

School of Economics and Finance

Eurozone: The Untold Economics

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Working Paper No. 699

January 2013

ISSN 1473-0278



Queen Mary
University of London

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Abstract

This paper dwells on the Eurozone woes and addresses the origins of the transition from a fictitious boom to a painful bust by unravelling (i) the supply-side structural imbalances that formed the core-periphery economic divide, and (ii) the necessity of the periphery's sovereign debt to finance imports from the export-led core. Within our macroeconomic setup, we challenge the cliché that countries of the core have funded the sovereign debts of the periphery and demonstrate that the commonly held view that the periphery countries have lived beyond their means (due to wages growing beyond what is justified by productivity gains) is in stark contrast to the trajectories followed by the wage shares. We argue against the tyrannical neoliberal policies of austerianism and we propose the rebooting of central and private banking. We present a fresh vision for the future of the Eurozone that will halt the tearing of the social fabric of its member states.

JEL Classifications: E50, E62, E65, G01.

Keywords: Eurozone crisis, structural imbalances, sovereign debt, austerity, neoliberal policies, banking/credit system.

***Acknowledgments:** We are grateful to the Spanish Ministry of Economy and Competitiveness for financial support through grant ECO2012-13081.

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1 Introduction

Crisis in the Eurozone, what crisis? A sovereign debt crisis triggered by its "profligate" state members coupled with the excesses of their private sectors in the aftermath of the global Great Recession? Or rather, are we witnessing the intellectual collapse of neoliberalism that formed the political and economic pillars of the currency union? An ideology that is desperate to ringfence itself from its systemic shortcomings and its failure to deliver sustainable growth of living standards and prosperity. A neoliberal dogma fighting for its survival by invoking gradual pain and impoverishment on a pro-rata basis for the large majority of the citizens in both the 'core' and 'periphery' enclaves of the Eurozone.

The aim of this study is to analyse the relative economic performance for a broad selection of sovereigns since the euro's inception in 1999, and narrate our testimony for the crossroads that the trembling Eurozone edifice is confronting. We are aiming to unravel (i) the supply-side structural imbalances that formed the 'core-periphery' economic divide, and (ii) the concomitant necessity of sovereign debt of the periphery states to finance imports from the Eurozone export-led core and cushion the exorbitant failures of their private sectors.¹

In the pre-crisis era –which we dubb the 'cultivation' period that, since 2010, has been followed by the 'execution' period of the neoliberal project– the main booming private enterprise of the recently deemed as troubled countries of the periphery was a rampant financial sector fuelling a multi-facet credit bubble. A bubble that was funding the unsustainable purchase of goods from the exporting core and the explosion in speculative property construction, which now reminisces the collapse of Babylon.

At the same time, the private sector stewards (banks, insurance companies, pension funds) of the richer and higher saving core, funnelled huge money flows to the poorer periphery. As this investment decision was driven by their insatiable quest for boosting short-term profitability, it had a poisonous impact on the allocation of scarce resources in the recipient states. The very same failed private institutions are now in the process of reversing former and reckless cross-border investments. The credit draught in the periphery, the surreal differences in the funding costs of core/periphery states, are all symptoms of the desperate efforts of surplus countries private creditors to repatriate the massive opportunistic claims they have accumulated on deficit countries debtors.

An alternative and more enlightening, in our opinion, reading of the big business blatant failures is that (i) the array of rescue funds, European Central Bank (ECB) refinancing and bond purchase programmes, and (ii) the ballooning TARGET2 central banks balances are neither net new exposures of the core to the periphery, nor acts of

¹The Core counties are Austria, Germany, Finland, France, and Netherlands. Periphery refers to the countries of Greece, Ireland, Italy, Portugal, and Spain.

altruism and solidarity of creditor towards debtor countries.² Rather, they merely stand as accounting substitutions of public sector claims for private ones, an orchestrated bailout of profligate private creditors (mainly of the core countries) at the expense of the Euro taxpayer.

In parallel with the credit-fuelled euphoria and illusion of material prosperity for the Euro Homo sapiens of the periphery at large, structural intra-Euro mercantilism was forming the untold economic project during the booming times 2001-2007 of the monetary union. The political and economic neoliberal elites in Germany, the supreme engine of the Eurozone, undertook labour market structural reforms by freezing wages and salaries, and slushing social security, the indirect wage and pensions.³

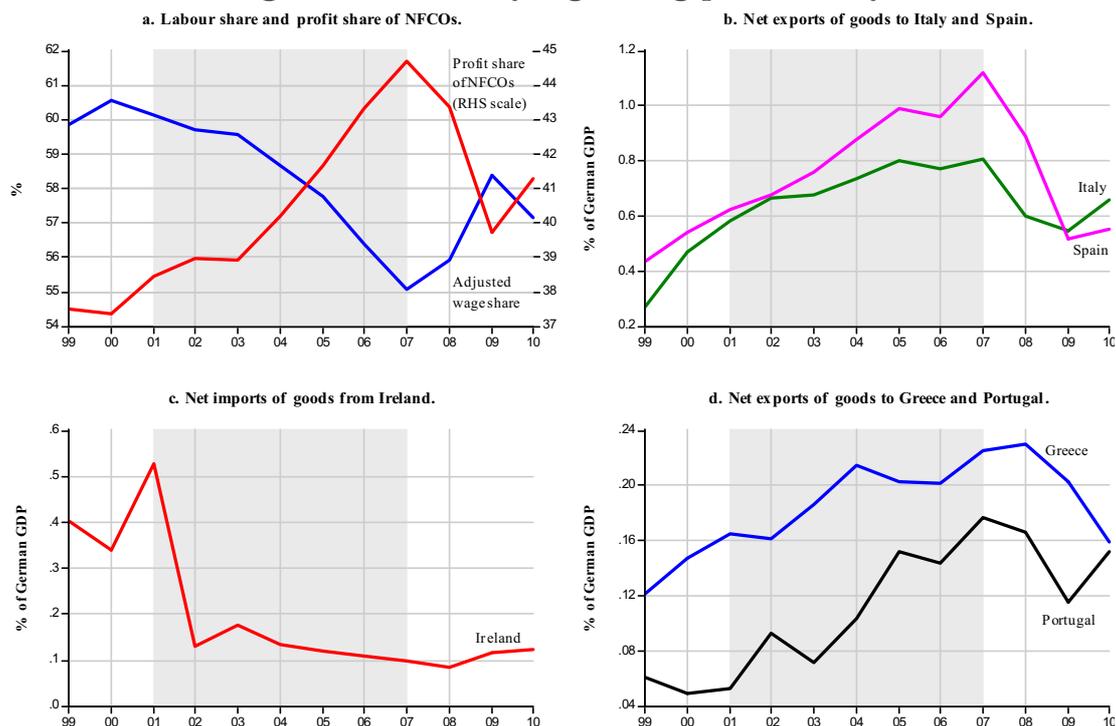
Domestic demand was thus suppressed due to the fall of the living standards of the population majority, and "competitiveness" was boosted (through the widening of the wage-productivity gap) mainly inside the Eurozone. Concurrently, German nonfinancial corporates (NFCOs) have been the undisputed champions among private firms of member states on both Return on Capital and Return on Equity measures, making them the poster case of corporate success and profitability. Figure 1 below depicts the falling labour share and rising profitability of NFCOs (Figure 1a), and the associated trade-balance positions of the German economy with the countries in the Eurozone periphery (Figures 1b-d).

The myth of the "Europayer", with the almighty Germany at the epicentre, where countries of the core fund the sovereign debts of the periphery was thus borne. While German net exports to the 'club-med' countries (more than) doubled over the 1999-2007/08 period (Figures 1b and 1d), Germany's imports from Ireland fell in the post-2002 years to around one fourth of their 1999 level (Figure 1c). The neoliberal dictum of short-term fiscal consolidation, in line with the blueprint of the "successful" core economic model, has been underwritten by the political and economic ruling classes across the struggling countries. Trapped in an asymmetric monetary union they are keeping schtum about the overall strategy and direction of the Euro project.

²TARGET2 (Trans-European Automated Real-time Gross settlement Express Transfer) "is the Eurosystem's operational tool through which national central banks of member states provide payment and settlement services for intra-euro area transactions" (Merler and Pisani-Ferry, 2012). In November 2007, it replaced the TARGET process launched in 1999.

³The terms of employment (or 'indirect wage') are associated with the existence of a national health system, state pension, benefits system, the time it takes to re-establish benefits, strings attached to receive benefits, minimum wage, and progression opportunities.

Figure 1. Germany's growing profitability.



Source: European Commission (for the adjusted wage share) and Eurostat (rest of variables).

As the Eurozone teeters on the brink of double-dip recession and soaring unemployment, austerians are propping up the euro at any social cost. Their technocratic plans for the incumbent ‘execution’ period are being meticulously formed.

- First, since the imposed austerity cannot be accompanied by currency devaluation, the adjustment is turned inwards through internal deflation; mass unemployment is ushered in the Eurozone’s south (and Ireland), leading to a steep fall in wages and salaries that would make those countries exports cheaper and more competitive.
- Second, following the infamous Friedmanian account of the Great Depression of the 1930s as a mere monetary phenomenon, the ECB is elevated to a deity status. The power of *Fiat* money “will rescue the euro at any cost” and impose its conditionalities for the funding "support" offered.
- Third, in a colonial type fashion, improving the institutional architecture of the currency area entails the surrender of large chunks of sovereignty over budget and fiscal policy.

In the process, a Eurozone fiscal union is portrayed as the logical successor to a banking union.

Seen through our spectacles, the neoliberal policies that are rolled out by the Eurocrats in the name of fiscal consolidation enfeeble democracy, the most sacred founding principle of the Eurozone states. It can be argued (Hatgioannides and Karanassou, 2011) that the Great Recession is a symptom of a dysfunctional global market system which, over

the last thirty years, has mushroomed in the “Warrant Economics for the Free-Market Aristocracy”. In an extensive analysis (ib.), it was shown that such a power structure of insiders capitalism is the product of the symbiosis of (i) the systemic creation and preservation of inequality and business concentration via Call-Put policy options, and (ii) the systemic exploitation of inequality via novel and toxic forms of securitisation. The intellectual pillar of austerians, namely the Ricardian equivalence proposition that public debt issuance is equivalent to future taxation, was also questioned.

The present work endeavours to place the origins and culprits of the Eurozone woes under the illuminating lense of the Call-Put policy options discourse and the concomitant squeeze of the bottom 99% of the personal income distribution. Our analysis shows that:

- The argument that the ECB’s “one size fits none” interest rate management (Notre Europe Report, 2012) is rather an oxymoron, as the interest-exchange rate channel has favoured the production/exports of the core counties and has disadvantaged the periphery ones.
- We are at odds with the populist view “banks must be allowed to fail” aspired and propagated in an open letter by the director of the Ifo Institute and its signatories (see Bloomberg, 2012, for a version in English). It does not question the setup of the financial sector as the power behind the throne of capitalism. The real issue is how the political, institutional, and academic establishments allowed the ECB, the banking system, and the regulatory bodies to nourish the sovereign debt crises.
- We do not subscribe with the fallacious view of the ‘sovereign-private decoupling’ signed in the June 2012 Brussels summit and espoused in a manifesto of economists in Germany, Austria and Switzerland (VoxEU, 2012). Our work elaborates on the intrinsic impossibility of the separation of the neoliberal state from its private sector agents.
- We view the imminent banking union as futile without resetting the culture of banking.

The remainder of this paper is organised as follows. Throughout our exposition, the shaded area in our figures refers to the ‘cultivation’ period. Section 2 scrutinises the key macroeconomic identities for a selection of Eurozone member states, and presents figures showing that economic convergence was a fairy tale in an ill-engineered monetary union. Section 3 unveils the indebtedness of households as the locomotive of the fabricated growth in the periphery (and to a large extent in the core), and exposes the rising profits and falling investment of NFCOs. Section 4 confronts the background of the eurosystem, unveils the Call-Put policy options of the neoliberal establishment, and offers a critical view of the flawed, in our opinion, headlines and proposals. Our thesis for re-orientating the euro is presented in Section 5, together with a tentative list of suggestions for the survivorship of the Eurozone. Section 6 concludes.

2 Structural Imbalances

Given that fiscal austerity is being undersigned as the prime remedy for the tumultuous Eurozone of the post-2008 era, a reappraisal of deficits and macroeconomic setups of the member states is required.

