

International Capital Flows and Domestic Financial Conditions: Lessons for Emerging Asia *

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Abstract

This paper provides an empirical review of the dynamics of international capital flows, with a focus on emerging Asia. Next, it outlines the various channels by which international capital flows affect domestic financial conditions in the host economies. Finally, it explores the implications for the design of policy frameworks that can deliver macro-financial stability.

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1 Introduction

This paper has several objectives. First, it seeks to provide an empirical review of the evolution of international capital flows, with a particular focus on emerging Asia. Second, it aims to outline the various mechanisms by which international capital flows affect the domestic financial systems of the recipient economies. Third, it wishes to describe the options facing policy officials in emerging market economies in relation to the maintenance of macro-financial stability.

The scale of international capital flows has trended upwards over the last twenty years but these flows have also been quite volatile, undergoing pronounced boom-bust cycles. This trend-cycle combination at the same time entails important long-term structural changes in the operation of domestic financial system while also posing short-term cyclical risks. Some of these risks are external (shifts in risk appetites and policy stances in the major international financial centres), while others are internal (capital flows potentially amplifying the impact of domestic macro-financial shocks). Accordingly, governments must continuously adapt the configuration of domestic policies in recognition of the underlying structural changes, while also remaining vigilant in implementing counter-cyclical measures to offset the impact of temporary shocks (both external and internal).

The collapse in capital flows during the 2008-2009 phase of the global financial crisis provides the most vivid illustration of the disruptive impact of sharp, unexpected changes in capital flow dynamics. While capital flows in emerging Asia subsequently recovered quite strongly, the volatility that has re-emerged during 2013 in the wake of the tapering debate means that policymakers in emerging market economies now face a new phase of instability (IMF 2013a, 2013b).

The structure of the rest of the paper is as follows. The empirical review is contained in Section 2. The inter-linkages between international capital flows and domestic financial conditions are described in Section 3. Section 4 analyses the menu of policy choices available to officials in the the pursuit of macro-financial stability. Finally, Section 5 concludes.

2 Empirical Review

Following Lane and Milesi-Ferretti (2007), Figure 1 shows the international financial integration (IFI) ratio for emerging Asia over 1981-2012.¹ The IFI ratio captures the scale of cross-border financial positions and shows a strong positive trend for emerging Asia, albeit with some volatility. From a low base in the early 1980s, the IFI ratio had climbed to 154 percent of GDP by 1997. While the aftermath of the Asian crisis was associated with a temporary reversal, the IFI ratio had reached 231 percent of GDP by 2007 and stood at 192 percent by 2012. While this is about half the level exhibited by European countries, it is comparable (relative to GDP) to the size of the US international investment position.

Figure 2 shows the dynamics of capital inflows and outflows and highlights the strong correlation between gross flows and the VIX index over 2002-2011.² Between 2002.Q3 and 2006.Q4, the VIX index fell from a local peak value of 35.1 to a trough value of 11.0 and this decline in market risk was associated with a sharp rise in gross capital flows. Subsequently, during the global crisis, the VIX rose sharply and the gross flows contracted. While Figure 2 shows the capital flow data for emerging Asia, qualitatively-similar patterns are evident for the advanced economies and other emerging regions (Milesi-Ferretti and Tille 2011, Chen et al 2012, Forbes and Warnock 2012a, Bluedorn et al 2013, Bruno and Shin 2013a, Bruno and Shin 2013b, Lane 2013a, Rey 2013). However, Tille (2013) emphasises that the collapse in capital flows was much less pronounced for emerging Asia, which can be especially linked to its lower exposure to global banking flows.

The relatively robust performance of emerging Asia during the global crisis can be related to the striking configuration of its international investment position. Figure 3 shows that the net international investment position entered positive territory from 1998 onwards and continued a persistent upward trend, reaching a peak of 28.1 percent of GDP in 2008 and remaining strongly positive at 18.7 percent of GDP by 2012. The climb in the

¹In this section, the emerging Asia group consists of China, Hong Kong, Korea, India, Indonesia, Malaysia, Pakistan, Philippines, Singapore, Taiwan and Thailand.

²The capital flow measure excludes reserve accumulation.

NIIP reflected significant cumulative current account surpluses over this period (in addition to the operation of valuation effects).

Moreover, Figure 4 illustrates that the composition of the international balance sheet is quite asymmetric. In terms of foreign liabilities, the debt-equity ratio has declined over time and is far below unity; in contrast, the debt-equity ratio is above two in relation to foreign assets. As highlighted by Lane and Milesi-Ferretti (2007), this is the opposite pattern to the typical profile for advanced economies which is “long equity, short debt.” The low debt-equity ratio in foreign liabilities implies a considerable risk transfer to foreign investors, since the return on equity-type foreign liabilities is not fixed but depends on the performance of the host economy.

Similarly, the high debt-equity ratio in relation to foreign assets represents an important hedge against currency risk, since foreign-currency debt assets will increase in value (in local-currency terms) in the event of exchange rate depreciation. Indeed, this mechanism operated strongly during the 2008-2009 phase of the global financial crisis (Milesi-Ferretti 2009). Of course, as is illustrated in Figure 5, official reserves form the major component of the aggregate foreign debt assets of emerging Asia.

A complementary perspective on the composition of capital flows to emerging Asia is provided in Figure 6, which shows its share in global cross-border holding for various investor categories. In terms of primarily debt-type positions, emerging Asia accounted for 7.2 percent of the cross-border assets of BIS-reporting banks and just 2.4 percent of global cross-border bond holdings in 2011 (according to CPIS data). In relation to equity-type categories, the emerging Asia share is much bigger at 18.4 percent of global FDI stocks and 10.8 percent of portfolio equity holdings (data from CDIS and CPIS respectively).

The high proportions in global equity-type categories reflects the rising share of emerging Asia in global GDP and the skewed distribution of liability funding in the direction of equity-type instruments. The growing importance of emerging Asia in global GDP also helps to account for the significant share of global cross-border bank assets that are located in emerging Asia, despite the decline in the debt share in its external liabilities

and the non-participation by emerging Asia in the global credit boom that took hold in the advanced economies in the mid-2000s.³ Monitoring of bank-related capital flows is also especially important, given that this category is the most volatile type of capital flow to emerging market economies (Bluedorn et al 2013). Furthermore, the importance of understanding the bank-related category is reinforced by the role played by foreign-owned banks in intermediating domestic flows, with foreign-owned banks playing a prominent role in most national banking systems (Table 1).

Finally, following Lane and McQuade (2013), Figure 7 illustrates the strong correlation between net foreign debt inflows and domestic credit growth in the 2003-2008 period. In the upper left quadrant, there is a cluster of European countries that experienced credit booms and high net debt inflows; in the lower right quadrant, domestic credit fell in a number of countries that also experienced net debt outflows. This covariation pattern between foreign flows and domestic credit growth represents a key channel by which international capital flows affect the domestic macro-financial environment. Although Figure 7 just presents a simple scatter plot, the econometric analysis reported in Lane and McQuade (2013) suggests that the pattern is robust to the inclusion of a host of control variables and different estimation approaches. In related manner, Mendoza and Terrones (2012) and Calderon and Kubota (2012) document the covariation pattern between international debt inflows and domestic credit booms.

