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A European Perspective on External Imbalances

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PREFACE

Regardless of whether the global imbalances are seen as a cause, codeterminant or a side-show, the financial crisis has brought back external imbalances on the policy agenda. In the European Union, the integration of the financial markets and the formation of the European monetary union have led to a sharp expansion of the regional current account imbalances. In contrast to the reversed flow of capital from developing to developed countries on the global level, in Europe capital has flowed to emerging and peripheral European countries. After the outbreak of the current global crisis it is clear that those countries running the largest current account deficits are the economies hardest hit by the crisis.

In this new SIEPS report the author, Philip R. Lane, offer a twofold European perspective on external imbalances; Europe's role in global imbalances and, in particular, intra-European imbalances. A central chapter of the report includes an analysis of why some countries run surpluses and other deficits and whether any permanent adjustments are likely. The report concludes with a policy chapter addressing policy problems and how these might be avoided in the future.

By issuing this report SIEPS strives to provide better insight into a number of challenges related to external imbalances and to make a contribution to both the academic and popular debate on external imbalances.

Anna Stellinger
Director, SIEPS

SIEPS carries out multidisciplinary research in current European affairs. As an independent governmental agency, we connect academic analysis and policy-making at Swedish and European levels.

ABOUT THE AUTHOR

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TABLE OF CONTENTS

SUMMARY

This report provides a European perspective on external imbalances.

At a world level, Europe has not been a major contributor to global imbalances. However, its aggregate net position did decline in the years immediately prior to the global crisis, such that the rising surpluses in emerging Asia were partly allocated to growing deficits in the European periphery. Global imbalances remain a significant distortion in the world economy and Europe would benefit if the G20 reform agenda were implemented, including international monetary reform to reduce the financial vulnerabilities of emerging economies and domestic reforms in the advanced economies that will act to increase spending levels in surplus countries and reduce spending levels in deficit countries.

Turning to intra-European imbalances, the current crisis has underlined the costs of excessive imbalances. While the success of Europe in promoting net capital flows from higher-income to lower-income countries has had many benefits, the years immediately prior to the crisis saw an excessive widening of these imbalances, which contributed to asset bubbles and distorted spending patterns in the European periphery. The deficit countries now face an extended and difficult adjustment process, while the surplus countries must design policies to redirect production towards domestic types of spending.

Looking to the future, the high costs of the current crisis requires a re-examination of macroeconomic policy design. The list of reforms is by now well known. A macro-prudential approach to financial regulation is required to ensure banking systems do not take on excessive systemic risk, while national macroeconomic policies must lean against the wind in order to reduce the risk that sectoral or external imbalances result in severe economic and financial disruption. The cross-border spillovers from national disasters are such that enhanced European-level surveillance and policy coordination are required. Accordingly, the current push to strengthen EU-level economic governance is very important.

1 INTRODUCTION

Since the early 1990s, international financial integration has been a driving force in reshaping the contours of the world economy. Until the onset of the global financial crisis in 2007, the holdings of foreign assets and liabilities had trended sharply upwards around the world (Lane and Milesi-Ferretti 2007a). This phenomenon was strongest in Europe, with the progressive integration of financial markets at EU level and the formation of European monetary union in 1999 (Lane and Milesi-Ferretti 2008, Lane 2010a).

The cross-border exchange of financial claims alters international economic linkages in a number of ways. First, it shares risk across countries, since a decline in the value of a firm or the losses from a bond default are now borne by foreign investors as well as domestic investors. Second, if domestic and foreign assets are increasingly substitutable, this may increase the elasticity of net capital flows to shifts in fundamentals and facilitate an increased dispersion in current account balances. In turn, this has the potential to improve intertemporal smoothing and accelerate income convergence across countries.

However, larger external imbalances also carry risks. In particular, as has been vividly demonstrated during 2008-2010, a disruption in funding markets can induce a forced current account reversal, with an increase in the cost of credit or credit rationing leading to a rapid compression in expenditures and a recession. Moreover, a more elastic supply of international capital may also encourage over-borrowing if domestic distortions mean that individual borrowers (whether households, banks, corporates or the government) do not internalise the full cost of external liabilities. The associated mis-allocation of international capital also harms surplus countries, which will earn lower returns and carry higher risk levels.

For these reasons, the expansion in current account imbalances at a global level and within the European region during the pre-crisis period was viewed with trepidation, despite the potential welfare gains from net capital flows. While the risk of a rapid unwinding of the US current account deficit was the main global concern, the very large deficits run by the European periphery was also identified as a source of vulnerability (Lane and Milesi-Ferretti 2007b). Indeed, during the current global crisis, it has

turned out that those countries running the largest current account deficits during the pre-crisis period have suffered the largest declines in domestic demand (Lane and Milesi-Ferretti 2010). In particular, over borrowing in the European periphery resulted in distorted domestic economies, substantial bad loans, an increase in spreads and tighter availability of external funding.

Even though there has been a general contraction in current account positions during the crisis, it is projected that global imbalances will widen again as economic recovery takes hold (albeit not to pre-crisis levels). Accordingly, the policy concerns that have been expressed about persistent external imbalances remain highly relevant.

In this report, I offer a European perspective on external imbalances. At a global level, Europe has a role to play in improving the efficiency of the international monetary system and contributing to a more balanced growth path for the world economy. However, our main focus is on intra-European imbalances. Within Europe, the excessive scale of current account deficits in the periphery during the pre-crisis period has contributed to the severity of the economic contraction and damaged banking systems and sovereign creditworthiness. Moreover, the surplus countries have been damaged by the associated decline in aggregate demand in the periphery and by the risk of losses on foreign asset holdings in the periphery. For these reasons, the management of external imbalances has resurfaced as a policy priority for European governments.

2 THE EVOLUTION OF EXTERNAL POSITIONS

European countries have been to the forefront in financial globalisation, with rapid growth in the scale of financial claims and liabilities vis-a-vis other regions in the world economy. The small collective net external position of Europe has not loomed large in discussions of global imbalances. Still, it is instructive to examine Europe's role in the global configuration of external positions.

In what follows, we define Europe as constituting the member countries of the European Union, plus Iceland, Norway and Switzerland. The latter three countries are all members of the European Economic Area and adhere to EU rules in relation to many dimensions of economic and financial policies. For ease of reference, we label this set of countries as the E30 group.

Figure 1 shows the evolution of current account balances (expressed as a percentage of global GDP) for selected country groups over 1995-2008. Figure 1 shows the well-known patterns by which the United States has been the world's largest individual borrower during this period, with emerging Asia and oil exporters increasingly important as net capital exporters. In relation to Europe, the E30 group was collectively close to balance by the end of this period but had been an important net surplus region both in the late 1990s and during the 2002-2004 period.

Figure 2 plots the corresponding data for net foreign asset positions and tells a largely similar story. An important exception is that the E30 group shows a trend decline its net foreign asset position since about 2001, indicating that negative valuation losses have dominated the small surpluses that were run during this period. In contrast, the United States actually enjoyed an improvement in its net foreign asset position during 2001-2007, although it deteriorated during 2008.

In terms of projections for the future, Figure 3 shows the expected current account balances for 2008-2014 (based on the IMF's World Economic Outlook, April 2010). Figure 3 shows that current account imbalances are projected to widen during 2010-2014, following the cyclical contraction in positions during the 2008-2009 global crisis. Little movement is expected in the aggregate E30 position.

We can gain extra insight into the dynamics of global imbalances during the pre-crisis period by considering the movements across sub-periods in Table 1. Table 1 captures the progressive deterioration in the US current account deficit during 1995 to 2004 but also that the US position improved during 2004-2007. During this latter period, the main deterioration in the external account can in fact be attributed to the E30 group. Accordingly, the declining surplus position of Europe has been the main counterpart to the surge in the external surpluses of China and the oil exporters during 2004-2007. Looking further back, the external balance of the E30 group has shown sizeable fluctuations - improving during 1995-1997 before a sustained decline during 1997-2001 which in turn was undone during 2001-2004. Table 2 shows the corresponding results for the changes in the net foreign asset position over 1995-2007.

Consistent with Figures 1 and 3, Table 3 shows the values for the shifts in current account positions during 2007-2009 and 2009-2014. During 2007-2009, the United States and the "rest of the world" saw sharp improvements in current account balances, while the position for the E30 group continued to deteriorate. In relation to the surplus regions, there were substantial declines in the surplus positions for the oil exporters and Japan but relatively little movement in the Chinese surplus. In relation to 2010-2014, it is projected that the US position will remain little changed but that the E30 group will experience a sizeable improvement. Among the main creditor regions, the surplus is projected to grow for China and the oil exports but to move little for Japan and emerging Asia.

The aftermath of the global crisis has revised attitudes towards external imbalances. The role played by excessive balance sheet expansion by financial firms in the origin and propagation of global crisis means that there is considerable momentum behind a more conservative approach to domestic and international financial regulation. In turn, this should reduce demand for external funding.

Despite these factors, there are several reasons to remain concerned about the scale of global imbalances. First, global imbalances were a contributory factor to the origin of the current global financial crisis (Portes 2009, Obstfeld and Rogoff 2010). While there remains considerable disagreement about the appropriate weighting that should be attached to global imbalances in developing a comprehensive explanation

for the current crisis, it is important to further improve our analytical understanding of the sources of global imbalances.

