

Cross-Border Financial Integration in Asia and the Macro-Financial Policy Framework

Philip R. Lane*
Trinity College Dublin and CEPR

September 2012

Abstract

In relative terms, Asia came through the global financial crisis relatively well. In part, this can be attributed to its conservative approach to international financial integration. At the same time, financial globalisation means that Asia cannot be fully insulated from international financial shocks. Moreover, it is likely that the rest of the world will undergo a redesign of its international financial profile, such that Asia will also have to adapt. All in all, there is likely to be considerable convergence in the composition of international balance sheets across Asia and the rest of the world. In turn, this is likely to be associated with a higher degree of regional financial integration within Asia. These structural changes call for the careful design of a prudential macro-financial policy framework.

*Prepared for the 11th BIS Annual Conference on “The Future of Financial Globalisation,” Lucerne, June 21st-22nd 2012. I thank Michael Curran, Michael O’Grady and Clemens Struck for diligent research assistance. Email: plane@tcd.ie. Tel: +353 1 896 2259. Postal Address: Economics Department, Trinity College Dublin, Dublin 2, Ireland.

1 Introduction

The growing share of emerging Asia in world output and world trade in goods and services has not yet been matched by similar growth in its relative position in the global financial system. Moreover, the nature of the expansion in cross-border financial trade that has occurred has been quite asymmetric (Lane and Milesi-Ferretti 2007). While there are certainly transitional factors that help to explain this pattern of evolution, it is likely that the coming years will see major structural changes in the nature of international financial integration for emerging Asia. This structural transformation poses challenges for the macro-financial policy framework in emerging Asia and other parts of the world economy.

In this essay, I first review the current state of international financial integration in Asia. Second, I assess the implications of the global financial crisis for the sustainability of current Asian international financial strategies. Third, I highlight some key dimensions of the macro-financial policy framework that is required in order to minimise the financial risks associated with a more complete and symmetric integration of emerging Asia into the global financial system.

2 International Financial Integration Patterns in Asia

There are obvious asymmetries between the international financial patterns adopted by emerging Asia and the typical profiles of advanced economies. In this section, we document these patterns before addressing whether such asymmetries are likely to persist over the medium term.

Table 1 shows that evolution of net international investment positions in Asia from 1996 to 2011. While Australia and New Zealand have maintained relatively large negative

net liability positions, Japan and emerging Asia have undertaken large shifts, with the accumulation of large positive net asset positions in some cases or a contraction in the scale of net liability positions in other cases. In large part, this reflects the substantial current account surpluses run by these countries over the last decade, as is shown in Figure 1.

The net position provides an incomplete picture of engagement with the international financial system, since the gross levels and composition of the asset and liability sides of the international balance sheet also matter for financial stability, exchange rate behaviour and the international transmission of shocks (Lane and Milesi-Ferretti 2007). Table 2 shows the gross scale of Asian international balance sheets, where the IFI (International Financial Integration) ratio is the sum of foreign assets and foreign liabilities, expressed as a ratio to GDP. For the higher-income Asian economies, Table 2 shows a marked increase in the scale of international financial integration, even if the levels are considerably lower than the those in advanced European economies (Lane and Milesi-Ferretti 2007, Lane and Schmukler 2007, Brown and Lane 2011, Lane 2012a).

In addition to the overall scale of the international balance sheet, it is also important to keep track of the debt-equity mix in the composition of foreign assets and foreign liabilities. The debt-equity mix is relevant in understanding the distribution of risk between domestic investors and foreign investors, the rate of expected net returns on the international investment position and relative exposures to shocks in equity and debt markets.

Tables 3 and 4 shows the debt-equity ratios in foreign assets and foreign liabilities respectively. Table 3 shows the predominant role played by debt instruments (primarily official reserves) in the foreign asset positions of emerging Asia. There is a more balanced mix between debt and equity instruments for Australia and New Zealand, which is a more

standard pattern for advanced economies (Lane and Milesi-Ferretti 2007).