Looking to the future, it is open to debate whether the current configuration of external financial patterns for emerging Asia will persist. Lane and Milesi-Ferretti (2008a) find that the overall scale of cross-border holdings grows in line with rising levels of income per capita and the rate of domestic financial development. Moreover, the progressive relaxation of restrictions on capital outflows should be associated with greater outward investment activity by domestic private-sector entities across the full range of investment categories. Importantly, it is plausible that much of this outward expansion will be regionally focused, in view of the influence of gravity factors on international investment patterns

³See also McCauley et al (2010), Milesi-Ferretti and Tille (2011), Claessens and Van Horen (2013) and Goldberg (2013) on the central role played by banks in total capital flows.

(Lane and Schmukler 2007, Lane and Milesi-Ferretti 2008b, Park 2013, Park and Mercado 2013). Intra-Asian flows would be further enhanced by the internationalisation of the major emerging Asian currencies (especially the RMB) and the adoption of independent monetary regimes and/or regionally-orientated managed exchange rate regimes.

3 Linkages Between International Capital Flows and the Domestic Financial System

There are several macroeconomic and financial mechanisms that create linkages between international capital flows and the domestic financial system.⁴

At a macroeconomic level, the traditional focus has been on the impact of the net capital flows that are the corollary to current account imbalances (Blanchard 2007, Obstfeld 2012, Lane 2013a). Along these lines, a key challenge for the domestic financial system is to accommodate the inter-sectoral shifts in activity that are associated with large external imbalances. A persistent external surplus will typically be associated with more rapid growth in the export-orientated traded sector than in the nontraded sector; in the other direction, a large current account deficit will be associated with an expansion in the relative size of the nontraded sector vis-a-vis the traded sector.

Large imbalances (of either sign) subsequently post a rebalancing challenge, since the closing of external imbalance (whether a surplus or a deficit) requires a reversal in these relative sector growth patterns. To finance this rebalancing, the domestic financial system needs to efficiently manage the net withdrawal of funding from the contracting sector and the net increase in funding for the expanding sector. In principle, this rebalancing task is symmetric across surplus and deficit countries and can play out over a medium-term time horizon.

⁴In this section, I mainly focus on empirically-orientated contributions. Relevant theoretical work includes Devereux et al 2006, Lorenzoni 2008, Mendoza 2010, Bianchi 2011, Jeanne and Korinek 2011 and Bianchi et al 2012.

However, a large external deficit in addition carries the risk of a sudden stop, by which net capital inflows rapidly change direction.⁵ The trigger for a sudden stop may be external (a crisis elsewhere or a re-evaluation of risk levels in the global financial system) but a country's vulnerability to global or domestic financial shocks is increasing in the scale of the external deficit and the stock of net external debt liabilities (Catao and Milesi-Ferretti 2013). Gourinchas and Obstfeld (2012) also highlight that the scale of real exchange rate appreciation (correlated with large current account deficits) is a robust predictor of the incidence of financial crises.

Plausible models of sudden stops generate sharp recessions, plunges in domestic asset price and increases in bankruptcy rates and credit risk spreads (Obstfeld and Rogoff 2005, Mendoza 2010). These patterns are confirmed by an extensive empirical literature, with the recent global crisis underlining the adverse macroeconomic impact of the rapid unwinding of a large external deficit (Lane and Milesi-Ferretti 2011, 2012, 2013). In sudden stop episodes, the creditor countries also suffer by taking losses on financial holdings in the high-deficit countries and via the reduction in export sales to the distressed economies.

However, the rapid growth in the scale of international balance sheets has also highlighted that the level of net capital flows is not a sufficient statistic for the international distribution of macro-financial risks (Lane and Milesi-Ferretti 2007, Lane and Shambaugh 2010, Acharya and Schnabl 2010, Borio and Disyatat 2011, Obstfeld 2012a, 2012b, Shin 2012). Rather, it is necessary to inspect the detailed composition of the underlying gross flows and gross positions. The risk checklist includes: the mix of debt and equity in foreign assets and foreign liabilities; the maturity structure and currency composition of debt; the sectoral counterparts to external financial transactions (banks, governments, non-financial corporates, households); and the geographical patterns in external counterparties and external assets.

For instance, the debt-equity mix in foreign liabilities is critical in determining risk exposures. While debt liabilities entail a stream of contractually-specified payments, the

⁵The risk of a sudden stop also applies to a country that may have a zero current account deficit but carries the legacy of a large external debt, since it still faces rollover risk.

return on equity liabilities is state-contingent such that much of the risk is carried by the foreign investor (presumably in exchange for a corresponding risk premium). Furthermore, within the debt category, the split between domestic-currency debt and foreign-currency debt is important in determining the balance sheet impact of currency movements (Lane and Shambaugh 2010). Similarly, the split between short-term debt and long-term debt determines exposure to rollover risk.

The central role played by the banking sector in the recent global crisis has highlighted the importance of understanding the sectoral distribution of cross-border transactions. On the liability side, cross-border debt inflows into the domestic banking system can amplify and prolong a domestic credit boom by providing the marginal funding for an expansion in domestic lending (Allen et al 2011, Borio et al 2011, Adjiev et al 2012, CIEPR 2012, Bruno and Shin 2013a, Lane and McQuade 2013). These bank-related debt inflows can take various forms: attracting foreign deposits; issuing bank bonds to foreign investors; raising wholesale funding of various types in the international inter-bank market. In part, such cross-border liabilities may be visible on bank balance sheets; in part, these may be obscured by the use of derivative products and special purpose vehicles that do not appear on the balance sheet. Furthermore, in the case of multi-country banking groups, intra-group cross-border flows are an important element in aggregate cross-border flows.⁶

On the asset side, losses on poorly-selected foreign assets can threaten domestic financial stability. For instance, Broadbent (2012) calculates that 75 percent of the losses of the major UK banks during the crisis were related to their foreign asset holdings, while a series of studies have highlighted that European banks incurred heavy losses on holdings of US-located asset-backed securities (Acharya and Schnabl 2010, Bernanke et al 2012, Shin 2012, Gourinchas et al 2012). In related manner, the leveraged purchase of foreign assets can amplify the risks associated with a domestic lending boom (see also CGFS 2010). For instance, a significant proportion of the losses of the Icelandic banking system related

⁶On multi-country banking groups, see also McCauley et al 2010, Allen et al 2011, Cetorelli and Goldberg (2011, 2012), CIEPR (2012), Ivashina et al (2012), Bruno and Shin (2013), Claessens and Van Horen (2013), Goldberg (2013) and Niepmann (2013).

to foreign acquisitions by Icelandic entrepreneurs, while overseas expansion by property developers was an aggravating factor in the Irish financial crisis.