Second, the ongoing persistence of global imbalances (in the current account and in the net foreign asset position) continues to be a major risk factor for the world economy. Unless there is a considerable shift in the global distribution of spending, the world economy may not quickly resume trend-level growth, since the compression of demand in high-deficit countries may not be matched by demand expansion in high-surplus countries. In addition, there remains the risk of a disruptive dollar depreciation, if global investors ultimately tire of holding increasing levels of dollar-denominated debt.

Third, global imbalances feed into many dimensions of the policy reform agenda. For instance, it is plausible that a global tightening of regulations concerning the behaviour of the financial sector may help to avoid the amplification problem, by which capital inflows into the United States contributed to increases in leverage and the explosion in securitisations. Accordingly, there is considerable overlap between the global moves to reform the financial sector and the debate concerning the role of governance reforms in redressing global imbalances.

Since the global crisis has undermined the sustainability of large external deficits, the case for international policy intervention to rebalance global demand is even stronger now than before the onset of the crisis. In high-deficit economies, private consumption is adjusting, with households engaged in the repair of personal balance sheets and credit conditions tightening. Similarly, the level of domestic investment has been negatively affected by the end of asset booms and, in some cases, credit crunches associated with troubled banking sectors. Moreover, at least in high-deficit European economies, the level of domestic demand is compromised by a tightening in fiscal policy due to the increase in credit spreads and funding risk for countries with unsustainable fiscal positions.

The menu of policy reforms that will contribute to a narrowing of global imbalances is well known (Blanchard and Milesi-Ferretti 2009, Lane 2009, Portes 2009, Freedman et al 2010, Obstfeld and Rogoff 2010). Along one dimension, there is a collection of domestic policy reforms that can be helpful. In the United States, the gradual contraction of the fiscal deficit

is a key step; in Europe and Japan, productivity-enhancing reforms can stimulate domestic investment; while a re-orientation of demand towards the domestic sector in the surplus emerging economies can provide a new engine of growth. The realignment in equilibrium real exchange rates that is associated with such a global redistribution of spending patterns can be more smoothly accomplished through movements in nominal exchange rates than via inflation differentials - accordingly, greater flexibility in key emerging market currencies would also help the global adjustment process.

International policy cooperation is a central element in delivering reform of the international system. In relation to domestic reforms, national factors will be the main determinant of the speed and extent of reform efforts. However, international peer review may play a positive role to the extent that there are strategic complementarities across domestic reform efforts in different countries and/or participation in an international surveillance mechanism can shift the domestic political calculus in the direction of greater reform. The G-20 mutual assessment programme (MAP) is intended to promote such policy cooperation through the exchange of information and coordinated analysis of different global configurations of policy packages.

The open question is whether this process will be more effective in inducing shifts in policy positions than was the case with the IMF's 2006 multilateral surveillance project on global imbalances. The explicit timeline for the project may facilitate the brokerage of an international settlement by which the participating governments each commit to specific policy reforms as part of a global deal. Greater participation by national authorities in the mutual assessment framework may increase the level of domestic ownership of the process and enhance the probability of a deal being reached.

The most that can be expected from international policy coordination on global imbalances are incremental shifts in policy positions. More discrete policy changes will either be the result of a shift in domestic politico-economic equilibria or the cumulation of minor policy reforms over time. Accordingly, the 2010 mutual assessment exercise should not be viewed as a one-shot process.

While these elements of global governance are important, a major challenge is to promote reform of the international monetary system that may alter the incentives facing those emerging market economies that have opted to run large current account surpluses over the last decade in order to "self insure" against the risks of disruptions in capital flows to these economies. Although the emerging markets have not been the only source of current account surpluses, the economic rationale for these surpluses are most closely connected to limitations in the design of the international financial system.

At one level, the international financial position of emerging market economies has undergone radical change since the late 1990s (see also Lane and Milesi-Ferretti 2007a and Lane and Shambaugh 2010). Net foreign liabilities are much lower, the role of equity financing has greatly expanded and very large foreign-currency reserve positions have been accumulated. These steps have increased the capacity of emerging market economies to withstand international financial shocks.

However, the limited role of domestic-currency debt in the funding of external liabilities means that the nature of international financial integration for the emerging market economies remains quite different relative to the experience of the advanced economies. The self-insurance approach adopted by individual emerging market economies is also highly inefficient in terms of the collective allocation of resources within the emerging market economies and between the emerging markets and the advanced economies. Moreover, the expansion in the gross scale of international balance sheets means that the linkages between the emerging market economies and the advanced economies have grown tighter, in terms of the exposure to breakdowns in the normal operation of financial markets.

The global crisis has demonstrated the limitations of the "self insurance" model. While it is true that high levels of reserves have acted as a bulwark against the most severe aspects of the crisis, the collapse in world trade during the most acute phase of the crisis naturally hit hard those economies that follow an export-driven growth model. On the financial side, the sizeable increase in the gross foreign liabilities of emerging market economies (even if outstripped by the growth in gross foreign assets) means that emerging

market economies are integrally affected by international financial multiplier effects by which asset price declines in advanced economies induce sell offs and declining asset values throughout the portfolios held by advanced-country investors. These negative developments illustrate that the "self insurance" model has not enabled emerging market economies to remain immune from negative global developments and reinforce the urgency of developing a new institutional framework to support a more stable pattern of capital flows to emerging market economies.

The current crisis has vividly illustrated how public sources of funding must be available in the event of the breakdown of financial trade among private-sector counterparties. At the international level, this reinforces the need for an expansion of the funding base for the IMF. In tandem with a redistribution of quotas, it is appropriate that the largest emerging market economies join the advanced economies in becoming substantial underwriters of the IMF's balance sheet. A better-financed IMF that stood ready to provide liquidity support would enable these economies to shed some of their excess foreign-currency reserves and would be collectively more efficient. Moreover, the limits to the potential resources of the IMF and the heterogeneity of IMF membership means that there is scope for additional resource pooling at the regional level.[1] Most obviously, the bilateral swap arrangements among ASEAN+3 countries under the Chiang Mai Initiative demonstrate the potential for securing liquidity insurance that is additional to IMF resources.[2]

Along another dimension, reform of the international financial system is important. While its introduction in 2009 may be rated as only a partial success, the recent expansion of the flexible credit line (FCL) facility established by the IMF may be an important breakthrough, together with the new precautionary credit line (PCL) initiative. The FCL is available

[1] See Irwin et al (2008) for a model of how diversity across countries limits the capacity of the IMF to function as a credit union.

[2] See Kohlscheen and Taylor (2008) for an analysis of the Chiang Mai bilateral swap arrangements. In line with a risk-pooling model, these authors find that bilateral swaps among participants are larger, the weaker the correlation in reserves between the pair of countries. However, these authors also highlight the limitations of a regional approach to risk pooling: the correlation in reserves growth is much higher within regions than across regions.

to those member countries that have previously demonstrated strong fundamentals in terms of sound policies, access to capital markets and sustainable debt burdens, while PCL offers low-conditionality funding to those with slightly-weaker fundamentals. Since it relies on the track record of the applicant, the funds can be disbursed quickly and without conditionality, such that the FCL has the potential to be helpful in tackling short-term liquidity difficulties. Accordingly, it represents a potentially useful expansion in the range of instruments available to the IMF in dealing with liquidity problems. However, it must be supplemented by greater participation by developing economies in the governance of the IMF if the FCL/PCL system is to be viewed as a routine financing option that simply reflects optimal risk pooling.

In addition, the currency swap arrangements among the world's major central banks and also vis-a-vis selected emerging market economies represent an innovative response to the problem of foreign-currency illiquidity.[3] As is discussed by Obstfeld et al (2009), the currency swaps with emerging market economies have typically been with countries that have already very high levels of reserves. Accordingly, the main function of the swaps has been to signal the commitment of the participating central banks to ensure adequate foreign-currency liquidity for the countries in question.

In terms of the broader G20 agenda, it is in the interests of the emerging market economies to support international reforms that improve stability in the major financial centres and at the global level. The strength of two-way international transmission mechanisms between advanced and developing countries means that this reform debate has to involve representatives of the emerging economies in a central role. In terms of governance arrangements, a major shift in the distribution of voting power at the IMF would be clearly beneficial and it is up to the advanced economies to voluntarily agree to a new agreement, with the obvious potential for the consolidation of representation by member countries of the European Union.

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[3] See McGuire and von Peter (2009) for an illuminating analysis of the global dollar shortage that was created by international banks seeking to obtain dollar funding for the very large dollar asset positions that expanded rapidly in recent years.

Accordingly, there is a multi-dimensional reform agenda at the domestic, regional and global levels in order to develop a financial system that improves the stability of external financing for emerging market economies. The reforms that are good for emerging markets are also the reforms that should improve global economic performance and global financial stability. The current G20 mutual assessment process (MAP) may be helpful in limiting imbalances at a global level.

