

Social Models under Economic and Monetary Union

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Abstract

This paper explains the build-up and the reversal of macroeconomic imbalances in the euro area from a social-model point of view. Imbalances between the core and the periphery have been attributed either to fundamental differences in competitiveness or to the fact that capital was flowing into low-income countries where returns were highest. The former hypothesis is unable to account for the decoupling of export performance and standard cost competitiveness indicators and can hardly fit the Irish case. The latter is weak on push factors or, when focused on credit demand, unable to explain why countries with similar per capita income levels have different external positions. Others argue that EMU is forcing under the same straightjacket countries with different growth models. We consider specifically differences in social rather than growth models, those pertaining to the distribution of income, and how these interact with financial liberalization. The argument is that, while the supply of credit was extensive and available for all, the demand for credit was stronger in unequal countries where the share of the population that was credit-constrained prior to financial liberalization was higher than in relatively equal countries and where both financial openness and credit market regulation had been until then much more stringent. When the crisis hit, deleveraging through demand compression concerned specifically these groups, leading to current account deficit reversals. On the other hand, it did not necessarily affect equal countries where EMU was not associated with a massive relaxation of collateral constraints as in the periphery.

1. Introduction

The Euro debt crisis left the euro area divided into a periphery with uncontrolled deficit and debt dynamics, fragile banking systems and strong wage and price growth, and a core with conservative public finances, relatively stable banking systems and moderate wage and price growth. This dichotomy was well reflected in macroeconomic imbalances: peripheral countries have been suffering from high current account deficits from the introduction of the single currency up to around 2011 when these started unwinding, while core countries benefited from sustained surpluses that have not gone through a symmetric adjustment as yet.

There remains though fundamental disagreement over the origins of the imbalances. Some attribute them to differences in cost competitiveness between the core and the periphery that have come to light following the loss of the exchange rate as a policy instrument (Zemanek, Belke and Schnabel 2009; Belke and Dreger 2011). As, in accounting terms, a current account deficit equals net capital inflows, others have suggested that capital flows in the euro area represent a standard downhill flow of capital, with excessive savings going from the core to the periphery where relatively low capital stocks promise high returns to investment (Abiad et al 2009; Giavazzi and Spaventa 2010; Jaumotte and Sodsriwiboom 2010). The *competitiveness* hypothesis fails to account for the apparent decoupling of export performance and standard cost competitiveness indicators such as real effective exchange rates (REERs). Moreover, it can hardly fit the Irish case, whose export performance prior to the introduction of the single currency was comparable to that of other European Union (EU) core countries. The *capital* hypothesis is a good starting to understand why capital has been moving out of the core and into the periphery, but it is weak on push factors, as it focuses exclusively on credit supply. The mirror image of the capital hypothesis is, on the credit demand side, the idea that low-income countries engage

in inter-temporal consumption (Blanchard and Giavazzi 2002; Fagan and Gaspar 2007, 2008). Households in low-income countries would get indebted in the expectation of higher income tomorrow, which would make it possible to pay back their debt.

Nevertheless, the capital hypothesis even if one looks at it from a credit demand side is incapable of explaining, for example, why countries with comparable per capita income level have been importing more capital than others. Moreover, it is unable to account for the fundamental differences in the distribution of debt-to-income across deficit and surplus countries, with the debt burden highest for the bottom 20 percent in the case of peripheral countries and high to the same extent for both the bottom 20 percent and the top 80-90 percent in core countries.

This paper provides an explanation of the accumulation of imbalances up to the crisis and their asymmetric unwinding thereafter that looks specifically at the role of inequality and at how it interacts with financial openness. Just like in the capital hypothesis, we assume that the "shock" of Economic and Monetary Union (EMU) consists of full capital mobility rather than the loss of the exchange rate. More specifically, we argue that capital account openness and the ensuing large supply of credit led to stronger demand for credit in unequal than in equal countries just because the share of the (low-income) population that had been credit-constrained prior to EMU was larger in the former than in the latter. Our perspective is also useful to understand current account adjustment thereafter, as the crisis forced deleveraging onto the same portion of the population that got indebted in the periphery, while not necessarily impacting on income groups in the core. For the latter, in fact, the rise in credit supply in the mid-1990s had not been as regime-changing as in the periphery. Yet, exchange rate regimes matter in one respect. Before the introduction of the single currency, peripheral countries had all relatively soft exchange rate regimes, which forced them into some capital account protectionism. The same was true for domestic

credit market regulation, which was tighter in the periphery than in the core. Financial openness and credit market deregulation were thus a stronger shock to soft currency than to hard currency countries.