Banks are the main direct private-sector intermediaries for cross-border debt flows, since most domestic non-financial corporations and households do not directly engage with the international financial system. However, the government and large corporates can directly obtain funding from non-bank domestic intermediaries, international banks and the international bond market. Moreover, direct cross-border lending to households and small and medium enterprises can intensify if a tightening of macro-prudential regulations restrict credit provision by domestic banks (Ranciere et al 2010, Lanau 2011). As emphasised by Drehmann (2013), these adjustment margins mean that it is important to analyse the dynamics of total credit (including the issuance of debt securities and direct cross-border credit), in addition to domestic credit.

The increasing importance of foreign assets and foreign liabilities in the dynamics of bank balance sheets is a contributory factor to the weakening of the relation between domestic monetary aggregates and domestic credit growth (Hoggarth et al 2010, Schularick and Taylor 2012, Baeriswyl and Ganarin 2012). It follows that the analysis of credit dynamics cannot depend on traditional monetary models but must develop frameworks that fully incorporate the cross-border dimension.

To this end, Bruno and Shin (2013a, 2013b) and Rey (2013) describe some key mechanisms that can generate global fluctuations in capital flows, generating spillover effects on the domestic financial systems of emerging market economies. In particular, these authors focus on the role of globally-active investment banks that increase leverage during phases in which funding costs are low and risk appetites are strong and in turn on-lend to banking systems around the world. In this way, the internal dynamics of the global banking system takes centre stage in explaining the time-series and cross-country patterns in international capital flows. Furthermore, it provides a direct channel by which monetary policy in the major financial centres (most importantly, the United States) influences financial systems around the world, since a reduction in policy rates is one source of a decline in risk indi-

cators and increased leverage by the major investment banks (Bluedorn et al 2013, Bruno and Shin 2013c, Rey 2013). Similarly, the evidence is that other dimensions of monetary policy (such as quantitative easing) also generates considerable spillovers on the financial systems of emerging economies (Chen et al 2012, Fratzscher et al 2013).

In summary, this section has highlighted that net and gross capital flows have myriad effects on the financial systems of emerging market economies. In part, capital flows are directly intermediated through the domestic banking system and domestic capital markets. However, even capital flows that do not directly flow through the domestic financial system have an indirect impact by influencing macroeconomic outcomes and asset price determination. Moreover, the central role of global factors in determining the level of capital flows is a source of external financial shocks that adds to the complexity of maintaining domestic financial stability. In the next section, we turn to the appropriate design of the macro-financial policy framework in order to cope successfully with these external challenges.

4 Macro-Financial Policy Frameworks

The review of empirical and analytical work on the relation between international capital flows and domestic financial conditions in the previous sections highlighted the challenges facing policy officials in managing the risks to macro-financial stability that are associated with large-scale, time-varying capital flows. A core strategic policy objective is to design a preventative framework that can insulate the domestic financial system from boom-bust cycles in capital flows. However, that is an incomplete approach, since even a low-probability financial crisis is best managed in advance by designing a financial system that is resilient in the event of a crisis and having in place a comprehensive plan for crisis management.

Taking first the preventative dimension, a key issue is whether monetary policy and the choice of exchange rate regime can provide effective stabilisation. Rey (2013) has recently argued that the force of global factors on the financial environment means that a flexible exchange rate regime does not provide effective insulation, so that the well-known policy

trilemma is better interpreted as a policy dilemma (the only true regime choice is between an open versus a closed financial account).

However, the data analysis conducted by Klein and Shambaugh (2013) show that autonomy in setting interest rates is retained by those countries that operate a floating exchange rate regime or that combine a pegged exchange rate with extensive capital controls. Still, even under these conditions, a central bank may opt to fully or partially match the monetary policy innovation in the advanced economies (Calvo and Reinhart 2002, Taylor 2013). Otherwise, a widening in the interest rate differential (or, more generally, market funding conditions) might trigger unwelcome debt-type capital flows and induce a shift in the exchange rate, with an attendant impact on international balance sheets. Recent empirical work confirms that the interest rate differential is a significant factor in determining net portfolio flows to emerging market economies (Ahmed and Zlate 2013). In related fashion, Goldberg (2013) shows that the international transmission of interest rate movements is stronger for those countries in which foreign-owned banks account for a large share of domestic credit provision. This is an intuitive result, since inter-office cross-border capital flows within global banking organisations can respond more quickly to interest rate differentials.

An important reason why some emerging market economies may be reluctant to use interest rate policy as a routine stabilisation tool is that currency appreciation can be financially destabilising. For instance, Bruno and Shin (2013b) describe how currency appreciation improves the net wealth of domestically-active entrepreneurs (measured in foreign-currency terms), thereby facilitating an increase in foreign-currency bank lending (funded by foreign-currency funding) and higher leverage. Should the exchange rate subsequently depreciate, the reverse mechanism generates an increase in bad loans, since the domestic-currency wealth of borrowers is no longer sufficient to cover the foreign-currency debt obligations.⁷ A further reason to avoid excessive currency appreciation include the

⁷As described by Aliber (2008), a similar mechanism operated in Iceland during the pre-crisis boom period, with the sharp appreciation of the kroner temporarily boosting the apparent creditworthiness of Icelandic entrepreneurs.

potential adverse medium-term impact on the tradables sector (Blanchard 2007, Korinek and Serven 2012, Benigno and Fornaro 2013, Bussiere et al 2013).

A reluctance to use interest rate policy can be also be related to its efficiency and effectiveness in mitigating financial shocks. First, there is the common problem that a shift in interest rates reliably affects aggregate demand but may not be effective in altering conditions in the financial system, if other factors (leverage cycle dynamics, expected capital gains) overwhelm the impact of minor movements in policy rates. Second, Hnatskova et al (2012) document that the standard relation between the interest rate and the exchange rate does not hold for emerging market economies, which can be linked to the lower level of financial development relative to advanced economies. Third, in terms of credit dynamics, a change in the domestic interest rate will have a limited impact to the extent that borrowers can substitute between domestic and foreign funding sources.

While it is important to recognise these limitations on the effectiveness of monetary policy, it is also true that emerging market economies are now much less restricted in their menu of policy choices than was traditionally the case, so that the option to pursue an independent monetary policy response can be triggered if circumstances require it. In particular, the transformation of the international balance sheets of emerging economies since the late 1990s has provided conditions under which policy autonomy is much more feasible than was historically the case. As documented by Lane and Milesi-Ferretti (2007) and Lane and Shambaugh (2010), emerging markets are now much less dependent on foreign-currency debt liabilities through a combination of running current account surpluses, the accumulation foreign-currency official reserves, a switch in the composition of liabilities towards equity-type instruments (portfolio and FDI) and the expansion in the size of local-currency debt markets. With many emerging economies now holding more foreign-currency assets than foreign-currency liabilities, the historical external constraint (the adverse impact of currency depreciation on the international balance sheet) on the effectiveness of monetary policy has been greatly relaxed.

This view is also supported by the analysis reported in Forbes (2012a, 2012b). In that

work, it is shown that vulnerability to foreign financial shocks is increasing in the leverage of the banking system and the level of foreign portfolio liabilities. In contrast, high levels of reserves and a high equity-debt ratio in the composition of liabilities provides considerable insulation against foreign financial shocks.