However, there remain extensive imbalances within Europe that are not directly the focus of global policy discussions, even if the lessons from the MAP are quite relevant for the surplus and deficit regions within Europe. In the rest of this report, our main focus is on the distribution of external imbalances within Europe.

3 THE SOURCES OF EXTERNAL IMBALANCES IN EUROPE

There is considerable heteroegeneity among the E30 group. Figure 4 shows that the surplus countries within the E30 group accounted for 35.6 percent of global surpluses, while the deficit countries within the E30 group accounted for 32.6 percent of global deficits at the end of 2007. Figure 5 plots the dispersion in current account balances within the E30 group over 1995-2008, with the dispersion sharply increasing during the 2004-2007 period. Figure 6 shows the dispersion in net foreign asset positions and tells a similar story, even if the dynamics of net foreign asset positions are more volatile due to the operation of valuation effects.

It is important to appreciate that the cross-sectional distribution of current account balances within the E30 group has been highly persistent. This is demonstrated in Figure 7, which plots the average balance during 2002-2007 against the average balance during 1995-2001 --- the correlation is +0.88. In the next section, we investigate the driving forces behind the distribution of current account balances among the E30 group.

In terms of understanding the distribution of external imbalances among the E30 group, Figure 8 shows the strong cross-sectional correlation between the level of GDP per capita and the current account balance during 2004-2007: the poorer members of the E30 group ran the largest deficits during the pre-crisis period, while the richer member countries typically ran substantial surpluses. However, there were some striking exceptions to this rule, including the deficits ran by Ireland and (especially) Iceland during this period.

The positive correlation between output per capita and the current account balance among the E30 group has been widely noted by researchers. In particular, as is surveyed by Lane (2008), this apparent neoclassical pattern in net capital flows stands in stark contrast to the global pattern by which capital has been running uphill from emerging Asia to high-income deficit countries (most prominently, the United States). In line with the arguments developed by Blanchard and Giavazzi (2002), Herrmann and Winkler (2008) and Abiad et al (2009), Lane (2008) explains this pattern by virtue of the institutional anchor provided by the European Union (more generally, the common institutional framework across the European Economic Area) such that many of the frictions that have discouraged

net capital flows to other emerging regions have been ameliorated within Europe. While this line of argument carries substantial weight, it is also possible that the "strong fundamentals" story was confounded with excessive optimism and inadequate counter-cyclical policies in some of the lower-income countries, such that scale of the deficits during the pre-crisis period grew excessively large.

Two (overlapping) sub-groups within the E30 aggregate have received particular attention. First, membership of the euro area may have relaxed borrowing constraints for residents for the lower-income countries that adopted the euro (see also Blanchard and Giavazzi 2002 and Fagan and Gaspar 2007). For several peripheral member countries, nominal and real interest rates fell substantially in the period surrounding the adoption of the euro, contributing to revaluation of local asset prices, higher net worth and rapid credit expansion.

Second, the convergence hypothesis was widely applied in relation to ten Central and Eastern European (CEE) countries that ultimately joined the European Union in 2004. The low initial income per capita levels in these countries combined with financial integration and institutional convergence to drive substantial net capital flows towards these countries (see Lane and Milesi-Ferretti 2007c, amongst many others).

However, in the presence of other distortions, a more elastic supply of external capital may lead to over-borrowing. In relation to governments, political economy factors may generate a temptation to borrow more in order to increase public spending or cut taxation; however, the fiscal restraints built into the Maastricht Treaty and embodied in the Growth and Stability Pact curb that tendency. For banks and near-banks, poorly-designed regulations or inadequate supervision may encourage excessive lending on the back of funds raised through the wholesale market or securitisation.[4] For corporates, if the corporate governance environment is inadequate, international leveraging may tempt some executives to undertake excessive investment or make ill-advised acquisitions. Under

[4] Historically, politically-connected non-banks may have also been tempted to over borrow, in the belief that the government would provide a rescue package in the event of trouble. However, EU restrictions on state aids sharply limit the scope for the bail out of non-financial firms.

these scenarios, capital flows magnify the impact of such distortions and may amplify cyclical shocks through a pro-cyclical pattern in capital flows.

To gain more insight into the determination of external imbalances during the pre-crisis period, we draw on Lane and Pels (2010) to provide an empirical analysis of the current account balances in Europe for the period 1995-2007.[5] Data for 2008 and 2009 are not included since the goal is to understand the sources of the current account imbalances that were built up in the period running up to the financial crisis.

We follow Blanchard and Giavazzi (2002) by allowing for different dynamics in the euro area since 1999 compared to the rest of Europe. The main reason is that increased intra-area financial integration since the introduction of the euro might have led to current account dynamics that are different for the euro area than for the rest of Europe, since the common currency area may have especially reduced investment risk. We also allow for differences between the new member states from Central and Eastern Europe and the older members of the European Union, in view of the specific "convergence play" that applies to the CEE group.

In addition, we examine whether the relation between fundamentals and the current account shifted over time. To the extent that the levels of liquidity and risk aversion in international financial markets fluctuated over time, this should results in time-varying elasticities of net capital flows to the underlying fundamental variables.

We highlight two driving forces behind current account dynamics. Again, following Blanchard and Giavazzi (2002), we ask whether current account balances systematically varied with income levels. On top of this, we allow for growth expectations to directly have an impact on the current account. Our intuition is that the expansion in current account imbalances during the mid-2000s may have been driven directly by variation in growth expectations, independently of the relative income level.

[5] See also the model-based analyses reported in Campa and Gavilan (2006) and Ca'Zorzi and Rubaszek (2008).

The well-understood convergence mechanism holds that poorer countries should run current account deficits, both to finance high-return investment opportunities and consumption smoothing, with higher future incomes encouraging lower savings today. Although capital does not flow from rich to poor countries on a global level, a sizeable literature has investigated why capital did flow downhill in Europe during the pre-crisis period.

While the convergence process in part operates through higher growth expectations for lower-income countries, optimism about future growth can also take hold in higher-income countries. The intertemporal model of the current account predicts that countries with higher growth prospects relative to other countries will run current account deficits to fund higher consumption today. Countries that expect to be richer in the future will want to borrow abroad to increase consumption today, independent of their level of current relative income. Engel and Rogers (2006) for example discuss the sustainability of the US current account deficit from the perspective of the intertemporal model. These authors use a long-run world equilibrium model to determine the link between a country's current account and its expected discounted present value of its future share of world GDP relative to its current share of world GDP. According to the authors, it can be shown that for reasonable expectations of the future share of US output in the output of the advanced economies, the current account deficit is near optimal levels.

In addition to examining the overall current account, further insights can be obtained by looking at the underlying sources of current account imbalances. In particular, we examine the behaviour of saving and investment flows and their subcomponents. This gives an indication of whether the current account dynamics are related with poorer countries investing more or saving less. Even if current account deficits are mainly driven by higher investment rates, the impact on economic convergence will differ according to whether the investment is allocated to machinery and equipment or residential construction, to take two examples. Similarly, the macroeconomic implications of a decline in the savings rate differs across a shift in the household saving rate, the corporate saving rate and the government saving rate.

The econometric analysis extends the Blanchard-Giavazzi framework by allowing the link between relative income and the current account balance

to be different across regions as well as over time and extend the time period to include the years up to the onset of the crisis in 2007. The time span is 1995-2007 and the sample consists of the EU-30 excluding Luxembourg, Malta and Cyprus (for data reasons). We estimate the following model

$$\begin{aligned} CA_{it} &= \alpha + \theta_t + \phi_1 EMU_{it} + \phi_2 CEE_i + \\ &\beta_1 RELINC_{it} + \gamma_{0t} RELINC_{it}\theta_t + \gamma_1 RELINC_{it} * EMU_{it} + \gamma_2 RELINC_{it} * CEE_i + \\ &\beta_2 FORECAST_{it} + \zeta_{0t} FORECAST_{it}\theta_t + \\ &\zeta_1 FORECAST_{it} * EMU_{it} + \zeta_2 FORECAST_{it} * CEE_i + \rho X_{it} + \epsilon_{it} \end{aligned} \tag{1}$$

where CA_{it} is the current account balance as a percentage per GDP, $RELINC_{it}$ is the initial level of relative income per capita (where the reference group is the average of the whole sample's income per capita) and $FORECAST_{it}$ is the projection of future output growth. These growth projections are collected from vintage releases of the OECD *Economic Outlook* and the IMF *World Economic Outlook* .

Relative income matters under the convergence hypothesis that the poorer countries will converge in the long term to the average level of GDP per capita in Europe, such that investment should be higher and savings lower than in the richer countries. Independently of the relative income level, similar mechanisms should also apply for those countries that are more optimistic about future growth prospects. We allow the elasticity of net capital flows to growth forecasts to vary over time, since funding conditions in global capital markets will shift over time in line with liquidity factors and levels of global risk aversion.[6] We also include demographic factors as control variables, since the demographic structure of the population will also influence savings and investment rates. Our measures are the dependency ratio of the young and the dependency ratio of the old (over 65).

As indicated, we also estimate this model for the aggregate saving and investment rates and their subcomponents. In relation to savings, we look separately at household, corporate and government savings rates. For investment, we examine investment in residential and non-residential construction, equipment, machinery and transport.

