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Abstract

This essay addresses the macroeconomics of international financial integration from a European perspective. We first analyse the role of international financial integration in promoting economic convergence among members of the European Union. Next, we analyse the implications of increasing financial linkages, both within Europe and between Europe and other regions in the world economy. Finally, we assess how increased financial integration has altered the economics of external adjustment.

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1 Introduction

The growth in cross-border investment positions in recent years has prompted a multi-layered global debate about the macroeconomic impact of increased financial integration. One important dimension of this debate has been about its potential contribution to promoting economic convergence through sustained net capital flows from advanced economies to lower-income countries. A second has been about the increase in macroeconomic interdependence that is generated by enhanced cross-border financial linkages. A third has centred on the modifications to the economics of external adjustment that are required by increased international financial integration.

Along each of these three dimensions, the European experience over the last twenty years is highly instructive in establishing a balanced perspective on the macroeconomics of international financial integration. Accordingly, the goal of this paper is to address these three areas from a European perspective. The scope includes a retrospective analysis of the evolution of cross-border financial integration but is also forward-looking in assessing how financial integration will continue to evolve in the future, both within Europe and between Europe and other regions of the world economy.

Our main findings are as follows. First, in line with a recent set of studies (Abiad et al 2008, Herrmann and Winkler 2008, International Monetary Fund 2008), we argue that the pattern of net capital flows within the European Union has successfully avoided the perverse configuration observed in other regions of the world economy: the poorer members of the European Union have been able to accelerate the convergence process by absorbing investment from the richer member countries through a persistent sequence of current account deficits. We attribute this to the multi-dimensional character of the institutional anchor provided by European Union membership, which has eliminated many of the barriers to international capital flows that are still faced by other emerging market economies.

Second, we highlight that financial linkages between Europe and the rest of the world have grown rapidly over the last decade but that the quantitative scale of these invest-

ments remains quite limited. Moreover, we project that the composition of inter-regional investment patterns is set to change in the coming years, with increasing equity inflows into Europe from emerging market economies and a possible reversal in the global configuration of current account imbalances.

Third, we show that international financial integration alters the economics of external adjustment. In particular, shifts in exchange rates and asset prices are increasingly important as determinants of international balance sheets, while the increase in cross-border leverage raises exposure to sudden stops in debt markets. However, the operation of these channels varies tremendously across different countries and scenarios, such that the application of the new economics of external adjustment requires considerable subtlety.

The structure of the rest of the paper is as follows. In Section 2, we contrast the European experience in terms of the relation between capital flows and economic convergence with the evidence available for other emerging market economies and developing countries. Section 3 assesses the macroeconomic impact of the current level of international financial linkages, while also projecting important shifts in the international configuration of cross-border portfolios in the coming years. Section 4 turns to the economics of external adjustment in a financially-globalised economy. Finally, some concluding remarks are offered in Section 5.

2 Financial Integration and Convergence

At a global level, the empirical evidence on the contribution of financial openness to economic convergence is decidedly mixed (see Obstfeld 2008 for a comprehensive survey). The large number of empirical studies cover a range of time periods and country samples and differ in terms of empirical specifications, estimation techniques and the specific definition of financial openness that is examined.

In terms of the relation between net capital flows and economic growth, prominent recent studies have failed to find a positive relation between current account deficits and faster output growth (Prasad et al 2007, Rodrik and Subramainan 2008). However, these

studies did not include European countries in the sample, such that the results are driven by the well-known phenomenon that emerging Asia has combined high output growth with current account surpluses over the last decade, together with the pattern by which African countries have grown slowly while running aid-financed external deficits. In similar vein, Gourinchas and Jeanne (2008) highlight that, among emerging market economies and developing countries, the ratio of external debt to GDP has tended to be lowest for the most productive economies, contrary to the pattern predicted by a simple neoclassical model. Again, this study excluded the group of Central and Eastern European countries. While the lack of long time spans of data for these countries means that it is understandable when this group is excluded from global empirical studies, it makes a substantial difference in forming an overall evaluation of the role of financial openness in economic development. In particular, the European experience is much more positive in terms of the relation between financial openness and economic development than is the case for other groups of non-advanced economies.

2.1 Why is Europe Different?

The different experiences of emerging Europe and the other country groups can be reconciled by recognising the central role played by institutional development in determining the scale and nature of international capital flows and whether capital flows translate into faster productivity and output growt. For instance, Kose et al (2008) emphasise that financial integration is beneficial for economic performance only if a threshold level of financial development is attained. These authors also emphasise that financial integration primarily operates through indirect channels by fostering financial development, stimulating reform of key institutions and promoting discipline in macroeconomic policy. This is also supported by the contribution of Gourinchas and Jeanne (2006) who show that the direct contribution of capital flows to welfare is quantitatively small, with a larger impact attainable only if financial integration induces shifts in fundamentals that lead to a rise in the steady-state sustainable level of output per capita. Moreover, in terms of the cross-country evidence,

there is a clearly positive assocation between the quality of domestic institutions and the ability to attract capital inflows (see, amongst others, Lane and Milesi-Ferretti 2001, Lane 2004 and Alfaro et al 2008).

Accordingly, the most obvious explanation of the ability of converging European countries to combine net capital inflows and fast economic growth is the unique institutional environment that is provided by the European Union. In particular, the European Union can be interpreted as a multi-faceted institutional anchor for (actual and prospective) member countries. Through the adoption of the *acquis communautaire*, a member country enters into a long series of commitments that ties its hands in terms of legislative and regulatory frameworks. Moreover, the deep-rooted and multi-dimensional nature of the commitment means that EU membership cannot easily be undone, in contrast to other forms of commitment that rely solely on domestic devices such as legislative or constitutional constraints. Accordingly, EU membership is a highly credible commitment that can be relied upon in making long-term investment decisions.

In relation to international capital flows, a key principle is equality of treatment between domestic and foreign actors, such that a foreign investor may be confident of not being disadvantaged in the event of contractual and non-contractual disputes. As such, the importance of the European Union as a commitment device was reinforced by the 1986 Single European Act and the attendant abolition of capital controls by member countries in the late 1980s and early 1990s.

A critical factor in the success of the European Union model is the importance of complementarities across different dimensions of the European Single Market. For instance, there is a clearly symbiotic relation between trade linkages and financial linkages. In one direction, higher levels of bilateral trade improves the flow of information and also increases the costs of default and other forms of disruption to financial contracts.[1] In addition, trade

[1]Lane (2001) shows that more open economies are better able to attract external financing. Rose and Spiegel (2004) show that bilateral debt positions are positively correlated with bilateral trade linkages, while Lane and Milesi-Ferretti (2008a) show that bilateral portfolio equity positions are increasing in bilateral trade. Aviat and Coeurdacier (2007) show that the line of causation mostly runs from trade linkages to

flows create associated financial trades, such as in the provision of trade credits and also in relation to payments services.

In the other direction, bilateral financial integration generates new opportunities for trade in goods and services. Most obviously, a key driver of cross-border trade is foreign direct investment, since the rise of vertically-integrated production in many sectors means that much trade takes the form of intra-firm transactions. Growth in multi-country banking groups through foreign direct investment in the financial sector also promotes trade, both through the facilitation of cross-border trade in financial services and via the general importance of the banking sector in the transmission of information about the reliability of counter-parties in trade. Moreover, the ability of non-residents to obtain local sources of finance is important in the establishment of new firms. In addition, the potential to raise funding from foreign investors either directly or indirectly through the cross-border funding of the domestic banking system enables the most productive local firms to enter export markets.[2] In related fashion, international venture capital groups can help prepare domestic startups to scale up and finance the upfront costs involved in expanding into cross-border markets.

It is important to emphasise that the quality of the environment for foreign direct investment is closely tied to other elements in the European Single Market project. In particular, freedom of establishment is a bedrock for foreign direct investment, allowing greenfield investment to expand under conditions that do not discriminate between locally-owned and foreign-owned firms. In relation to mergers and acquisitions, the pre-eminence of European law in guiding decisions on anti-trust issues means that the identity of ownership cannot protect local firms from the discplinary effect of potential takeover by foreign rivals. In similar fashion, the restrictions on the provision of State aid to domestic firms contribute to a level playing field between domestic and foreign firms.

The freedom of labour to move between member countries also enhances the gains to financial integration through several channels. The expansion of multinational firms is facil-

financial linkages.

[2]See Manova (2006) for a model of the link between credit constraints and international trade.

itated if such companies are able to freely allocate personnel across geographical divisions. In relation to the labour market, multinationals are less exposed to potential bottlenecks in the supply of skilled labour if scarcity can be relieved through migration flows. This is especially relevant for sectors in which agglomeration externalities are important. For instance, the expansion of financial centres is contingent on the availability of skilled financial professionals, which may exceed the potential supply from the domestic labour force. Along another dimension, in relation to export-platform foreign direct investment, a multinational labour force is essential in providing centralised customer service and marketing to a diverse market.

Next, we turn to the contribution of monetary union in promoting European financial integration. While much can be accomplished even in the absence of a common currency, the evidence over the last decade is that EMU has played an important role in promoting financial integration across Europe (see European Commission 2008, European Central Bank 2008, Lane 2006 and Lane 2008, amongst many others). The evidence suggests that the largest impact has been on bilateral financial linkages between the members of the euro area, but it has also promoted financial trade between the euro area and other countries.

The positive benefits of monetary union may be divided into two categories. First, a common currency promotes cross-border financial flows (especially in relation to banks and portfolio debt) by reducing transactions costs, facilitating risk diversification and creating a common investor base that can interact in deep and liquid financial markets. Second, a credible central bank that delivers low and stable inflation and interest rates promotes financial development. While it is debatable about whether EMU was necessary to deliver a credible monetary regime for some member countries, it may well have been a superior route to monetary stability for others. In particular, even if the smaller member countries were able to achieve price stability even while retaining independent currencies, the likelihood is that this may have involved much greater volatility in interest rates in view of the impact of exchange rate movements and speculative capital flows. In turn, such volatility in asset prices and exchange rates would have represented a significant deterrent to financial

integration.

Even for those countries that are not yet members of the monetary union, it is likely the EMU has contributed to a more stable monetary environment. Most obviously, the commitment to eventual membership of EMU provides important medium-term underpinnings for the currencies of the recently-acceded member countries, operating both through market expectations and via the associated constraints on the conduct of monetary and fiscal policies. A policy anchor of this nature is not available to other emerging market economies and developing countries. While other countries may invest in alternative commitment devices such as inflation targeting regimes or hard exchange rate pegs (backed up by domestic institutions that foster fiscal discipline), the unilateral nature of these alternatives makes them qualitatively distinct to the multilateral set of commitments that are embedded in the macroeconomic policy institutions of the EU.