The capability to chart an independent course for monetary policy was most sharply illustrated during the 2008-2009 global financial crisis. Coulibaly (2011) shows that those emerging markets with strong macro-financial fundamentals were able to deploy counter-cyclical interest rate policies and were net gainers from the attendant currency depreciations. Of course, it is plausible that, for the reasons discussed above, currency depreciations and currency appreciations are not viewed symmetrically, with a willingness to cut interest rates during a crisis not implying a similar willingness to increase interest rates and absorb currency appreciation during phases of relatively stronger activity.

Given that interest rate policy is insufficient to jointly deliver macroeconomic and financial stability, there is increasing interest in the potential of ancillary macro-prudential policies (both in advanced economies and in emerging market economies). In general, there are two categories of macro-prudential instruments (see also CIEPR 2012). First, there are structural regulations that are designed to limit the incentives on banks to take on excessive risks and to limit the damage incurred if tail risks are in fact realised. These regulations include a high capital-asset ratio, a low loan-to-value ratio, a low ratio of debt servicing to income, a low loan-deposit ratio and sufficient state-contingent bond funding (subordinated debt, coco debt).⁸ Second, a suite of counter-cyclical regulations may also be implemented by which these ratios are allowed to vary over the financial cycle. It remains an open question whether such cyclical regulations can prove to be effective in curbing pro-cyclical dynamics in financial systems.

More generally, the effectiveness of macro-prudential regulations is potentially constrained by several hurdles. In particular, borrowers may switch to alternative funding sources if such regulations bind the behaviour of domestic banks. Locally, the shadow

⁸See also Admati and Hellwig (2013) on the benefits of high capital-asset ratios for banks.

banking system and non-bank financial intermediaries may partially substitute for bank funding. Internationally, direct cross-border lending may partially replace domestic lending. While these alternative channels mean that macro-prudential regulations will necessarily be leaky, it is an empirical question whether the degree of substitutability is sufficient to neutralise their impact. Moreover, even if the impact on the overall level of credit is limited, there may still be benefits in terms of the risk distribution by shifting exposures away from the domestic banking system.

Forbes et al (2012) document an extensive list of macro-prudential policy interventions in emerging markets in recent years, while Bruno and Shin (2013c) provide an important case study by examining in detail the 2010 introduction in Korea of a curb on non-core bank liabilities. In particular, these authors find that this intervention was effective in reducing the elasticity of capital flows to Korea in relation to shifts in global financial conditions. He and McCauley. Still, it is fair to say that the short track record in implementing macro-prudential policies means that the evidence base in this area is quite limited.

In recognition that macro-prudential instruments may be inadequate, the imperative of maintaining macro-financial stability in the face of volatile capital flows has also led to a resurgence of interest in capital controls, both in academic and policy circles.⁹ This recent literature mainly focuses on the cyclical deployment of capital controls, with controls tightened during frothy periods and loosened when the capital flow surge subsides. In contrast, the permanent installation of capital account restrictions is still viewed as problematic, given the potential long-term gains to international financial integration and the practical difficulties in maintaining a permanent system of controls (Obstfeld 2009, Prasad and Rajan 2009).

Given this ranking, it is striking that the extensive empirical work conducted by Klein (2012) and Klein and Shambaugh (2013) finds that long-term and extensive restrictions on capital flows (“walls”) are more effective than temporary, tactical restrictions (“gates”) in influencing growth performance and facilitating policy autonomy. However, Forbes et al

⁹Recent theoretical work includes X, Liu and Spiegel (2013). Prominent contributions from the official sector include Ostry et al (2010), Ostry et al (2011) and Ostry et al (2012). See also CIEPR (2012).

(2013) show that changes in capital controls (and prudential measures) can be effective in reducing financial fragility indicators (bank leverage, credit growth, short-term debt), even if there is only a limited impact on the level of international capital flows.¹⁰ This evidence is indicative that capital flow management policies can shift the distribution of risks between the domestic banking system and other (domestic and foreign) intermediaries, which is an important element in maintaining financial stability.

Forbes et al (2012, 2013) document the implementation of a wide array of different types of capital controls and macroprudential measures that are implemented in time-varying and heterogeneous ways by different countries. This diversity makes it more difficult to extract robust empirical patterns but underlines that the choice and effectiveness of individual policy measures depends on the specific circumstances facing each country at different points in time.

Accordingly, it is also important to learn from case study evidence that takes into account such country-specific and time-specific information. For instance, He et al (2009) illustrate the importance of distinguishing between international capital flows and net currency flows in understanding financial stability policies in Hong Kong, Bruno and Shin (2013c) focus on the treatment of non-core bank liabilities in Korea in 2010, while He and McCauley (2013) compare the policy approaches to foreign-currency borrowing in China, Hong Kong and Korea.

Taken together, the ultimate impact on emerging markets of shifts in the international financial environment depends on the macro-financial policies of the host countries (He and McCauley 2013). Importantly, there is no “one size fits all” dominant policy configuration. For instance, a reduction in advanced-economy policy rates may be matched in some cases by a similar reduction in the host-economy policy rate. In other cases, a tightening of capital controls or macro-prudential measures may be deployed to mitigate the local impact of the monetary easing in the advanced economies. Moreover, given that the effectiveness of any individual policy instrument depends on the other elements of the overall macro-

¹⁰See also Forbes et al (2012) and XX (2012) on the recent Brazilian experience with temporary capital controls.

financial policy framework and the current distribution of macro-financial risks, policy evaluation must be necessarily multi-dimensional. Admittedly, from a research perspective, this type of holistic approach makes it difficult to filter general policy lessons from the data.

While a “leaning against the wind” macro-financial policy framework (however configured) can dampen fluctuations and mitigate crisis risk, financial stability also requires the design of a system that is resilient in the event of a crisis.¹¹ In a narrow sense, this includes the ex-ante establishment of a resolution framework that can credibly shut down troubled banks without triggering systemic contagion. In related manner, diversified ownership of banks (including a significant market share for foreign-owned banks) can limit the macro-financial impact of banking-sector losses, while the existence of a vibrant domestic bond market provides an alternative domestic funding channel in the event of a credit crunch in the banking system. More broadly, it also includes a legal system that can process large volumes of insolvency cases at the levels of corporates and households and a labour market that is able to reallocate workers in the event of sharp disruptions in aggregate or sectoral economic activity.

Importantly, a resilient financial system not only mitigates crisis costs but also reduces the probability of a crisis. In particular, the behaviour of speculative investors may depend on perceptions about the perceived fragility of an economy in coping with a financial crisis, in view of the unstable dynamics that are unleashed if a crisis takes hold. Accordingly, a more resilient economy is less likely to be subject to speculative attacks, with investors setting a higher trigger point relative to a more-fragile economy. In this way, a negative shock is less likely to develop into a full-scale crisis.

A comprehensive approach to macro-financial stabilisation also involves a re-orientation in the conduct of fiscal policy. This is especially the case for countries operating under fixed exchange rates and an open capital account, given the limited scope for independent monetary policy under those constraints.