We use the balance sheet of each country's gross domestic product (GDP) to show that the public budget deficit is locked in an identity together with net savings and the trade balance (Kalecki, [1954]2009, p. 45-52). We argue that the essence of the debate of private versus public stimuli for growth can be captured neatly through equation (1), which is derived from the fundamentals of the national accounts:

$$\begin{aligned} S - I &= (G - T) + (X - M), \text{ i.e.} & (1) \\ \text{net savings} &= \text{budget deficit} + \text{export surplus}, \end{aligned}$$

where S denotes savings, I is private investment, G is government spending, T is taxes, and X , M denote exports and imports.⁴

Clearly, when the net savings of the private sector equal the export surplus, the public sector finances are in balance ($G = T$); but when net savings are in excess of net exports, the government needs to compensate with its budget deficit. Generally, the fiscal budget balance will have to fill up the gap in the economy left out by the private and external sectors. When the external sector is in balance ($X = M$), the public sector's

⁴According to the basic identity of national accounts the income and expenditures sides of GDP are equal:

$$\begin{aligned} \text{income side } Y^I &= Y^D \text{ expenditure side} \Rightarrow \\ GOS + TCE + T^y &= C^{pri} + I + G^{pub} + (X - M), & (2) \end{aligned}$$

where GOS is the gross operating surplus, TCE is total compensation of employees, T^y are taxes on production and imports, C^{pri} is private consumption, and G^{pub} is government spending excluding public transfers. Beyond this aggregate classification, detailed national accounts data can be used to disentangle the government involvement in the variables of identity (2) as follows:

$$GOS = \Pi + T^b, \quad TCE = W + T^l, \quad C = C^{pri} - P^{tran}, \quad G = G^{pub} + P^{tran},$$

where Π denotes profits, T^b is business taxes, W refers to wages and salaries, T^l is labour (and social security) taxes, P^{tran} stands for public transfers (to retirees and unemployed, for example), and C is private consumption excluding public transfers. Inserting the latter identities into equation (2) gives

$$\Pi + T^b + W + T^l + T^y = C + P^{tran} + I + G - P^{tran}.$$

With simple algebraic manipulation we obtain:

$$\begin{aligned} \Pi + W - C &= I + G - T + (X - M) \Rightarrow \\ S &= I + G - T + (X - M), \end{aligned}$$

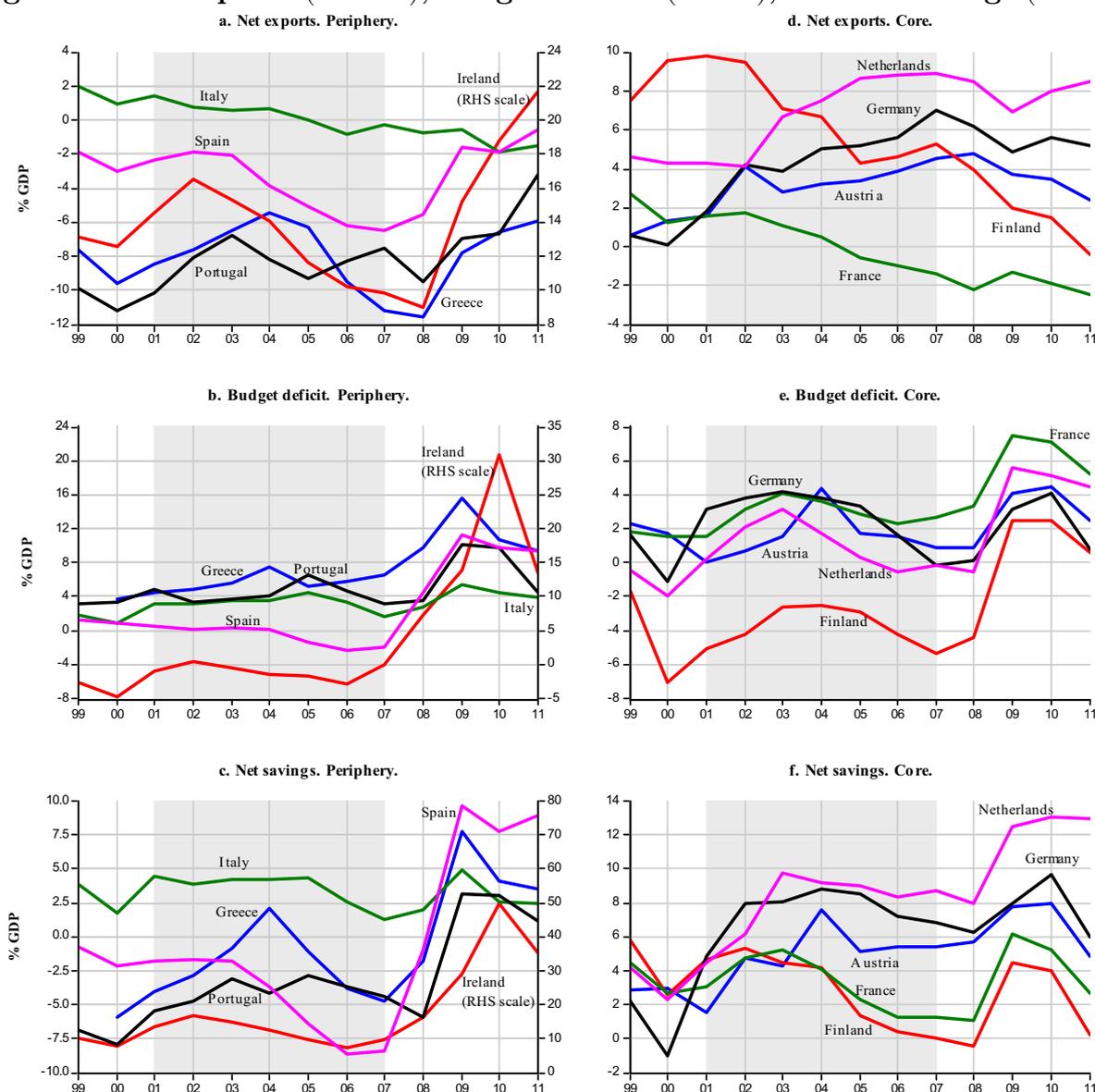
where T is the sum of business and labour associated taxes ($T^b + T^l + T^y$) measuring total public revenues, and S reflects that savings are the non consumed rents of the economy. A final rearrangement of the above identity gives equation (1).

spending is the mirror image of the private sector's spending (Bibow, 2012); e.g. when business/households underspend, the government has to overspend (budget deficit).

Since in a monetary union a member state cannot devalue to boost its exports and put a brake on its imports, a trade deficit ($X - M < 0$) can either be compensated by private sector investment ($S - I < 0$) or a government budget deficit, i.e. the public sector has to increase its spending ($G - T > 0$) to balance the country's national accounts.

Figure 2 plots net exports, budget deficits, and net savings of the five periphery countries (1st column) and the five core countries (2nd column) of the Eurozone over the 1999-2011 period. For each country in the periphery (core) the addition of the plots in Figures 2a and 2b (2d and 2e) gives the net savings plot in Figure 2c (2e).

Figure 2. Net exports ($X - M$), budget deficits ($G - T$), and net savings ($S - I$).

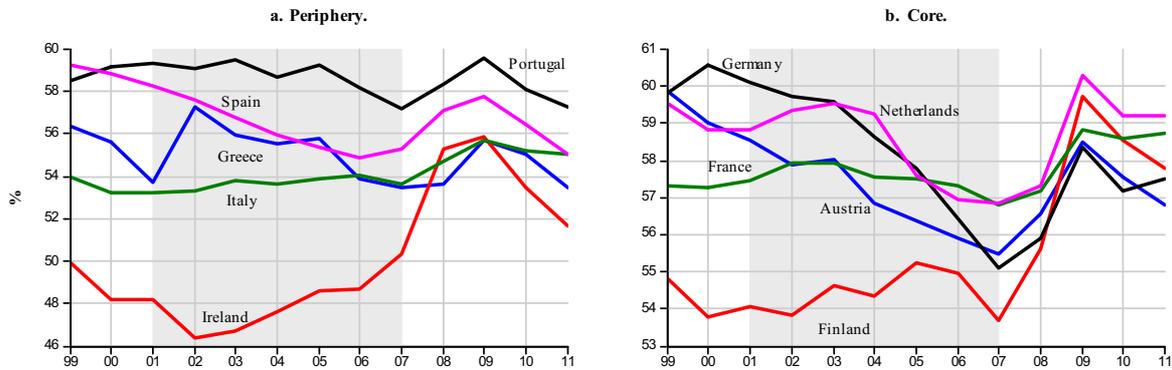


Source: Eurostat.

Clearly, whereas for the core nations net exports balances out net savings at minor budget deficits, for the periphery the lack of net exports is compensated by an inflated budget deficit. Put differently, while the composition of the right-hand side of equation (1) for the core is leaning towards net exports as opposed to budget deficits, for the periphery the atrophy of exports is compensated by escalating budget deficits.⁵

The commonly held argument that countries in the periphery have lived beyond their means (by running large trade deficits and accumulating debt) due to wages growing beyond what is justified by productivity gains, is in stark contrast to the evidence below. Using European Commission data, Figure 3 plots the adjusted wage share (wage-productivity gap):⁶

Figure 3. Adjusted wage share or wage-productivity gap.



Source: European Commission (Ameco Database).

Examining the graphs for the cultivation years (2001-07), the evolution of the wage-productivity gap is apparent. The plots show that the wage shares of Italy (Figure 3a) and France (Figure 3b), the third and second largest economies of the union, were stable at around 54% and 57.5%, respectively. Germany (Figure 3b), the leader of the Eurozone, had the largest drop in its wage share (5 percentage points, pp) from around 60% to 55%. This trajectory was similar to the Spanish one (Figure 3a) with a drop of about 4pp. Among the core countries, Finland was characterised by the lowest wage share levels in the range of 54%-55%. Some observations need further emphasis. Greek wage shares were

⁵In “Squaring the circle in Euroland?”, (Brecht et al., 2010, p.11) argue that “As more than 40 per cent of Germany’s exports go to other EMU countries..., Germany’s growth strategy continues to rely heavily on sustained deficits (public or private) in other European countries.” In this vein, criticising deficit countries for lack of fiscal responsibility sounds hypocritical.

⁶The wage share is measured by:

$$\text{wage share} \equiv \frac{\text{wage bill}}{\text{GDP}} = \frac{\text{wage bill/employees}}{\text{GDP/employees}} = \frac{\text{avg. wage}}{\text{productivity}} \equiv \text{wage-productivity gap.}$$

Note that a falling wage share is equivalent to a widening wage-productivity gap. On the other hand, a wage share of unity implies that the wage-productivity gap is zero: e.g., a 10% productivity gain is accompanied by a 10% growth in the average real wage. In these terms, the lower the wage growth is compared to productivity, the more wages trail productivity gains and thus the higher the wage gap is. The role of the wage-productivity gap in economic activity is examined in Karanassou and Sala (2012).

fluctuating between 54%-56%, a range of values well within the core countries one, and Italy's wage share was at least as low as Finland's. Remarkably, Ireland was by far the top candidate in "competitiveness" (i.e. the widening of the wage-productivity gap) among both the core and the periphery countries. The wage share had a "natural" upturn at the peak of the crisis years (2008-09), for both periphery and core nations, and subsequently fell during the execution period.

Evidently, "competitiveness" parades as the scapegoat for brutal austerity; Krugman's (2010) critical argument is audaciously tempting: "the policy elite – central bankers, finance ministers, politicians, who pose as defenders of fiscal virtue, are acting like the priests of an ancient cult, demanding that we engage in human sacrifices to appease the anger of invisible gods."

In what follows, Figure 4 scrutinises the composition of the left-hand side of equation (1), i.e. net savings, for both the core and periphery countries (bar Greece due to data unavailability). For example, in Italy, the variability in net savings (Figure 2c) is mostly driven by the savings factor, since total investment remains close to 20% of GDP for most of the time (Figure 4a). In contrast, in Spain, the dominant factor of the fall in net savings from -2.5% to -7.5% in 2007 was the rise in total investment from 26% to 31% over the same period; also, in the bad times after 2007, the huge drop in investment from 31% to 22% was a main driving factor of the increase in net savings from -7.5% to 10%.⁷

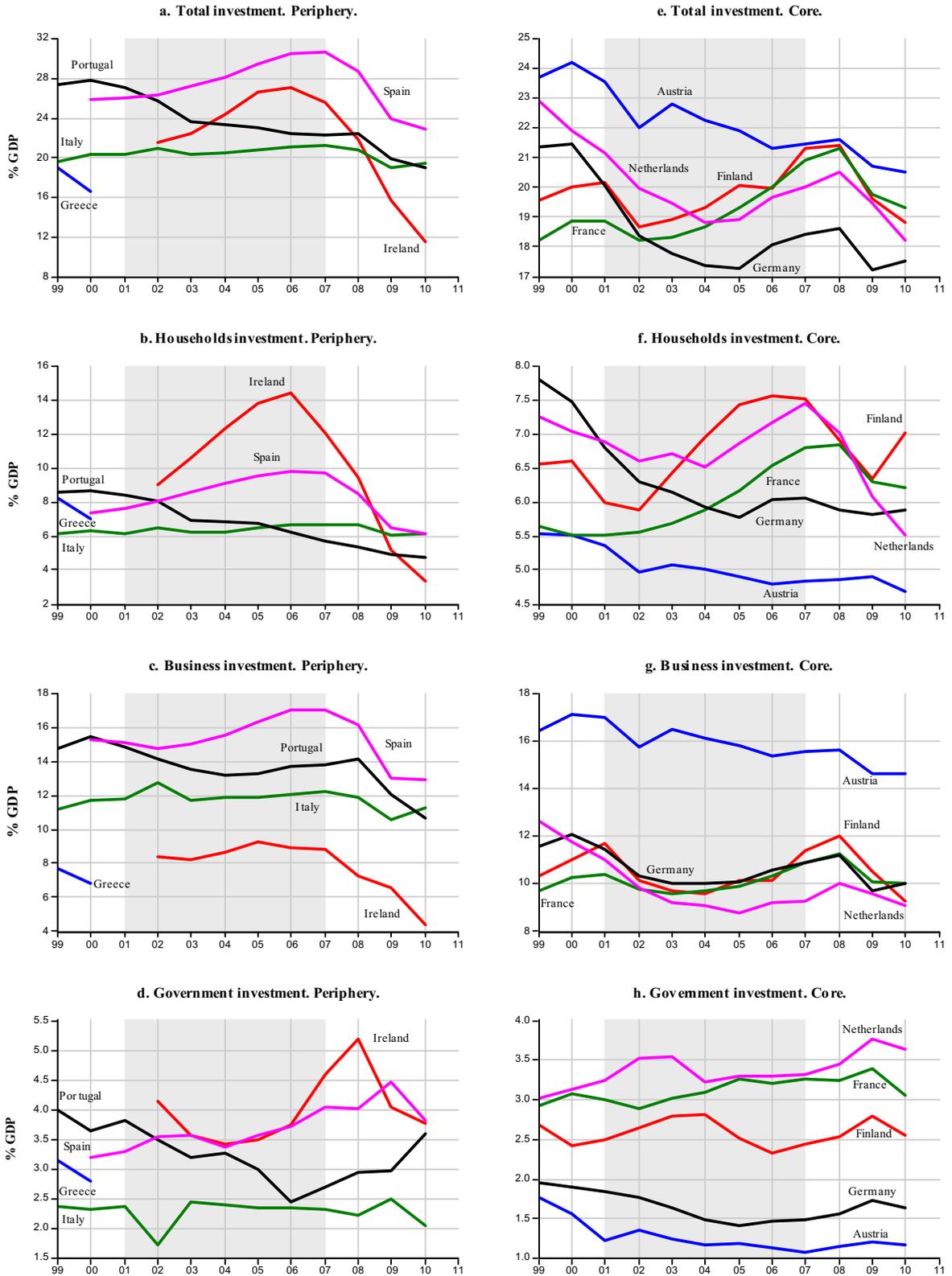
3 Investment, Indebtedness and Profits

The perpetual gardeners of the neoliberal Eurofields will attest to an alternative reading of the evidence in Section 2 for the core-periphery macroeconomic divide. The trade deficit and the ensuing fiscal compensation in the periphery at large, for a given level of net savings, is due to the uncompetitiveness of these economies. After years of high wage inflation, generous state-funded entitlements and low productivity growth, deep-seated structural reforms and austerity are needed to stimulate vigorous long-term growth.

