveys, the majority of Europeans think the Eurozone is mismanaged(Guiso, Sapienza, and Zingales 2014) and it is not to the benefit of their own country. Like all institutions, the Euro is not technically irreversible, it is simply extremely costly to revert. The emergence of strong Eurosceptic parties in the European and national parliaments has the certainly the potential to renew tensions over the brake-up of the Eurozone and to feed centrifugal forces until the benefits of disintegration will overcome its costs.

4 A comprehensive proposal

It emerges therefore the need for a new mechanism to push countries towards structural reforms. From the previous discussion, we can draw a few design principles:

(a) it needs to be shielded from political discretionality as much a possible. Past experience shows that political compromise has not been effective in ensuring fiscal discipline and reforms;

(b) it should discourage national governments from creating macroeconomic imbalances that affect other member countries (externalities), most importantly large current account and budget deficits;

(c) it has to be preventive in nature, as emergency responses are costly and usually produce unintended feedbacks leading to another crisis;

(d) it has to foster convergence and help absorb asymmetric shock within the Euro area.

Interestingly, several of these elements can be identified in the recent construction of the Eurozone *Banking Union*. Supervision has been taken away from authorities that may suffer from regulatory capture or have a tendency to *negotiate* measures with powerful players in the national financial sector. Prudential measures in terms of capital and conduct have been put at the center of the new *Rulebook*, and regulators have been careful in limiting negative externalities of banking crises on national public finances and economies.

On the same line, we propose the introduction of a mechanism for the taxation of structural imbalances, based on a predetermined convex schedule that is function of the absolute distance of the deficit/surplus from equilibrium. In this way, in place of the existing *flexible interpretation of rigid compliance rules* each country would face an explicit and predictable cost of inaction towards, for example, its budget deficit, rising REER or current account balance. Crucially, the tax should be symmetric, so that countries that for instance exceed in wage moderation or primary budget surpluses internalise the cost that neighbours bear in terms of export competitiveness, deflationary pressure, or funding costs. As far as implementation is concerned, the Commission could easily adapt the existing *scoreboard* for the surveillance of macroeconomic imbalances (EC 2012).

It is worth noting that, from a political economy standpoint, the proposed scheme is closer to optimal design than the existing rule-based status quo. Alesina and Passarelli (2014) show that in a democratic setting such as the European Council, when the externality is generated by a minority (e.g. the Eurozone periphery), the majority of voters would choose a rule, while the optimal policy (first best) would be to introduce a tax.

Instead of redistributing the proceeds lump-sum, we propose to use them to finance an incentive scheme aimed at the macroeconomic stability of the Eurozone. What we have in mind is to support those governments that are committed to structural reforms by reducing the political cost of implementation. Structural reforms are politically costly in the short-term, especially during an economic downturn: labour and product markets liberalisations may lead to a temporary increase in layoffs and loss of output due to reduced investments by incumbent, overall job reshuffling or simply increased uncertainty over the future policy regime. To address these transitional issues, an Eurozone-wide unemployment benefit scheme can be an efficient mechanism to support income and aggregate demand. On top of facilitating workers' relocation towards more productive sectors and re-training, these transfers would serve as an automatic stabilizer able to absorb temporary and local adverse shocks, thus making the Eurozone more similar to an optimal currency area. Furthermore, recent studies show it would not constitute a permanent transfer from the core to the periphery,

which are clearly politically unviable (Dullien 2013). Finally, it would serve as a much needed venue to restore support towards the European integration project after years in which the *Trokia* and the ECB have been depicted as imposing austerity and painful adjustments over democratically elected governments.

To complement this mechanism on the supply side, greater flexibility on fiscal discipline can be given to those countries which design and implement structural reforms. In lieu of the current politically-mediated settlement, this exchange can be rendered explicit, with a pre-determined scoreboard on the model of the MIP indicators and with scores assigned by a new independent body, which would operate as a European Budget Council. Similar to existing national institutions[12], it would provide official growth, budget deficit and macroeconomic imbalance forecasts for each country in the Eurozone. Evaluating structural reforms is a complex task, especially when they are comprehensive and the assessment is conducted in real-time during implementation. But, as the IMF and OECD reports periodically prove, there is room for objective evaluation and credible counterfactual analysis.

In this new setup, the current divide in macroeconomic performance between the core and the periphery would not be incentive compatible: Germany for example would be taxed on its large current account surplus, but it won't receive much for in terms of unemployment support. Spain would receive large funds due to its high unemployment, but at the same time it would have and incentive to reduce its current account deficit. Greece in the current situation would be a net receiver due to high unemployment associated with a current account surplus. But in the pre-crisis period the combination of taxes on budget deficits, current account imbalances in the presence of relatively low unemployment would have been unsustainable, and it would have prompted the government to undertake reforms. Finally, Italy or France would receive little overall, and would be encouraged towards reforms by the prospect of greater budget flexibility for countercyclical spending.

This mechanism promotes significant paradigm shift in the way Europe promotes reforms: new policies and fiscal discipline are will not be the result of compliance of rigid rules under the threat of sanctions, but a way to *receive* more budget support from the Union.

All these new institutions will take years to form and work at full speed, but many of the elements are already in place. The creation of the *Banking Union* has shown that critical national responsibilities can be transferred to a centralised level when the national one proves to be ineffective. Likewise, new EU independent bodies can be formed in one or two years time. Reforms are most effective when they are undertaken together. This is the way Europe should be changed as well.

12. The most famous of which are the *Congressional Budget Office* in the U.S., the *Bureau for Economic Policy Analysis* in the Netherlands and the *Office for Budget Responsibility* in the United Kingdom.

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