[6] In Lane and Pels (2010), we also examined time-variation in the relation between relative income and the current account but this time variation was not systematic in the data.

The model is estimated using ordinary least squares with robust standard errors. The general specification includes many interaction terms. In the reported estimates, we remove all time-varying explanatory variables that have been shown to be not significant for the current account regression.[7] The results for the current account, aggregate savings and agggregate investment are presented in Table 4, while the results for the subcomponents of savings and investment are reported in Table 5.

The estimates show that lower relative income was associated with larger current account deficits during the 1995-2007 period. Moreover, this effect is stronger among members of the euro area. The link between relative income and the current account balance is driven by poorer countries having lower saving rates, mainly in relation to government and corporate saving rates. However, there is also a significant link between relative income and the household savings rate for members of the euro area. In Central and Eastern Europe, poorer countries also have lower household saving, but the link between relative income and corporate and government saving is weaker.

For the whole sample, poorer countries invest less, weakening the negative link between relative income and the current account. Investment is only important for the link between relative income and current account balances in the euro area. Lower-income members of the euro area countries invest more, especially in relation to nonresidential construction.

Turning to the role of growth expectations, a key result is that more optimistic growth expectations are increasingly linked with current account deficits from 2002 onwards. This effect is mainly due to a strong positive link between growth expectations and investment rates, especialy investment in nonresidential construction investment and, to a lesser extent, investment in dwellings. In addition, higher growth expectations have been increasingly linked with lower household saving rates. The role of growth expectations in driving the current account during 2002-2007 is especially relevant since this is the period in which liquidity conditions were high and global risk aversion low in global capital markets.

[7] Lane and Pels (2010) report more detailed estimates for a range of specifications.

In relation to the control variables, the qualitative direction of the results confirm that demographics have a strong effect on elements of saving and investment behaviour. Higher dependency ratios of the young and the old in general lead to lower household saving and higher government saving. A high old-age dependency ratio also reduces corporate saving but the increase in government saving cancels out the reductions in household and corporate saving. A high youth dependency ratio has a negative effect on the overall saving rate of the country. Both dependency ratios lead to lower investment rates. The youth dependency ratio affects all subcomponents of investment, while the old-age dependency ratio goes mainly through reducing construction investment. But, for both types of dependency ratio, the overall effect on the current account is insignificant when controlling for both relative income and growth expectations.

4 PREVENTIVE POLICIES

The high-deficit European economies are currently undergoing a forced compression in domestic spending, with households, firms and governments each cutting back due to recessionary forces and tighter funding conditions. For those countries inside EMU (or maintaining a hard peg), there is also the novel challenge of engineering real devaluation in the absence of nominal exchange rate flexibility. While the high-deficit economies would benefit from a higher level of spending in the surplus economies (both in Europe and elsewhere), we do not address the prospects for symmetric modes of policy coordination in relation to intra-European imbalances in view of the limited near-term prospects for such types of coordination (see also Eichengreen 2008). However, even in the absence of policy coordination, the lower growth prospects in the deficit countries should push the surplus countries towards domestic reforms that may provide a boost to domestic spending levels.

Looking to the future, the costs of the current recession will plausibly lead to an array of policy moves that will serve to limit the scale of future external deficits. These may include tighter macro-prudential regulation of banking systems, greater counter-cyclicality in fiscal positions and further moves to discourage foreign-currency borrowing. Indeed, enhanced surveillance of external imbalances is a central component in the proposals for reform of EU-level economic governance (see also Giavazzi and Spaventa 2010). For countries with independent monetary policies, the external position may receive a greater weighting in determining interest rate decisions (at least for smaller countries).

Blanchard (2007) argues that a variety of distortions may justify fiscal policy interventions in response to the incipient emergence of current account imbalances.[8] First, rigidities in nominal wages and prices may mean that there is excessive volatility in employment in response to swings in the level of domestic demand. Second, financial constraints mean that a contraction in tradables output during a period of high domestic expenditure may not be easily reversed once the economy needs to make the transition towards greater net exports. Third, high net inflows

[8] This section draws on Lane (2010b).

may increase the risk of a sudden stop and the attendant risk of financial distress.

In terms of fiscal strategy, the government can target the current account balance via a number of instruments. First, a government that wishes to narrow a current account deficit could run a more positive fiscal balance. Second, even at an unchanged fiscal balance, a reduction in government absorption can improve the external balance. Third, even at an unchanged budget balance, tilting the schedule for particular types of taxes can mimic a real depreciation and improve the external position.

One option is to simply run a larger fiscal surplus and pay down the level of gross government debt in the event of large capital inflows. However, there is a risk that the occurrence of a financial crisis may also compromise a government's ability to borrow. Accordingly, an alternative approach is to divert the extra net revenues into a dedicated fund that would be invested in liquid assets. In turn, such liquidity may prove useful in dealing with the fallout from a banking crisis and/or reduce the risk of a crisis by providing assurance to investors.

A basic risk is that an external deficit may fuel a domestic credit boom and thereby raise the probability of a banking crisis. While this risk can be mitigated by suitable regulatory interventions by the domestic monetary authority to guard against excessive credit growth, the enhanced risk of a banking crisis may justify running a offsetting fiscal surplus. In many ways, such a precautionary fiscal surplus is analogous to the accumulation of foreign-exchange reserves for a country with its own currency as a guard against financial and currency instability.

In relation to the feasibility of targeting the external account, the persistent nature of current account positions (at least in recent years) means that timing lags do not provide a prohibitive objection. A basic problem is in identifying the episodes in which policy intervention may be warranted, since it is unlikely that a simple rules-based approach can properly differentiate between "desirable" and "undesirable" levels of net capital inflows.

To this end, the current generation of models of equilibrium current account balances and equilibrium real exchange rates provide only a very

broad and imprecise guide to the sustainability of a given external balance.[9] However, the main risks are associated with large external deficits and it may be possible to establish threshold indicators, such that fiscal policy responds in a non-linear fashion to the emergence of deficits that enter a "danger zone."

It is also important to acknowledge the complementarity between fiscal stabilisation policies and the role of macro-prudential regulation of the financial sector in addressing excessive capital inflows. Since the banking system is in many cases the main intermediator of foreign capital flows, a regulatory regime that successfully manages macro-prudential risk should address concerns about the vulnerabilities embedded in the international balance sheet.

Macro-prudential policy has an important role to play in preventing and/or mitigating the effects of imbalances in the financial system. The whole panoply of well-known analytical tools has to be used: sets of financial indicators, early-warning systems, stress tests, contagion models, macro-models that include the proper feedback between the financial sector and the real economy. Careful attention in this process must be paid to leverage indicators of the different types of economic agents: households, firms, banks and the state. Ensuring financial stability implies avoiding excessive debt and credit growth.

However, financial regulation on its own is not sufficient, since corporations, the government and households may also accrue external liabilities through other channels (see also Ranciere et al 2010). Indeed, over-regulation of the domestic financial sector increases the incentives to directly tap sources of foreign capital, via overseas banks, the international bond market and the issue of equity-type liabilities to foreign investors.

In relation to the cross-border dimension of the international financial crisis, the inadequacies of the current regulatory system in dealing with the financial problems of multi-country banking systems has been strongly underlined. One basic problem is that appropriate allocation of losses across national fiscal authorities, where a banking system operates

[9] The state of the art is represented by Ricci et al (2008).

in an integrated fashion across national borders. A second problem is the transmission of systemic risk across borders, especially when countries share a common currency and a common liquidity provider. A third is the monitoring of common sources of risk, such as excessive concentration of lending in specific sectors or over-exposure to untested types of assets and liabilities.

For these reasons, the principles behind the recent moves to improve the levels of EU and global cooperation in financial regulation are welcome. The new European Systemic Risk Board (ESRB) will have responsibility for the identification and monitoring of macro-prudential risk at the European level, which in turn will feed into the functional regulation at European and national levels. At the European level, three new European Supervisory Authorities (for banking, insurance and securities markets) will provide a new level of international oversight of these sectors. In addition, the ESRB will provide an important input into global financial stability operations, via bodies such as the Financial Stability Board and the IMF, which are charged with preserving financial stability at the global level.

An important lesson from the current crisis is that an over-concentration of regional risk in lending portfolios can threaten financial stability. Moreover, a regionally-circumscribed banking system may be more risk averse in terms of its lending behaviour, in view of its limited capacity to hedge regional sources of risk. Accordingly, there is a strong case for the emergence of a core set of large multi-country banks that would operate on a pan-European basis and thereby contribute to the diversification of regional risk factors. Since such large banks also pose particular types of stability risks, these large institutions would also require a special European-wide regulatory regime. However, if a satisfactory regulatory regime is put in place, the gains from cross-border consolidation of the European banking system could be substantial (see also Lane 2010a).

In a European context, there is a clear difference between members of the euro area and non-member countries in terms of vulnerability to liquidity risk. In particular, the sensitivity of currency values to even small shifts in desired portfolio weights is much greater for non-members with small domestic financial markets. Moreover, foreign-currency debt is more prevalent for non-members, such that the ability of the domestic

monetary authority to provide liquidity to the domestic banking system is compromised. Accordingly, the euro area is a "safe haven" for smaller member countries that would face greater liquidity risk outside EMU.