We naturally muse whether the aforementioned is a viable rollercoaster of the economic status quo for resolving the crisis of the debtor countries, imposed by cruel creditors and obedient technocrats. Or is it, rather, a post-dated replica of the pre-emptive beggar-thy-neighbour policies that have cemented Germany's hegemony in the Eurozone?

⁷It becomes evident from Figures 4a-b that the most important part of the rise in total investment in Spain during the "good" years was household investment (about 3/5 of the total increase), resulting from the housing bubble. Regarding the Spanish property market, it is worthwhile to note that "Unlike in other countries, where in the event of the borrower defaulting the liability is limited to the value of the guaranteed real estate itself... A Spanish lender pursues the borrower himself, not the property, as the responsibility is personal." (www.spanishpropertyinsight.com/buff/spain/faq/spanish-mortgage-loans-an-overview)

Figure 4. Investment.



Source: Eurostat.

Circa the Euro's formal inception, Germany starts unleashing the masterplan of neoliberal ideology by slashing wages, benefits and breaking its welfare padlock in a "structural" innuendo to boost its economy. As a result of the well-timed reform, total investment tumbles in the lustrous 2001-05 period (Figure 4e) in tandem with its components, i.e. household, business, and government investment (Figures 4f-h).

At the same time, gross debt-to-income ratio of German households sharply declines (Figure 5d). Germany is the only country among both the core and the periphery ones that is deleveraging from the early stage of the Eurozone's creation. In the process, the lack of domestic effective demand together with (i) record high returns on capital and equity (Figure 6c-d) and (ii) a phenomenally rising gross profit share of NFCO's (Figure 7c), ratify Germany's mercantilistic avenue for the domination of the Eurozone. The table below reveals that the trade balance of Germany to the Eurozone (of 12 countries) almost doubled over the 2001-05 period of the monetary union's life.

Table 1. Germany's trade balance (net exports of goods) to the Euro area (12 countries), € billion.

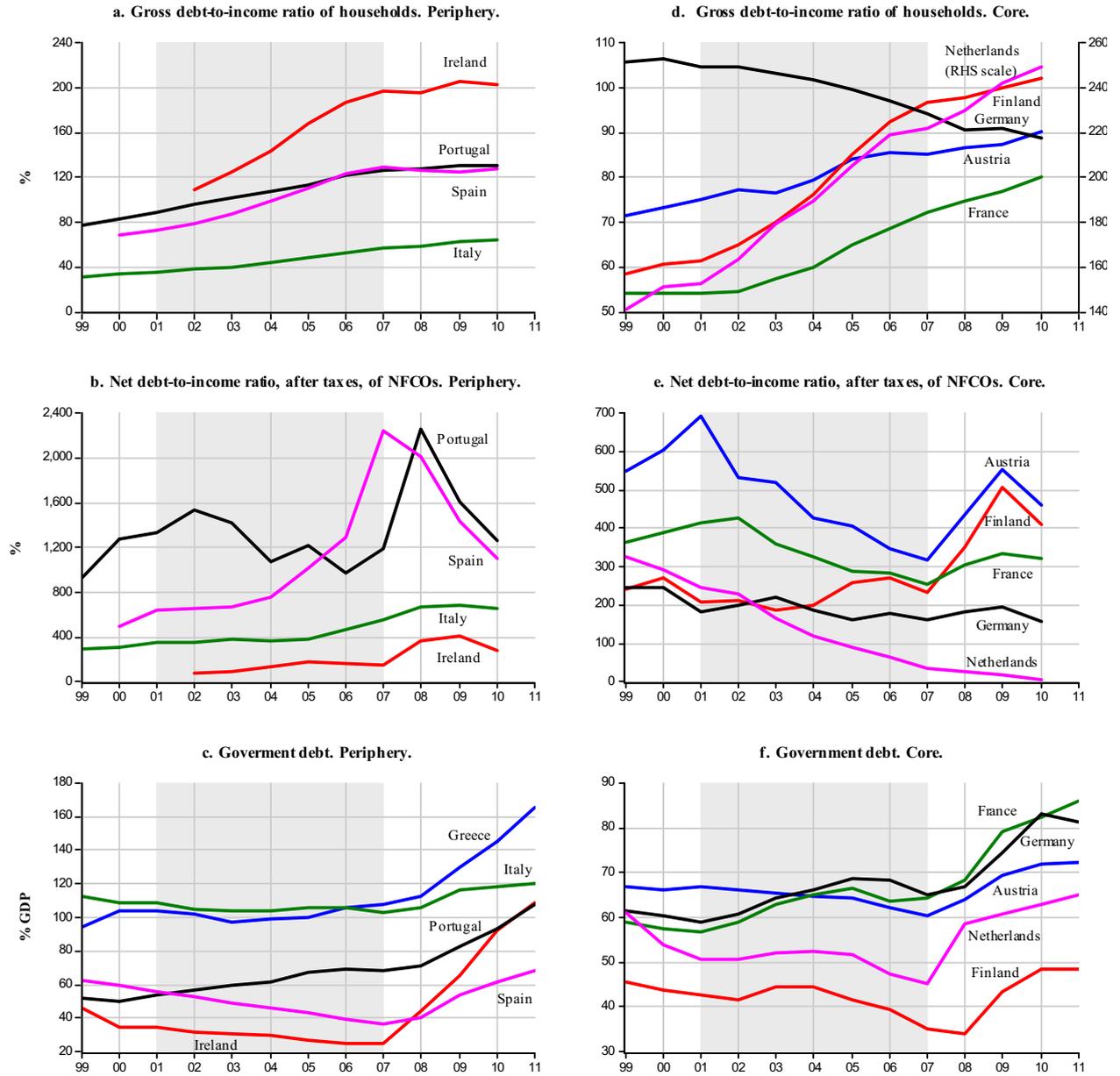
2000	2001	2002	2003	2004	2005	2006	2007
25.67	30.98	41.77	46.56	55.74	58.98	53.05	67.93

Source: Eurostat.

The end of the age of appeasement of "social excess" in the cultivation years of the Eurozone's economic trajectory is becoming the pyrrhic victory of Germany's single minded neoliberal roadmap. France, the rightful co-stepping stone to the Eurozone's edifice, was following a different expansionary route with (i) total investment and its components on the rise (Figures 4e-h), (ii) increasing indebtedness of households (Figure 5d). Also, with returns on capital and equity (Figure 6c-d) and profit shares (Figure 7c) being relatively stable, net exports (as shown in Figure 2d) were in decline over the 2001-05 period. A similar picture is evidenced for Italy, the Eurozone's third in size economy, albeit more moderate than France's record in all departments.

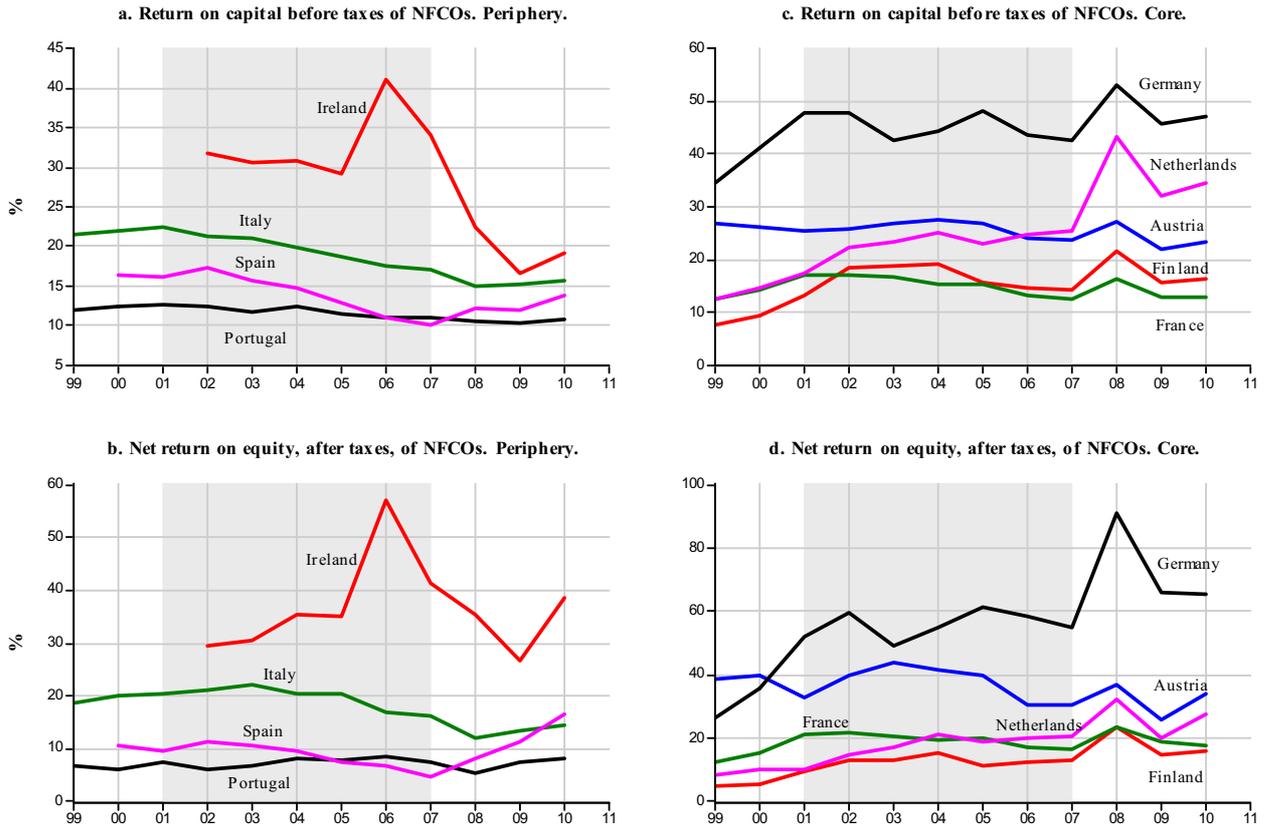
As far as the periphery is concerned, (i) the soaring indebtedness of households (Figure 5a), counterbalancing the slack/fall in net savings (Figure 2c), (ii) the increased speculative investment (bar Portugal, see Figure 4b for households' investment), and (iii) the steady/falling returns on capital and equity of NFCOs (Figures 6a-b) - bar Ireland, where its tax arbitrage regime has been rewarding for the multinationals it hosts, are shaping the architecture of Germany's economic imperialism. Coupled with the spiraling credit allowed by the ECB (as we shall unravel in Section 4), the funding of the bubble by the financial sector, and the incumbent neoliberal setup that rules the roost of policy formation, a bleak outlook had been casting the Eurozone horizon before the 2008 global crisis erupted.

Figure 5. Indebtedness.



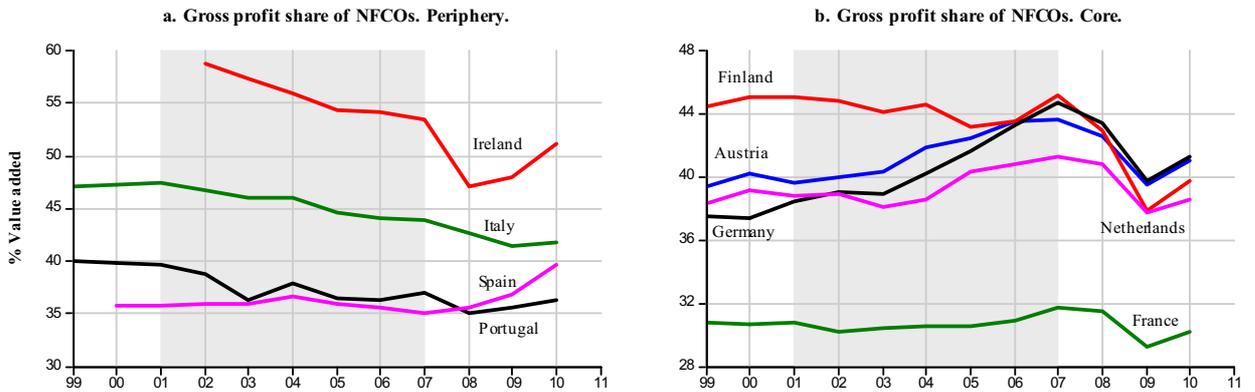
Source: Eurostat.

Figure 6. Returns on capital and returns on equity.