The multilateral nature of the EU macroeconomic policy framework is reinforced by two EU-level initiatives. First, the detailed surveillance of the macroeconomic policies of member countries and the peer review embedded in that process is helpful in the formulation of national policies, especially in member countries with weaker domestic support for policy formation. While the Article IV missions of the International Monetary Fund play this role to some extent at the global level, the continuous engagement that is involved in the EU procedures represents a more encompassing approach to policy surveillance. Second, the transfer of structural funds to new member states may be helpful in establishing domestic political support for the constraints imposed by EU membership.

While the EU institutional framework is far from perfect, both in terms of design and implementation, the features described above constitute an environment that has proven to be highly conducive for financial integration. In particular, the stability and openness underwritten by EU membership sharply differentiates emerging economies in Europe relative to otherwise similar economies in Asia, Latin America and elsewhere. The feature that the European Union is a club that is common to both natural net capital importers and net capital exporters is also likely important, since the familiarity that is built through

the continuous interaction between the governments of the member countries and the lower transaction costs that are achieved through a common regulatory framework promotes bilateral capital flows.[3] A similar point is also emphasised by Hermann and Winkler (2008) who identify the fact that Europe is a region in which advanced and emerging economies are in close proximity as a differentiating factor relative to other regions. Of course, in addition to institutional channels, proximity is also helpful in terms of facilitating the identification and monitoring of cross-border investments.

2.2 The First Wave: The Club of Four

Before the 2004 eastwards expansion of the European Union, the role of external capital in the four peripheral members of the EU15 (Greece, Ireland, Portugal and Spain) gained considerable attention. All of these countries entered the European Union with a per capita income well below the EU average and were deemed to qualify for structural funds in order to accelerate convergence. However, EU-level transfers only constituted one component of the total cross-border capital flows to these countries. While Ireland ran substantial current account deficits in the late 1970s and early 1980s in the wake of joining the EU in 1973, these contributed to a substantial country risk premium and, in tandem with a major fiscal imbalance, were associated with substantial currency depreciation and low economic activity during the mid-1980s. Similarly, Portugal ran large current account deficits during that period even before it joined the EU in 1986. As with Ireland, these deficits were not sustainable and the subsequent correction involved a sharp correction.

During the 1970s and 1980s, the macroeconomic environment did not provide a supportive environment for reaping the gains from financial integration, since relatively high inflation rates, periodic currency crises and high budget deficits and public debt levels meant that country and currency risk premia were substantial. Indeed, greater access to external capital may itself have been a contributory factor to poor fiscal discipline in some cases, since the capability to fund public deficits from external sources may have prompted

[3] See Vlachos (2004) on the importance of regulatory harmonisation for bilateral capital flows.

over-borrowing.

Rather, as highlighted by Blanchard and Giavazzi (2002), the capacity of these countries to run sustained current account deficits really only emerged during the 1990s. Together with the much improved macroeconomic policies (in part, anchored by the targets embedded in the Maastricht criteria), the abolition of capital controls and the general global trend towards greater financial integration increased the supply elasticity of capital to these countries. Moreover, EMU has eliminated currency risk for capital flows between member countries, further removing frictions from the international flow of capital. As documented by Blanchard and Giavazzi (2002), the shift in the institutional environment led to a neoclassical profile of net capital flows within the European Union with a major increase in the correlation between income per capita and current account balances.

In documenting the growth in international financial integration for these countries, we begin by examining the evolution of *de jure* financial openness, as captured by the index compiled by Chinn and Ito (2008). The Chinn-Ito index is re-scaled to score 0 for the minimum level of financial openness in the global sample and 100 for the maximum value in the global sample. Figure 1 shows that it was only in the 1990s that complete capital account liberalisation was attained, such that it is not surprising that the full impact of financial openness has only been experienced in recent years. This is evident in the data for the scale of cross-border investment positions. In particular, following Lane and Milesi-Ferretti (2001a, 2007a), we construct a volume-based measure of *de facto* international financial integration

$$IFI_{it} = \frac{FA_{it} + FL_{it}}{GDP_{it}} \tag{1}$$

where FA_{it} and FL_{it} denote the value of foreign assets and foreign liabilities respectively. At a general level, the IFI ratio is the financial analogue to measuring trade openness by the ratio of exports plus imports over GDP. Figure 2 shows that the de facto level of financial integration for these countries grew rapidly only since the mid-1990s.

Figure 3 plots the current account balances of these economies over 1986-2007. While

Ireland has mostly run a surplus, the other countries have been in persistent deficit, with the scale of deficits expanding since 1999. In turn, this has led to a considerable accumulation of net external liabilities for the Southern European countries, as is shown in Figure 4. Indeed, by the end of 2006, the ratio of net external liabilities to GDP for Greece, Portugal and Spain stood at 86.7 percent, 77.9 percent and 60.1 percent respectively.

As a general indicator of financial development, Figure 5 shows the evolution of the ratio of private credit to GDP for these countries, with the ratio for a group of initially high-income member countries (France, Germany, Italy, Netherlands and the United Kingdom) included for comparison purposes. Financial development has rapidly converged for this group of countries, especially since the mid-1990s. In summary, the general success of these countries in closing the gap with European Union average income levels provided an important set of case studies that demonstrated the real possibility that the Central and Eastern European economies could also achieve convergence by committing to EU membership.

2.3 The Second Wave: Central and Eastern Europe

Figures 6 and 7 plot the *de jure* and *de facto* measures of international financial integration ratios for several groups of emerging market economies and developing countries: the CEE group of recently-acceded members of the EU from Central and Eastern Europe; Emerging Asia ($Em.Asia$); Latin and Central America (LAC); South-Eastern Europe (SEE); and the Commonwealth of Independent States (CIS) group. Figure 6 shows that the CEE group had surpassed Latin and America by the end of the sample period to achieve the highest level of *de jure* financial openness. In contrast, emerging Asia did not engage in significant capital account liberalisation during this period. Figure **??** shows that the scale of international financial integration for the CEE, SEE and (to a lesser extent) CIS groups has surpassed those for the $Em.Asia$ and LAC groups in recent years, although these groups has comparable values at the start of the period.

The higher volume of cross-border financial positions is even more evident if we confine

attention to equity-type investments. Following Lane and Milesi-Ferretti (2001a), we define the gross equity ratio as

$$GEQ_{it} = \frac{(FDIA_{it} + PEQA_{it} + FDIL_{it} + PEQL_{it})}{GDP_{it}} \tag{2}$$

where $FDIA_{it}$ and $PEQA_{it}$ denote foreign direct investment assets and foreign portfolio equity assets respectively and $FDIL_{it}$ and $PEQL_{it}$ are the counterpart foreign liability measures. Figure 8 shows that the GEQ ratios for the CEE and SEE groups had outpaced the other country groups by the of the sample period.

In relation to net capital movements, Figure 9 shows the evolution of current account balances for these groups since 1998. As is well known, emerging Asia maintained sizeable current account surpluses during this period, with Latin America also running surpluses since 2003 and the CIS group close to balance on average since 1999.[4] In contrast, the CEE and SEE groups have run sizeable current account deficits on a persistent basis throughout this period. The differences in net flows are reflected in the dynamics of net international investment positions, as is shown in Figure 10. By 2006, the net foreign asset position of emerging Asia was close to zero, having improved by 20 percentage points of GDP since 1998. Albeit to a lesser extent, the CIS and LAC groups have also exhibited a sharp decline in net external liabilities since 1998. In contrast, the net external liabilities of the CEE and SEE groups have expanded over this period, reaching 53 percent and 63 percent of GDP respectively by the end of 2006. Accordingly, these groups have been among the largest net recipients of foreign capital over the last decade.

Table 1 shows the level and composition of external liabilities for 1998 and 2006. The data show a near-doubling in external liabilities for the CEE group between 1998 and 2006 (with a similar expansion for the SEE group). In contrast, the ratio of external liabilities to GDP slightly decline for the emerging Asia group over this period and only barely increased for the Latin and Central American countries. In addition, the de-leveraging process for

[4]The CIS group is quite heterogeneous, with the inclusion of several major net commodity exporters helping to explain the improvement in current account balances in recent years.

these two latter groups resulting in a large shift in the composition of external liabilities towards equity, especially direct investment. While the CEE group also experienced a relative decline in the importance of debt financing, debt liabilities grew in absolute terms from 36 percent to 48 percent of GDP. The low level of portfolio equity liabilities is also quite striking.

We turn to the level and composition of foreign assets in Table 2. By 2006, the gross level of foreign assets was quite similar in the CEE group and the emerging Asia group, with the Latin and Central American countries showing a lower level of asset holdings. In terms of composition, the share of foreign reserves has declined in most cases, with the most striking exception being the emerging Asia group. The CEE group is also characterised by a substantial increase in the share of FDI and portfolio equity assets in total assets, albeit from a very low base. As is further discussed in Section 3, we may expect that rising income levels and greater trade openness in the CEE countries will be associated with greater levels of external FDI and portfolio equity investment on the asset side of the international balance sheet, than is currently observed. As private-sector portfolios become more internationally diversified, the relative size of foreign exchange reserves is likely to further decline.

Further insight is provided in Table 3 that reports various indicators of domestic financial development. Between 1998 and 2006, the CEE group experienced a doubling in the ratio of private credit to GDP, such that the gap with emerging Asia narrowed considerably (the private credit to GDP ratio actually fell for the latter group). In terms of securities markets, all country groups underwent a substantial expansion in the market capitalisation of equity and bond markets but the growth in stock market capitalisation was highest for the CEE group. Finally, Table 4 reports measures of institutional quality. The CEE group scores far higher on the World Bank governance indicator than the other groups; similarly, its placement in the *Doing Business* is far higher than for the other groups.

In summary, the CEE countries are an excellent case study in understanding the potential gains from international financial integration. The large current account deficits of the

last decade have plausibly facilitated a more rapid convergence rate in output and living standards than would otherwise have been possible. The ability of the CEE group to run persistent deficits while growing strongly is a major differentiating factor relative to other emerging market economies in Asia and Latin America. The most obvious explanation is the strong institutional anchor provided by the European Union that limits the risk of major return-destroying instability in the CEE countries.