The paper's added value can be summarized as follows. First, we focus on the effects of financial liberalization on participating economies by including in the analysis an appreciation of the factors that drive credit demand. Second, while buying into the literature that has explained household debt accumulation through the lenses of inter-temporal consumption, we expand on it by accounting for individual heterogeneity in each country. This is an important perspective for understanding the process of deleveraging after the crisis insofar as indebted households that occupy the lower end of the income distribution are more likely to deleverage abruptly via demand compression than those that are at the higher end of the income distribution. Third, we find room for the exchange rate, but here the bulk of the argument is that the soft currency regime of many European countries prior to the introduction of the Euro explains why they had to defend their currencies through the capital account and why, in turn, financial openness since the mid-1990s has been a greater shock here than in hard-currency countries, where the capital account had been relatively open throughout the 1980s. Fourth, we consider also the role of domestic credit market regulation; as in the case of the capital account, credit market deregulation since the 1990s has been more significant in the periphery than the core, thereby allowing capital inflows to fuel credit bubbles. Fifth, as mentioned, our approach is useful to understand asymmetric rebalancing. The crisis came as a financial shock similar for peripheral countries to the capital account shock associated with EMU but of opposite sign, inducing the reversal. It did not affect surplus countries for which EMU as such had been less of a shock.

The rest of the paper is structured as follows. Section 2 offers a review of the literature on macroeconomic imbalances. Section 3 presents some stylized data on the possible role of inequality. Section 4 develops a full empirical test to assess the impact of income inequality levels on external positions. Section 5 concludes.

2. Analyzing existing accounts

There is an extensive and continuously growing literature looking at the reasons behind the build-up of macroeconomic imbalances in Europe since the second half of the 1990s. As divergences became both significant and persistent starting with the 1990s, the general consensus is that the monetary union itself bears an impact on this dynamics. Two alternative explanations are provided, one based on cross-country differences in competitiveness and the other on the consequences from capital mobility under EMU.

2.1. The competitiveness hypothesis

The competitiveness hypothesis is based on the idea that the loss of the exchange rate as a policy instrument brought to light underlying differences in competitiveness between the core and the periphery. Countries in the core were competitive already before the introduction of the single currency. They had hard currency regimes, which reflected the fact that they did not need to use the exchange rate for adjustment. On the other hand, countries in the periphery relied extensively on devaluation to recoup competitiveness and were in fact characterised by soft currency regimes. Moreover, they also failed to implement productivity-enhancing reforms in the 1990s (Zemanek, Belke and Schnabel 2009; Belke and Dreger 2011).

Some develop an institutional argument to explain why these countries have been generally more competitive than the others alluding to the fact that competitiveness was in fact well supported by wage-setting systems that induced wage moderation in the export-oriented sector. Carlin (2013) argues that certain wage-setting systems are self-adjusting because they are populated by rational forward-looking wage setters; such agents are able to observe cyclical conditions and adjust wage demands in ways that allow the real exchange rate to return to its equilibrium level. Two features make wage-setters rational and forward-looking. First, they should be large enough to internalise the consequences of their actions, which is a function of the level of wage bargaining centralization. Second, they should coordinate wage increases at least to some extent, with adjustment capacity maximised when coordination takes place via pattern-setting by the exposed sector, as the latter has a specific interest in job-preserving real exchange rate adjustment. Countries with rational and forward-looking wage setters have been better able than the others at delivering competitiveness improvements under EMU.

This hypothesis has been criticised on a number of fronts. For example, Gros (2011) shows that unit labour costs (ULC) are poor predictors of exports. Gabrisch and Staehr (2014) show convincingly that rising ULC follow from capital inflows rather than being the cause of current account deficits in some member states. Moreover, the competitiveness hypothesis is unable to account for the Irish performance, whose cost competitiveness before EMU was comparable to that of other core EU countries.

2.2. The capital hypothesis

The *capital* hypothesis builds on the idea that macroeconomic imbalances reflect the fact that some countries import capital, while others export it. In this respect, the redirection of saving from the core to the periphery is described as a standard downhill flow of capital.