Source: Eurostat.

Figure 7. Profit shares.



Source: Eurostat.

4 Confronting the Faultlines

4.1 The Haunting Backdrop

The Euro was meant to unlock the door of a united states of Europe; a project envisaging a brave new order of economic convergence and shared growth. A precarious illusion lecturing that, as long as fiscal deficits are tamed, the prowess of the policies of the ECB will steer the union to sustainable prosperity.

Having been founded as an independent body in 1998, the ECB's mandate was the stability of a public good, namely *Fiat* money that is neither backed by any precious metal (like gold) nor is necessarily redeemable in coin (i.e. unsecured money base).⁸ In the sheer tradition of the Bundesbank, predisposed at exorcising the hyperinflation ghost of the 1920s Weimar republic from the collective experience of the Germans, inflation targeting (at around 2%) became the be-all and end-all modus operandi of the central bank and interest rate management was deemed the divine vehicle.

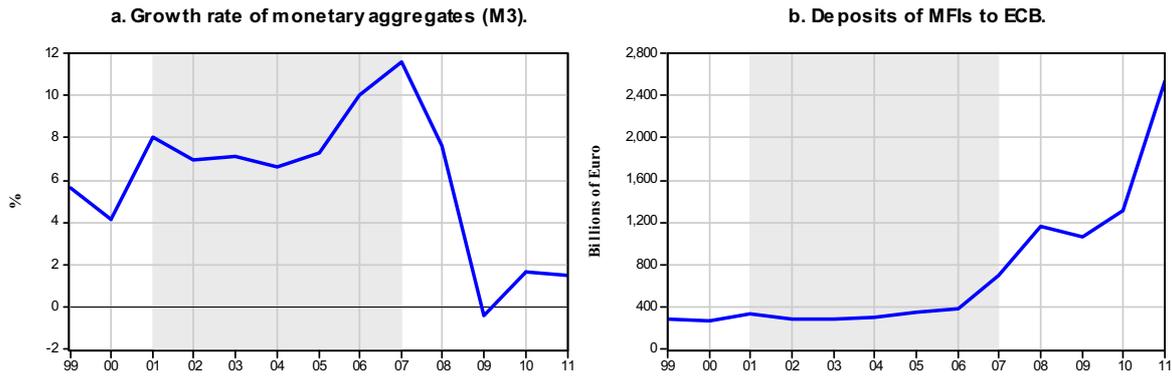
Whilst in the benign times of the noughties (what we coin the cultivation period) the ECB's policies were commended by both markets and political classes for their efficacy, the 'hypercredit' beast was left to roar undisturbed by the master of the Eurozone. Figure 8a shows that, despite the rhetoric of monetary prudence, there has been a phenomenal increase in the growth rate of M3: 4% in 2000, 8% in 2001 and about 12% in 2007, the beginning of the end of the fairy tale of central bankers goldilocks economics.

Through the system of fractional-reserve banking, an exuberant banking sector provided unscrupulous credit to the periphery's expansion, funding consumer booms, fiscal deficits that financed the imports from the core, and unsustainable investments (like property bubbles). The latter were carried out by big construction firms mainly in Spain and Ireland, who, despite having ended in bankruptcy, have secured enormous profits in the process (due to their limited liability).

Nevertheless, for the battery of economic models that were christened as relevant for policy decision making by central bankers and treasurers alike, i.e. the dynamic stochastic general equilibrium (DSGE) ones, the existence of systemic bubbles is a priori dismissed. More astoundingly, housing market variables that proved central to the transmission of the financial crisis, and/or plausible interactions between macroeconomic and financial variables are all conveniently in absentia from the DSGE tradition (Hatgioannides and Karanassou, 2011, Section 4.1).

⁸In the *Fiat* money system the value of the liabilities of the ECB and the central banks of large developed countries are not dependent on the value of the assets they hold (De Grauwe and Ji, 2012). *Fiat* is "let it be" in Latin. (Interestingly, in the Roman Catholic Church the term means "God's will be done.")

Figure 8. Monetary conditions in the Eurozone. 1999-2011.



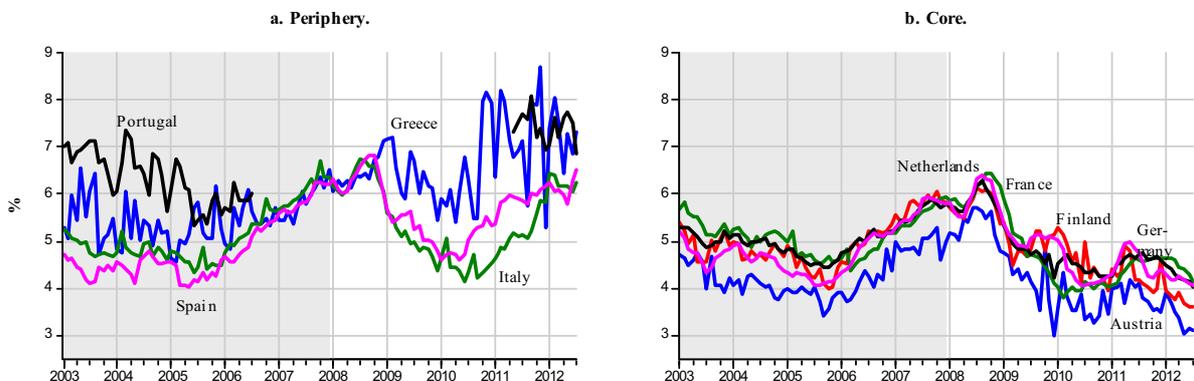
Source: ECB; MFIs is Monetary and Financial Institutions.

The onset of the financial meltdown, signalled by Bear Sterns and Northern Rock in 2007, brought the collapse of M3 and the explosion of deposits that the ailing banking sector has been placing at the ECB (Figure 8b) at a zero interest rate. Our reading is that

- not only did the ECB stand idle during the vicious credit expansion, but it also
 - accommodates the illiquidity of the Eurosystem through reserve hoarding at its coffers, and
 - fast tracks the recapitalisation of financial institutions by deleveraging rather than through private equity injections.

Four years on, the economic crisis documents the severely blocked transmission mechanism of the ECB's interest rate setting. Figure 9 pictures the dismal variations in the borrowing costs of, mainly, SMEs for loans of up to €1 million with duration of 1-5 years. In 2012, the companies of the core countries are charged 3%-5%, while those of the periphery 5%-8%.

Figure 9. Average rate on loans to NFCOs, 1-5 years, up to €1 million.

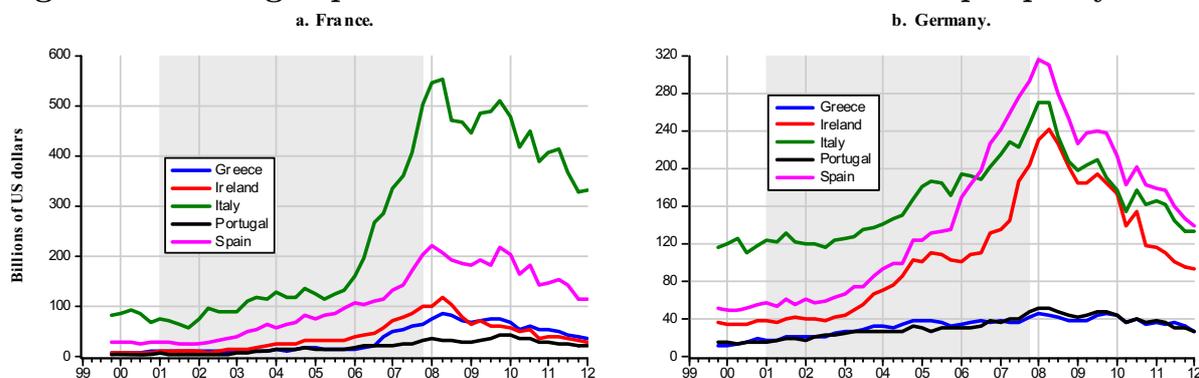


Source: ECB; January 2003 - July 2012.

Such differences further endanger the productive capacity of debtor nations, deepen their recessions, facilitate the concentration of economic output to big corporations and multi-nationals (which can borrow at record low interest rates from the markets), and make a mockery of the single market and the puissance of the monetary steering of the ECB.

Figure 10 provides an apt verdict of the wave of financial protectionism that has been triggered by German and French banks, and their national regulators, to cut down their exposures to periphery debt in the wake of the crisis. It is worth observing that, from 2008 to the first quarter of 2012, the French banks repatriated a total of \$301.810 billion from the five periphery counties. For the German banks this amount was \$325.019 billion. An otherwise assumed borderless financial system that was meant to crown the feint push of economic integration has been retrenching behind national borders.

Figure 10. Falling exposure of French and German banks to periphery debt.



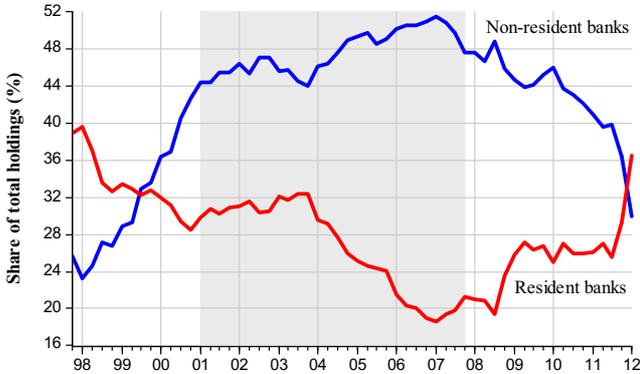
Source: Bank of International Settlements (BIS); fund repatriation from 1999Q3 to 2012Q1.

Figure 11 illustrates the ECB's disruptive version of quantitative easing of €1 trillion in total, in line with the battery of unconventional monetary measures proliferated by the US Fed, the Bank of England, and the Bank of Japan to save the insolvent banking behemoths. Spanish resident banks, following the withdrawal of non-resident ones, take advantage of the 1% funding cost charged by the ECB and engage into profitable 'carry-trades' to buy Spanish (10-year) sovereign bonds, among others, at the punitive 6% + return that bolsters their balance sheets. Meanwhile, the country's balance sheet is put in jeopardy.

Finally, Figure 12 plots the speculative capital movements within the Eurozone in the aftermath of the sovereign debt crisis, and evidences the dramatic shutdown in the flows of private capital. A private capital that does not trust anymore neither its toxic origination nor its destination, thus leading to the breakdown of the interbank market and the conversion of a large part of private claims/liabilities into public TARGET2 claims/liabilities. The Eurozone taxpayer of any colour (creditor or debtor) is at the hook of (i) the private sector's damage limitation exercise, and (ii) the central banker's

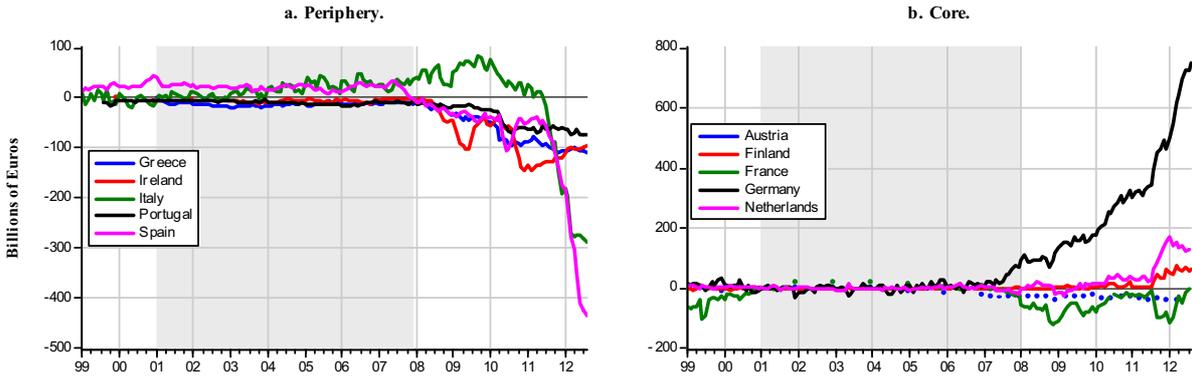
eagerness to write-off the private sector’s follies and profitable excesses during the boom times at the expense of the public balance sheet.⁹

Figure 11. Ownership of Spanish sovereign bonds.



Source: Bruegel; fund repatriation 1999Q3 - 2012Q1.

Figure 12. TARGET2 balances.



Source: Institute for the Empirical Economic Research, January 1999 - August 2012.

Merler and Pisani-Ferry (2012, p.11) correctly point out that “TARGET2 balances are the symptom of the uneven distribution of central bank liquidity within the Eurosystem. Those who focus on TARGET2 imbalances as having significance beyond this confuse consequence and causes. Rather than tinkering with the symptom...attention should focus on curing the disease...” But in contrast to Merler and Pisani-Ferry, rather than merely looking at “the underlying banking-system problems”, we diagnose the disease by examining the organic tissue of the whole economic/financial system’s functioning.

⁹Given the structural imbalances exposed in the previous sections, we view that TARGET2 payments merely reflect the squaring of the Eurozone’s accounts, rather than, as Sinn (2012, p.3) heuristically puts it, as “the attempt of a deficit country to refinance its payment deficit by borrowing a printing press from other central banks.”

4.2 A Scan of the Policies of the Neoliberal Status Quo

In a globalised world, it is important that we place the Eurozone malaise in the context of neoliberalism that over the last three decades has led our communities to the Great Recession.¹⁰ The institutional status quo has created what we identify as the *Call-Put policy options*, implicitly written by the neoliberal state and acquired by financial institutions and big multinationals at a minimal premium, i.e. the cost of lobbying.