This view is broadly consistent with the econometric evidence provided by Abiad et al (2008). These authors show that capital within Europe has flowed towards lower-income countries and the scale of net capital flows to lower-income European countries is increasing in the level of international financial integration, whereas this pattern is not found for other groups of emerging market economies. Moreover, the net capital flows have accelerated the convergence in income levels within Europe.

Herrmann and Winkler (2008) find a similar pattern of results in their analysis of the determinants of current account balances in emerging Europe and emerging Asia. A striking feature of their study is the importance of intra-regional financial integration: the current account deficits of emerging Europe are systematically associated with high levels of consolidated bank claims of the euro area on these countries. Moreover, these authors identify the high level of FDI in the banking sectors of the CEE group as an additional influence on their capacity to absorb sustained new flows. Again, this set of results is consistent with the hypothesis that emerging Europe benefits from a deep level of integration with the advanced EU countries, whereas the links between emerging Asia and its main financial counterparty (the United States) are much more tenuous.

The October 2008 *World Economic Outlook* produced by the International Monetary Fund also finds that the pattern of current account deficits is quite different for emerging Europe relative to other emerging regions. In particular, the degree of persistence of large current account deficits in the CEE countries is atypical relative to historical experience, as is the important contribution of net FDI inflows in financing the current account deficits. In formal regression analysis, the IMF study highlights that those countries in emerging

Europe that have gone furthest in terms of domestic financial liberalisation have been able to run the largest current account deficits, whereas the level of financial liberalisation is not a good predictor of current account balances for emerging market economies in other regions. In addition, a striking result from the IMF study is that fiscal surpluses are associated with larger current account deficits across the CEE region. To the extent that the goal of EU membership and subsequent membership of the euro area fosters fiscal discipline, the positive impact of good fiscal policy in reducing risk premia provides another channel by which the EU institutional framework helps promote net capital flows to emerging Europe.

For the deficit countries, the gains to financial integration should include a faster rate of productivity growth, as is suggested by the empirical work of Bonfiglioli (2008) and Prasad et al (2008). Moreover, the smoothing of consumption over time by allowing deficit countries to increase consumption in advance of projected productivity growth represents an important additional welfare gain. We also note that the realllocation of capital across Europe should also increase welfare for the major surplus nations, by raising the marginal return on capital and, especially via the FDI component, allowing firms to improve efficiency through vertical integration of the production process and gain market share in the fast-growing CEE economies.

While we have emphasised the success of the European model in facilitating net capital flows towards the catch-up member countries, this process is far from complete. Despite the improvements in recent years, the financial systems in the CEE countries remain under-developed. For instance, the relatively minor contribution of portfolio equity inflows has been emphasised by Stulz (2006), who argues that CEE countries generally scores poorly in terms of corporate governance, such that foreign investors face the risk that profits are diverted either by insiders or through political intervention.[5] Accordingly, we may expect that this source of external investment could play a more important role in the future to the extent that the CEE economies undertake sufficient corporate reforms to match best-

[5]See also Buiter and Taci (2003) and Arvai (2005).

practice governance standards. More generally, Masten et al (2008) emphasise the dynamic complementarity between financial integration and financial development that is evident in the European data. In particular, these authors identify membership of the euro area as a key step that will accelerate financial development in the CEE economies by eliminating the non-trivial currency risk that remains and further embedding these economies in the institutional framework provided by more complete participation in the institutions of the EU.

Finally, as the current global financial crisis makes clear, running a large current account deficit inevitably carries risks in that a sharp reversal in capital flows can lead to severe macroeconomic disruption. While the CEE group has experienced some stress, it remains to be seen whether the blanket of EU membership will allow these countries to avoid the drastic meltdown that has been the fate of Iceland. We return to this issue in Section 4.

3 Europe and Financial Globalisation

As was argued in Section 2, the common institutional environment provided by the European Union has promoted increased bilateral financial integration among European countries. In terms of specific initiatives, the considerable EU effort to promote financial integration has provided important policy support for the elimination of national barriers to cross-border investment. Most importantly, the creation of EMU has led to a dramatic increase in financial integration among the member countries (see European Commission 2008, Lane 2006, Lane 2008). However, European countries have also 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. In this section, we assess the current scale of international financial linkages, before turning to projections concerning the likely future evolution of cross-border positions.

3.1 International Financial Linkages

In addition to the rapid increase in intra-European cross-border investment positions, the scale of international financial linkages between Europe and the rest of the world has also grown over the last decade. The gains to global financial integration should largely mirror those to regional integration and indeed, in some dimensions, exceed them. For instance, a global portfolio should provide greater scope for diversification than a purely regional portfolio, in view of differences in trend paths, business cycles and industrial structures across regions. In relation to foreign direct investment, the gains to the globalisation of trade flows are facilitated by the growth of multi-country firms, in view of the importance of vertically-integrated firms in reaping the potential efficiencies from global supply chains and global distribution networks. However, the flip side of greater global risk sharing is the increased exposure to external shocks.

There are several channels by which global financial shocks are transmitted. Most directly, the greater is the scale of financial holdings of European investors in a given region, the more exposed they are to shifts in that region's asset prices and exchange rates. However, the indirect channel is probably more powerful, whereby financial events in one region induce a re-pricing of assets in other regions. These indirect effects operate through the impact on sentiment and risk aversion indicators, in addition to the real linkages provided by international trade whereby the earnings of domestic firms are affected by economic prospects in trading partners.

In relation to direct holdings, the benchmark textbook presentation of financial globalisation predicts a symmetric pattern by which equally-endowed economies hold equivalent stakes in each other's economies. However, a wide range of factors give rise to the current configuration by which global financial holdings are highly asymmetric, both in terms of structural net positions and the composition of international balance sheets.

In relation to net imbalances, the dispersion of net foreign asset positions has increased over the last two decades, driven by persistent patterns in current account imbalances. Non-zero net external positions influence the dynamics of the international economy through a

range of channels. In relation to financial integration, adverse global financial shocks (that is, a common decline in all asset prices around the world) exert a positive valuation impact on debtor economies and a negative valuation effect on creditor countries. In addition to the net position, the composition of the international balance sheet also matters in relation to the macroeconomic impact of international financial linkages. In terms of categorical composition, a region will have differential sensitivity to shocks in different asset categories according to their weights in foreign assets and liabilities.

In particular, Lane and Milesi-Ferretti (2007a) highlight that most advanced economies are "long equity, short debt" with portfolio equity and FDI prominent on the asset side of the international balance sheet, while the portfolio and non-portfolio debt categories are disproportionately represented in relation to external liabilities. If an equity return premium exists, this type of "venture capital/hedge fund" structure can produce positive net returns on average. However, as is underlined by the 2007-2008 banking crisis, this structure increases potential vulnerability to roll-over risk on the funding side.

Along the geographical dimension, a large literature has explored the determinants of the geographical composition of international investment positions, with gravity factors such as distance, cultural and trade linkages looming large.[6] These factors are relevant in explaining the strong intra-European bias in the cross-border holdings of individual European countries. However, such variables are also helpful in understanding the extra-European component of international investment positions. For instance, in relation to the portfolio equity assets of the aggregate euro area, Lane and Milesi-Ferretti (2007d) show that the main factors are the stock market capitalisation of the partner country and the volume of bilateral trade with the euro area, with international financial centres taking a disproportionate share. At the level of individual European economies, additional factors such as colonial history and bilateral distance also help to explain the variation across countries in the importance of particular investment destinations.

Table 5 shows the geographical distribution of the external assets of the euro area. The

[6] A partial list includes Sarisoy Guerin (2006), Aviat and Coeurdacier (2007) and Lane and Milesi-Ferretti (2008a).

patterns show that the primary destinations for the euro area are other locations in the aggregate European economy. The United States is the main extra-European destination, in line with its high share in global market capitalisation. However, Asia is a fairly minor destination for European investors. Accordingly, the direct exposure of European investors to shocks in external markets is relatively minor, with the limited exception of disturbances in the US markets.[7] That said, the levels of external exposures are much larger than in previous decades. For instance, Lane and Milesi-Ferretti (2007c) calculate that European asset and liability positions vis-à-vis the United States grew by a factor of four over 1984-2004, such that shifts in euro-dollar exchange rates and asset prices will have a much more powerful valuation impact than in the 1980s.

Another dimension to the analysis of international financial linkages relates to the currency composition of the external balance sheet. As is emphasised by Lane and Shambaugh (2007, 2008), shifts in exchange rates have asymmetric valuation effects acccording to whether a given country is long or short in various currencies. The example of the United States is well known whereby it has a sizeable short position in the US dollar and is long in European currencies (see Tille 2003, Gourinchas and Rey 2007a and Lane and Milesi-Ferretti 2007b). Accordingly, a decline in the dollar vis-a-vis the euro confers a positive valuation gain for the portfolios of American investors.

In relation to Europe, Lane and Shambaugh (2007) show that the creation of EMU has led to a radical shift in the currency exposures of the member countries. In particular, the bulk of the foreign assets and liabilities of the member countries are in euro, thereby insulating returns from shifts in exchange rates. The prominence of the euro is not just related to the high level of intra-EMU cross-border investment but also is assisted by the growing international role of the euro, with non-European investors increasingly issuing debt in euro and seeking to buy euro-denominated assets. In terms of remaining currency

[7] Lane (2006) emphasises that there is considerable heterogeneity across individual members of the euro area. For instance, Spain has relatively large direct investment positions in Latin America, while Austria has especially high holdings in Central and Eastern Europe. Accordingly, external financial shocks may have asymmetric effects across the euro area.

exposures, as is documented by Lane and Milesi-Ferretti (2007c), European economies are typically long the dollar, such that a weak dollar hurts the international balance sheets of European countries.

While the scale of international investment positions has grown rapidly over the last two decades, it is important to appreciate that these positions remain relatively limited, especially in relation to inter-regional positions. That is, the vast bulk of domestic assets are owned by domestic residents or the residents of neighbouring countries, with the local component in domestic wealth remaining predominant. Accordingly, the more powerful channel by which global financial integration matters is an indirect one, by which global factors are increasingly important in driving asset returns (see Bekaert 2005 and Baele and Inghelbrecht 2008, amongst others). In part, the global component in returns can be related to a global component in earnings, with the current and future profitability of firms linked through international trade and common technological trends that explain the global component in business cycles and long-term growth paths. However, another link is provided through a global factor in discount rates and risk premia. While the internationalisation of the investor base helps to explain this component, it also relates to cross-regional transmission in sentiment, even across investors that do not share similar portfolios.[8] Indeed, it is not clear the extent to which the sentiment channel can be closely tied to the extent of cross-border holdings, since the sentiment channel appears to operate in similar fashion across markets with varying degrees of integration with the international financial system.