Table 4 shows the debt-equity ratios in foreign liability positions. Again, there is a marked difference between the advanced Asian economies that exhibit debt-intensive foreign liabilities and many of the emerging economies that have ratios far below unity. The shift by emerging economies from debt financing to equity financing in the wake of the 1990s crises represents a striking change in the international risk distribution. Moreover, this shift is also associated with a shift in the foreign currency exposures faced by emerging economies, with equity liabilities not bearing the same fixed relation with the exchange rate as standard foreign-currency debt liabilities.

The shift away from foreign debt liabilities is also reflected by the declining share of emerging Asia in global cross-border debt positions. This pattern is illustrated by Figures 2 and 3 which show shares in global cross-border loans and global cross-border bond portfolios respectively. In contrast, Figure 3 shows that emerging Asia has increased in relative importance as a destination in terms of global portfolio equity positions, while Table 5 shows that sizeable share of emerging Asia as a destination in global FDI positions.

The assessment of risk factors in the international balance sheet cannot be disentangled from the condition of domestic balance sheets. Some relevant indirect information can be gleaned by looking at the level of domestic credit and the level of public debt. Along both dimensions, emerging Asian economies show ratios that are generally substantially lower relative to the levels in advanced economies (see also Brown and Lane 2011).

3 Lessons from the Global Financial Crisis

The 2008-2009 global crisis revealed much about the sustainability and stability of cross-border financial positions around the world (see also Lane 2012b). It turned out that international financial transmission of the original shock in the US credit markets was far from uniform, with banks in advanced European economies the largest holders of asset-backed securities and most dependent on short-term dollar funding (McGuire and Von Peter 2009, Acharya and Schnabl 2010, Bertaut et al 2011, CIEPR 2012, Shin 2012). The US assets of emerging Asia were primarily in the form of government securities that rose in value during the crisis; those countries that tolerated currency depreciation against the strengthening US dollar also received a capital gain on dollar-denominated assets from the shift in exchange rates. In these ways, it became clear that aggregate indicators such as creditor/debtor status did not provide a sufficient guide to the underlying patterns of exposures. Rather, international financial risk could only be evaluated by a forensic analysis of the composition of foreign assets and foreign liabilities.

Moreover, the sudden stop of private capital inflows to those European economies running excessively-large current account deficits and overly-rapid domestic credit growth before the crisis has provided fresh evidence of the costs of forced external adjustment and rapid deleveraging, with the crisis-type dynamics that previously played out in various emerging-market crises taking hold in Iceland, the Baltics and the periphery of the euro area. Lane and Milesi-Ferretti (2011) documented the extraordinary declines in domestic demand and output in these economies, while Lane and Milesi-Ferretti (2012) show that most of the external adjustment has taken the form of “expenditure reduction” rather than “expenditure switching.”

While the European crisis shares many similar qualitative features to previous emerging-market crises, the scale of sectoral and international balance sheet problems are of a much bigger magnitude. The pre-crisis boom conditions in financial markets tolerated growth rates in current account deficits, domestic credit growth and debt obligations that were viewed as only feasible for advanced economies, since these countries were believed to be at low risk of suffering a major financial crisis. The scale of these imbalances means that the banking-sector and external solvency problems have led to severe fiscal deterioration in the affected economies, with the level of compensating cross-border official flows (whether fiscal or monetary in nature) challenging political limits to the feasibility of such stabilising mechanisms (see also Lane 2012c).

The global crisis has also shown that the extensive nature of international financial linkages means even countries with strong net external positions and limited exposure to risky asset classes can still be adversely affected by the ancillary impact of shocks in international financial markets. The extraordinary uncertainty that gripped the global economy in late 2008 and early 2009 led to a remarkable shrinkage in gross capital flows, with investors generally withdrawing from foreign markets, with this exit voluntary in some cases and compelled by redemption calls and margin calls in other cases (Krugman 2008, Milesi-Ferretti and Tille 2011).