For readers unfamiliar with option trades, the holder of a call option pays a premium for the right to buy (in the future) the underlying asset for a certain price, the strike (or exercise) price. Note that in a rising market the long call position offers an unlimited upside payoff at the initial cost of the option premium. On the other side, the holder of a put option has the right to sell the underlying asset for the strike price. Thus, in a falling market, the strike price of a long put position secures the investor from an unlimited downside loss at the cost of the option premium. Of course, if the markets move against the expectations of the option holders, investors will not exercise and will walk away with a fixed loss (the option premium).

Departing from the standard textbook definition, we now explain how the Call-Put policy options unwind to a ‘heads-I-win, tails-you-loose’ corporatist strategy. A double-sided options trade, where ‘heads’ refers to the boom years of lavishing rewards for the top-income earners and increasing income inequality, and ‘tails’ to the bust years of bailouts and austerity. As the underlying asset is a sovereign’s current and future wealth, Call-Put policy options are implicitly issued by the state itself.¹¹

Figure 13 offers a schematic synopsis. Panel (a) shows that the holders of the Call have unlimited upside national income potential over and above its exercise price, X_C . The latter is a rolling strike price depending on the income of the majority population. Rolling in the sense that, for example, while the income share of the 99 percent of the US population was 92% in the early eighties, it squeezed to 82% by the late noughties (Alvaredo et al., 2012; see Figure 14 for the Eurozone data).¹² Panel (b) shows that the exercise price of the Put policy option (X_P) is the insolvency threshold of the systemically important financial institutions, SIFIs. That is, the proprietors of the Put (banks) are recapitalised when they become insolvent.¹³ Under the scenario of equity bankruptcy, the payoff to the holders of the Put is the cost to the general public of the state funded rescue

¹⁰Neoliberal policies are biased towards a market economy serving the interests of big business.

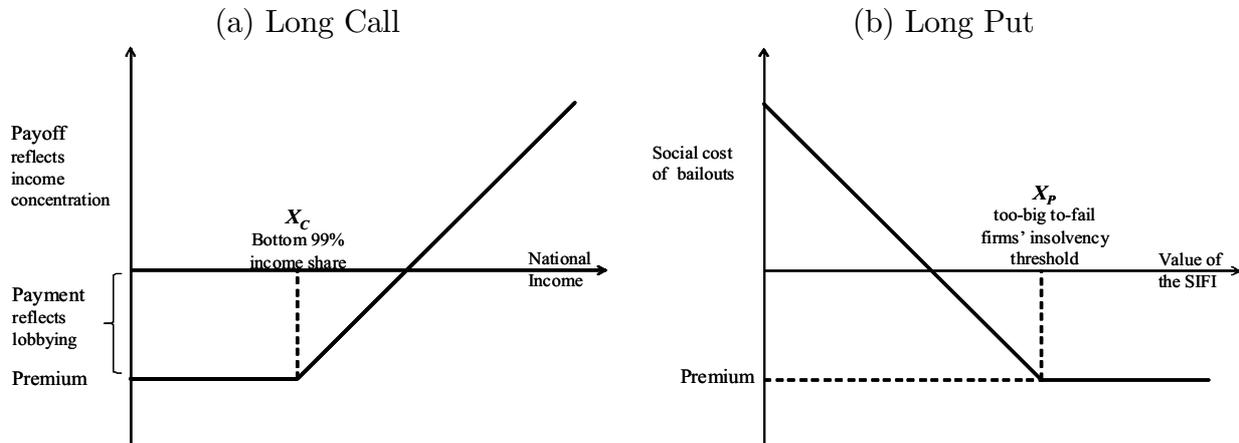
¹¹Hatgioannides and Karanassou (2011) argue that the systemic creation and preservation of inequality via Call-Put policy options, and the exploitation of inequality via securitisation are the two facets of Warrant Economics for the Free-Market Aristocracy (the epithet *Warrant* refers to options on the sovereign’s produce). Their exposition unveils how neoliberalism came to dominate the economics profession, creating the Call-Put policies of the twisted market competition.

¹²For an analysis of the inequality/macro-activity nexus see Karanassou and Sala (2012).

¹³We do not claim originality of the term. ‘Greenspan’s Put’ refers to the rescue of the giant hedge fund Long Term Capital Management, after its 1998 collapse, by the Fed’s Chairman.

or bailout plan(s).¹⁴ Unsurprisingly, the Call-Put policy options break with the classical marginal productivity theory of a ‘just reward’ in a truly competitive enterprise economy.

Figure 13. Call-Put Policy Options.



Last, but not least, the premium of the Call-Put policy options reflects lobbying by corporate elites who try to shape the political agenda via generous donations and fundraising activities for the benefit of the main political parties/authorities (the European Roundtable of industrialists launched in 1983, www.ert.be, is such a lobby group). Notably, Brussels, the centre of the European Union with over 12,000 corporate lobbyists, rivals Washington as the world’s corporate lobbying capital (WDM, 2010, p.28). Another worrying feature of EU policy making is its high official/banker ‘revolving doors’: “Three former Commissioners have taken up positions with Goldman Sachs at the end of their term; Peter Sutherland, Karel van Miert and Mario Monti” (ib.). Interestingly, “on 1 November 2011 the first of two ‘banker’s coups’ took place when Mario Draghi, managing director and European vice-president of Goldman Sachs from 2002-05, took over as president of the European Central Bank”.¹⁵ The second of the banker’s coup took place on 16 November 2011 when Mario Monti was sworn in as the (unelected) prime minister of Italy to offer his technocratic wisdom in credibly steering the country into fiscal austerity and averting a market shutdown for the funding of national debt. With such strong political networks, Goldman Sachs has earned the name "Government Sachs".¹⁶

Figure 14 portrays the squeeze of the bottom 99 percent of the public by depicting its income share in 1980 and 2007 for the core countries (bar Austria and Netherlands) and the periphery ones (bar Greece). In 1980 Finland and Portugal were the countries

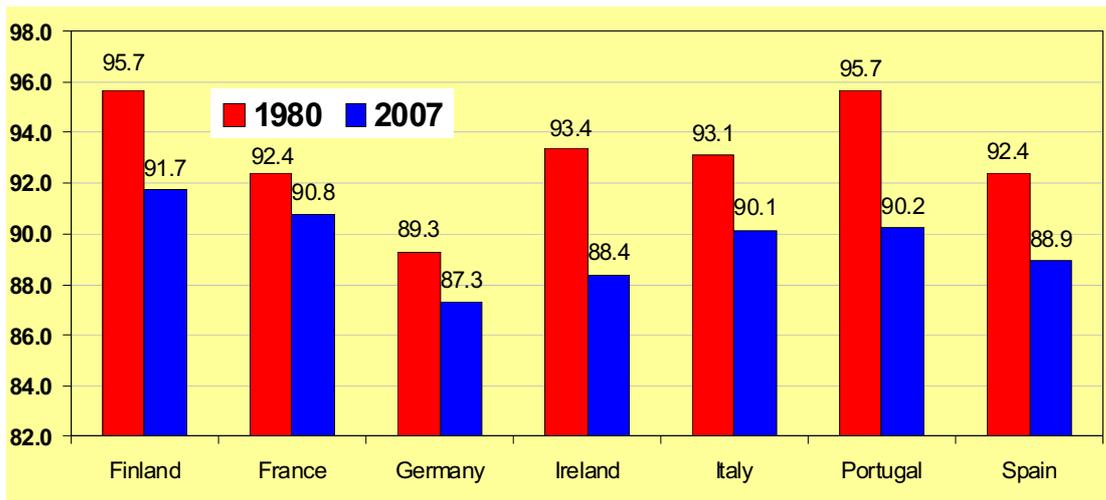
¹⁴It is worth noting the important difference between financial bailouts and the interest bearing loans of the so-called sovereign "bailouts".

¹⁵New Internationalist 450, March 2012, p.24, www.newint.org/features/2012/03/01/goldman-sachs-europe/

¹⁶Although our economies have managed to successfully terminate the unholy ‘marriage’ between government and Bank (as Weidmann, 2012, p.7, refers to the relationship between Banca d’Italia and the Italian treasury in 1975), the Call-Put policy options of neoliberalism have led to an affair of lust between Big business and the Bank.

with the lowest personal income inequality: the income share of the 99 percent was around 95.7% in both of them. Notably, Portugal has experienced the biggest squeeze in the share of the 99 percent to 90.2% of the country's income (a fall of 5.5pp). Ireland witnessed the second largest squeeze (3.4pp), followed by Finland (3.2pp), Italy (2.5pp), Germany (2.0pp), Spain (1.7pp), and France (0.5pp).

Figure 14. Income share of the bottom 99%.



Notes: Capital gains included in Germany and Spain; last value for Portugal corresponds to 2005.

Sources: Finland (Jantii *et al.*, 2010); France (Piketty, 2010); Germany (Fabien, 2007); Ireland (Nolan, 2007); Italy (Alvaredo & Pisano, 2007); Portugal (Alvaredo, 2009); Spain (Alvaredo & Saez, 2009).

Paradoxically, personal income inequality has been the highest in Germany with the 99 percent sharing just the 89.3% and 87.3% of the nation's income in 1980 and 2007, respectively.¹⁷ It should be pointed out, though, that the terms of employment in the most powerful economy of the Eurozone had been of a high standard. But as the safety net provisions of the 'indirect wage' have been weakening due to the structural adjustments that the economy underwent when the euro was launched, distributional issues become important in the current hazardous times.

We view the squeeze of the bottom 99% (or of any percentage less than 99) of the income distribution as the inequality consequences of Call-Put policy options. While Call policy options lead to higher personal income inequality under all market conditions (booms or busts), the exercise of Put options in "bad" times further aggravates inequality. Uncovering the function of Call-Put policy options, the adage 'we spend more than we produce', used by austerians to justify their honorific policies, is an insult after the injury to the majority of the taxpayers.

¹⁷Biewen and Juhasz (2010) argue that from 2000 to 2006 there was an unprecedented rise in net equivalised income inequality and poverty in Germany.

4.3 A Critical View of Headlines and Proposals

Decoupling¹⁸ and the creation of a banking union stand as the Eureka of the technocratic and political neoliberal elites for resolving the structural imbalances (Section 2), financial fragmentation (Section 4.1), and abating the Eurogeddon.

The syllogism is that a legacy of cross-border debt claims can explode the single currency if the banking system, through which credit is channelled, falls into national pieces; the weight of private debt overhang is too great for the deficit states to bear on their own. Without a credible state backstop troubled banks can fund neither themselves nor a faltering economy. A banking union is necessary, the narrative goes, to restore the Eurozone's monetary transmission mechanism. The latter has been wrecked by (i) pernicious loops between weak sovereigns and banks, and (ii) capital controls disguised as prudential regulation that are imposed by national banking supervisors of the core.

The espoused solution is to allow the EFSF/ESM¹⁹ rescue fund for troubled nations (€500bn at present) to recapitalise banks directly, without going through the sovereign, subject to joint bank supervision. It is worthwhile to elaborate on the workings of the EFSF/ESM alternative channels of loans for recapitalising the banking sector. Lending banks via the sovereign creates an on-balance sheet liability for the troubled country:

$$\textit{Indirect} \underbrace{\text{EFSF/ESM} \rightarrow \text{sovereign} \rightarrow \text{banks.}}_{\text{on-balance liability}}$$

But if the EFSF/ESM can lend the banks directly, the sovereign has an off-balance sheet liability:

$$\textit{Direct} \underbrace{\text{EFSF/ESM} \rightarrow \text{banks.}}_{\text{off-balance liability}}$$

Since the loan is not recorded as debt in the balance sheet, the sovereign's debt/GDP ratio remains unchanged.

The habitual wrath of credit nations, though, reigns supreme. Germany insists that any direct bank recapitalisation (the so-called debt mutualisation) by the EFSF/ESM should be covered by a sovereign guarantee. Mutualisation (joint liability of the debt) is viewed as an unwarranted expense of the "well-disciplined" creditor countries of the core to fund the "reckless" deficit countries of the periphery.²⁰ Clearly, our exposition so far of

¹⁸That is, breaking the "vicious cycle between banks and sovereigns".

¹⁹The European Financial Stability Facility (EFSF) or its successor, the European Stability Mechanism (ESM).

²⁰Generally, debt mutualisation can take the form of (i) a new sovereign debt via eurobonds (opposed by the German government and opposition), (ii) a European Redemption Pact (proposed by the German Council of Economic Experts, the "wise men", in winter 2012 but opposed by the Bundesbank later that summer), and (iii) using the "firewall" of the EFSF/ESM rescue funds to recapitalise directly ailing banks.

the faulty neoliberal policies and their structural symptoms signposts how delusive such a view is.

On 6 September 2012, the ECB did unveil its big conditional "bazooka", the Outright Monetary Transactions (OMTs) through which it may unleash unlimited purchases of government bonds in secondary markets.²¹ Mr Draghi's plan circumvents the bureaucratic niceties of the founding protocol of the Eurozone in not financing troubled states directly.²² The rationale offered in the press conference on that day was "We aim to preserve the singleness of our monetary policy and to ensure the proper transmission of our policy stance to the real economy throughout the area. OMTs will enable us to address severe distortions in government bond markets which originate from, in particular, unfounded fears on the part of investors of the reversibility of the euro" (Draghi, 2012).

In making this case, Mr Draghi argued that "we are in a situation now where you have large parts of the euro area in what we call a "bad equilibrium", namely an equilibrium where you may have self-fulfilling expectations that feed upon themselves and generate very adverse scenarios. So, there is a case for intervening, in a sense, to "break" these expectations, which, by the way, do not concern only the specific countries, but the euro area as a whole. And this would justify the intervention of a central bank." (ib.)