In relation to limiting external imbalances, fiscal policy can operate through several

¹¹See also Sawangngoenyuan et al (2012) and He (2013) for discussions of prudential approaches to managing financial stability risks.

mechanisms (see also Lane 2010, 2013X). Most directly, an increase in the fiscal surplus translates into an improvement in the external balance in a broad range of models and is robustly evident in the data (Abbas et al 2011, Bluedorn and Leigh 2012, Lane and Milesi-Ferretti 2012).¹²In addition, as demonstrated by Blanchard (2007), shifts in the timing and sectoral composition of government spending can also stabilise the external account while cyclical variation in tax rates can mimic many elements of a currency devaluation (Farhi et al 2013). Recent empirical support for systematic effects of government spending on the real exchange rate and the external account is provided by Benetrix and Lane (2010, 2013a) and Ricci et al (2013).

To be effective in supporting macro-financial stabilisation, it is essential that fiscal policy operate counter-cyclically vis-a-vis both the output cycle and the financial cycle (Borio 2012, Benetrix and Lane 2013b, Borio et al 2013). Since various political economy factors can make it difficult to run large surpluses during boom periods, the installation of a formal fiscal framework (including a set of fiscal rules, monitored by an independent fiscal council) is an increasingly-widespread institutional reform, with Europe to the forefront of this initiative (Lane 2010, Calmfors and Wren-Lewis 2011).¹³

This objective of a formal fiscal framework is to provide insulation against excessive politicisation of the stabilisation role of fiscal policy. Along one dimension, fiscal rules that target the structural balance rather than the headline overall balance can allow counter-cyclical fiscal policies to operate. Along a second dimension, a rules-based framework can also target a medium-term target for the debt-GDP ratio. This anchoring function can facilitate the gradual convergence of public debt to a safe level. This second dimension is increasingly important as financial systems grow in scale and the level of international financial integration increases (Obstfeld 2013). A low medium-term level of public debt allows the government to underpin the stability of the domestic financial system and provides

¹²Relevant theoretical models include Ganelli (2005), Corsetti and Muller (2006) and Kumhof and Laxton (2009).

¹³Indeed, for similar reasons, Barth et al (2012) advocate the creation of an independent advisory council to monitor financial stability policies.

fiscal headroom in the event of a financial crisis.¹⁴

A third dimension of prudential fiscal policy is maintain a liquid reserve fund. During a financial crisis, bond markets may be shut even to high-grade sovereigns if an economy's overall financial system is under stress. Holding a stock of liquid financial assets can provide a government with extra flexibility during periods of turmoil.¹⁵

So far, we have focused on how domestic macro-financial policy frameworks can be designed to cope with volatile capital flows. However, it is also clear that there are myriad externalities across the policy choices made by national governments, such there is considerable scope for efficiency gains through international cooperation. This holds true across a wide range of policy areas. In relation to regulatory policies, the scale of multi-country banking groups and the foreign assets and foreign liabilities of even locally-orientated banks mean that the quality of regulation would be enhanced through greater coordination between home and host regulators. For instance, a basic objective of Basel III is to ensure that macro-prudential regulations imposed by the host regulator are not undone by direct cross-border lending by affiliates in other jurisdictions. In relation to large global banking groups, the lack of ex-ante agreement on burden sharing in the event of a bank failure means the the global system remain vulnerable to coordination failures in resolution policies (Claessens et al 2010).

In relation to the conduct of monetary and exchange rate policies, the management of the international externalities from domestically-orientated policy choices calls for more extensive forms of policy cooperation and information sharing among central banks. While BIS meetings provide a forum for central bankers to share analysis in a closed-door setting, CIEPR (2011) recommends the formation of an International Monetary Policy Committee (IMPC) that would consist of a small group of the systemically significant central banks.

¹⁴See Honohan and Klingbiel (2003), Honohan (2008) and Reinhart and Rogoff (2009) on the adverse fiscal impact of financial crises.

¹⁵Along these lines, Lane (1998) advocated the establishment of a rainy-day fund upon Ireland's entry into EMU in order to provide buffer funding in the event of a subsequent banking crisis. Lane (2011) describes the role of the government's reserve fund in managing the Irish banking crisis.

This IMPC would regularly publish reports that assess monetary policy positions from a global perspective, with the publication of these reports helping to shift the political economy of central banking in the direction of improved global coordination.

An important dimension of monetary policy in emerging market economies is the management of official foreign-currency reserves. The deepening of domestic financial systems and expansion in cross-border liabilities provides a strong rationale for holding considerable reserves (Obstfeld et al 2010). The value of sufficient reserves was also underlined during the global financial crisis, given the disruption in the international financial system and the downward pressure on emerging market currencies (Tille 2013).

At the same time, self-insurance through reserve accumulation is expensive relative to an efficient system of global and regional safety nets. It distorts both domestic financial systems and the financial systems of reserve-issuing countries (Bernanke et al 2011). Accordingly, there is much to be gained from reform efforts to enhance international risk pooling (Farhi et al 2011, Prasad 2011). These include enhanced IMF precautionary credit lines, pooled reserve funds and an improved system of currency swap lines (Obstfeld et al 2009, McGuire and Von Peter 2012).

A key structural trend that would have a major influence on the nature of cross-border flows in Asia is the internationalisation of the yuan. Most directly, the enhanced ability of Chinese residents to issue foreign debt in yuan would normalise cross-border debt flows relative to the current situation (see also Wolf 2009, amongst many others). At a regional level, an active international market in yuan-denominated instruments would reduce Asian dependence on dollar-denominated markets. To the extent that regional currencies should be more stable against the yuan than against the dollar, this would be a stabilising force in terms of the risk profile of international debt of Asian economies especially those with the strongest trade links with China. For these reasons, the gradual internationalisation of the yuan constitutes a major policy challenge for China and wider region.

In summary, this section has highlighted the multi-dimensional challenges posted by international capital flows for macro-financial policy frameworks, with the primary risk

pertaining to the amplifying impact of debt inflows on local credit dynamics and local asset prices. For emerging Asia, its rising share in global GDP is set to be broadly matched by a similar increase in its share in the global financial system, especially as it progressively lifts restrictions on the financial account. These shifts in international financial patterns carry risks if cross-border debt flows grow too large and amplify cyclical patterns in local asset prices and output. The corollary to deeper cross-border financial integration should be a more conservative approach in the design and implementation of domestic macro-financial policy frameworks.¹⁶

Finally, macro-financial stability policies are hampered by the inadequacy of the data on international financial transactions. While there are current reform efforts underway, much remains to be done to provide policymakers with the detailed data required to understand the risk map underlying international balance sheets (Ali et al 2012, Borio 2013).

5 Conclusions

This paper has emphasised that international capital flows represent the key channel by which the domestic financial system is affected by shocks to the external financial environment. Shocks to global risk appetite and changes in the monetary stances of the major financial centres have a significant impact on the level of gross and net capital flows, which in turn affect macro-financial stability in host economies through a variety of mechanisms.