The opening up of the capital account together with the elimination of exchange rate risk made it possible for capital to move from high-income (and high-capital-stock) countries, where the return to investment is lowest due to decreasing returns to scale, to low-income (and low-capital-stock) countries, where instead the return is highest (Abiad et al 2009; Giavazzi and Spaventa 2010; Jaumotte and Sodsriwiboom 2010).). The symmetric argument, on the credit demand side, is that low-income countries that join an integrated economic area would borrow from outside to finance consumption in the expectation that they will be able to pay their debt in the future (Blanchard and Giavazzi 2002; Fagan and Gaspar 2007, 2008). Domestic banking systems are said to have contributed to the build-up of credit bubbles in some of the peripheral countries by providing additional credit (Lane and McQuade 2014.) Whether it is credit supply or demand that is at the centre of the analysis, the common point is nonetheless that macroeconomic imbalances originate in the capital account with the main shock coming from financial liberalization rather than from the loss of the exchange rate. Still, the credit-supply version of the capital hypothesis is weak on the description of push factors. These are addressed by the credit-demand version of the hypothesis, which is concerned with inter-temporal consumption but the approach fails to explain why countries with similar relative income levels – e.g. Austria and Ireland – have in fact very different external positions. While building on the idea that financial liberalization suddenly exposed countries' vulnerabilities, we look more closely into country-level features that may explain the sudden build-up of imbalances since the mid-1990s and their asymmetric reversal thereafter.

3. A social-model explanation: inequality and financial openness

There are studies that look specifically at heterogeneity inside EMU and attribute imbalances to the different operation of national economic systems. For example, Hall (2012) suggests that the divide inside the euro area consists of a fundamental institutional asymmetry resting on national varieties of capitalism, as EMU is bringing under the same monetary straightjacket systems designed to deliver export-led growth with systems designed for demand-led growth. Partly in line with this approach, we focus here on a dimension around which European social models have been often classified namely the distribution of income (see, for example, Sapir 2005). Surplus and deficit countries have opposite equity records with a more equal distribution of income in the North, also thanks to wage-setting systems that are geared towards wage compression, and a more unequal distribution in the South with lower coverage rates – especially in Ireland - and inefficient fiscal redistribution tools.

We take external imbalances to reflect a mismatch between saving and investment. The argument here developed is that high starting inequality is associated with the fact that a large cohort that had been credit constrained before financial liberalization has eventually easy access to credit under EMU and an incentive to get indebted given that higher future income would allow them to easily repay their debt. While part of the argument builds on already exploited inter-temporal consumption models, it differs from a standard inter-temporal consumption framework because it introduces individual heterogeneity in each country. Heterogeneity matters with a view of understanding the mechanics of the deleveraging process during the crisis.

In a closed economy setting, countries that suffer from a (mostly persistent) income-distribution shock in favour of top income categories would go through a drop in

aggregate consumption because high-income categories have a lower propensity to consume than low-income groups. Other things equal, these countries will register a current account surplus driven by weak demand. Nevertheless, financial liberalization and low interest rates allow previously credit-constrained low-income groups to borrow from abroad to finance consumption. At the same time, high-income groups will lend the excess of their savings to low-income groups, but possibly also borrow themselves from abroad with the purpose of lending domestically, with the result that their shares in total income will further increase through capital gains (for a similar argument, see Kumhof et al 2012).¹ Our argument is that financial openness during the 1990s led to strong consumption in unequal countries of the euro area because it was associated with the relaxation of collateral constraints for previously constrained low-income groups. This explains the build of current account imbalances also in a relatively competitive country such as Ireland. By contrast, financial liberalization and the immediate availability of cheap capital are more neutral in their effects in countries that do not suffer from high income inequality at the start of the period or have enjoyed relatively favourable lending conditions before EMU or both. Would but inequality rise in these countries for exogenous reasons, the expectation is that affected households would increase saving for precautionary reasons given they do not expect higher future income with the purchasing power shifting away from groups with a relatively high propensity to consume.

Figure 1 plots the initial income inequality level in 1995 and the average current account balance in the subsequent period from 1995 to 2007. The evidence is indeed that more unequal countries have had worse external positions than more equal ones. Income

¹ It should be noted that top earners are likely to act as intermediaries if foreign capital takes the form of inter- or intra-bank loans as opposed to portfolio or foreign direct investment, as the latter two may not necessarily require intermediaries.

inequality may be taken to just capture per capita income levels since the two variables are in fact highly correlated, yet, the empirical evidence is that the relationship between inequality and current account balances becomes a significant one only starting from the mid-1990s.