The ECB went further to consider itself ranked equally with other creditors, so its buying will not weaken the credit quality of privately held bonds. Finally, as a surprise move, it decided to loosen its collateral requirements once more, by accepting junk-rated and (some) foreign-currency denominated assets held by private financial institutions as security against loans. The markets reacted with a bout of euphoria, not seen for a long time, with the Euro rallying, share prices soaring and bond yields for Spanish and Italian government debt (as well as for most troubled countries) plunging. After all, the worshippers of neoliberalism have faith that a deified ECB will credibly take away the risk of a Euro break-up and is ready to absorb a major part of the Eurozone's credit and currency risk, making all risky assets more valuable.

We strenuously do not pay homage to either the premature bliss of the markets or the litany of praise for the championed salvation agenda of the Eurozone's woes for two audible reasons.

- First, a banking union without a fundamental structural reform and an in-depth impartial auditing of the banking sector's balance sheets is futile.

We ponder, to whose benefit could be to "unite" systemically unstable institutions that

²¹A necessary condition for OMTs is "strict and effective conditionality attached to an appropriate" EFSF/ESM programme. Transactions will be focused on "sovereign bonds with a maturity of between one and three years." (ECB, 2012)

²²Since the OMTs refer to ECB purchases on the secondary market, they do not violate Article 123 of the EU Treaty. In the financing of governments, Article 123 is explicit: purchases on the primary market would be a breach of the Treaty.

have proved more capable of destroying economic value during their locust years (2002-2008), rather than serving their principal function as a utility? Unless the banking system is rebooted towards its principal role, and separated from its toxic investment functioning, a banking union will merely boost the proliferation of toxicity underwritten by a misinformed taxpayer. This will evidently result in a huge misallocation of resources at the benefit of the systemically destabilising financial institutions.

We are extremely sceptical of the decisions taken at the October 2012 summit for the setup and the legal foundations of a single supervisory mechanism (SSM). A new pan-Eurozone bank regulator within the ECB (making it ‘too big to manage’) that will ultimately encompass all 6,000 Eurozone banks will unwind the necessary structural reforms for rebooting the banking system. The latter is a requirement for the proper economic functioning of (i) a uniform resolution mechanism, (ii) a common bank recapitalisation policy and funding, and (iii) a single deposit insurance scheme. Naturally, these three conditions compose the minimally sufficient institutional setup for a credible banking union and, ultimately, the hard-wiring of the monetary union.

Recognising that a banking union, with its plethora of necessary attachments, will constitute the biggest act of political integration in Europe since the creation of the European Economic Community in 1957 (and the Euro itself in 1999), it is vital that the massive encroachment on national sovereignty that it entails is counterbalanced by well documented merits of basic fairness and economic value.

- Second, the ECB’s prior attempts in buying government bonds in the secondary markets through its Securities Market Programme (SMP) and control the bond yields of troubled countries is an unpleasant reminder of just how unsuccessful that intervention was.

In the first week of May 2010 the SMP spent €16.5bn to bring down the 10-year Greek government bond yield to the vicinity of 7%; the markets testing its resolve a month later shoot up the Greek 10-year yields in excess of 10% and the ECB, tortured by internal divisions, proved unwilling to keep spending. This time will be different, the argument goes, because renewed bond buying through the OMTs bazooka,²³ although unlimited in principle, will be conditional.²⁴

²³The "bazooka" analogy was first made by Hank Paulson, US Treasury secretary in 2008 when the financial crisis kicked off: “If you have a bazooka in your pocket and people know it, you probably won’t have to use it,” he said when Congress gave him the power to rescue Fannie Mae and Freddie Mac, the mortgage agencies. Just two months later the bond markets called his bluff and the subsequent bailout has cost American taxpayers \$150bn.

²⁴Draghi (2012), in the Q&A of the 6 September press conference, responded to the Question “...*this is kind of the third attempt at making a bond purchase programme work: you did it in May 2010, you did it again in August 2011, and they did not seem to work. What makes you think and why should people be convinced that this third attempt will work?*” by stating that “The present programme is very, very

Exercising its hubris, the ECB governing council was taking little heed of its heinous and unconditional bespoke version of quantitative easing to massage the private sector's failure. In December 2011 and up to February 2012, the ECB pumped in excess of 1 trillion euros (€489 bn+€530 bn) of 3-year loans at a mere 1% interest rate charge to zombie Eurozone banks, through the longer-term refinancing operations (LTROs). Too important to fail a collapsing private sector, too crucial to meet arbitrary economic targets (of deficits and debt to GDP ratios) a troublesome sovereign is, the unwritten mandate goes.

It is evident that rescuing a dysfunctional Euro and dealing with the existential dilemmas of the union at any social cost is the sine qua non neoliberal mantra of the Eurozone's statecraft. The single-minded emphasis on turbo fiscal restraint is creating an unsustainable pro-cyclical austerity belt, and lack of prospects of growth. In the vicious process, it is consistently undermining market funding at no penal rates of interest for both sovereigns and banks and, ultimately, their solvency.

The main pathogen of the conditionality programmes is that when/if troubled countries ask for EFSF/ESM funds, or need the ECB to authorise OMTs, will be because the incumbent brutal and self-defeating austerity roadmap requires further strengthening and technocratic troica (EU, ECB, IMF) monitoring. This makes no economic sense because it aggravates instability. It makes no political sense either because it is highly divisive within and between member states. We turn our attention next to viable proposals for averting the imminent conflagration within the Eurozone.

5 Re-orientating the Euro

Having exposed the structural frailties of the Eurozone's architecture and the failure of economic convergence of its member states, a conundrum is omnipresent in our work. In the face of collectively self-defeating austerianism, and the cruelty of ideologically driven structural reforms that rule the roost of economic prescriptions, asphyxiating one country after the other one is entitled to ponder.²⁵ Abandon this flawed experiment. After all, the ruling establishment stresses that a workable economic/monetary union is unfeasible without a common treasury and, ultimately, political federalism with all the

different from any other programme we had in the past. First of all, we have this conditionality element. That is, I would say, the most important difference, because it really puts together our intervention with an ownership of the economic programme that a certain country has, by the country's government, but also by the other governments that have to vote in favour of the EFSF interventions. That is one of the differences, and I think it is probably the most important."

²⁵Holland and Portes (2012, p. F9) argue that fiscal consolidation across the EU with interest rates at or near the zero lower bound and an impaired financial system "would in fact raise interest rates, exacerbate the negative effects on output, and in turn make debt-GDP ratios even worse; truly a 'death spiral'."

strings attached for the loss of sovereignty of the member states. Naturally, this signposts the rich dialectic of counter arguments for their implausibility, driven by the tormented historic trajectories and experiences of member nations in the large part of the 20th century.

Eurozone exit and external devaluation of reinstated national currencies for the troublesome periphery may prove a more viable trajectory for overturning (i) its chronic stagflation, (ii) social breakdown, and (iii) large swaths of poverty than the internal devaluation that the establishments of the creditor countries of the union are dictating. (Of course, there has never been a creditor without a willing debtor). We are at odds with this mindset.

The perils of the Eurozone that we did expose in the previous sections are consequences of the adopted neoliberal economic principles which have infiltrated all the central institutions that govern its functioning. The ruling public and private sector elites of both creditor and debtor countries are enthused with a collective, pan-Eurozone economic settlement that promotes inequality, dismantles the welfare state, and facilitates business concentration and profitability in line with the demands of the globalised landscape. On the other hand, we are fully aware that the powerhouse of a single country, however mighty is seems (say Germany), cannot thrive on its own. According to the doctrines of corporate finance, mergers (of economies in this case) are more durable than divestitures.

One can only shiver at the thought of the array of structural measures to boost competitiveness (as if competitiveness is an absolute, rather than a relative measure in the intertwined global economy) that the same neoliberal elites, sanctioning the present austerity within the Eurozone, will unwind to their populations once exiting the common currency. In parallel with the world economy, the survivorship of the Eurozone for the majority of its citizens and SMEs can only be addressed once the incumbent conviction and ideology are overturned. Our tentative proposals, listed below, point to an economic and intellectual overhaul that can only materialise by democratically elected new political and technocratic personnel at the helm of key European institutions and governments.

5.1 Write-down of Debt

The working cradle of our analysis is that the structural origins of the Eurozone woes are conveniently silenced and siphoned by the incumbent neoliberal elites and odious market species to a mere sovereign debt crisis management. Without subscribing to the logic of such a devoid verdict, our central proposal is writing-off the debt of ailing member states in excess of 60% of their GDP. Such a write-down can act as the pillar of recovery. By alleviating an impoverished country's balance sheet from the stranglehold of interest rate and principal payments servitude, the ruling economic agenda and flawed fiscal priorities can be revised. A stabilising fiscal rule can in turn be credibly formulated, specifying the

target debt/GDP ratio of not more than 60% (in accordance with the conveniently neglected criterion of the Maastricht Treaty), and counter-cyclical fiscal stimuli will reignite the recession hit economies.

We propose a stratified retrenchment of the debt exposure of moribund states (i.e. Greece, Portugal and Ireland and to a lesser extent Spain and Italy) by first and foremost cancelling the debt owed to private creditors (such as banks, hedge funds, asset management companies) - pension funds and small investors exposure to sovereign bonds should be left intact in the restructuring process. After all, the private banks (i) have been bailed out by the Put policy option at the cost of the taxpayer, (ii) are being perpetually sanitised by the central bankers facilitated short-term (albeit illusory) recapitalisation of their toxic and insolvent balance sheets, (iii) have pocketed a large share of the bail-out funds (for Ireland, in particular, almost the full amount) lent by the troika at the expense of the nation's taxpayer, and (iv) having secured their longevity, they act as the masterchef of the neoliberal recipe for social disaster. All this, in parallel to their consistent profiteering, safely pocketing mind boggling Euro-exit risk premia that supposedly dictate the punitive interest rates charged to the debtor countries.

As we demonstrated in Section 4, central banks of the core (and the ECB in particular) have amassed large chunks of periphery countries debt in the last two years via the TARGET2 payment and settlement services. This was aimed at easing the inept dismantling of periphery debt by the profligate financial institutions of the core, or else, the recycling of private debt to public debt. We propose that the ECB and national central banks of the core, in one-off action, wipe out the chunk of their sovereign debt holdings issued by the ailing periphery.

The common economic argument against such a debt-jubilee, aiming to alleviate the smothering indebtedness of the strained countries, is that the asset side of the ECB's balance sheet will be infringed by the ensuing write-downs. The end result, the tale goes, will be a loss incurred to the creditor countries taxpayers' as a consequence of illicit (according to the legal protocols of the Eurozone) debt mutualisation.

This is fantasy economics relegated for tabloid exploitation and constitutes a serious misunderstanding of the basics of central banking in a *Fiat* money system. The straight-jacket of the gold standard or fixed exchange rate regime that did tight the asset and liability sides of a central banks' balance sheet is teared to oblivion in the *Fiat* platform of the ECB operations (and to that matter, of all central banks in the developed world that are in control of their currency). As De Grauwe and Ji (2012, p.12) correctly point out "when the central bank acquires government debt (or any type of debt), it changes the nature of the debt. It monetizes the previous debt...When the central bank acquires assets, mainly government bonds, it issues new liabilities...It is as if the government debt has disappeared. It has been replaced by central bank debt. The central bank could liter-

ally put the government bonds in the shredding machine...The value of the new debt will then uniquely be determined by its purchasing power value, and thus by the capacity of the central bank to keep the issue of this new debt under control. ...In this whole process the value of the assets held by the central bank is irrelevant.” In a nutshell, should the ECB contribute its rightful share for the write-off of the national debt of the periphery, its liability side would be immune to such a restructuring, and concomitantly, the European taxpayer would be sterilised by the power of *Fiat* money.

To the extent that the private creditors and central banks sovereign debt write-offs are not sufficient to meet our suggested 60% benchmark of sustainable indebtedness, a further slash of the government debt holdings should occur in the official sector, the EFSF/ESM, the European Union (EU) bilateral loans, and the International Monetary Fund loans. An interest rate moratorium on all remaining debt holdings of official creditors (troica) will be equally important.

As an illustration, for a one-off debt restructuring that we espouse we consider the case of Greece, the guinea pig of the voodoo economics of austerianism.

The Greek Tragedy

The ailing Greek economy, the first Eurozone member to fall under the troica stranglehold, is on the verge of a 1930s-scale Great Depression with the cumulative reduction of its GDP since 2008 nearing 20% (3rd quarter of 2012) and expected to reach 25% by 2014.

- As of 2012, the Greek GDP is roughly €200bn, the free-falling economy is about to enter its sixth straight year of recession. Greece owes €327bn in total, or almost 160% of its GDP, expected to peak at 190% by 2014 as the result of the self-defeating economic recipes of the troica. Under our 60% debt threshold, Greece should retire €200bn of its outstanding debt (i.e. 100% of its GDP).
- Exotix (a boutique brokerage that specialises in illiquid markets) estimates that the spring/summer of 2012 Private Sector Involvement Initiative (PSI) which restructured €200bn of the Greek government bonds debt pile, has still left about €62bn (approximately 31% of the wilting Greek GDP in 2012) of bonds of varying maturities held by private investors. Collectively known as the "strip", these bonds (as of November 2012) are trading at an average price of 25 cents on the euro. Interestingly, in response to the "bad" idea of bond buybacks, entertained by Eurozone officials (who want to avoid inevitable decisions on their own loans) on how to tackle Greece's ominous debt trajectory, hedge funds are investing in the strip with the expectation of sheer profiteering should a buyback be tabled.²⁶ Another 4% of

²⁶The Financial Times (2012, December 18) reported that *Third Point* "One of the world's most prominent hedge funds is sitting on a \$500m profit after making a bet that Greece would not be forced

Greece's GDP is accounted by the "international law" bonds held by the private sector that have been exempted from the restructuring, as it could have triggered a series of lawsuits by the hedge funds in possession.