Moreover, the interaction between external wealth effects and domestic sectoral balance sheets may be important for domestic macroeconomic performance, since the net worth of banks, firms, households and the government may be affected by currency-induced valuation shifts. In this regard, an important goal for future research is to establish the conditions under which such valuation movements may have a stabilising influence versus scenarios under which the impact is pro-cyclical.

The emergence of large and persistent current account imbalances within the euro area also raises important adjustment issues, especially to the extent that deficits have been used to finance consumption or investment in low-productivity sectors. While monetary union may insulate a member country from speculative attacks on a national currency, the real exchange rate depreciation that is a typical part of the adjustment to increase in net external liabilities cannot be achieved through nominal depreciation. Moreover, there is increasing evidence that nominal depreciation offers a double benefit for the external balance sheet of a debtor economy. In addition to the presumed positive impact on the trade balance (albeit with a lag), nominal depreciation that is not fully offset by a differential in expected returns also generates a positive valuation effect to the extent that foreign assets are disproportionately in foreign currency and foreign liabilities in domestic currency. The absence of independent national currencies means that the currency-based valuation channel does not play a role in the adjustment dynamics of the member countries of the euro area, at least in relation to intra-area imbalances.

Moreover, real depreciation vis-a-vis other member countries can only be achieved through a negative inflation differential. Accordingly, this requires wages to grow more slowly than in other member countries, which is difficult to achieve if the institutional environment governing the domestic labour market does not facilitate rapid corrections in wage levels. Moreover, a drawn-out period of anticipated real depreciation can amplify the negative impact on domestic activity, since the ex-ante real interest rate will be higher, depressing domestic spending.

We also note that the prominence of inter-bank lending as a source of finance for current account deficits within the euro area means that a version of the "sudden stop" mechanism is a potential risk. If banks in a given deficit country are unable to rollover short-term debt, the current account deficit may quickly close in a manner that is compounded by a domestic banking crisis. While the generalised nature of the post-2007 financial turmoil has permitted the European Central Bank to provide liquidity support to all banks in the euro area, a similar response would not necessarily apply in the context of a country-specific problem.

Regardless of the source of the external imbalance, fiscal policy can have a role to play in facilitating external adjustment (see also Lane 2010b). In order to combine external adjustment with the maintenance of full employment, an economy must re-allocate labour from the nontraded sector to the traded sector. In related fashion, the expansion of the traded sector is facilitated by depreciation of the real exchange rate, which improves the competitiveness of export-orientated and import-competing firms and improves the relative profitability of the traded sector relative to the nontraded sector.

For a member of a monetary union, real depreciation cannot be achieved via the traditional route of engineering a nominal devaluation. In the absence of this mechanism, the main macroeconomic policy instrument available is fiscal policy. To the extent that government spending is concentrated on nontraded goods, a contraction in public expenditure may be associated with a decline in the relative price of nontradables and a real depreciation. As an example, government wage consumption is a major component in public spending: the government is a major employer and a decline in its demand for labour relieves pressure on the domestic labour market. In turn, this increases the supply of labour to the traded sector and puts downward pressure on wage levels. A similar mechanism applies to government purchases of consumption and investment goods from the domestic private sector.

In this regard, it is noteworthy that the empirical evidence indicates a robust relation between government spending and the real exchange rate. At medium- and long-term horizons, the cointegration analysis of Ricci et al (2008) and Galstyan and Lane (2009) shows that a sustained decline in government consumption (relative to trading partners) is associated

with real depreciation. Furthermore, the evidence for Europe from VAR analyses is that a discretionary negative shock to government spending is associated with real depreciation (Beetsma et al 2008, Benetrix and Lane 2009). Finally, Benetrix and Lane (2009) show that the impact of government spending on the real exchange rate varies across different expenditure categories, such that the composition of spending matters in assessing the sensitivity of the real exchange rate to a fiscal shock.

Taken together, these studies are suggestive that shifts in the level of government spending can contribute to the external adjustment process by influencing the path for the real exchange rate. Consistent with this pattern, the VAR evidence for Europe provided by Benetrix and Lane (2010) is that a relative decline in government spending is associated with a relative contraction in the size of the nontraded sector and an improvement in the trade balance. Similar results for the trade balance are also reported by Beetsma et al (2008).

Turning to the financing of the fiscal position, all else being equal, an improvement in the fiscal balance should be associated with a partial improvement in the external balance. Accordingly, a government may also facilitate external adjustment via an improvement in the fiscal balance. However, the conditions under which an improvement in net exports is required are also often associated with a slump in domestic demand. Under such circumstances, policymakers face a conflict between the pursuit of external competitiveness and the maintenance of domestic demand through fiscal expansion.

In addition to the macroeconomic dimensions of fiscal policy, there may also be a role for specific microeconomic interventions in aiding external adjustment. For instance, a reduction in employment taxes contributes to real depreciation by lowering the cost of domestic labour (Calmfors 2003). A further type of microeconomic intervention is to alter the timing of consumption decisions through subsidies to saving schemes, which mimics the impact of a shift in the interest rate. While such interventions may be hard to implement in relation to minor imbalances, these may be worth pursuing in tackling larger-scale deficits.

In the event of an external adjustment problem that is coupled with a financial crisis, the public balance sheet may be transformed by rescue

operations that act to transfer assets and liabilities from the private sector to the government or to increase the contingent liabilities of the government through the provision of guarantees and insurance to private entities. This may be the result of a publicly-financed restructuring of the balance sheets of the banking system, the corporate sector and/or the household sector. In some cases, the costs of such bailouts may feed directly into the fiscal balance; in others, the main costs may remain "off balance sheet." Under either scenario, the impact on the public balance sheet may affect funding costs for the government and affect choices over public spending and taxation.

In relation to the external position, the assumption of foreign liabilities by the government typically reduces the expected losses to foreign creditors on distressed debt.[10] The long-term horizon of the government means that it may be better able to withstand short-term declines in the market value of assets, although at the cost of increased direct risk to the taxpayer if the ultimate return on these assets fail to meet expectations.

If external liabilities are mainly denominated in foreign currency, the government takes on substantial currency risk if it acquires foreign liabilities from the private sector. In particular, the existence of substantial foreign-currency debt complicates the external adjustment process. On the one side, currency depreciation may be helpful in improving the trade balance; on the other side, currency depreciation has an adverse balance sheet effect due to increased domestic-currency value of foreign-currency liabilities (see, amongst others, Lane and Milesi-Ferretti 2005 and Lane and Shambaugh 2010). This trade off has plagued exchange rate policies during emerging market crises in recent decades and is now high on the policy agenda for highly-indebted countries in Central and Eastern Europe.

However, this currency risk is largely absent for members of the euro area. In particular, much of the foreign debt issued in recent years is denominated in euro and held by residents in other member countries of the euro area. Accordingly, crisis dynamics are fundamentally different

[10] In some cases, the government may also acquire foreign assets. Examples include the nationalisation of a bank with international operations and the establishment of an asset management agency that acquires non-performing (domestic and foreign) loans from the domestic banking system.

between member countries and those outside the euro area, especially in relation to crises that are centred in the banking system.

In particular, a member of the euro area is less exposed to the risk of a liquidity run. In the case of a country with substantial foreign-currency liabilities and only limited foreign-currency reserves, its banking system is vulnerable to the withdrawal of foreign-currency financing by private sector investors. In contrast, banks (with sufficient eligible collateral) in the euro area that encounter such problems are able to turn to the ESCB under the rules of its liquidity operations. As a result, the role of the national fiscal authority is to concentrate on ensuring the solvency of domestic banks [through direct and indirect re-capitalisation programmes], which in turn enables the banks to obtain liquidity from the ESCB.

However, the fiscal capacity to fulfill this role is uncertain in a number of countries, due to the scale of losses in the banking sector and precarious fiscal balances. A lesson for the future is that fiscal policy during good times must be sufficiently prudent to preserve the fiscal space that is required to engage in stabilisation policies during severe downturns. While some countries have already made progress in improving the robustness of fiscal policy through the implementation of fiscal rules and the establishment of independent fiscal councils, developing similar fiscal frameworks remains an outstanding task for many others (Lane 2010c). However, the development of national fiscal frameworks is a high priority in the proposed EU-level governance reforms, such that this reform process may gain further momentum in the coming months.

Accordingly, the external adjustment process for member countries is potentially quite challenging. However, it is important to keep in mind the appropriate counterfactual. In particular, it is not so obvious that a floating exchange rate is automatically helpful in faciliating adjustment. As the current international financial crisis reminds us, a deficit country may also be vulnerable to a currency attack especially during a period of international turmoil, with currency and financial crises feeding on each other. Moreover, the beggar-thy-neighbour characteristics of independent monetary responses to crisis situations were an important motivation for the formation of EMU, since free trade and cooperation on other economic and political issues is difficult to sustain if nominal exchange rates are subject to manipulation.