The market uncertainty and the reversal in capital flows posed a major challenge for Asia. While the net external positions of emerging Asia might have been much improved relative to the 1990s, the level of gross foreign liabilities (especially in equity-type instruments) had grown considerably. These gross exposures meant that Asia could not be fully insulated from the portfolio adjustments that were taking place among global investors, with gross capital outflows placing downward pressure on asset prices and currency values.

At a broad level, Asia responded to this shock through a variety of strategies (see also IMF 2012). For Australia and New Zealand, the declines in the world economy and financial inflows could be accommodated through domestic monetary easing and sizeable currency depreciations. Several emerging Asian economies also adopted qualitatively-similar strategies, since strong net external positions, stable domestic banking systems and a demonstrated commitment to medium-term price stability enabled these countries to also engage in monetary easing and currency depreciation.

For other Asian economies, the reversal in private capital flows was absorbed through reserve decumulation rather than currency depreciation. More generally, high reserve levels limited the scale of financial outflows, by providing assurances to domestic and foreign investors that these countries could provide ample foreign-currency liquidity. Through these channels, a sufficient level of reserves played a useful role during the crisis, even if the evidence indicates that there is little marginal gain to holding extra reserves above a threshold level (see Aizenman et al 2010).

Finally, strong pre-crisis fiscal positions enabled Asian governments to also counteract the macroeconomic impact of the global crisis through (passive and active) fiscal expansion. In addition, Asian governments could provide fiscal backstop supports to domestic banking systems without increasing sovereign risk premia (see also IMF 2012).

The relative success of Asia in coping with the 2008-2009 is a testament to the stabilising properties of the macro-financial frameworks that had been adopted since the 1990s Asian crisis. The improvement in net external positions, the shift in the composition of foreign liabilities from foreign-currency debt to equity-type instruments, the accumulation of liquid foreign assets, the decline in public debt levels and a risk-averse approach to financial regulation each made a contribution to the robust performance of Asia during this episode.

At the same time, the policy response must be considered as only a qualified success, in the sense that the crisis also underlined the limited availability of some valuable policy instruments. For instance, the central bank currency swap lines that were extended on a large scale among the advanced economies were offered only to a limited extent to a small number of major emerging economies, while the available resources under the Chiang Mai Initiative were obviously inadequate relative to the scale of the shift in private capital flows. The importance of the dollar in short-term foreign debt liabilities also underlined the absence of any Asian currency that could currently play a similar role in international financial transactions.

Moreover, it is plausible that structural shifts in the global financial system and the policy environment in advanced economies will mean that the current configuration of international balance sheets is not sustainable into the medium term. In particular, the aftermath of the global crisis is likely to lead to shifts in the desired international financial positions of many advanced economies, with the rebuilding of domestic balance sheets, tighter regulation of banks and measures that effectively promote financial home bias each acting to affect the level and composition of international financial flows. Through these channels, there may no longer be the same availability of international counterparties to the prevailing Asian external positions at the current configuration of asset prices and exchange rates.

4 Design of Macro-Financial Policy Frameworks

At a global level, there is an emerging consensus that the advanced economies would do well to implement some of the key policies already adopted by Asian economies. Most

strongly, the dangers posed by out-sized banking systems that are overly dependent on short-term wholesale funding has led to moves to tighten banking regulations and explore the scope for effective macro-prudential policy instruments. Since banks are the primary intermediary of international financial flows, a byproduct of tighter banking regulation should be a decline in gross cross-border positions (Committee on International Economic Policy Reform 2012).

In related fashion, the costs of excessive current account deficits and rapid credit growth have prompted the European Union to adopt an “excessive imbalances” surveillance framework, even if there is a lack of clarity as to the trigger points at which aggressive policy intervention would be required or the type of policy tools that could rein in such imbalances at a tolerable macroeconomic cost. The severe deterioration in sovereign debt positions in Europe has also underlined the scale of the direct and indirect fiscal costs of financial crises (Reinhart and Rogoff 2009, 2011). In turn, the damage inflicted on banking systems and macroeconomic performance from sovereign debt crises has led to a re-assessment of the dangers associated with medium/high sovereign debt levels. In order to preserve the fiscal space required to effectively counteract adverse shocks, the safe levels of public debt and fiscal deficits may be substantially below pre-crisis estimates (see also Lane 2012a).