One other important feature is the asymmetric reversal. While, over 1995-2007, relatively unequal countries had a median current account deficit of 3 percent of GDP and equal countries a surplus of about 4 percent of GDP, after 2010, the deficit of unequal countries had been fully reversed, while the surplus of equal countries was on average only halved (Figure 2). The fact that low-income had been the most leveraged prior to the crisis may help explain asymmetric reversal, as the crisis is likely to have forced into deleveraging more low- than high-income groups, by pulling them out of the labour market.

Exchange rates play a role in one peculiar respect. All hard-currency countries of the EU had relatively high levels of financial openness in the period from 1980 up to the introduction of the single currency because they did not need to use the exchange rate. It is also the case that countries in the periphery in fact including Ireland had a relatively closed capital account prior to EMU (Figure 3). At the same time, the periphery also had stringent credit market regulation at home that got significantly relaxed though in the early 1990s (Figure 4). In other words, the South of Europe was abruptly exposed to external financial openness and domestic credit market regulation, while the North was not.

4. Empirical strategy and results

We test our proposition on a sample of 12 euro area countries over 1995-2007. The basic specification is as follows:

$$CA_{it} = \alpha_0 + \beta_1 CN_{it} + \beta_2 open + \beta_3 C_{it} + \beta_4 I_i + \beta_5 I_i * C_{it} + \varepsilon_{it}$$

where CA is the current account balance as a share of GDP in country i and year t . CN is the current account norm the current account level that should prevail on the basis of fundamental; it is extracted from a panel regression of current account balances on fundamental factors including the oil balance, the fiscal policy stance, the old-age dependency ratio, real GDP per capita growth, the relative income per capital level and net foreign assets as a percentage of GDP, where all variables are calculated as 4-year non-overlapping averages.² $Open$ is openness to trade. C is measure of financial deepening proxied by private credit to GDP. I is a dummy for unequal countries. $I*C$ is the interaction between private credit and the inequality dummy. The panel is estimated by random effects. Time dummies are not included.

Table 1 reports the results. We find that is the interaction between inequality and access to credit that bears a negative impact on the current account. We further split the sample into unequal (deficit) and equal (surplus) countries to check for group-specific responses to the same variable. Interestingly enough, the fall in financial constraints that results in a large supply of credit affects external positions only in unequal countries. Openness is significant and positively signed only for equal countries, possibly suggesting that supply-side factors, while not paramount in the evolution of current account deficits, may indeed contribute to explaining current account surpluses. Finally, the negatively signed coefficient on the current account norm for equal (surplus) countries indicates a departure from equilibrium levels.

As a robustness check, we put our hypothesis to the test against a difference-in-difference framework over 1980-2007. We aim to show that an unequal distribution of income is

² The methodology is taken from Salto and Turrini (2010).

associated with poor external positions only for countries that become part of EMU and are as such exposed to full capital mobility further supported by the elimination of exchange rate risks. The specification is as follows:

$$CA_{it} = \alpha_0 + \gamma E_s + \varphi d_t + \delta(E_s * d_t) + \beta X_{it} + \varepsilon_{it}$$

where CA is the current account balance as a share of GDP in country i and period t ; X is a factor of independent variables: i) the current account norm, as defined above; ii) real GDP growth; iii) openness to trade; iv) a measure of financial deepening proxied by private credit to GDP; v) PPP-converted per capita income relative to the US and its square; and vi) the standardised Gini coefficient and its square.³

Table 1. Credit and inequality, random effects (1995-2007)

Dependent variable: CA % of GDP	(1) All	(2) Unequal	(3) Equal
CA norm	0.127 [0.843]	2.249** [8.311]	-0.373* [-2.405]
Unequal (dummy)	1.454 [0.523]		
Private credit	0.00713 [0.406]	-0.0328** [-3.022]	-0.0209 [-1.354]
Private credit*unequal	-0.0889** [-4.430]		
Openness		-0.0154 [-1.191]	0.110** [5.928]
Constant	2.516 [1.137]	5.866** [3.943]	-5.172* [-2.479]
Observations	139	65	74
Number of countries	11	5	6

z-statistics in brackets

** p<0.01, * p<0.05, + p<0.1

Panel estimated using random effects to account for heteroskedasticity between countries and country-specific autocorrelation of residuals. The EA sample includes all countries that participated in the first wave of EMU (AT, BE, FI, FR, DE, IE, IT, LU, NL, PT, ES) plus Greece.