- An approximate breakdown of the holdings of Greek debt by the official sector (as % of GDP in November 2012) stands as: the EFSF and EU loans represent 78% (or €156bn), the ECB and national central banks account for 22% (or €45bn), and the IMF holds 11% (or €22bn).²⁷

The German "Altruism"

For Greece, the interest rate charged on bilateral loans is a staggering 150 basis points (bps) above interbank rates. Mr Shauble, the German finance minister, has made clear that slashing the interest rates on bilateral loans would amount to an illegal fiscal transfer because the rates will be below the borrowing costs of Germany's KfW development bank which issued the loans. On the latter's sheer profiteering (of 150bps above cost) in the current "altruistic" arrangement, he has kept his eyes wide shut.

Déjà Vu?

The situation in the Eurozone today bears an eerie similarity to that of Europe in the interwar period. While history rarely repeats itself, its lessons do in abundance; especially when the ruling elites of the creditor countries are trapped in similar orthodoxies to those of the post-WWI years. Ironically, Germany was then in a similar position to that of the periphery countries in the past couple of years. It was weighted down with its government debt because of the brutal reparations imposed at Versailles; its banking system was undercapitalised as the result of the hyperinflation of the early 1920s, and worse, it had become dependent on foreign borrowing at punitive rates. Germany was locked into the absolutism of the gold standard, which it dared not tamper with for fear of provoking a confidence crisis. On the same wavelength, the Eurozone's impoverished nations succumb to the voodoo economics of their political establishments; the economics of a dysfunctional state of capitalism where the market has become the euphemism for big business. When

to leave the eurozone, ...[it] tendered the majority of a \$1bn position in Greek government bonds, built up only months earlier, as part of a landmark debt buyback deal by Athens on Monday [December 17], ... The Greek government swapped holdings of its own debt for notes issued by one of the eurozone's rescue facilities at a value of 34 cents on the euro. Third Point had scooped up holdings of Greek debt earlier this year for just 17 cents on the euro."

²⁷Adding up the above private and official holdings of the Greek debt/GDP ratio gives

$$\begin{array}{cccccc} 78\% & + & 31\% & + & 22\% & + & 11\% & + & 4\% & = & 146\%. \\ \text{EFSF/EU} & & \text{PSI} & & \text{ECB} & & \text{IMF} & & \text{Int.Law} & & \end{array}$$

After including the 8% of Treasury Bills and 6% of "other" holdings, debt reaches its 160% value.

the Great Depression hit and private markets shut down, Germany had no choice but to impose bestial austerity with unemployment rising to 35% and populism surging.

Like today, in the beginning of the 1930s there was one major economy bestowed with prolonged large current account surpluses and low unemployment. France was deemed to act as the locomotive of growth for the rest of the continental Europe.²⁸ Beggar-thy-neighbour policies were framing the mindset of the economic rulers in France who were (i) refusing to accept responsibility of their version of mercantilism and its dire effects in the proximity of Europe, and (ii) in sheer denial of the necessity of expansionary policies and direct lending to Germany, fearing that they would be throwing good money after bad. The effect of such an opportunistic and short-sighted French policy was to herald the enthronement of a populist totalitarian regime that steered the world into the savagery and traumas of WWII.²⁹

John Maynard Keynes's prophetic work, 'The Economic Consequences of the Peace' ([1920]2012), was ignored by the powerhouses of the 1920s and 1930s. In his capacity as the official representative of the British Treasury at the Paris Peace Conference in 1919, J. M. Keynes felt compelled to resign when it became clear to him that there was no hope for substantial modifications in the draft Terms of Peace. In his diatribe, he lays the ground of his objection to the Treaty, and dedicates his book "to the formation of the general opinion of the future" (ib., p.77). The following extract is revealing.

"...with every one owing every one else immense sums of money. Germany owes a large sum to the Allies; the Allies owe a large sum to Great Britain; and Great Britain owes a large sum to the United States. The holders of war loan in every country are owed a large sum by the State; and the State in its turn is owed a large sum by these and other taxpayers. The whole position is in the highest degree artificial, misleading, and vexatious. We shall never be able to move again, unless we can free our limbs from these paper shackles. A general bonfire is so great a necessity that unless we can make of it an orderly and good-tempered affair...it will, when it comes at last, grow into a conflagration that may destroy much else as well" (ib., p.73). How pertinent and topical for the current malaises of the Eurozone is his nearly 100 years old conviction for a collective reordering of debts and re-orientation of the economic mindset.

²⁸France returned to the gold standard in 1928 - by 1932 French gold had risen from 12% to 28% of the world reserves. Notably, when Greece required financial assistance to overcome the dire straits of that period, "the French delegate advocated closing schools and cutting the salaries of public employees by 20 percent" (Bloomberg, 2012)

²⁹Mouré's (2002) study is enlightening: "...the rhetoric of the gold standard, with its claims for automatic adjustment and a natural regulation of prices and external balance, is argued to have contributed significantly to misperceptions of the economic problems of the inter-war period, producing mis-prescriptions in order to resolve them. In this sense, gold standard rhetoric misled inter-war policy, with the Great Depression of the 1930s part of the price paid for the gold standard illusion" (ib., p.15). The point made by Mouré is that even if a structurally flawed gold standard system pushed inter-war economies towards major slumps (as Eichengreen, 1995, argues in the 'Golden Fetters' analysis), policy prescriptions played a crucial role in the timing and severity of the depression.

5.2 Complete Overhaul of the Banking System as a Prerequisite of a Banking Union

A dysfunctional and in many places insolvent European banking sector can neither be united nor can act as an agent of recovery. In principle, we agree that a union of robust banks is the bare minimum for the common currency to function properly. The banking sector may moderate the imbalances arising in the real economy and, in the absence of a fiscal union, can facilitate transfers through deposit insurance. However, as we argued in Section 4.3, the measures implemented by the ECB since the crisis (supported by headline views and the neoliberal elites) have meticulously fed the vampires of the banking industry. The resolution of the banking saga and the enforceability of a socially beneficial banking union contract calls for the following actions.

1. First, credible and heavy-touch auditing of the so-called SIFIs by a new independent public pan-Eurozone body that is accountable to both national and European parliaments.

Such a task, though, cannot be efficiently undertaken by the ECB due to its conflict of interest (stemming from the ECB's forthcoming new role of a pan-Eurozone banking supervisor, as explained in Section 4.3).³⁰ The auditing body should order the restructuring of ailing banks through the creation of fresh equity by writing-down their creditors holdings of any form. For example, the recapitalisation of banks (raising assets relative to liabilities) can be achieved via the conversion of bonds outstanding to equity, rather than the endless extortion of tax-payer funds.³¹ To safeguard depositors, this legally binding settlement should give priority status to insured deposits at a pan-Eurozone level; in turn, the *Fiat* almighty of the ECB should service any residual liquidity needs arising during the structural reform of a banking entity.

- (a) If the conversion of non deposit liabilities to equity does not suffice in recapitalising a zombie institution, we suggest its outright nationalisation at no cost to the non shareholder taxpayer.

Catharsis will come with the development of an explicit policy on public ownership in which the taxpayers stake is not a budget expense but a sound investment demerged from

³⁰We are extremely sceptical to the outright closure of retail banks by a centrally appointed regulator within a banking union. The danger is that the harmonisation of commercial, insolvency and labour laws (as they will apply to banks) will act as the stepping stone for the neoliberal assault on democratic sovereigns and their national constitutions. Nevertheless, we recognize that in several cases, e.g. the regional cajas in Spain, retail banks were one of the key culprits in funding the real estate bubble, the majority of them are now insolvent, and their life support is costly to the taxpayer.

³¹Europeanisation of bank recapitalisations and bailouts through the recently established European Stability Mechanism with €500 bn to intervene at its sole discretion, without a clear protocol protecting taxpayer's interests, are concomitantly dismissed in our thesis.

"bad" assets. Each state bank will be acting in line with its principal role as a utility, defranchised from toxic investment arms. In effect, it will be relying on its insured deposit base, rather than the interbank and wholesale markets, for its funding and fractional reserve banking activity. Credit strapped SMEs will directly benefit from a re-orientation in the role and means of banking. We are aware that, as the ultimate banking regulator, a national government or a pan-Eurozone entity has no business in directly running banks. Taking also into account the desperate screams of the amorphous and shaken "markets" for the alleged incompetence of public servants and the possible distortion of lending, we argue for a separate body that will be able to deal efficiently with all these issues.

- (b) Establishing a separate unit or holding company staffed by professional managers who will run the state enterprise according to its revamped mandate, build upon solid customer relations and ensure sustainable moderate profitability and transparent financial strength.

In the same vein, a state controlled holding company of "bad" assets will oversee the prompt and timely sell-off of toxic assets to the private sector.

2. Second, formal and complete separation of retail and investment banking along the lines of the Glass-Steagall Act for the banking behemoths that managed to recapitalise themselves without delving deeply into the public purse or, to that matter, any public institutions' pocket.

We view the recent Liikanen (2012) report on how to reform the EU's banks, while at the same time retaining the universal banking model, as inadequate in addressing the systemic vulnerabilities and confront the destabilising forces of the incumbent banking system.

Although it is beyond the scope of this paper to reflect in detail on the shortcomings of the Liikanen report, two observations stand out. First, the proposed ringfencing will only affect those banks whose trading assets exceed €100 billion or 15-25% of total assets, lower than the limit set by the UK Independent Commission on Banking in a like-minded proposal (Vickers, 2011).³² Even if the EU, in particular Michel Barnier, the internal market commissioner, was to translate into legislation an upper threshold of 15%, several systemic banks will be left out of the net, since their assets are below the €100bn threshold. Second, the fence is too permeable. Under Liikanen's proposals, "simple" hedging services for non-banking clients and securities underwriting will not have to be separated. Such beleaguered financial practices that have paved the way to the ongoing crisis and which carry significant unaccountable risks should be confined by a determined regulator to the investment-casino arm rather than intoxicate the deposit arm of a bank.

³²Ringfencing refers to the percentage of the banks assets not in use in trading activities.

5.3 Reboot the ECB and Change its Mandate

The price stability fetishism of the Bundesbank has long dictated the inflation targetting policies of the ECB. However, as we showed in Section 4.2, price monitoring could neither detect nor avert credit bubbles. Given (i) the widely accepted limitations of conventional monetary policy at the lower bounds of interest rates, (ii) the uncharted territories of the unconventional variants of quantitative easing, and (iii) the lack of effective demand in both creditor and debtor countries in the Eurozone, we propose the following dual statutory ECB mandate to replace the ailing incumbent sacrosanct.

Adopt an explicit nominal GDP target (as a proxy of aggregate demand) for the Eurozone as a whole and, in particular, for member states that are destined to economic oblivion from the dismal failures of self-defeating fiscal retrenchment and draconian austerity measures. At the same time, emulate the US Federal Reserve and foster maximum employment across the Eurozone states.

The speech of chairman Ben Bernanke in August 2012 at the Federal Reserve Bank of Kansas City Economic Symposium, contained the following extraordinary sentence: “The stagnation of the labour market in particular is a grave concern not only because of the enormous suffering and waste of human talent it entails, but also because persistently high levels of unemployment will wreak structural damage on our economy that could last for many years”.³³ Without delving into the rightfulness of the two rounds of quantitative easing that the US Fed has already undertaken and the perpetual QE3 that is endorsing (announced in September 2012), the working populations in the Eurozone, facing galloping unemployment rates,³⁴ demand at least a symbolic statement from the public servant in charge of the currency’s most instrumental and powerful institution.

In temporarily freeing the economy from the asphyxiating lack of aggregate demand, we propose that the ECB (through Eurozone’s central banks) unconditionally drops helicopter money of €5,000 tax-free per adult with a banking account and with a personal income at the bottom 20% of each country’s income distribution, reducing it by €1,000 for each subsequent decile up to the lower 60%. Given the stagnation of the middle class real wages across the Eurozone and the higher propensity to consume of the lower paid, such a fringe action will act as an immediate demand stimuli through the Keynesian multiplier without imposing an inflationary threat, and at a fractional cost of the colossal burden of recapitalising a defunct banking sector.³⁵

³³See page 7, www.federalreserve.gov/newsevents/speech/bernanke20120831a.htm

³⁴Around 26% in Greece and Spain, 16% in Portugal, 15% in Ireland, 11% in Italy and France at the end of 2012.

³⁵It is worthwhile to consider the order of magnitude of such a proposal. For ease of exposition assume that helicopter money of €3,000 drops to every household in the three bailed-out periphery countries and

A revamped ECB, with a fresh mandate and orientation, could further act as a pillar of sustainable growth by

- (i) facilitating the cross-border central banks, nationalised financial institutions and a public bank to fund directly (at low interest rates) the investment by SMEs, and
- (ii) co-financing, through its own bond issuance, a European Investment Bank's aggressive and productive investment programme for the deficit burdened Eurozone periphery which, if fine tuned, could generate a real rebalancing.

We should stress that the latter is venomously objected by creditor nations, Germany being the epitome, in line with their strangulating neoliberal policies. The EIB's present incurious policy requires a 60% funding in approved projects from the Eurozone member states, a prerequisite that is pernicious for the choked periphery.

In the aftermath of the 2008 crisis, the EIB undertook a short-lived bout of counter-cyclical lending: while loans increased from €890mil in 2007 to €4.2bn in 2009, they declined dramatically to €703mil by 2011. This reduction was mainly due to worries about the bank's retaining its AAA credit rating as well as the lack of consensus between EU countries on the scale of actions that the EIB should take.

This is a dismal verdict for an entity that should become the financial arm (aided by the hefty ECB) of Europe's equivalent of the American Recovery and Reinvestment Act. A full-throttled EIB could follow the successful practices of the state-owned China Development Bank (CDB) and Brazil's development bank BNDES in channelling public spending to funding technological innovation, and planning strategic investment (in green industries, biotechnology and vocational training) in the ailing south.