3.2 Future Trends

A major asymmetry in the current distribution of cross-border investment positions are the different patterns exhibited by advanced and emerging/developing economies. First, in

[8]Sentiment should be interpreted in broad terms. For instance, a central feature of the current crisis is the re-evaluation of the appropriate degree of leverage that should be taken by banks. This "paradigm shift" can be interpreted as a common technological shock across countries, in the sense that the technology of banking has shifted for many advanced economies.

terms of net positions, with the prominent exception of the Central and Eastern European economies that was discussed in Section 3, it is well known that capital has been running uphill over the last decade, with a positive net flow towards the advanced economies. Second, as is emphasised by Lane and Milesi-Ferretti (2008b), the gross scale of the international balance sheets of emerging market economies and developing countries is substantially lower than those for the advanced economies: the typical emerging market economy or developing country has much smaller cross-border asset and liability positions (with a median of 70 to 80 percent of GDP) than an advanced economy (for which the median value is well over 200 percent of GDP).

Third, the composition of foreign assets and liabilities is far different between advanced and non-advanced economies. In particular, following Lane and Milesi-Ferretti (2007a), the typical non-advanced economy is "long debt, short equity" with portfolio debt assets (mostly in the form of official reserves) the largest item in terms of foreign assets, while FDI and portfolio equity liabilities have grown rapidly in relative importance. As is pursued by a rapidly-growing literature, these characteristics can be explained in terms of differences in relation to domestic financial development, the institutional and regulatory environment and the distribution of risk (see, amongst others, Dooley et al 2003, Mendoza et al 2007 and Caballero et al 2008).

However, as is discussed by Lane and Schmukler (2007) and Lane and Milesi-Ferretti (2008b), it is highly plausible that the current configuration will not persist. In particular, progress in financial-sector and institutional reform and ongoing growth in income per capita and trade openness should lead to a more balanced composition of capital flows to the developing world and, in the other direction, a broader approach to outward investment from this group of countries.

Such a shift would have several ramifications. First, a rebalancing of outward portfolios would lead to a decrease in the growth of liquid reserve assets, making credit conditions tighter for the issuers of such assets (primarily the US government and, at least until recently, related agencies). On the other hand, it would expand the investor base for non-

reserve assets. To the extent that gravity factors influence the geographical allocation of outward investment, it is noteworthy that a significant part of the expansion will take the form of regional cross-border investments among developing countries. However, such forces are strongest only if there exist high institutional standards, such that the financial markets of the advanced economies will remain prime beneficiaries in the absence of a catch-up in the investment environment in the lower-income countries. Since the European evidence is that low bilateral exchange rate volatility stimulates financial trade, the prospects for regional financial integration in other zones will be influenced by developments in exchange rate arrangements. For instance, if other emerging Asian economies targeted the RMB as a currency anchor, it may facilitate financial integration based on an RMB-zone.

In relation to the growth in investment from non-traditional sources in the non-reserve assets of the advanced economies, it is widely appreciated that a critical factor will be the political viability of a rising economic role for developing-world investors. While increased familiarity through the success of early investments such as Lenovo's acquistion of IBM's PC business has assuaged many initial fears, there remain widespread concerns about the strategic motives of some types of investors from these countries. In particular, the role of state-owned firms in natural resource and other key sectors and the agenda of large-scale sovereign wealth funds have led to a vigorous debate in several advanced economies about the potential risks of a fully-liberal approach to capital inflows.

While "good practice codes" such as those under development by the IMF in relation to sovereign wealth funds are helpful in addressing immediate concerns, it is likely that such problems will fade away over the medium term. In particular, as outward investment from the developing world is increasingly driven by commercially-driven entities (whether in private ownership or publicly-owned but with a commercial mandate), it will be more difficult to argue that such actors are fundamentally different from their counterparts in the advanced economies.

The same types of reforms that would lead to convergence in the international invest-

ment behaviour of developing and advanced economies are also the reforms that should lead to a contraction in the current account surpluses of these countries or even the incipient emergence of substantial current account deficits. After all, as was already discussed in Section 2, the baseline neoclassical model would predict that these countries should be net capital importers since anticipations of higher future income should lead to an increase in current consumption and a high marginal product of capital should draw in extra investment from overseas. If distortions in the domestic financial system are resolved and complementary reforms implemented - such as improved social security systems in countries such as China - the net flow of capital to the developing world may begin to resemble the intra-European pattern.

For instance, Dollar and Kraay (2006) generate model-based scenarios in which China runs average current account deficits of 2-5 percent of GDP over the next 20 years. Since similar calculations would apply for many other surplus countries and the relative importance of developing countries in global income should grow rapidly through a combination of high volume growth and trend real appreciation, a collective shift of these countries towards external deficits would represent a major shift in the world financial system that would either require other countries to run counter-part surpluses or an increase in world real interest rates.

The convergence process just described is unlikely to occur in a smooth fashion. In particular, the current financial turmoil in the advanced economies serves yet again to highlight the risks embedded in financial liberalisation. Moreover, Martin and Rey (2006) show that vulnerability to self-fulfilling pessimism is greater among lower-income countries, while less-liquid domestic financial systems are also less resilient in the face of international portfolios shifts. For theses reasons, developing countries are likely to remain cautious in setting the pace of financial integration, preferring gradualism to big-bang approaches. While the evidence of Ranciere et al (2008) is that financial liberalisation can generate higher long-term growth even at the price of a bumpier ride, the optimal pace of liberalisation may well be slower in a more complex international financial system. However, even a

gradualist pace of reform should lead to major shifts in the international configuration of cross-border investment positions over a 10-15 year horizon.

4 Financial Integration and External Adjustment

In Section 3, we highlighted that a feature of European financial integration has been the ability of lower-income members of the European Union to run persistent and sizeable current account deficits. At a different level of aggregation, we also argued in Section 4 that the expansion in financial flows between Europe and the rest of the world means that Europe is fundamentally integrated into the configuration of global imbalances, even if the European aggregate economy has not run sizeable trade surpluses or deficits. Accordingly, in this section, we turn our attention to the implications of financial integration for the external adjustment process by which large imbalances are unwound.

In particular, we highlight three mechanisms by which financial integration alters the economics of external adjustment. First, if the value of external assets and liabilities is sensitive to currency movements, then the role of the exchange rate in facilitating external adjustment is altered. Second, financial integration has extended the range of internationally tradable assets beyond debt to include portfolio equity and FDI categories. Third, financial integration has facilitated increased leveraging of positions.

Traditionally, the main role for the exchange rate in external adjustment has been via its (lagged) impact on the trade balance. However, if countries have non-zero net positions in different currencies, exchange rate movements also affect the net foreign asset position through a valuation channel. Since gross cross-border holdings have increased rapidly over the last twenty years, the quantitative scale of the valuation chanel is gaining increasing attention. However, the importance of the valuation channel of exchange rate movements for external adjustment varies across different environments. For instance, it is not relevant in resolving imbalances that are purely between member countries in the euro area: as is emphasised by Lane and Shambaugh (2007), a striking feature of EMU is that the major proportion of both the foreign assets and foreign liabilities of the member countries are in

euro.

The valuation channel takes on more relevance in the case of the recently-acceded member states. Although the prominence of inward FDI has reduced the reliance of foreign-currency debt as a source of funding and official foreign-currency reserves are very high among this group, Table 6 shows that several of these countries still have considerable net aggregate foreign-currency exposures. For these countries, exchange rate depreciation may well improve the trade balance but would be also be associated with an increase in the domestic-currency value of external liabilities. Moreover, even if the aggregate net impact is muted by the high reserves held by the central bank, sectoral balance sheet exposures (such as households with foreign-currency mortgages) could be substantial. However, the negative domestic impact is mitigated by the prominence of foreign-owned banks in making foreign-currency loans to domestic residents: if default rates go up, much of the decline in bank profits will be shouldered by foreign investors, through a decline in the return on foreign direct investment in the banking sector. Finally, it is also wise to keep in mind the benign scenario in which high productivity growth in these countries generates currency appreciation, which exerts a positive valuation effect by reducing the real value of foreign-currency debt.

However, most recent discussion of the valuation channel has been in the context of the resolution of global imbalances. Tille (2003), Lane and Milesi-Ferretti (2007c) and Gourinchas and Rey (2007) have highlighted the capital gains that accrue to the United States as a consequence of dollar depreciation. The counterpart capital losses hit the balance sheets of foreign holders of dollar-based assets. Accordingly, the valuation channel provides a negative spillover mechanism by which the correction of an external deficit in one country may adversely affect other countries through balance sheet effects.

Lane and Milesi-Ferretti (2007d) quantitatively assess the potential exposure of European economies to negative valuation effects associated with a range of scenarios by which the US external imbalance may be resolved. The analysis employs the IMF's Global Economic Model (GEM) to assess the quantitative impact of alternative adjustment scenarios.

However, even under a disruptive adjustment scenario, the present value of the currency-based valuation losses suffered by the euro amounts to only 4 percent of GDP. This reflects the still-limited extent of inter-regional financial holdings and the strong intra-regional bias in the cross-border investment positions of European countries. At the end of 2005, Lane and Milesi-Ferretti (2007d) calculate that the net dollar holdings of the euro area amounted to 16.8 percent of GDP, which is a much lower level of exposure relative to major dollar investors such as Japan (38.5 percent of GDP) and China (29.2 percent of GDP).

Other studies also find that the exposures embedded in cross-border financial holdings remain limited, even if much bigger than in previous periods. Lane and Shambaugh (2007) show that a 20 percent dollar depreciation would generate average capital losses for advanced economies of 3.3 percent of GDP. While developing countries that traditionally carry a large quantity of dollar-denominated debt would benefit to the tune of 3.5 percent of GDP, the group of emerging market economies have by now accumulated positive net dollar holdings and would lose 2.9 percent of GDP. Using a different data set, Warnock (2008) calculates the impact of a simultaneous, unexpected 10 percent decline in the U.S. dollar, U.S. equity markets, and dollar-denominated bonds and finds that foreign investors would lose approximately $1.2 trillion in financial wealth, which is about 5 percent of global ex-US GDP. In the context of the current turmoil, Beltran et al (2008) show that the exposure of foreign investors to declines in the value of US asset-backed securities.