As indicated, these revised policy principles shift Europe some distance in the direction of the macro-financial policy frameworks already adopted in emerging Asia. In some sense, Australia and New Zealand represent an intermediate case, with net foreign liability positions that are much larger than the levels exhibited by most emerging Asian economies. Moreover, these countries have extensive foreign-currency debt liabilities, even if the international financial system has enabled the associated currency risks to be hedged up to now.

Still, despite the insulation provided during the global crisis, several factors indicate that the current configuration of cross-border financial positions for emerging Asia is neither optimal nor feasible over the longer term.

First, the current system of self-insurance through high levels of official reserves is expensive and collectively inefficient relative to the construction of effective global and regional safety nets. The ongoing accumulation of reserve assets carries opportunity costs, distorts domestic financial systems and also distorts the financial systems of reserve-issuing countries. At some point, cost-benefit calculations should indicate a rebalancing away from the reserve accumulation strategy. In part, reserve accumulation may naturally fade away as more emerging Asian economies adopt flexible-type exchange rate regimes, tolerate currency appreciation and opt for greater monetary autonomy over currency stability.

In part, the substitution away from excessive reserve levels can be accommodated by international reforms that enhance risk pooling through assorted international safety net mechanisms (see also Farhi et al 2011, Henning 2011 and Prasad 2011). These include expansion in the scale of IMF precautionary credit lines, enhanced currency swap lines and pooled reserve funds (whether coordinated by the IMF, regional groups or alliances of the major emerging market). The design of incentive-compatible international safety nets constitutes a major challenge for policymakers at global and regional levels.

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.

Taking a medium-term perspective, the empirical evidence is that rising levels of income per capita and domestic financial development spurs growth in cross-border financial positions (Lane and Milesi-Ferretti 2008a). Especially as emerging Asia graduates from export-orientated growth strategies, policymakers can facilitate the increased appetite of domestic private-sector entities to hold a greater volume and broader range of foreign assets by relaxing restrictions on capital outflows. Moreover, it is plausible that much of the expansion in foreign asset holdings will be regionally focused, in view of the strong influence of gravity factors on international investment patterns (Lane and Schmukler 2007, Lane and Milesi-Ferretti 2008b). In addition, the regional orientation in cross-border financial positions would be reinforced if emerging Asia moves away from dollar-tracking currency regimes towards independent monetary regimes and/or regionally-focused managed exchange rate regimes.

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 a more liberal approach to cross-border financial integration should be a more conservative approach in the design and implementation of domestic macro-financial policy frameworks. As is discussed extensively in Lane (2012a), this includes a rigorous macro-prudential regulatory framework for the domestic financial system and a reinforced commitment to a risk-mitigating fiscal strategy. Where it makes sense, the former can include “capital flow management” policies in addition to domestically-orientated regulatory interventions.

The latter consists of the deployment of “leaning against the wind” fiscal policy vis-a-vis the financial cycle as well as the output cycle, where this encompasses both macro-level and micro-level fiscal instruments. Such fiscal activism should be anchored by a prudentially-sound public balance sheet, in recognition of the fiscal devastation that can be associated with a fiscal crisis.¹ The potential value of a formal fiscal framework (intelligently-applied fiscal rules plus an independent fiscal council) in supporting such a strategic approach to the conduct of fiscal policy could be usefully debated in an Asian context.

Finally, in relation to Australia and New Zealand, it is interesting to speculate as to the impact on these economies of a sustained repricing of risk in the global financial system. The fact that chronic external deficits have been successfully funded over a long period need not imply that financing of external liabilities will always be continuously available into the future.