The astounding 21% return on equity of the BDES and the 9% of the CDB in 2010 (compared to the 2% of the World Bank's equivalent organisation, the International Bank for Reconstruction and Development), duly reinvested by their national treasuries in areas like healthcare, education and infrastructure, will serve as a sound reminder that when visionary and courageous public investment is directed to triggering real and sustainable growth this could prove rewarding for both the public purse and the funding of ailing welfare programmes.

Spain. In this case the cost to the ECB will be around €75 billion:

$$€3000 \times \left(\underset{\text{Greece}}{3.5\text{mil}} + \underset{\text{Ireland}}{1.5\text{mil}} + \underset{\text{Portugal}}{3.5\text{mil}} + \underset{\text{Spain}}{17\text{mil}} \right) \simeq €75\text{bn.}$$

As Figure 8b shows this amounts to about one thirtieth of the deposits of the MFIs to the ECB. Should we expect the rise in monetary growth from this "helicopter money" to create an inflationary pressure? Not really. While in the booming years of 2001-07 the growth rate of M3 was ranging between 8% and 12% (Figure 8a), the inflation rate was being kept close to its 2% target value. In an economy where consumption is heavily depressed and M3 has been growing by less 2% since 2009, it is hard to see how a money injection of less that €100 bn can create an inflationary issue.

Instead of being hostage to the unrated cartel of credit rating agencies and the bureaucratic enclave of the Eurocrats that preserves the technological superiority of the surplus countries of the core, the EIB should act as a proper pan-European public investment bank with bold risk taking in productive investments in areas that a dysfunctional private sector is not willing to go.

6 Conclusions

Economic convergence and shared growth were perceived as the intrinsic features of a 'brave new world' in the Eurozone. Within a decade of its creation, fiscal retrenchment is being undersigned as the sole recipe for the economic survival of the union.

This paper addressed the origins of the transition from boom to bust, and the fading fairy tale for the creation of a "United States of Europe". Our study unfolded the supply-side structural imbalances that formed the core-periphery economic divide, and the necessity of the periphery's sovereign debt to finance imports from the export-led core. The myth of the "altruistic Europayer", with the almighty Germany at the epicentre, where countries of the core fund the sovereign debts of the "profligate" periphery was thus questioned.

Section 2 emphasised that the public budget deficit is locked in an identity together with net savings and the trade balance. In a monetary union, where a member state cannot devalue to boost its exports and put a brake on its imports, a trade deficit can either be compensated by private sector investment or a government budget deficit. It was shown that, over the booming 2001-07 period, net exports were balancing out net savings at minor budget deficits in the core, while in the periphery the atrophy of exports was being compensated by escalating budget deficits.

This gave rise to the commonly held argument that countries in the periphery have lived beyond their means (by running large trade deficits and accumulating debt) due to wages growing beyond what is justified by productivity gains. Within our macroeconomic setup, we demonstrated that such a view is in stark contrast to the trajectories followed by the wage shares (wage-productivity gaps) of the periphery member states. Remarkably, Ireland was by far the champion in "competitiveness" (i.e. the widening of the wage-productivity gap) among both the core and the periphery countries. Obviously, the "competitiveness" argument of the neoliberal status quo is the scapegoat for brutal austerity.

Section 3 scrutinised the composition of net savings in the periphery and core countries by examining the evolution of investment, indebtedness and profits. Regarding the periphery, we evidenced (i) a soaring household indebtedness counterbalancing the slack/fall in net savings, (ii) the increased speculative investment (bar Portugal), and (iii)

the steady/falling returns on capital and equity of NFCOs (bar Ireland). At the same time, Germany was the only Eurozone country that had been deleveraging from the early stage of the monetary union. The declining gross debt-to-income ratio of German households, the lack of domestic effective demand together with record high returns on capital and equity, and the phenomenally rising profits of NFCO's drew Germany's mercantilistic roadmap for the domination of the Eurozone. Apparently, the trade balance of Germany to the Eurozone (of 12 countries) almost doubled over the 2001-05 period.

Section 4 unveiled that as the core-periphery divide was being coupled with an exuberant banking/financial sector that was providing questionable credit to the periphery, while the ECB was standing idle, the Eurozone had a dark sky horizon before the 2008 global crisis erupted. The onset of the Great Recession exposed the ECB's (i) severely blocked transmission mechanism of the interest rate setting, (ii) accommodation of illiquidity throughout the Eurosystem via reserve hoarding at its coffers, and (iii) recapitalisation of ailing financial institutions by speedy deleveraging rather than through private equity injections. We further documented the speculative capital movements within the Eurozone in the aftermath of the sovereign debt crisis with the conversion of a large part of private claims/liabilities into public TARGET2 claims/liabilities.

Recognising that TARGET2 (im)balances are the symptom and not the cause of the economic/financial system's malaise, we signal at the hidden Call-Put policy options that reign supreme: a double-sided options trade that is implicitly written by the neoliberal state and acquired by the SIFIs and big multinationals at a minimal premium (the cost of lobbying). Call-Put policy options unwind to a 'heads-I-win, tails-you-loose' corporatist strategy, where 'heads' refers to the boom years of lavishing rewards for the top-income earners and increasing income inequality, and 'tails' to the bust years of bailouts and austerity.

In the light of our analysis, the squeeze of the bottom 99% of the income distribution reflects the inequality consequences of Call-Put policy options. It is ironic that, whilst the poster case of neoliberalism is unfettered capitalism, Call-Put policy options are the 'neoliberal fetters' of the market economy. Decoupling and the creation of a banking union stand as the Eureka of the technocratic and political neoliberal elites for dealing with the asphyxiation of the Eurozone. We made the case that a banking union without a fundamental structural reform and an in-depth impartial auditing is futile.

Section 5 presented our suggestions for overturning the incumbent conviction and ideology of parochial policy making. First in our list is writing-off the debt of ailing member states in excess of 60% of their GDP. The stratified retrenchment of debt exposure should start by cancelling the debt holdings of the private creditors (banks, hedge funds, asset management companies), then those of the official sector (EFSF/ESM, EU bilateral loans, IMF loans), while leaving intact the pension funds and small investors exposure

to sovereign bonds. An interest rate moratorium on the remaining debt holdings of the troika will be equally important.

Although we agree that a union of robust banks is vital for the common currency to function properly, the resolution of the banking saga and the enforceability of a socially beneficial banking union contract requires the following actions. On one hand, credible and heavy-touch auditing of the SIFIs by a new independent public pan-Eurozone body that is accountable to both national and European parliaments (other than the ECB, as this would create a conflict of interest with its role as a pan-Eurozone banking supervisor). On the other hand, formal and complete separation of retail and investment banking along the lines of the Glass-Steagall Act for the banks that managed to recapitalise themselves without unduly burdening the public purse.

Finally, it is important to reboot the ECB: the policies of an inflation targetting mantra did neither detect nor avert credit bubbles. We propose that the ECB adopts a mandate of an explicit nominal GDP target (as a proxy of aggregate demand) for the Eurozone as a whole, and fosters maximum employment policies across the national states. A revamped ECB could promote sustainable growth by (i) facilitating the cross-border central banks, nationalised financial institutions and a public bank to fund directly (at low interest rates) the investment by SMEs, and (ii) co-financing, through its own bond issuance, an aggressive and productive investment programme by the EIB for the choked Eurozone periphery.

Dealing with the fallacy of composition, where the collective austerity programmes and deleveraging of the private sector are the roadmap to rescue the Eurozone from its macroeconomic downhill and disintegration, the views of two of the most prominent scholars sitting on different ends of the economic spectrum are compelling.

On the liberal side, the 1930s Chicago School economist Henry C. Simons³⁶ argued that “For the moment, however, attention must be focused on the task of escaping from the present affliction of extreme unemployment and underproduction. Unless the immediate crisis can be dealt with, there is no sense in talking about long-run policy. ...consequently, main reliance must be placed on "reflationary" government spending. ... Inflationary fiscal policy is dangerous, to be sure - but not so dangerous as the alternatives. ..Measures of this kind must be undertaken, merely to keep running a system which banking and monopoly have brought to its present plight” (Simons, [1934]1948, p.74). On the *Keynesian* side, John Maynard Keynes ([1920]2012) policy recommendations for a collective reordering of debts and re-orientation of the economic mindset were ignored by the powerhouses of the 1920s and 1930s. How relevant for the current malaises of the Eurozone his prophetic work on ‘The Economic Consequences of the Peace’ has been.

³⁶Simons is referred to as the Crown Prince of the Chicago School by George Joseph Stigler. For the switch from the ideals of liberalism to neoliberalism made by the Chicago school and its followers in the early 1950s see Van Horn (2011).

Appendix: Definitions of Variables

For data details and methodology see <http://ec.europa.eu/eurostat/sectoraccounts>.

Gross return on capital employed, before taxes, of non-financial corporations

Eurostat code: $B2G_B3G/(AF2+AF33+AF4+AF5, \text{liab} - \text{assets})$. Gross return on capital employed, before taxes, of non-financial corporations is defined as gross operating surplus (ESA95 code: B2G_B3G) divided by main financial liabilities. Latter include currency and deposits (AF2), debt securities (excluding financial derivatives) (AF33) loans (AF4) and shares and other equity (AF5).

Net return on equity, after taxes, of non-financial corporations

Eurostat code: $(B4N-D5PAY)/(AF5, \text{liab} - \text{assets})$. Net return on equity, after taxes, of non-financial corporations is defined as net entrepreneurial income (ESA95 code: B4N) less current taxes on income and wealth (D5PAY) divided by shares and other equity (AF5), liabilities.

Gross profit share of non-financial corporations

Eurostat code: $(B2G_B3G/B1G*100)$. The profit share of non-financial corporations is defined as gross operating surplus (ESA95 code: B2G_B3G) divided by gross value added (B1G). This profitability-type indicator shows the share of the value added created during the production process remunerating capital. It is the complement of the share of wage costs (plus taxes less subsidies on production) in value added.

Gross household saving rate

Eurostat code: $(B8G/(B6G+D8Net)*100)$. The gross saving rate of households is defined as gross saving (ESA95 code: B8G) divided by gross disposable income (B6G), with the latter being adjusted for the change in the net equity of households in pension funds reserves (D8net). Gross saving is the part of the gross disposable income which is not spent as final consumption expenditure.

Gross investment rate of households

Eurostat code: $(P51/(B6G+D8Net)*100)$. The gross investment rate of households is defined as gross fixed capital formation (ESA95 code: P51) divided by gross disposable income (B6G), with the latter being adjusted for the change in the net equity of households in pension funds reserves (D8net). Household investment mainly consists of the purchase and renovation of dwellings.

Gross investment rate of non-financial corporations

Eurostat code: $(P51/B1G*100)$. The gross investment rate of non-financial corporations is defined as gross fixed capital formation (ESA95 code: P51) divided by gross value added (B1G). This ratio relates the investment of non-financial businesses in fixed assets (buildings, machinery etc.) to the value added created during the production process.

Gross debt-to-income ratio of households

Eurostat code: $(AF4, \text{liab})/(B6G+D8net)$. Gross debt-to-income ratio of households is defined as loans (ESA95 code: AF4), liabilities divided by gross disposable income (B6G) with the latter being adjusted for the change in the net equity of households in pension funds reserves (D8net).

Net debt-to-income ratio, after taxes, of non-financial corporations

Eurostat code: $(AF2+AF33+AF4, \text{liab} - \text{assets})/(B4N-D5PAY)$. Net debt-to-income ratio, after taxes, of non-financial corporations is defined as main financial liabilities divided by net entrepreneurial income (ESA95 code: B4N) less current taxes on income and wealth (D5PAY). Main financial liabilities include currency and deposits (AF2), debt securities (excluding financial derivatives) (AF33) and loans (AF4).

Total investment to GDP ratio, % of GDP

Eurostat code: $(S1_P51/B1GM*100)$. Defined as gross fixed capital formation (ESA95 code: P51) of the domestic economy (ESA 1995 classification code S.1) as a percentage of GDP.

Business investment to GDP ratio, % of GDP

Eurostat code: $(S11_S12_P51/B1GM*100)$. Defined as gross fixed capital formation (ESA95 code: P51) of all corporations, NFCOs (sector S.11 in ESA 1995) and FCOs (sector S.12 in ESA 1995), as a

percentage of GDP.

Government investment to GDP ratio, % of GDP

Eurostat code: (S13_P51/B1GM*100). The general government sector (sector S.13 in ESA 1995, 2.68) comprises central government, state government, local government, and social security funds. Data for the general government sector are consolidated between sub-sectors at the national level. The series are measured in euro (ECU before 1999) and as a percentage of GDP. General government fixed investment: gross fixed capital formation of general government (aggregate P.51 in ESA95, 3.102). The ESA 95 (European System of Accounts) regulation may be referred to for more specific explanations on methodology.

Households investment to GDP ratio, % of GDP

Eurostat code: (S14_S15_P51/B1GM*100). Defined as gross fixed capital formation (ESA95 code: P51) of households (sector S.14 in ESA 1995) and non-profit institutions serving households (sector S.15 in ESA 1995) as a percentage of GDP.

Household net financial assets ratio

Eurostat code (BF90/(B6G+D8net)). The household net financial assets-to-income ratio combines non-financial and financial accounts data. It is defined as the ratio of households' net financial assets – which refers to all financial assets minus all financial liabilities – at the end of a calendar year, to the gross disposable income earned by households in the course of that year. It therefore represents the accumulation of financial assets, after deduction of liabilities, of households as a proportion of their annual income. However, this ratio does not account for non-financial assets such as dwellings.

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