³ For a definition of variables and sources, see Appendix.

Table 2: Credit and inequality, a difference-in-difference approach (1980-2007)

	(1)	(2)	(3)
Dependent variable: CA % of GDP			
Post	0.988+ [1.797]	1.787** [3.152]	1.086+ [1.951]
Treatment	1.741** [2.999]	2.018** [3.310]	1.808** [3.098]
Diff-in-diff estimator	-3.409* [-4.941]	-3.494** [-4.743]	-3.495** [-5.024]
CA norm	1.210** [11.56]	1.166** [10.07]	1.176** [10.75]
Real GDP growth	-0.119+ [-1.734]	-0.0716 [-0.990]	-0.113 [-1.620]
Openness	0.0255** [3.690]	0.0221** [2.981]	0.0267** [3.803]
Private credit	-0.0308** [-6.270]	-0.0302** [-5.332]	-0.0335** [-6.076]
Gini coefficient	2.209** [6.822]		2.045** [5.119]
Gini coefficient squared	-0.0296** [-6.641]		-0.0269** [-4.575]
Relative income		0.0866+ [1.681]	0.0289 [0.367]
Relative income squared		-0.000449 [-1.134]	-9.51e-05 [-0.170]
Constant	-40.12** [-7.053]	-4.190** [-2.624]	-39.07** [-6.772]
Observations	307	308	307
R-squared	0.450	0.379	0.452

Robust T-statistics in brackets

** p<0.01, * p<0.05, + p<0.1

Difference-in-difference method with robust and clustered standard errors. The sample includes a group of unequal OECD countries (Australia, Greece, Ireland, Korea, Mexico, New Zealand, Portugal, Spain, Turkey, United Kingdom, USA), while the treatment group is those that become member of EMU with the break set at 1995.

Table 2 show the results. The coefficient on the difference-in-difference estimator is significant suggesting that unequal countries that joined EMU and that have been exposed to financial openness have had worse current accounts than other unequal countries in the world. Even if already included in the current account norm, real GDP growth has been also introduced separately to account for the possibility that it has non-normal effects by, for example, leading to a pro-cyclical relaxation of collateral constraints. As expected,

openness is associated with improved external positions, while more credit to the private sector deteriorates the current account. The relationship between relative income and current account is hump-shaped, suggesting that become richer from low income levels leads to a rise in aggregate saving over investment but to a fall when moving from medium to high-income levels. The same is found for inequality. Rising inequality improves external position when starting from low inequality but deteriorates it when starting from relatively high inequality. Interestingly enough, when both relative per capita income and inequality are introduced, only inequality remains significant.

5. Conclusions

This paper has offered a social-model-based explanation of why macroeconomic imbalances exploded right at the inception of the Economic and Monetary Union (EMU) and then reversed in asymmetrical fashion during the crisis. The argument is that, in peripheral countries, there was a relatively large share of the population that was credit-constrained prior to capital liberalization and that got indebted as soon as credit became available on the back of optimistic expectations about the future. These are also the countries that had been protected until then by relatively closed capital accounts to safeguard their soft currencies. Strict regulation vis-à-vis the outside was also accompanied by tight credit market regulation, which limited the scope of domestic credit expansion. By contrast, countries in the core were characterized by a more equitable distribution of income such that the portion of the population that was credit-constrained before the inception of EMU was in fact very modest. They also enjoyed much greater financial openness and looser credit market regulation than countries in the core, which both stemmed from the fact that their hard currency regimes allowed them to remain

relatively open, while also exempting them from using domestic credit policies for macroeconomic adjustment.

This demand-side explanation is compatible with accounts looking at the supply-side drivers of current accounts, in particular with analyses that emphasize the role of wage-setting systems. High centralization and coordination via pattern-setting, which are said to account for strong cost competitiveness in the core of Europe, are also associated with greater equality in the distribution of income just because they imply some wage compression.