In relation to the euro area, Di Mauro et al (2008) calculate that currency movements are responsible for the bulk of the adverse shift in the international investment position of the euro area over 2000 to 2006, with the cumulative impact of exchange rate changes amounting to a loss of 5 percent of GDP. This dominates the impact of the cumulative current account of minus 1.8 percent of GDP and asset price movements of minus 1.3 percent of GDP. (Once the offsetting impact of GDP growth on the ratio of net external liabilities to GDP is taken into account, the total change in this ratio was minus 6.0 percent of GDP during this period.)

In addition to the valuation effects associated with currency movements, the growth

in cross-border equity positions has also altered the qualitative relation between output growth and the external position. Traditionally, faster output growth was associated with an improvement in the ratio of external liabilities to GDP, since liabilities mostly took the form of non-contingent debt. However, if foreign liabilities are in the form of equity-type instruments, an improvement in economic performance will typically be associated with an increase in the profitability of domestic firms, increasing investment income outflows to foreign equity investors and raising the value of external liabilities. Accordingly, faster output growth in itself will not tend to improve the net external position: the trade balance must do most of the work in improving the external position. Of course, this is just a manifestation of the risk-sharing properties of equity-type claims: the debtor does not get to retain all the upside from faster output growth.

In related fashion, the increased share of equity-type claims in foreign liabilities and foreign assets affects the relation between asset markets booms and busts and the external account. For instance, the rapid increase in the market capitalisation of Nokia in the late 1990s generated a large increase in the value of Finland's external liabilities, since Nokia shares were widely held by foreign investors. By the same token, foreign ownership of domestic shares means that a decline in the domestic stockmarket translates into an improvement in the net external position. Again, this is just risk sharing in action: Finland could afford an increase in its external liabilities during the late 1990s since domestic residents were also enjoying the gains from the increase in the value of Nokia shares, while the adverse domestic wealth effect from a falling stockmarket is mitigated through foreign participation in the domestic market.

The sensitivity of the external account to fluctuations in asset prices has most relevance for those countries that have a high weight of marked-to-market instruments in the international balance sheet. Accordingly, this is more relevant for the most advanced economies, in which financial markets are more developed. Finally, we note that there is a high degree of common co-movement in asset returns across regions. Global gains in equity values improve the external positions of those countries that are long in equity-type instruments

and hurt the external position of those that are short in such assets. Accordingly, a global asset price boom improves the net external position of countries such as the United States and the United Kingdom and harms issuers of external equity liabilities such as the Central and Eastern European countries and other emerging market economies. Conversely, a global decline in asset prices (as has occurred over the last several months) has a negative impact effect on the external positions of the former group but represents a net valuation gain to the latter group.

The third mechanism that we highlight is the vulnerability embedded in leveraging. As was noted above, many advanced economies financed growth in the scale of gross foreign assets by increasing the level of external debt. A high degree of leverage means that problems in credit markets may be important even for countries that have a zero or positive net international investment position, since liquid external liabilities are not matched well with illiquid external assets. Accordingly, such economies are vulnerable to roll-over risk and sudden stops in capital inflows, with attendant implications for the currencies of these countries. It follows that the appropriate horizon for risk management should be extended beyond major net debtors to include also those with mis-matched balance sheets in term of liquidity profiles. In a European context, there is a clear difference between members of the euro area and non-member countries in terms of vulnerability of 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.

5 Conclusions

This paper has sought to make three main points about the impact of financial openness on the European economy. First, we have argued that EU institutional environment has allowed capital to "flow downhill" to emerging European countries, thereby accelerating convergence. 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 adequate counterpart to the institutional anchor that is provided by EU membership.

Second, we have underlined that Europe is not a closed financial system, with the scale of external financial linkages between Europe and the rest of the world growing rapidly over the last fifteen years. However, it is important to acknowledge the scale of cross-border holdings in non-European countries remains quite limited, such that the impact of direct financial linkages should not be overstated. Rather, the more powerful global financial transmission mechanism relates to an indirect sentiment channel, which remains poorly understood. In relation to international financial linkages, we have also emphasised that these are likely to shift in the coming years, with a more symmetric distribution of assets and liabilities between the currently-advanced and currently-emerging economies that will look quite different to the current configuration.

Third, we have argued that increased financial integration has altered the economics of external adjustment, with the growth in cross-border holdings meaning that shifts in exchange rates and asset prices have a potentially larger role to play in the correction of external imbalances. However, we have argued that the importance of such valuation effects varies across different scenarios and had different implications according to the precise composition of a country's international financial sheet.

Finally, 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. Even if the current global financial crisis does lead to major macroeconomic disruptions in Europe, it should serve as a wake-up call to improve a European and global financial stability system that is inadequately designed to cope with the globalisation of financial flows.

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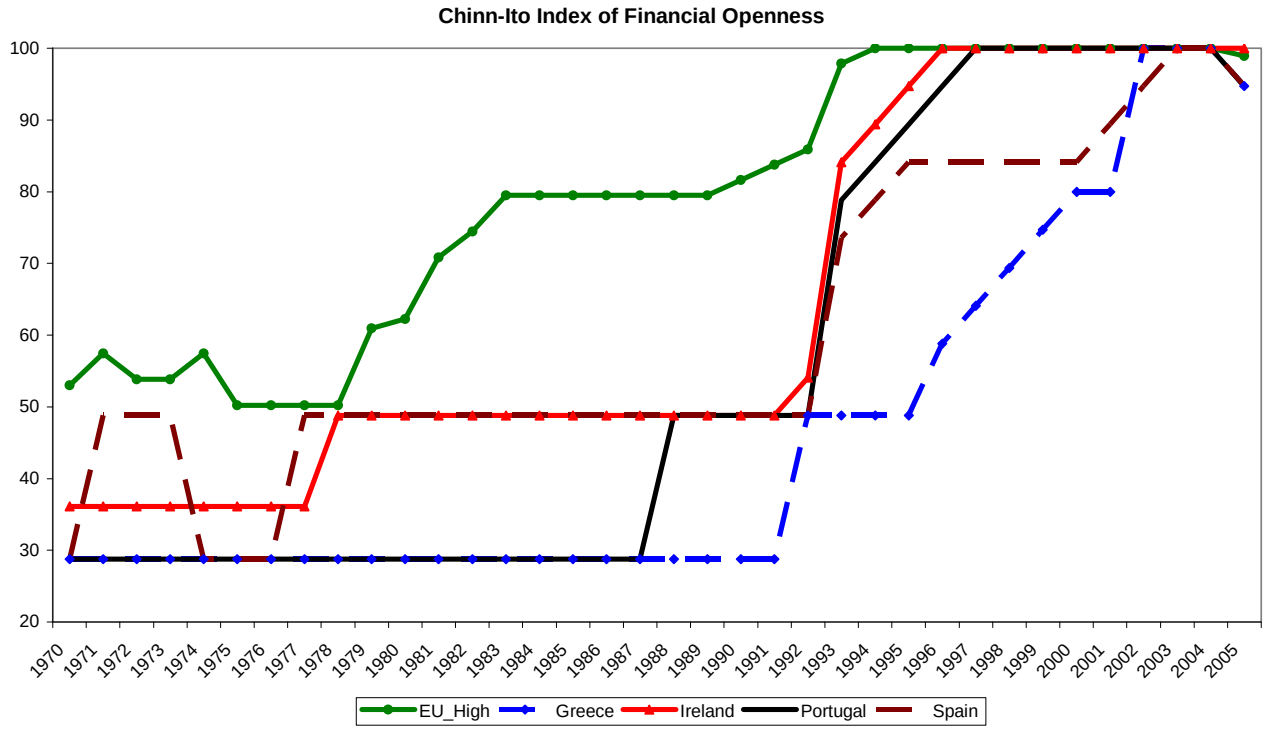

Figure 1: Chinn-Ito Index for EU4.

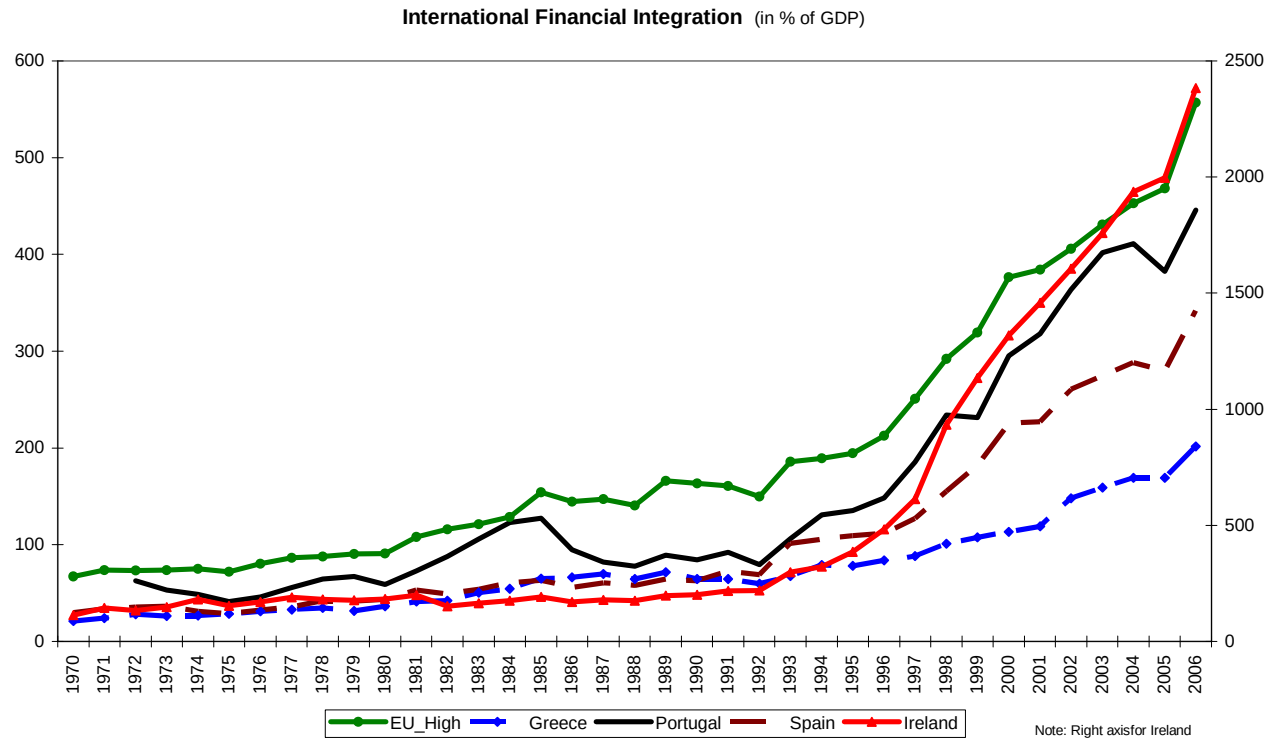

Figure 2: International Financial Integration: EU 4 Group. Note: Author's calculations based on extended version of dataset reported in Lane and Milesi-Ferretti (2007a).