In terms of designing an appropriate policy response, there is no “one size fits all” approach. Rather, different combinations of monetary, fiscal and macro-prudential instruments are consistent with the maintenance of macro-financial stability, with a possible

¹⁶While our primary focus is on the impact of monetary and financial shocks in the advanced economies on domestic financial conditions in emerging market economies and the implications for the conduct of macro-financial policies in the host economies. However, these policy choices have feedback effects on the financial systems in the major financial centres. In turn, these feedback effects alter the optimal policies that should be adopted by the monetary authorities in the major financial centres (Honohan and Lane 1999, He and McCauley 2013). It is beyond the scope of this paper to trace out the full impact of this feedback loop.

supplementary role for capital flow management policies under certain conditions. The volatile nature of international capital flows means that it is important for policy officials to monitor closely shifts in the international financial environment, in order to ensure that the domestic policy stance is appropriately counter-cyclical. Finally, the potential for spillovers across economies calls for greater international policy coordination but it remains unclear how much progress will be made in reforming the international monetary system over the near term.

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Table 1: Foreign Bank Ownership

	1995	2002	2009
Hong Kong	67.0	72.0	76.0
India	6.0	9.0	12.0
Indonesia	24.0	32.0	49.0
Korea	0.0	7.0	19.0
Malaysia	26.0	30.0	33.0
Pakistan	5.0	13.0	38.0
Philippines	12.0	14.0	13.0
Singapore	41.0	55.0	52.0
Thailand	5.0	17.0	19.0
China	13.0	8.0	18.0

Note: Percentage of foreign-owned banks in domestic banking system. Data from Claesens and Van Horen (2013).

IFI

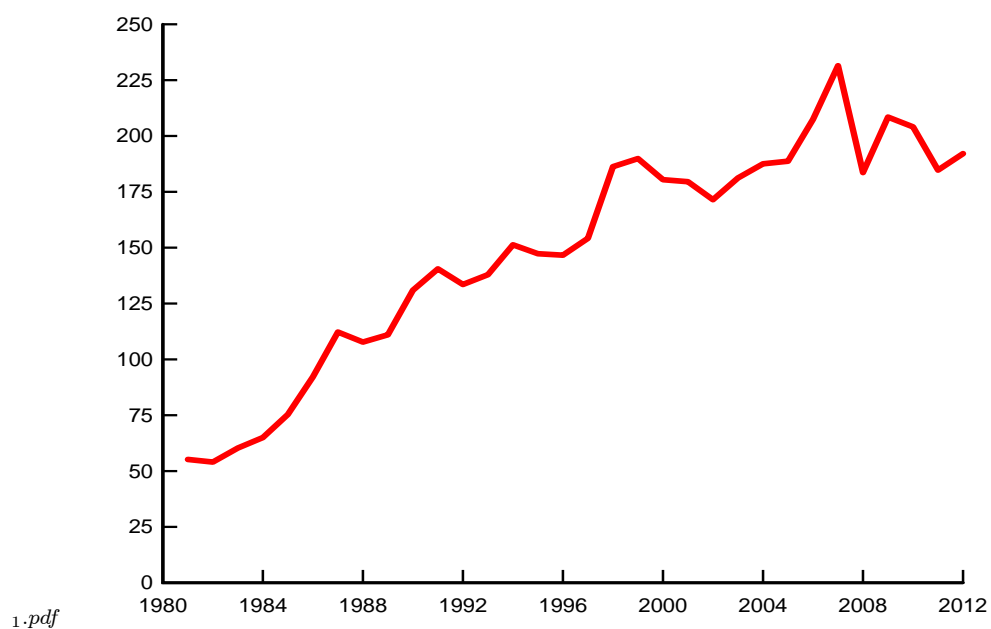


Figure 1: Emerging Asia: International Financial Integration Ratio, 1981-2012. Note: IFI ratio is sum of foreign assets and foreign liabilities divided by GDP. Source: Based on update of Lane and Milesi-Ferretti (2007).

KFLOWS

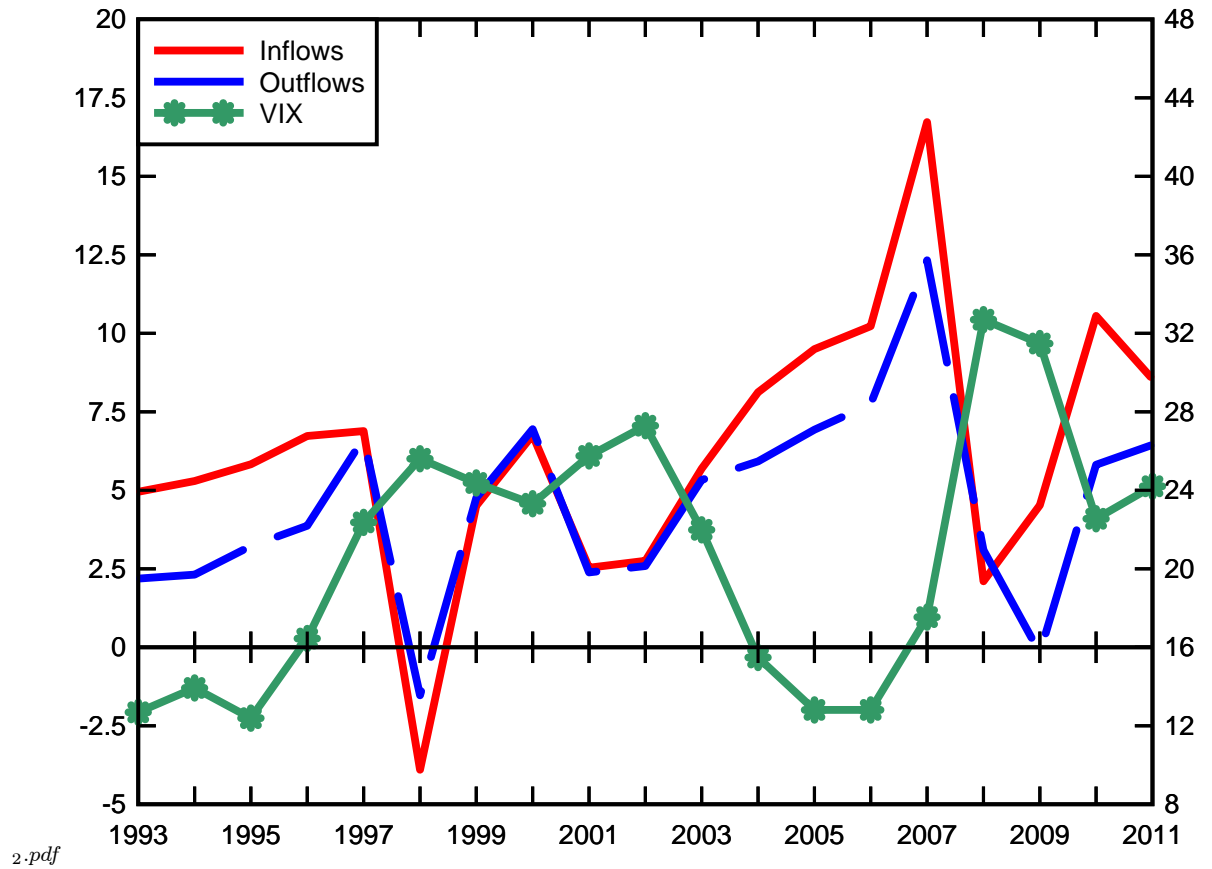
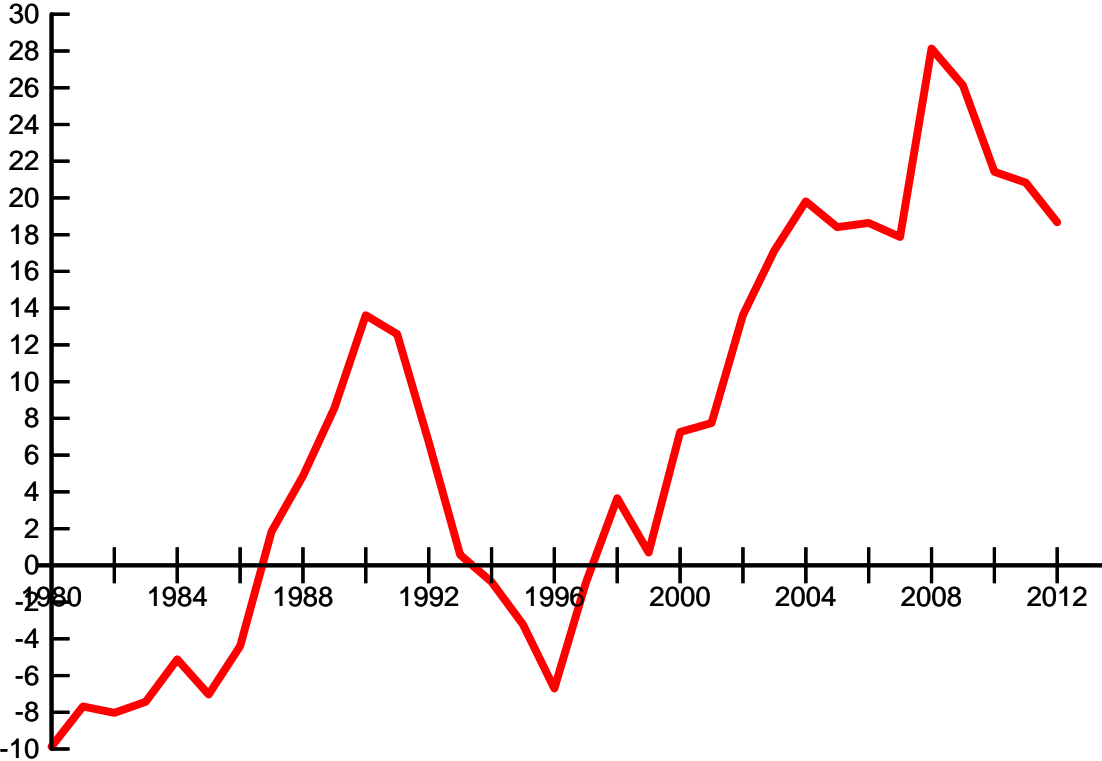