5 CONCLUSIONS

This report has sought to make several main points. In relation to the distribution of external imbalances in Europe, we have argued that EU institutional environment allowed capital to "flow downhill" to emerging and peripheral European countries during the pre-crisis period. This experience stands in stark contrast to the stylised facts that pertain to other emerging market regions and the most obvious explanation is these regions have no counterpart to the institutional anchor that is provided by EU membership. However, especially during the 2003-2006 period, the scale of net capital flows to deficit countries was excessive, reflecting an underestimation of risk by both borrowers and lenders and distorted incentives in inadequately-regulated banking systems.

We have also highlighted that increased financial integration has also increased vulnerability to liquidity problems, to the extent that gross debt liabilities have significantly increased for many European countries. Looking to the future, this requires more effective macro-prudential policies at the national level to improve the stability of domestic banking systems. In complementary fashion, effective pan-European cooperation is required in order to avoid future shocks to European financial stability.

Finally, the crisis has also highlighted the central responsibility of national-level fiscal policies in protecting macroeconomic stability. A source of great regret is that fiscal policy in many countries was insufficiently prudent during the boom years, such that the effectiveness of fiscal policy to mitigate the downturn has been restricted. The reform of the fiscal policy process to guard against such procyclicality in the future is a major priority.

SAMMANFATTNING

Föreliggande forskningsrapport ger ett europeiskt perspektiv på externa obalanser.

På internationell nivå har Europa inte på något avgörande sätt bidragit till de globala obalanserna. Emellertid minskade Europas aggregerade nettoposition åren strax före den globala krisen, vilket medförde att de stigande överskotten i de växande asiatiska ekonomierna delvis allokerades till de ökande underskotten i länderna i den europeiska periferin. Globala obalanser fortsätter därmed att utgöra en betydelsefull snedvridning i världsekonomin och Europa skulle gynnas om G20-gruppens reformagenda genomfördes. Där inbegrips införandet av en ny reform av det internationella valutasystemet i syfte att minska den finansiella sårbarheten hos tillväxtekonomierna samt en inhemsk reformpolitik i industriländerna som syftar till att öka efterfrågan i överskottsländerna och minska efterfrågan i underskottsländerna.

När det gäller de europeiska regionala obalanserna, har den aktuella krisen tydliggjort de kostnader som överdrivna obalanser medför. Samtidigt som Europas framgångar med att främja nettokapitalflöden från höginkomst- till låginkomstländer har många fördelar, ökade dessa obalanser orimligt mycket under åren omedelbart före krisen. Det bidrog till tillgångsbubblor och snedvridna konsumtionsmönster i den europeiska periferin. Underskottsländerna står nu inför en utdragen och besvärlig anpassningsprocess, medan överskottsländerna måste formulera en ny politik för att anpassa produktionen till inhemsk konsumtion.

Den nuvarande krisens höga kostnader kräver en omprövning av den makroekonomiska politiken. Listan med reformer är vid det här laget väl känd. En systemriskbegränsande reglering är nödvändig för att garantera att banksystemen inte tar på sig överdriven systemrisk, medan nationella makroekonomisk politik måste ”lean against the wind” för att minska risken att sektoriella eller externa obalanser resulterar i betydande ekonomiskt och finansiellt sammanbrott. De gränsöverskridande effekterna av nationella kriser är sådana att utvidgad kontroll och policykoordinering på europeisk nivå är nödvändigt. På motsvarande sätt är den nuvarande strävan att stärka den ekonomiska styrningen på EU-nivå mycket viktig.

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APPENDIX

Table 1 Global Imbalances: 1995-2007

	E30	EuroArea	EmAsia	Oil	US	Japan	China	RoW
1995-1997	0.19	0.15	0.05	0.04	-0.08	-0.05	0.12	-0.15
1997-2001	-0.30	-0.27	0.22	0.20	-0.78	-0.04	-0.07	-0.51
2001-2004	0.28	0.25	0.04	0.17	-0.25	0.13	0.11	-0.16
2004-2007	-0.29	-0.17	0.05	0.30	0.19	-0.03	0.51	0.03

Table 2 Projected Global Imbalances: 2007-2014

year	E30	EuroArea	EmAsia	Oil	US	Japan	China	RoW
2007-2009	-0.11	-0.20	-0.04	-0.51	0.67	-0.21	-0.02	0.52
2009-2014	0.23	0.22	-0.06	0.36	0.01	-0.05	0.28	0.16

Table 3

	E30	EuroArea	EmAsia	Oil	US	Japan	China	RoW
1995-1997	0.56	0.78	0.42	0.24	-1.06	0.41	0.09	-1.48
1997-2001	-0.87	-0.78	0.65	0.38	-3.26	1.08	0.36	-2.93
2001-2004	-2.14	-1.56	0.66	0.32	0.47	-0.02	0.51	0.53
2004-2007	-0.51	-0.39	-0.36	1.17	1.35	-0.29	0.90	0.72

Table 4 The Drivers of the Current Account I

	CA	*S*	*I*
Relinc	0.11*** (0.02)	0.16*** (0.02)	0.03*** (0.01)
RelincEURO	0.15*** (0.03)	0.06** (0.03)	-0.07*** (0.02)
RelincCEE	-0.05* (0.03)	-0.02 (0.03)	0.03 (0.02)
Forecast	0.30 (0.94)	-0.32 (0.85)	-0.75 (0.74)
*Forecast*EURO*	0.64 (0.97)	0.23 (0.76)	-0.42 (0.46)
*Forecast*CEE*	0.46 (0.94)	0.55 (0.75)	0.12 (0.49)
Forecast1996	0.18 (0.67)	0.48 (0.88)	0.22 (0.94)
Forecast1997	-0.41 (1.00)	1.28 (0.80)	1.67* (0.90)
Forecast1998	-1.23 (0.81)	0.46 (0.93)	1.46* (0.82)
Forecast1999	-1.05* (0.62)	0.67 (0.68)	1.39** (0.68)
Forecast2000	-1.14 (0.76)	0.16 (0.77)	1.03 (0.72)
Forecast2001	-1.04 (0.73)	0.07 (0.76)	1.02 (0.74)
Forecast2002	-2.67*** (0.73)	-0.44 (0.87)	1.96** (0.82)
Forecast2003	-3.31*** (0.81)	-0.85 (0.90)	2.13** (0.94)
Forecast2004	-3.39*** (0.70)	-1.19 (0.73)	1.92** (0.81)
Forecast2005	-3.40*** (0.80)	-1.08 (0.80)	2.21*** (0.84)
Forecast2006	-4.06*** (0.81)	-1.44** (0.72)	2.24*** (0.80)
Forecast2007	-3.16*** (0.91)	-0.84 (0.73)	1.95** (0.79)
EURO	-21.87*** (5.14)	-7.81* (4.30)	12.60*** (2.66)
CEE	4.58 (4.51)	9.59** (3.85)	2.65 (2.60)
DepY	-0.19 (0.20)	-0.65*** (0.18)	-0.51*** (0.14)
DepO	0.29 (0.31)	-0.23 (0.23)	-0.76*** (0.19)
N	338	338	338
R^2	0.58	0.50	0.49

Includes time fixed effects. Robust standard errors in parentheses, * significant at 10%; ** significant at 5%; *** significant at 1%. Based on Lane and Pels (2010).