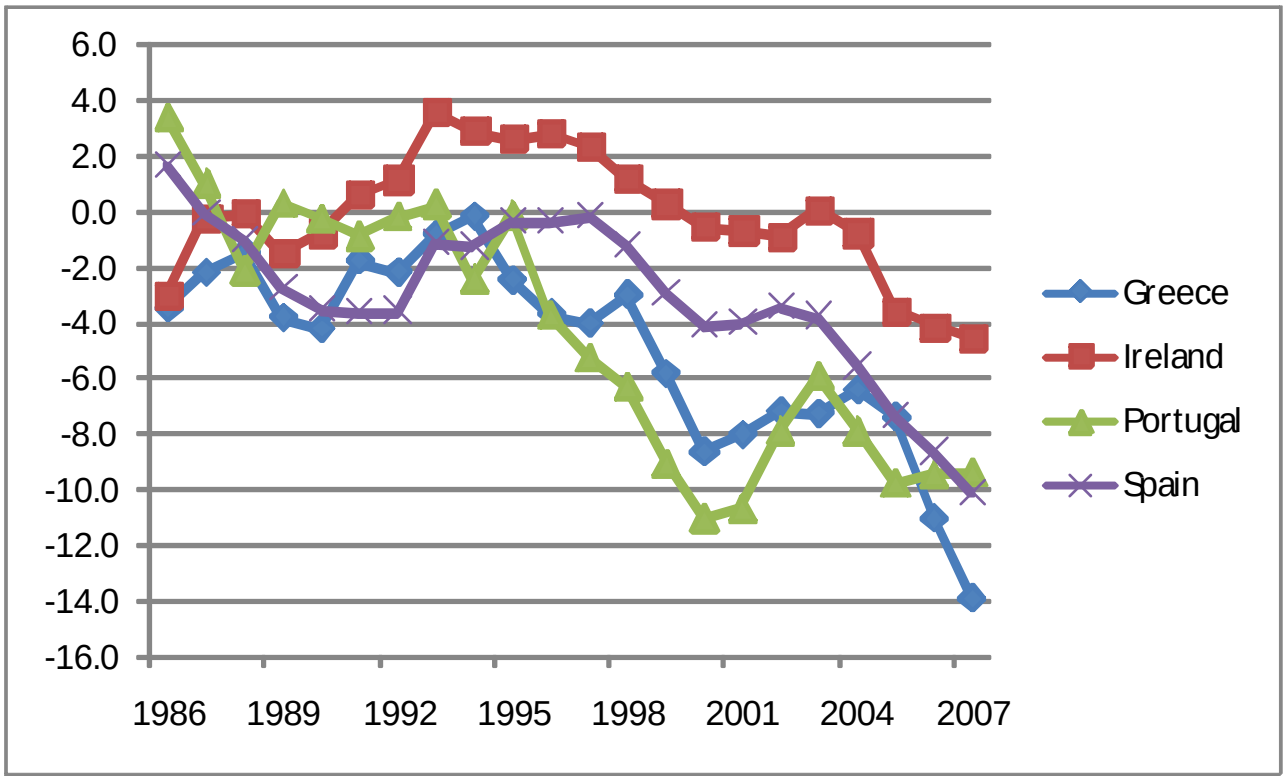

Figure 3: Current Account Balances, 1986-2007.

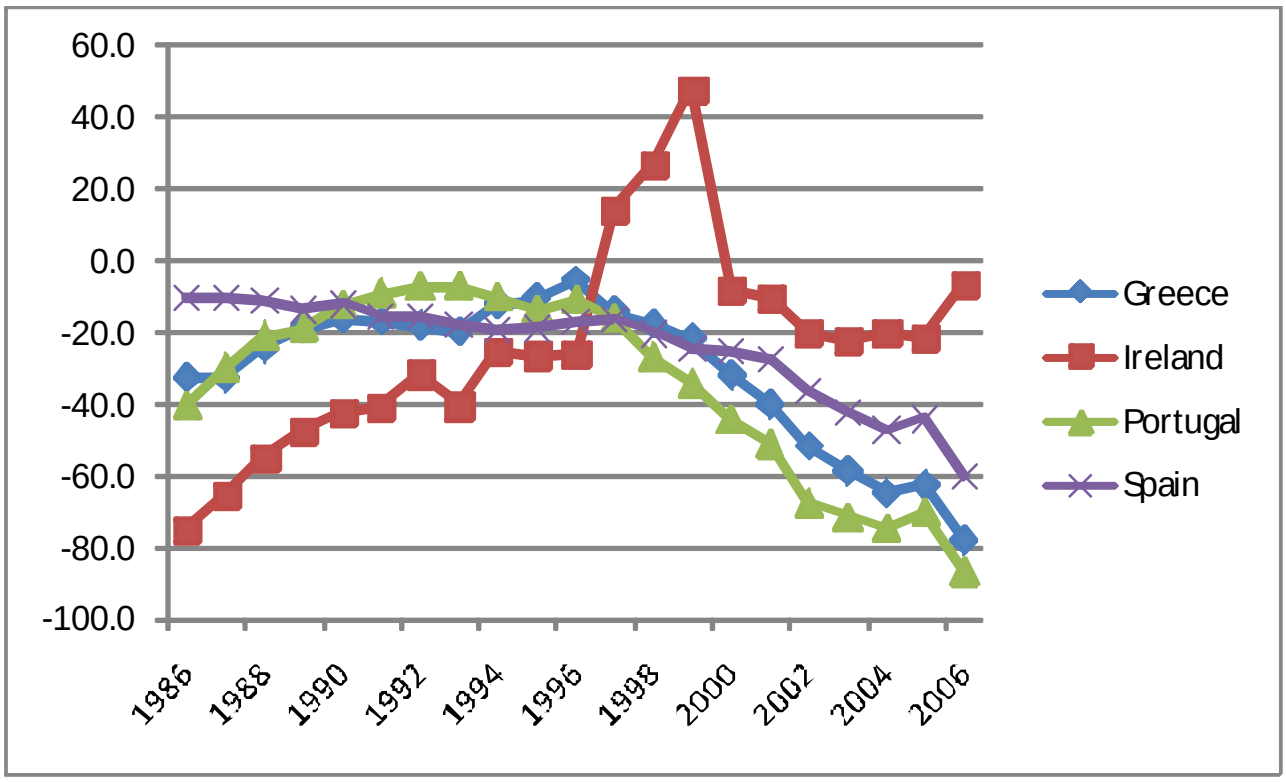

Figure 4: Net External Positions, 1986-2006. Note: Ratios of net foreign assets to GDP. Source: Updated version of Lane and Milesi-Ferretti (2007a).

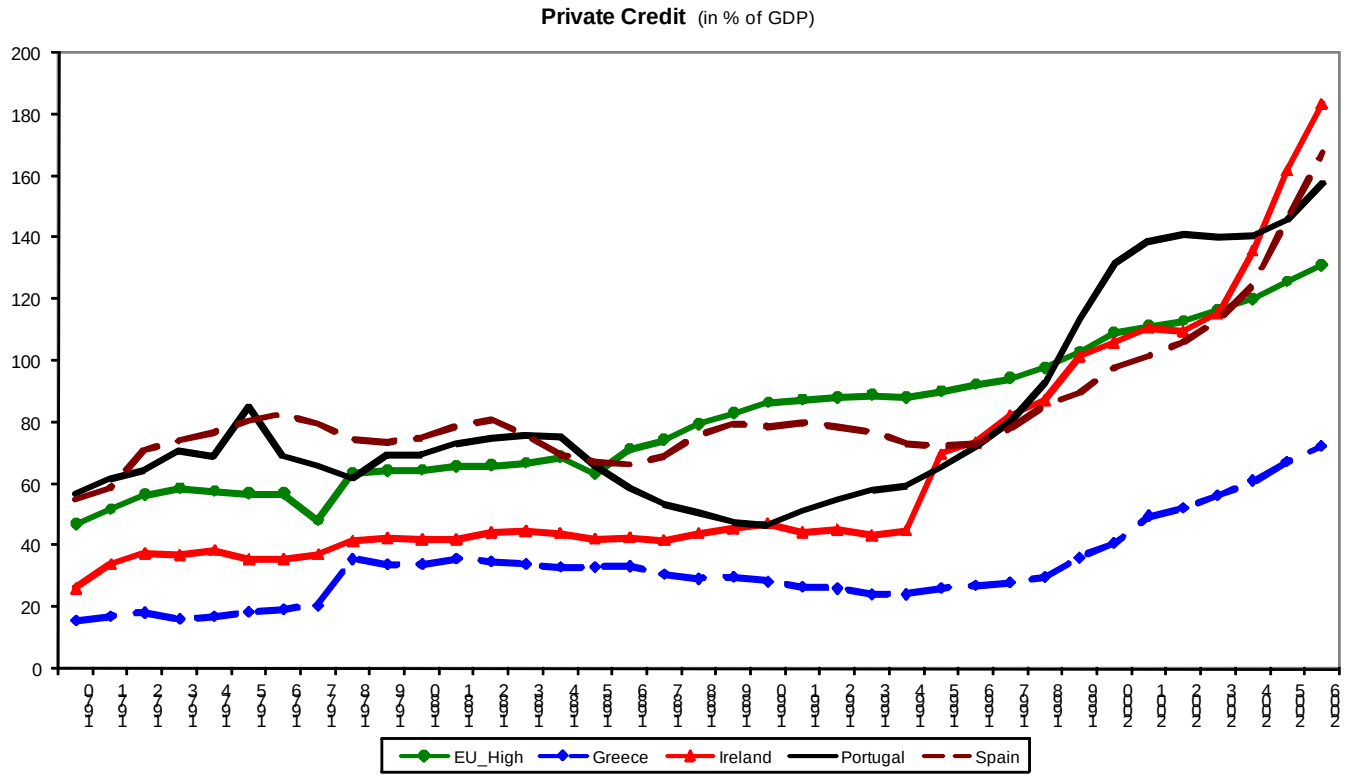

Figure 5: Financial Development: EU4. Note: Ratio of Private Credit to GDP, 1970 to 2006. Source: XXX.