Figure 2: Emerging Asia: Capital Flows and the VIX. Note: Capital inflows and outflows (ratios to GDP) for aggregate emerging Asia group on left scale; VIX index on right scale.

Source: IMF BOP dataset and Chicago Board of Trade.

ASIA



3.pdf

Figure 3: Emerging Asia: Net International Investment Position. Note: Ratio to GDP for aggregate emerging Asia group. Calculated from updated version of Lane and Milesi-Ferretti (2007).

ASIA

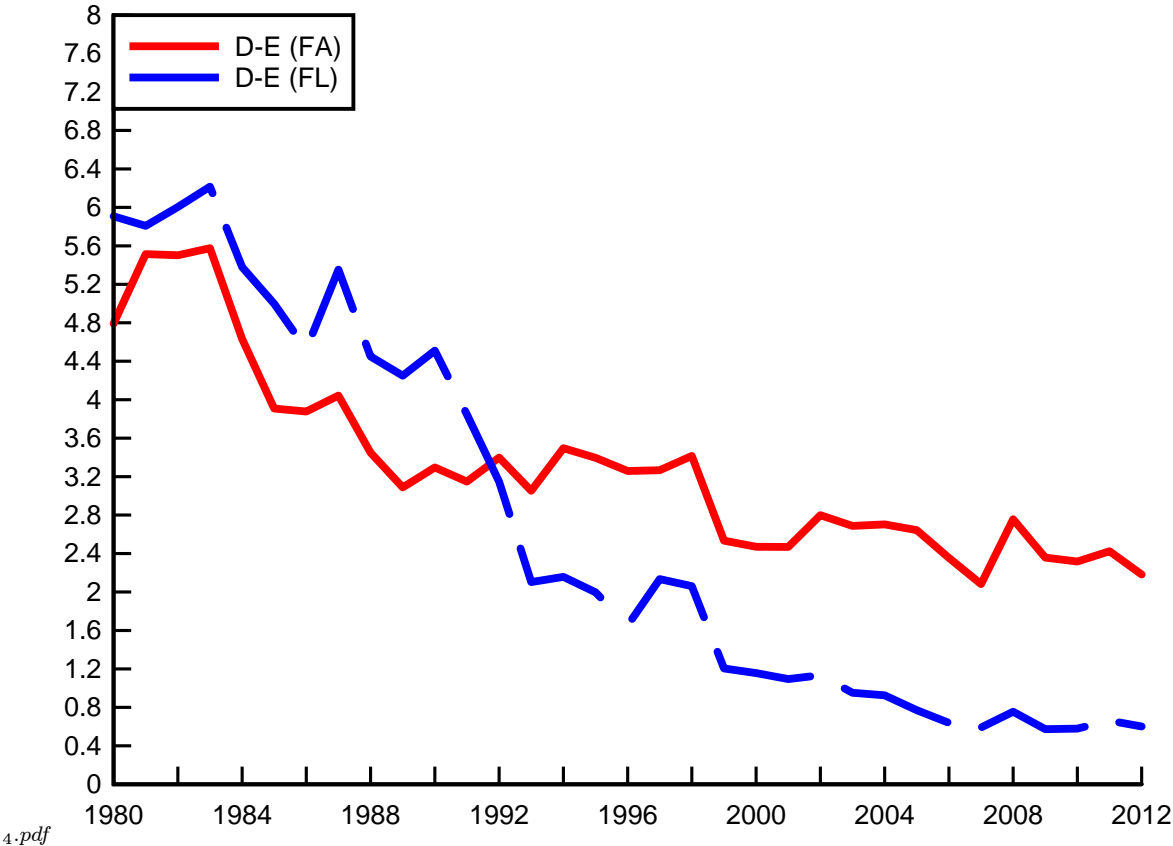


Figure 4: Emerging Asia: International Debt-Equity Ratios. Note: Debt-equity ratios in foreign assets and foreign liabilities for aggregate emerging Asia group. Calculated from updated version of Lane and Milesi-Ferretti (2007).