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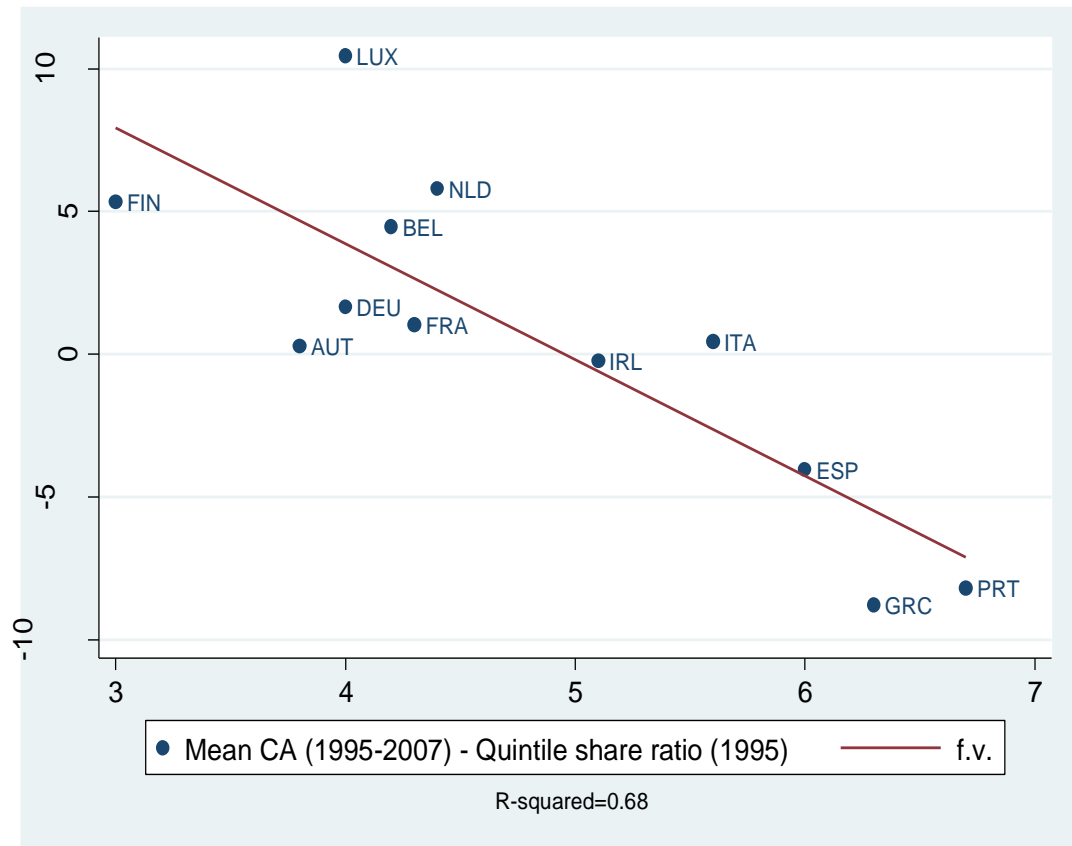
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Appendix