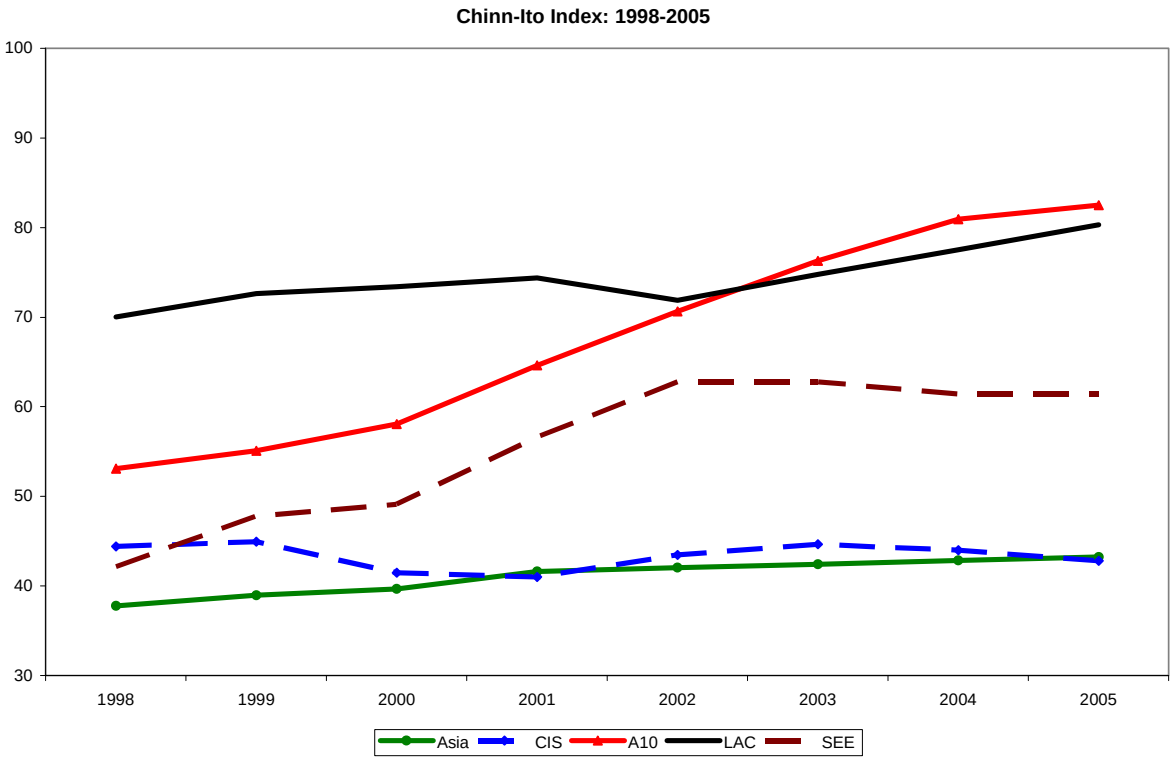

Figure 6: Chinn-Ito Index: Emerging Market Groups.

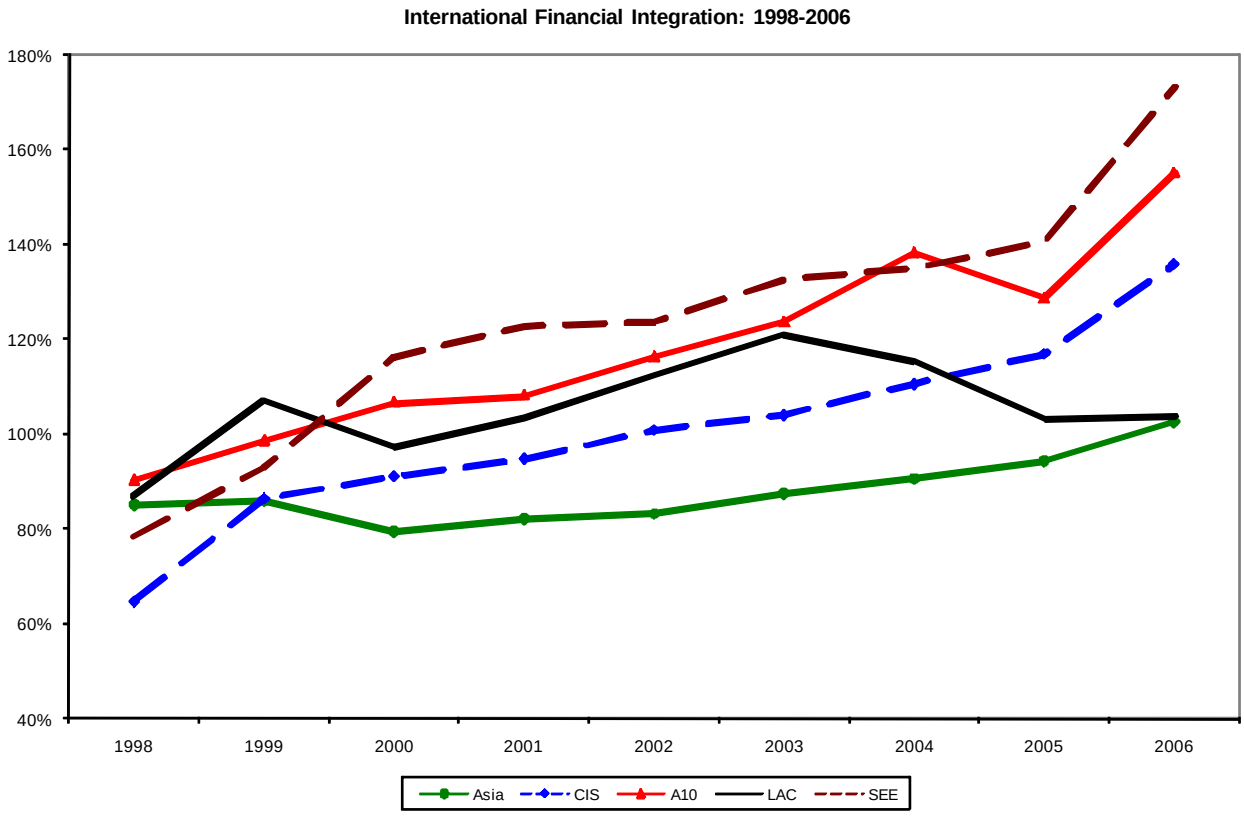

Figure 7: Trends in International Financial Integration, 1998-2006.

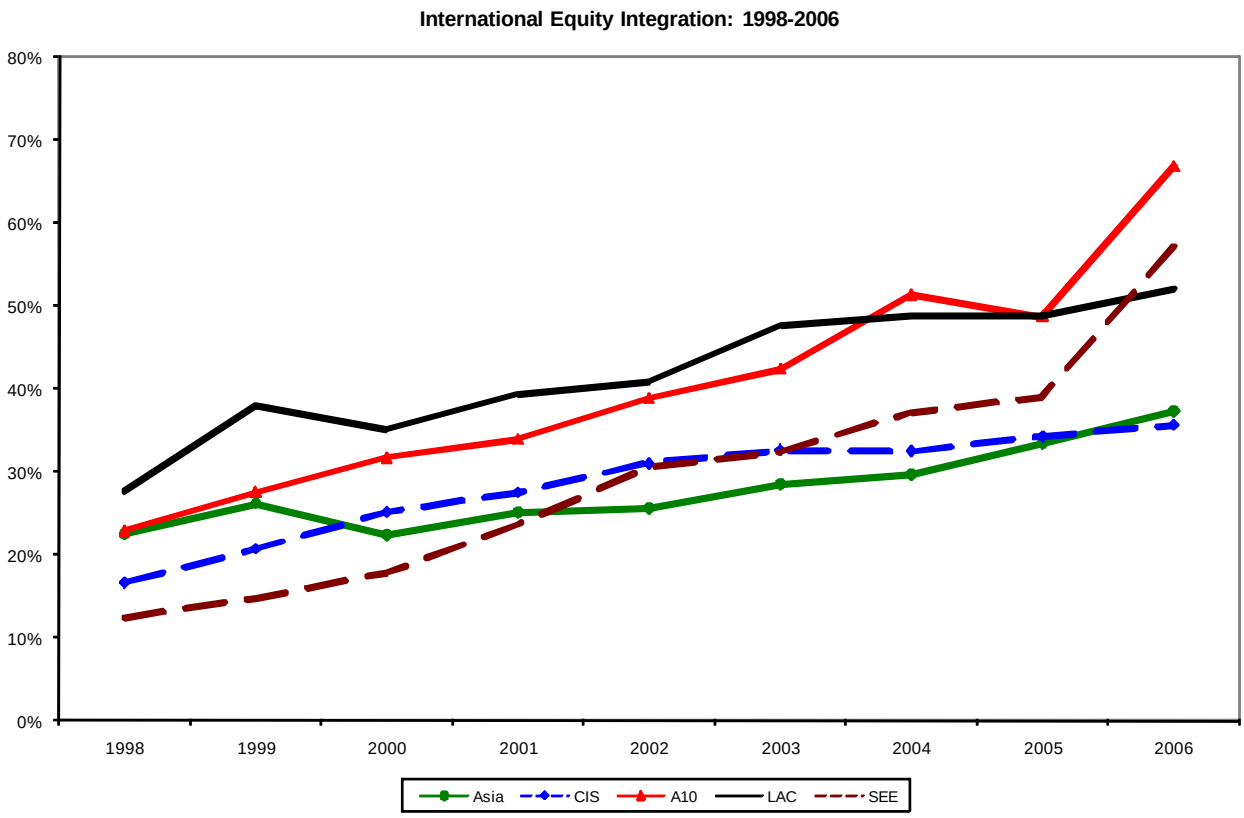

Figure 8: Gross Equity Positions, 1998-2006.