5 Conclusions

The theme of this essay has been to emphasise that the asymmetric approach to international financial integration that has characterised emerging Asia over the last decade is not a permanent feature. Rather, the medium-term trend for these economies is likely to involve a more liberal approach to financial inflows and outflows. Moreover, the current concentration of foreign asset positions in dollar reserves will be replaced by a more balanced mixture, with regional financial integration set to grow more quickly than extra-regional financial linkages.

¹Of course, the fiscal cost of a financial crisis can also be managed in terms of the design of crisis resolution mechanisms, so that taxpayers are protected from banking-sector losses.

These shifts have implications for the design of the international financial system. Importantly, this structural transformation also requires rigorous domestic macro-financial policy frameworks to manage the risks associated with the expansion of international balance sheets.

References

- Acharya, Viral V. and Philipp Schnabl (2010), “Do Global Banks Spread Global Imbalances? Asset-Backed Commercial Paper During the Financial Crisis of 2007–09,” *IMF Economic Review* 58 (1), 37–73.
- Aizenman, Joshua, Menzie D. Chinn and Hiro Ito (2010), “Surfing the Waves of Globalization: Asia and Financial Globalization in the Context of the Trilemma,” *NBER Working Paper No. 15876*.
- Benetrix, Agustin and Philip R. Lane (2011), “Financial Cycles and Fiscal Cycles,” *mimeo*, Trinity College Dublin.
- Bernanke, Ben S., Carol Bertaut, Laurie Pounder DeMarco and Steven Kamin (2011), “International Capital Flows and the Returns to Safe Assets in the United States, 2003-2007,” *Banque de France Financial Stability Review* 15, 13-26.
- Borio, Claudio and Piti Disyatat (2011), “Global Imbalances and the Financial Crisis: Link or No Link?,” *BIS Working Paper No. 346*.
- Brown, Martin and Philip R. Lane (2011), “Debt Overhang in Emerging Europe?,” *World Bank Policy Research Working Paper No. 5784*.

- Bruno, Valentina and Hyun Song Shin (2012), “Capital Flows, Cross-Border Banking and Global Liquidity,” *mimeo*, Princeton University.
- Chen, Ruo, Gian Maria Milesi-Ferretti and Thierry Tressel (2012), “Euro Area Debtor Countries: External Imbalances in the Euro Area,” *Economic Policy*, forthcoming.
- Chinn, Menzie D. and Hiro Ito (2006), “What Matters for Financial Development? Capital Controls, Institutions, and Interactions,” *Journal of Development Economics* 81(1), 163-192.
- Chinn, Menzie D. and Hiro Ito (2008), “A New Measure of Financial Openness,” *Journal of Comparative Policy Analysis* 10(3), 309-322.
- Committee on the Global Financial System (2010), “Long-Term Issues in International Banking,” *CGFS Paper No. 41*.
- Committee on International Economic Policy Reform (2012), *Banks and Capital Flows: Policy Challenges and Regulatory Responses*, Brookings Institution, forthcoming.
- De Haas, Ralph and Neeltje Van Horen (2012), “Running for the Exit: International Banks and Crisis Transmission,” *Review of Financial Studies*, forthcoming.
- Devereux, Michael B., Philip R. Lane, Cyn-Young Park and Shang-Jin Wei (2011), *The Dynamics of Asian Financial Integration: Facts and Analytics*, Routledge.
- Farhi, Emmanuel, Pierre-Olivier Gourinchas and Helene Rey (2011), *Reforming the International Monetary System*, CEPR e-book.
- Galstyan, Vahagn and Philip R. Lane (2012), “Bilateral Portfolio Dynamics During the Global Crisis,” *mimeo*, Trinity College Dublin.