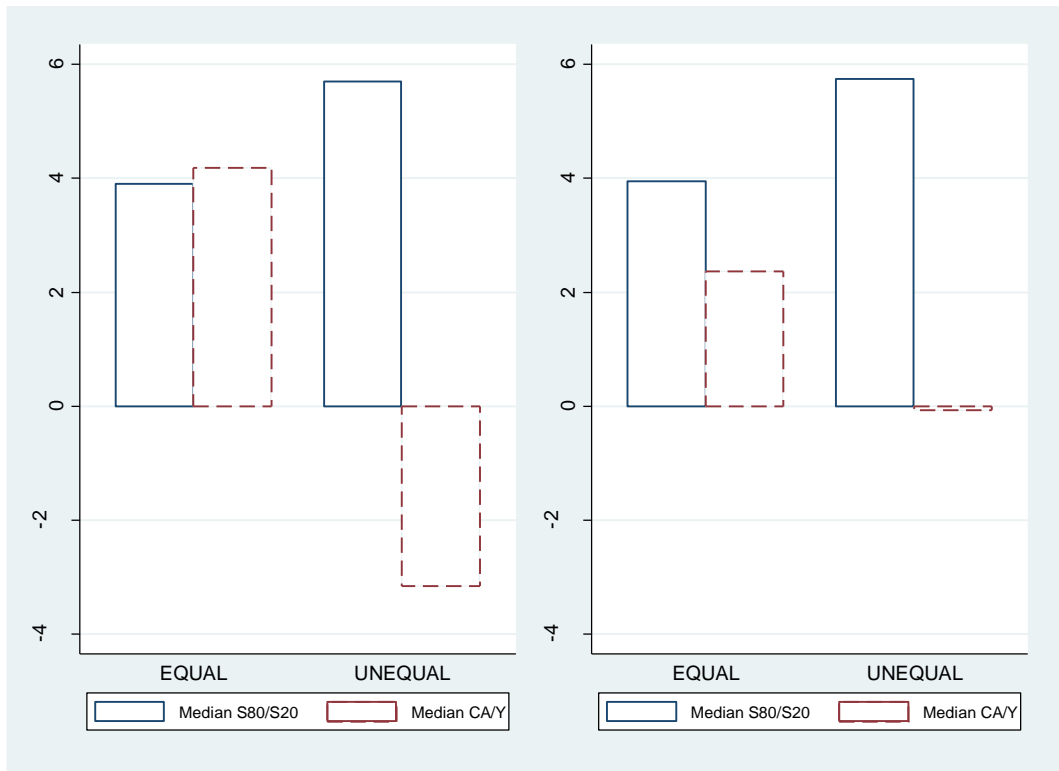
Variable	Definition	Source
Current account (CA)	Current account balance (% of GDP)	AMECO
Credit market regulation	The indicators included in the index for credit market freedom are: (1) private versus government ownership of banks; (2) government borrowing compared to private borrowing; and (3) interest rate controls and the magnitude of negative real interest rates if present.	Fraser Institute
Capital account openness	It is a <i>de jure</i> measure of financial openness and is measured by the number of restrictions on cross-border financial transactions as reported in the IMF's Annual Report on Exchange Rate Arrangements and Exchange Restrictions	Chinn and Ito index
Quintile share ratio (S80/S20)	Income quintile share ratio. It is calculated as the ratio of total income received by the 20 % of the population with the highest income (the top quintile) to that received by the 20 % of the population with the lowest income (the bottom quintile). All incomes are compiled as equivalised disposable incomes	EUROSTAT (available only for 1995-2012)
Gini coefficient	Gini coefficient	Standardized World Income Inequality Database (SWIID)
Relative income	Per capita income relative to the US (=100) at current prices (PPP)	Penn World Tables
Real GDP growth	Real GDP growth rate	OECD
Young dependency ratio	Ratio of people younger than 15 to the working-age population	WDI
Old dependency ratio	Ratio of people older than 64 to the working-age population	WDI
Government budget balance	Cyclically adjusted net lending/borrowing of general government (% of GDP)	AMECO
Private credit	Domestic credit to private sector (% of GDP)	WDI
Openness	Sum of imports and export (% of GDP) at current prices	Penn World Tables

Fig. 1: Initial income inequality and average current account (1995-2007), EA



Source: Own elaboration based on DGEFIN's AMECO Database and Eurostat.

Fig. 2: Median income inequality and current accounts before and after the crisis



Source: Own elaboration based on DGECFIN's AMECO Database and Eurostat.