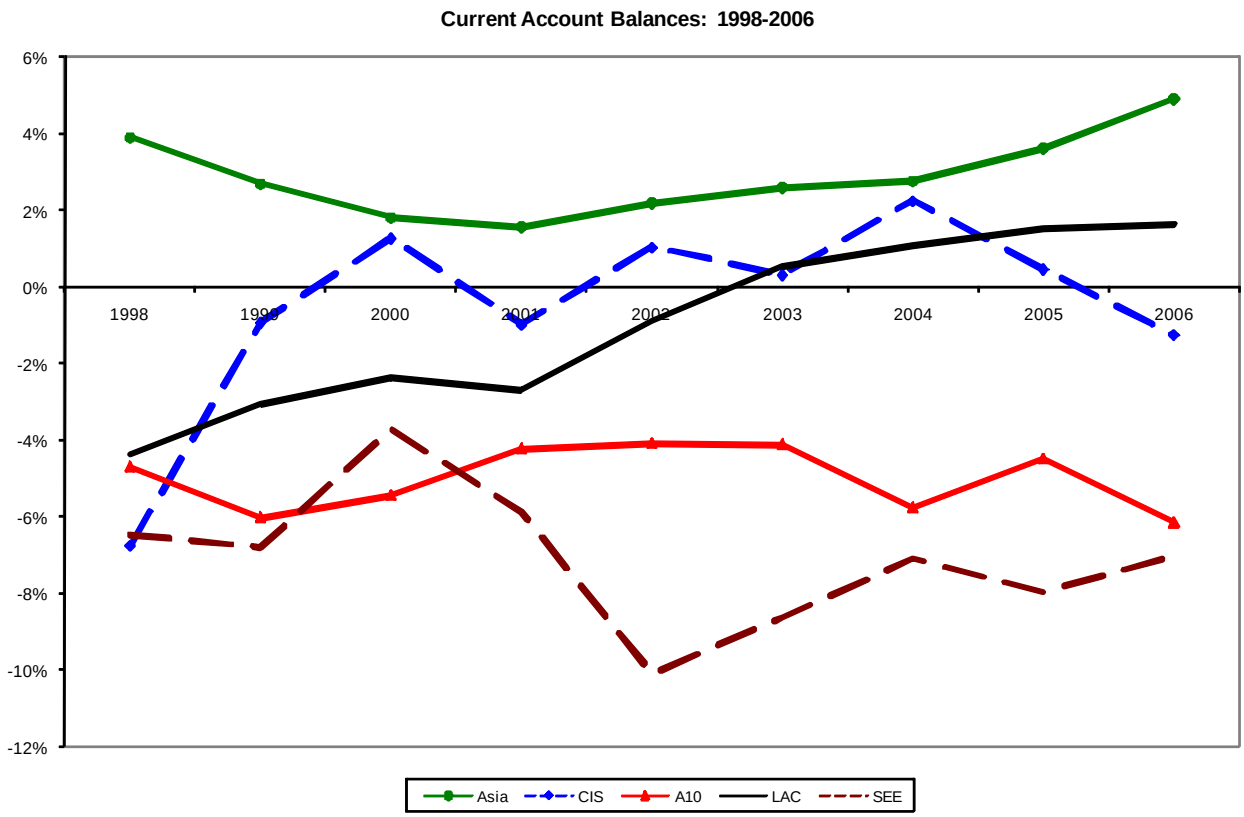

Figure 9: Current Account Balances, 1998-2006.

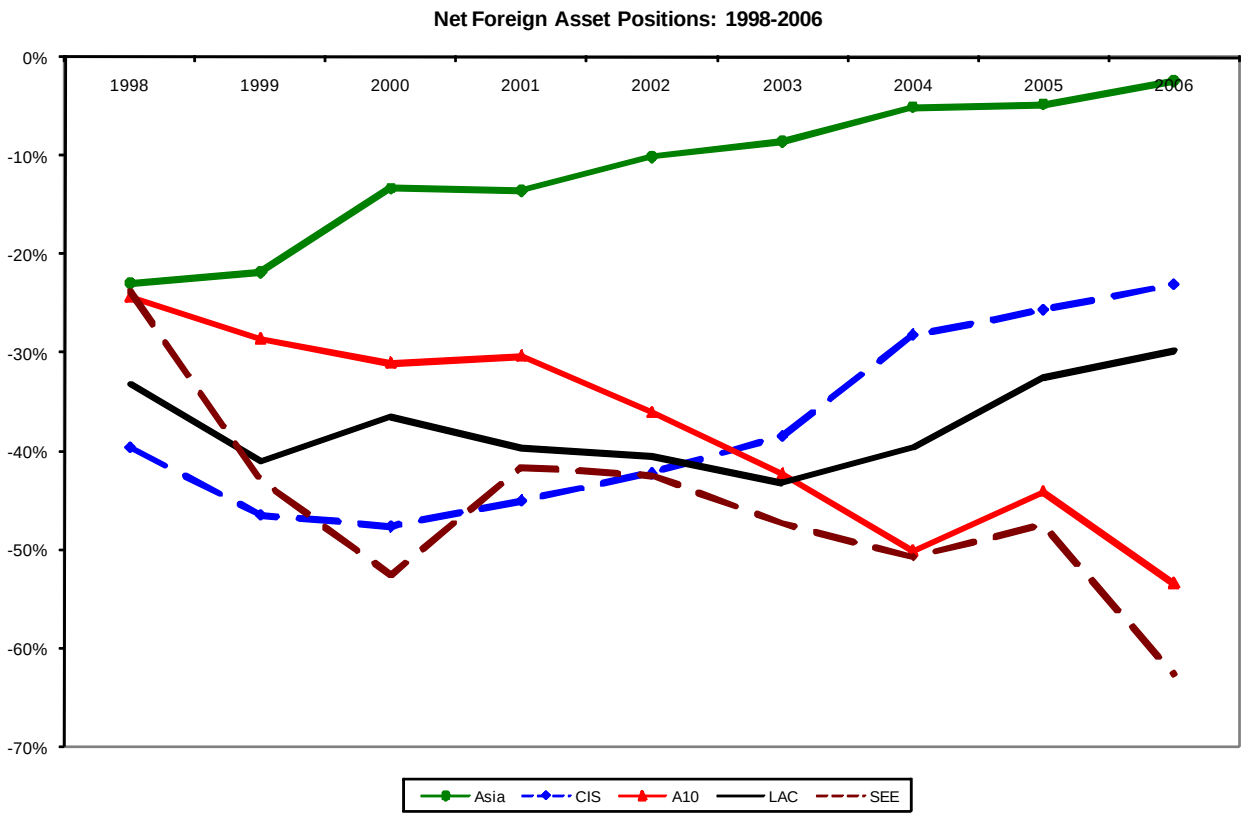

Figure 10: Net Foreign Asset Positions, 1998-2006.

Table 1: Level and Composition of Foreign Liabilities

	1998			
			Shares	
	FLY	PEQL	FDIL	DEBTL
CEEC	57.3	5.4	31.8	62.8
Em. Asia	54.0	6.1	28.0	65.9
LAC	60.0	7.3	29.4	63.2
CIS	52.2	0.3	31.0	68.7
SEE	51.0	2.3	15.4	82.3
	2006			
			Shares	
	FLY	PEQL	FDIL	DEBTL
CEEC	104.3	7.1	46.4	46.0
Em. Asia	52.5	27.7	33.6	38.6
LAC	66.7	20.0	41.8	37.8
CIS	79.4	3.9	37.4	58.7
SEE	117.9	1.8	42.3	55.8

Note: Author's calculations, based on data from Lane and Milesi-Ferretti (2007a).

Table 2: Level and Composition of Foreign Assets

	1998 Shares				
	FAY	PEQA	FDIA	DEBTA	FXRES
CEEC	32.9	1.4	3.3	47.5	47.8
Em. Asia	31.0	1.3	11.8	41.8	45.1
LAC	26.7	5.3	15.8	49.9	29.0
CIS	12.5	0.3	1.7	49.8	48.2
SEE	27.2	0.4	11.8	47.0	40.9

	1998 Shares				
	FAY	PEQA	FDIA	DEBTA	FXRES
CEEC	50.9	5.8	15.8	40.2	38.3
Em. Asia	50.0	2.1	8.2	27.4	62.4
LAC	36.9	9.8	19.6	42.5	28.1
CIS	56.3	2.5	2.5	63.2	31.8
SEE	55.3	2.5	6.7	42.9	48.0

Note: Author's calculations, based on data from Lane and Milesi-Ferretti (2007a).

Table 3: Financial Development Indicators

	Year	CEE	Em.Asia	LAC	CIS	SEE
Private Credit	1998	26.6	61.5	36.4	8.1	28.7
	2006	52.7	58.1	34.8	23.1	39.2
Stock Market Capitalisation	1998	10.8	27.0	20.7	1.2	3.7
	2006	31.1	57.5	40.1	14.3	38.3
Debt Securities	1998	44.6	54.9	40.5		29.7
	2006	66.0	70.8	60.7		51.2

Note: Author's calculations based on data from World Development Indicators and BIS.

Table 4: Institutional Quality Indicators

		CEE	Em. Asia	LAC	CIS	SEE
World Bank Governance Indicator	1998	62.0	44.3	48.8	33.3	36.0
	2006	63.0	41.3	45.8	33.0	44.8
World Bank Doing Business Rank	2006	45.0	88.6	90.5	96.3	99.8

Note: Author's calculations based on data from World Bank.

Table 5: Geographic Distribution of International Investment Position of the Euro Area

	EU27	US	China	Japan	ROW	Offshore
FDIA	36.7	19.9	0.8	2.2	29.5	10.8
FDIL	44.6	23.8	0.1	2.8	16.0	12.7
PEQA	24.2	33.3	1.7	9.0	21.0	10.8
PDA	36.4	32.1	0.1	3.3	14.1	12.8
OIA	52.0	13.3	0.6	1.7	21.4	10.0
OIL	47.7	12.8	0.5	2.4	21.0	14.2

Note: Author's calculations based on data from European Central Bank,

Table 6: Foreign Currency Exposures

	FX^{AGG}	$NETFX$
Bulgaria	3.6	5.3
Czech Republic	17.4	26.8
Slovak Republic	1.1	1.7
Estonia	2.4	4.8
Latvia	-11.2	-18.5
Hungary	-11.2	-18.0
Lithuania	-8.7	-8.5
Slovenia	8.3	11.7
Poland	-10.5	-10.1
Romania	-3.0	-2.4

Note: FX^{AGG} is index of aggregate foreign currency exposure; $NETFX$ is aggregate foreign currency exposure, scaled by GDP. Source: Lane and Shambaugh (2008).

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