- Gourinchas, Pierre-Olivier (2012), “Global Imbalances and Global Liquidity,” *mimeo*, UC-Berkeley.
- Gourinchas, Pierre-Olivier and Maurice Obstfeld (2012), “Stories of the Twentieth Century for the Twenty-First,” *American Economic Journal: Macroeconomics* 4(1), 226-265.
- Gourinchas, Pierre-Olivier, Helene Rey and Kai Truempler (2012), “The Financial Crisis and The Geography of Wealth Transfers,” *Journal of International Economics*, forthcoming.
- Henning, C. Randall (2011), “Coordinating Regional and Multilateral Financial Institutions,” *Peterson Institute for International Economics Working Paper 11-9*.
- International Monetary Fund (2012), *Asia and Pacific Regional Economic Outlook*, April.
- Jordà, Òscar, Moritz Schularick and Alan M Taylor (2011), “Financial Crises, Credit Booms, and External Imbalances: 140 Years of Lessons,” *IMF Economic Review* 59(2), 340-378.
- Krugman, Paul (2008), “The International Finance Multiplier,” *mimeo*, Princeton University.
- Lane, Philip R. (2012a), “External Imbalances and Macroeconomic Policy,” *New Zealand Economic Papers*, forthcoming.
- Lane, Philip R. (2012b), “Financial Globalisation and the Crisis,” *BIS Working Paper*, forthcoming.

- Lane, Philip R. (2012c), “The European Sovereign Debt Crisis,” *Journal of Economic Perspectives* 26(3), 49-68.
- Lane, Philip R. and Gian Maria Milesi-Ferretti (2007), “The External Wealth of Nations Mark II: Revised and Extended Estimates of Foreign Assets and Liabilities, 1970-2004,” *Journal of International Economics* 73, 223-250.
- Lane, Philip R. and Gian Maria Milesi-Ferretti (2008a), “The Drivers of Financial Globalization,” *American Economic Review (Papers & Proceedings)* 98(2), 327-332.
- Lane, Philip R. and Gian Maria Milesi-Ferretti (2008b), “International Investment Patterns,” *Review of Economics and Statistics* 90(3), 538-549.
- Lane, Philip R. and Gian Maria Milesi-Ferretti (2011), “The Cross-Country Incidence of the Global Crisis,” *IMF Economic Review* 59(1), 77-110.
- Lane, Philip R. and Gian Maria Milesi-Ferretti (2012), “External Adjustment and the Global Crisis,” *Journal of International Economics*, forthcoming.
- Lane, Philip R. and Peter McQuade (2012), “Domestic Credit Growth and International Capital Flows,” *mimeo*, Trinity College Dublin.
- Lane, Philip R. and Barbara Pels (2012), “Current Account Imbalances in Europe,” *Moneda y Credito*, forthcoming.
- Lane, Philip R. and Jay Shambaugh (2010), “Financial Exchange Rates and International Currency Exposures,” *American Economic Review* 100(1), 518-540.
- Lane, Philip R. and Sergio Schmukler (2007), “The Evolving Role of China and India in the International Financial System,” *Open Economies Review* 18(4), 499-520.

McCauley, Robert, Patrick McGuire and Goetz Von Peter (2010), “The Architecture of Global Banking: From International to Multinational?,” *BIS Quarterly Review* (March), 25-37.

Levi-Yeyati, Eduardo and Tomas Williams (2011), “Financial Globalization in Emerging Economies: Much Ado About Nothing?,” *World Bank Policy Research Working Paper No. 5624*.

McGuire, Patrick and Goetz von Peter (2009), “The US Dollar Shortage in Global Banking and the International Policy Response,” *BIS Working Paper No. 291*.

Milesi-Ferretti, Gian Maria, Francesco Strobbe and Natalia Tamirisa (2010), “Bilateral Financial Linkages and Global Imbalances: a View on The Eve of the Financial Crisis,” *IMF Working Paper No. 10/257*.

Milesi-Ferretti, Gian Maria and Cedric Tille (2011), “The Great Retrenchment: International Capital Flows During the Global Financial Crisis,” *Economic Policy* 26(66), 285-342.

Obstfeld, Maurice (2009), “International Finance and Growth in Developing Countries: What Have We Learned?,” *IMF Staff Papers* 56(1), 63-111.