Fig. 3: Capital account openness, euro area, 1980-2012

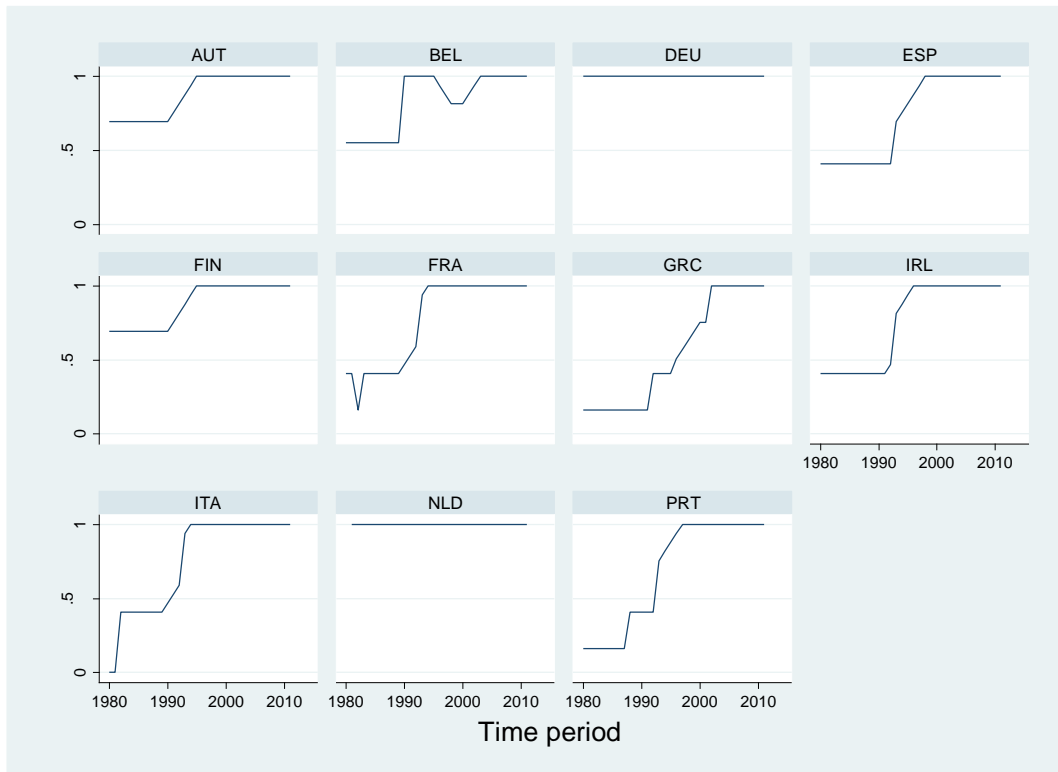
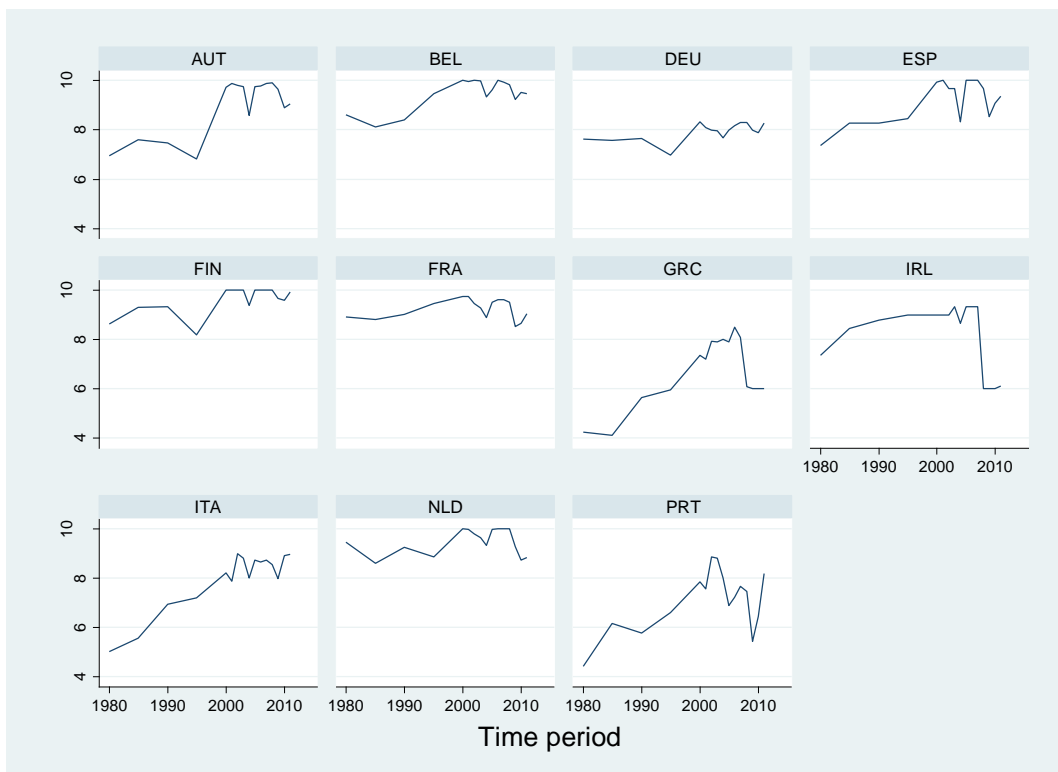


Fig. 4: Credit market regulation, euro area, 1980-2012



Source: Capital Account Openness (Chinn and Ito index) and Credit market regulations (Fraser Institute).