Table 5 The Drivers of the Current Account II

	S^{HH}	S^{Corp}	S^{gov}	I^{DW}	I^{NR}	I^{EQ}	I^{M}	I^{T}
Relinc	0.01	0.04***	0.12***	0.02	-0.01*	0.02***	0.02**	0.00*
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)
RelincEURO	0.08***	0.02	-0.07***	-0.00	-0.02**	-0.01	-0.01	-0.00
	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)
RelincCEE	0.10***	0.01	0.03***	-0.02	-0.00	-0.02***		
	(0.03)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Forecast	-1.88***	-1.07	1.11*	0.43	-0.64	-0.57	-0.74*	0.20
	(0.61)	(0.78)	(0.66)	(0.27)	(0.41)	(0.44)	(0.38)	(0.13)
*Forecast*EURO*	0.17	0.55	0.10	0.12	-0.35*	-0.05	0.01	-0.07
	(0.58)	(0.76)	(0.42)	(0.25)	(0.21)	(0.31)	(0.30)	(0.12)
*Forecast*CEE*	2.01***	0.66	-0.61	-0.43**	0.09	0.48	0.62**	-0.17
	(0.53)	(0.66)	(0.39)	(0.22)	(0.23)	(0.30)	(0.29)	(0.11)
Forecast1996	0.17	-0.03	0.04	-0.06	0.19	-0.09	-0.10	-0.00
	(0.78)	(0.55)	(0.78)	(0.18)	(0.50)	(0.51)	(0.43)	(0.12)
Forecast1997	-0.22	0.38	0.10	-0.19	1.00**	0.79	0.61	0.16
	(1.00)	(0.89)	(0.69)	(0.25)	(0.47)	(0.52)	(0.47)	(0.13)
Forecast1998	1.17	-0.44	-0.39	0.12	0.76*	0.52	0.28	0.22
	(0.97)	(0.65)	(0.63)	(0.22)	(0.45)	(0.49)	(0.40)	(0.14)
Forecast1999	1.48*	0.31	-0.32	1.39**	1.02***	0.41	0.27	0.14
	(0.77)	(0.96)	(0.60)	(0.24)	(0.38)	(0.43)	(0.35)	(0.14)
Forecast2000	0.81	-0.22	-0.10	-0.07	1.02***	0.13	0.18	-0.06
	(0.86)	(0.72)	(0.72)	(0.24)	(0.38)	(0.48)	(0.40)	(0.16)
Forecast2001	-0.25	1.18	-0.62	0.06	0.92**	0.13	0.10	0.02
	(0.83)	(0.89)	(0.66)	(0.30)	(0.42)	(0.47)	(0.39)	(0.15)
Forecast2002	-0.69	1.08	-0.42	0.28	1.05**	0.66	0.37	0.28
	(0.66)	(0.85)	(0.68)	(0.31)	(0.44)	(0.51)	(0.42)	(0.18)
Forecast2003	-1.49**	0.82	0.46	0.47*	1.17**	0.60	0.17	0.42
	(0.64)	(0.82)	(0.70)	(0.27)	(0.49)	(0.64)	(0.44)	(0.32)
Forecast2004	-1.02	0.36	0.11	0.41*	1.27***	0.30	0.08	0.22
	(0.64)	(0.68)	(0.63)	(0.22)	(0.42)	(0.47)	(0.37)	(0.17)
Forecast2005	-1.15*	0.68	0.11	0.30	1.43***	0.52	0.35	0.17
	(0.59)	(0.66)	(0.63)	(0.23)	(0.42)	(0.51)	(0.41)	(0.16)
Forecast2006	-1.25**	0.61	-0.24	0.21	1.63***	0.40	0.12	0.28
	(0.56)	(0.56)	(0.70)	(0.27)	(0.39)	(0.48)	(0.37)	(0.17)
Forecast2007	-1.31**	0.43	-0.10	0.11	1.59***	0.26	0.04	0.26**
	(0.52)	(0.47)	(0.64)	(0.26)	(0.41)	(0.43)	(0.36)	(0.12)
EURO	-8.31***	-5.60*	8.04***	1.03	5.14***	1.55	1.16	0.43
	(2.74)	(3.28)	(2.91)	(2.11)	(1.45)	(1.69)	(1.69)	(0.55)
CEE	-11.99***	2.86	13.91***	-1.37	0.78	3.84**	1.89	2.06***
	(2.86)	(2.86)	(2.77)	(2.03)	(1.63)	(1.57)	(1.51)	(0.52)
DepY	-0.88***	-0.18	0.63***	-0.21***	0.10	-0.29***	-0.14*	-0.15***
	(0.15)	(0.17)	(0.13)	(0.07)	(0.07)	(0.09)	(0.07)	(0.03)
DepO	-0.61***	-0.47***	0.43***	-0.50***	-0.11	-0.03	0.01	-0.03
	(0.15)	(0.17)	(0.13)	(0.10)	(0.09)	(0.10)	(0.08)	(0.04)
N	304	311	325	311	312	333	332	332
R^2	0.55	0.26	0.53	0.68	0.74	0.51	0.50	0.46

Includes time fixed effects. Robust standard errors in parentheses, * significant at 10%; ** significant at 5%; *** significant at 1%. S^{HH} is household savings rates, S^{Corp} is corporate savings rate, S^{gov} is government savings rate, I^{DW} is residential construction, I^{NR} is nonresidential construction, I^{EQ} is investment in equipment, I^{M} is investment in machines and I^{T} is investment in transport. Based on Lane and Pels (2010).

Figure 1 Current Account Dynamics, 1995-2008

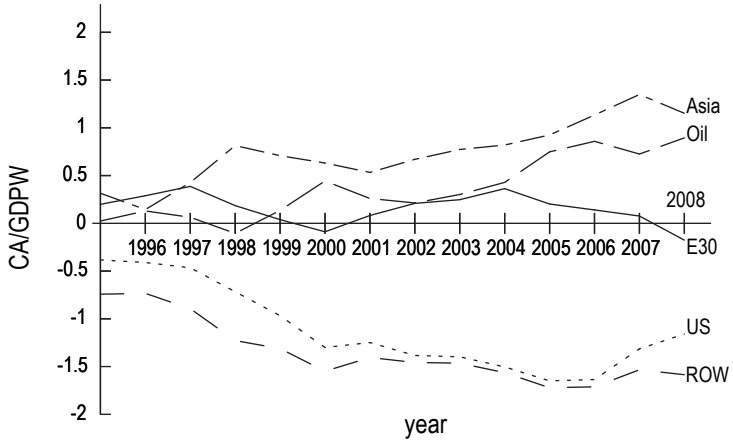


Figure 2 Global Current Account Projections, 2008-2014

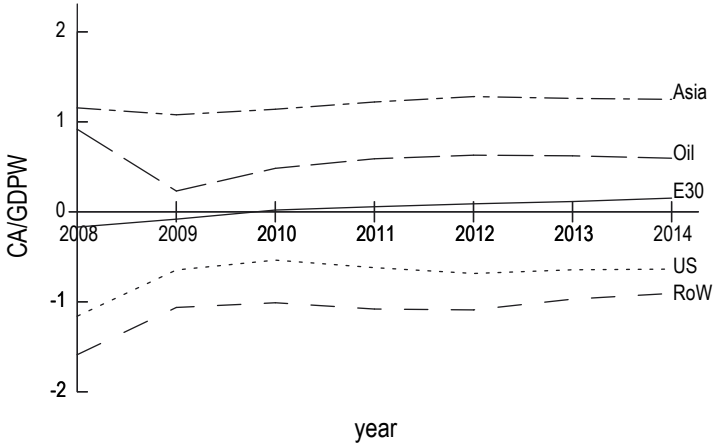


Figure 3 Global NFA Dynamics, 1995-2008
Net Foreign Asset Positions

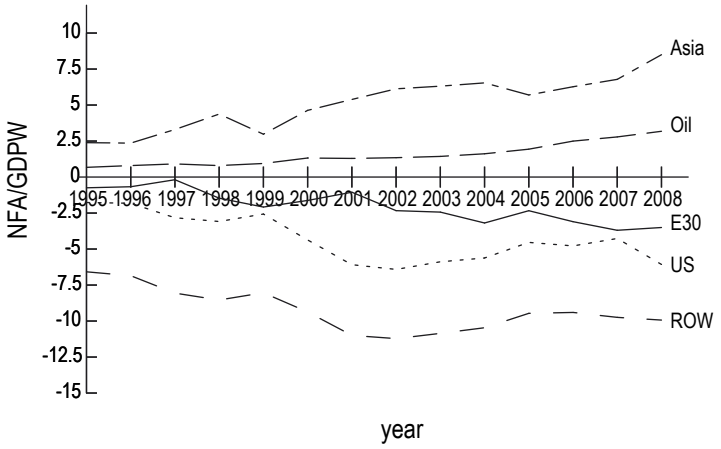


Figure 4 E30 Share in Global Surpluses and Deficits

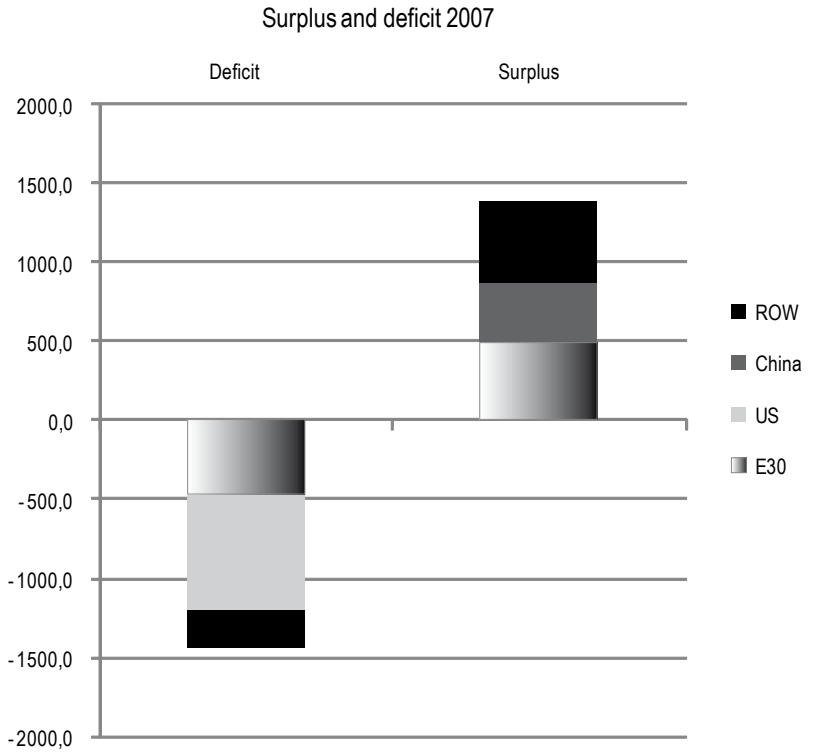


Figure 5 Dispersion in E30 Current Account Balances
Standard Deviation, 1995-2008