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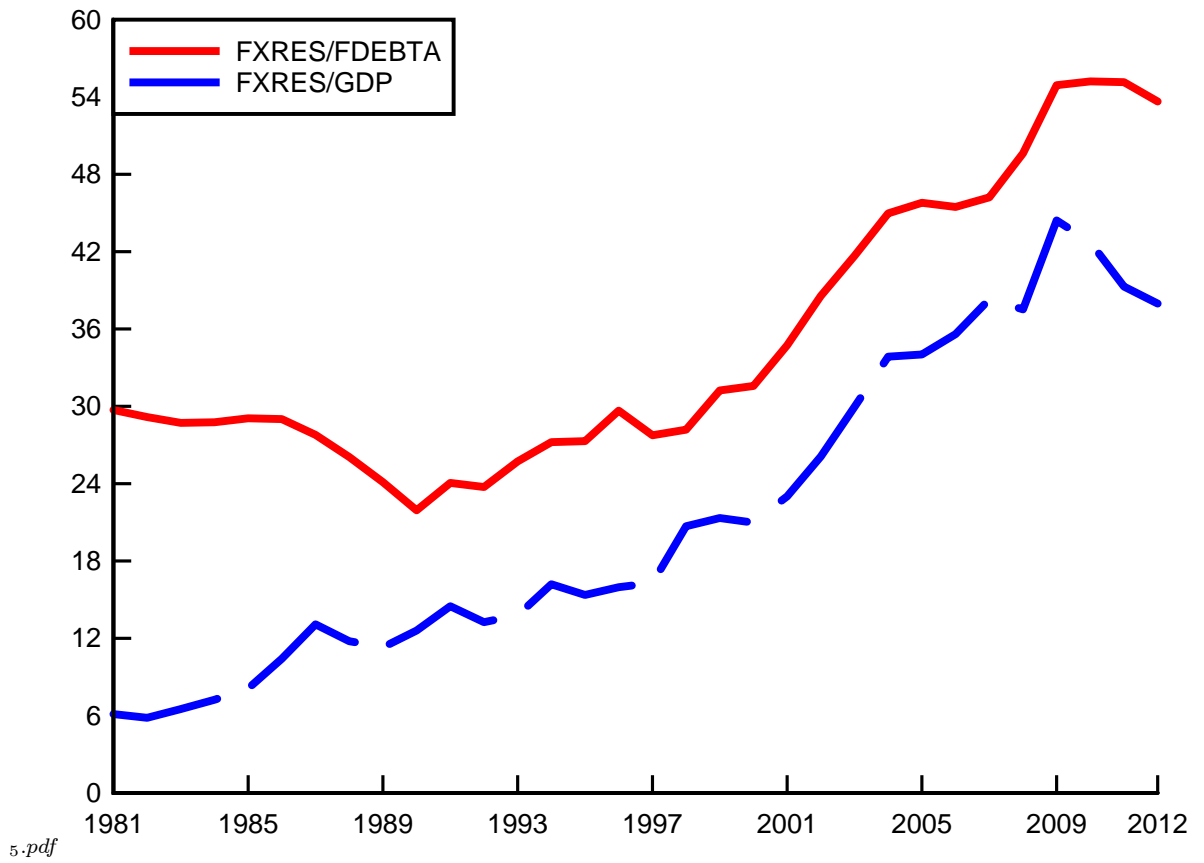


Figure 5: Foreign Reserves, 1981-2012. Note: Foreign reserves expressed as a ratio to total foreign debt assets and as a ratio to GDP. Source: Based on update to Lane and Milesi-Ferretti (2007).

LIABS

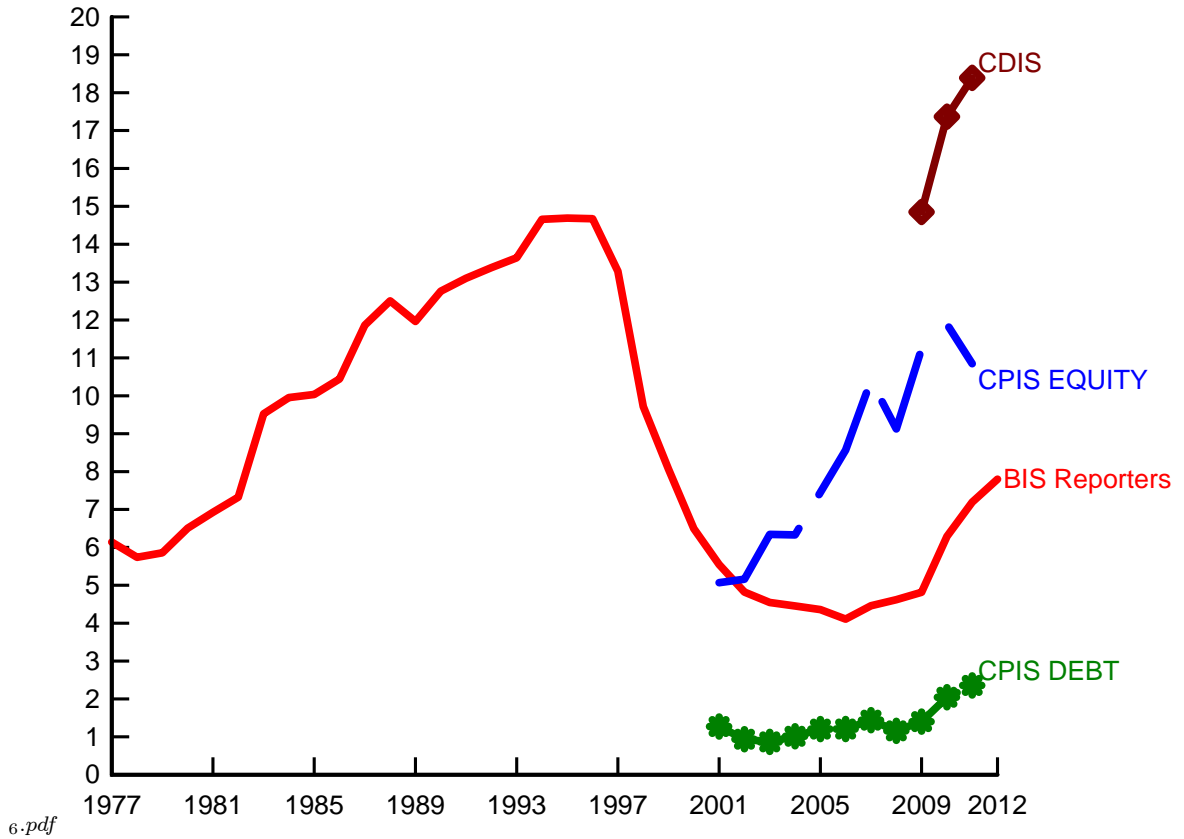


Figure 6: Emerging Asia: Share in Global Cross-Border Liabilities. Note: BIS Reporters: cross-border locational bank data; CPIS Equity: portfolio equity data from IMF CPIS dataset; CPIS Debt: portfolio debt from IMF CPIS dataset; CDIS: FDI from IMF CDIS dataset.