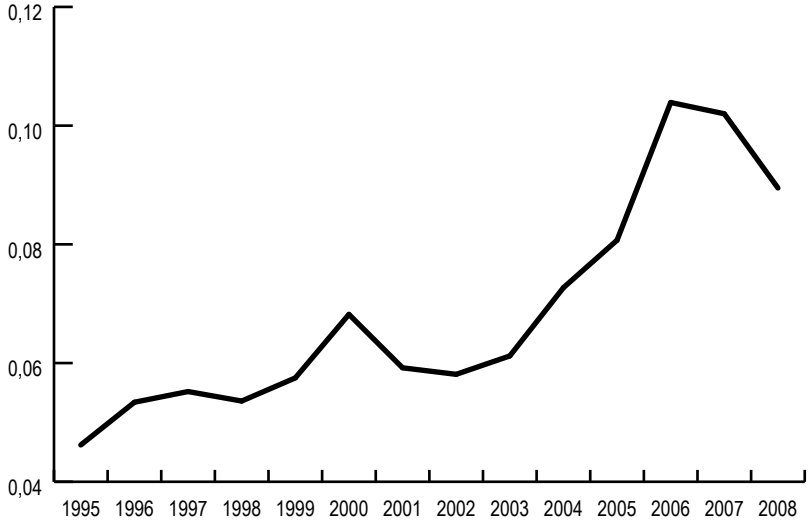


Figure 6 Dispersion in NFA Positions
Standard Deviation, 1995-2008

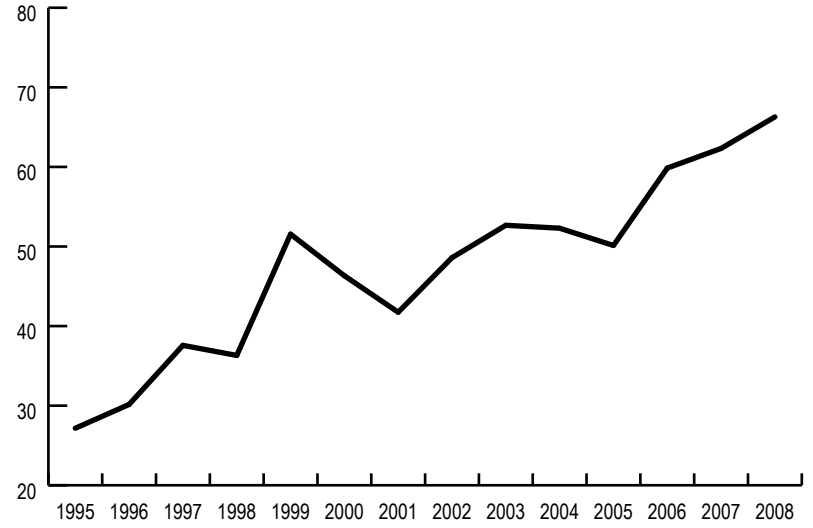


Figure 7 CA Persistence,
Scatter of CA/GDP [2002-2007] against CA/GDP [1995-2001]
Correlation is 0.88

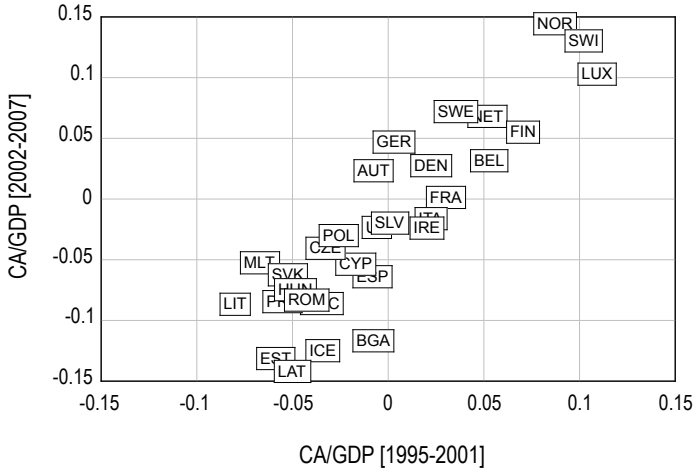


Figure 8 E30 Current Account Balances, 2004-2007
Scatter against Log(GDP per Capita)
Correlation is 0.88

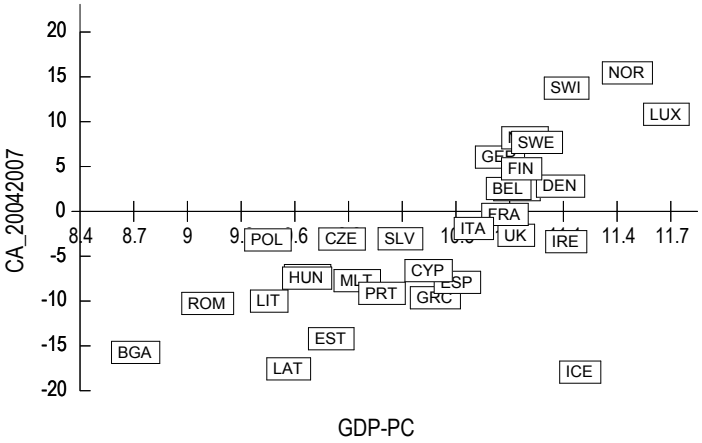


Figure 9 E30 NFA Positions 2007.xlsx
Scatter against log(GDP-PC)

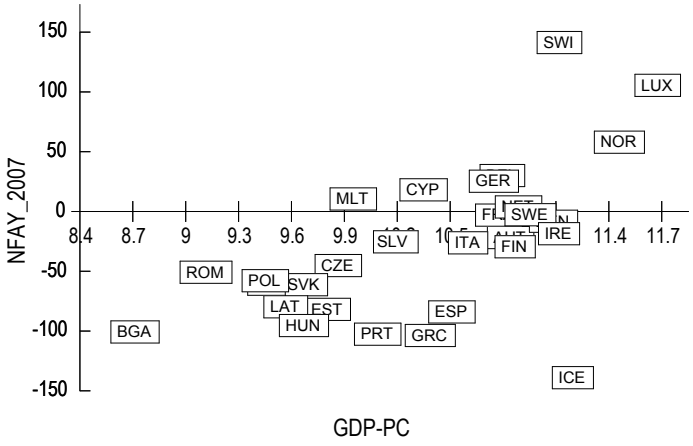


Figure 10 Current Account Adjustment During the Crisis

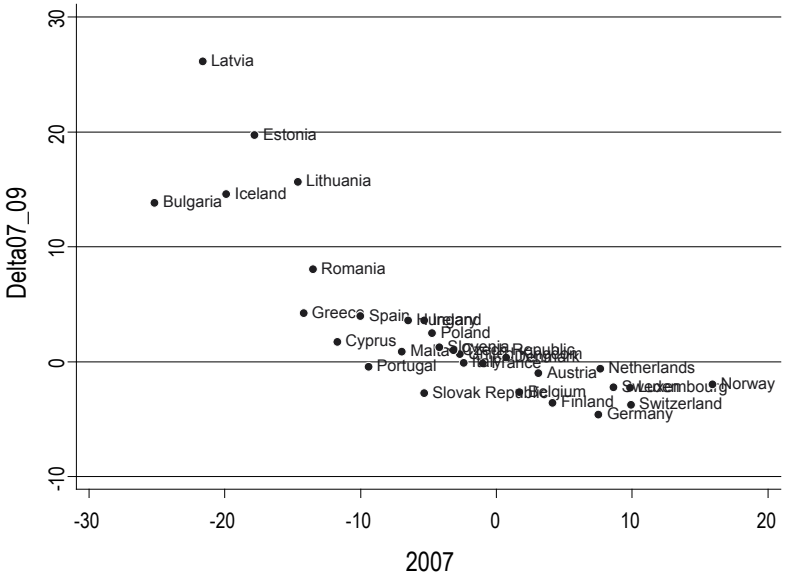
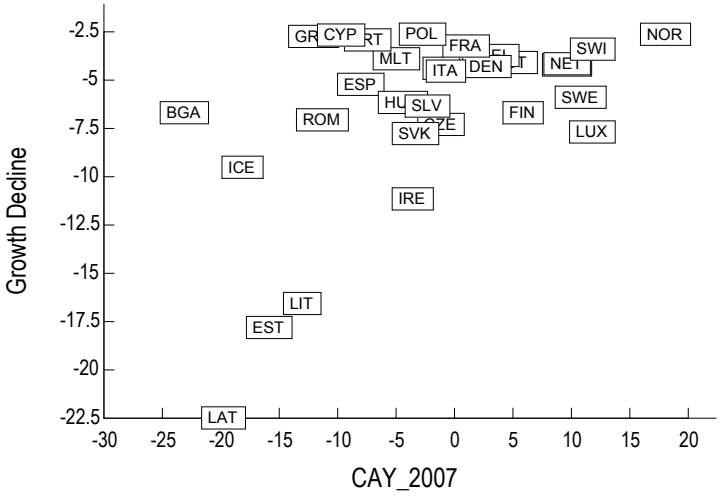


Figure 11 E30 Growth Declines During the Crisis
Growth Differential (2008-2009 vs 2004-2007)



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