Obstfeld, Maurice (2011a), “International Liquidity: The Fiscal Dimension,” *mimeo*, UC Berkeley.

Obstfeld, Maurice (2011b), “The International Monetary System: Living With Asymmetry,” *mimeo*, UC Berkeley.

- Obstfeld, Maurice (2012a), “Financial Flows, Financial Crises, and Global Imbalances,” *Journal of International Money and Finance* 31, 469-480.
- Obstfeld, Maurice (2012b), “Does the Current Account Still Matter?,” *American Economic Review*.
- Ostry, Jonathan D., Atish R. Ghosh, Karl Habermeier, Marcos Chamon, Mahvash S. Qureshi and Dennis B.S. Reinhardt (2010), “Capital Inflows: The Role of Controls,” *IMF Staff Position Note No. 10/04*.
- Ostry, Jonathan D., Atish R. Ghosh, Karl Habermeier, Luc Laeven, Marcos Chamon, Mahvash S. Qureshi and Annamaria Kokenyne (2011), “Managing Capital Inflows: What Tools to Use?,” *IMF Staff Discussion Note No. 11/06*.
- Park, Yung Chul (2006), *Economic Liberalization and Integration in East Asia: A Post-Crisis Paradigm*, Oxford University Press.
- Prasad, Eswar S. (2011), “Role Reversal in Global Finance,” *NBER Working Paper No. 17497*.
- Reinhart, Carmen M. and Kenneth S. Rogoff (2009), *This Time Is Different: Eight Centuries of Financial Folly*, Princeton University Press.
- Reinhart, Carmen M. and Kenneth S. Rogoff (2011), “From Financial Crash to Debt Crisis,” *American Economic Review* 101(5), 1676-1706.
- Rogoff, Kenneth (1999), “International Institutions for Reducing Global Financial Instability,” *Journal of Economic Perspectives* 13(4), 21-42.

- Sachs, Jeffrey D. (1995), “Do We Need an International Lender of Last Resort?,” *Frank Graham Memorial Lecture*, Princeton University.
- Schularick, Moritz and Alan M. Taylor (2012), “Credit Booms Gone Bust: Monetary Policy, Leverage Cycles, and Financial Crises, 1870-2008,” *American Economic Review* 102(2), 1029-1061.
- Shin, Hyun Song (2011), “Global Banking Glut and Loan Risk Premium,” *mimeo*, Princeton University.
- Stiglitz, Joseph (2010), “Risk and Global Economic Architecture: Why Full Financial Integration May be Undesirable,” *American Economic Review* 100(2), 388-392.
- Stulz, René M. (2005), “The Limits of Financial Globalization,” *Journal of Finance* 60(4), 1595-1638.
- Wolf, Martin (2009), *Fixing Global Finance*, Yale University Press.

Table 1: Net International Investment Positions

	1996	2001	2006	2011
Australia	-53.7	-46.3	-59.4	-58.7
China	-13.9	-4.9	12.3	20.8
Hong Kong	44.7	159.2	272.9	288.8
India	-23.2	-16.2	-19.5	-24.8
Indonesia	-58.2	-69.7	-38.4	-34.4
Japan	18.9	32.6	41.2	54.9
Korea	-9.1	-12.0	-21.1	-9.7
Malaysia	-45.8	-28.2	-4.3	3.7
New Zealand	-112.0	-63.0	-84.3	-70.0
Pakistan	-39.6	-39.3	-29.9	-31.2
Philippines	-44.9	-60.9	-41.7	-14.2
Singapore	84.4	150.6	248.5	259.6
Taiwan	54.5	73.9	116.4	169.0
Thailand	-50.4	-43.4	-27.8	-8.1

Note: Based on updated version of dataset described in Lane and Milesi-Ferretti (2007).

Table 2: IFI Ratios

	1996	2001	2006	2011
Australia	132.6	191.1	249.3	223.2
China	60.0	78.7	112.2	109.5
Hong Kong	1241.2	1126.6	1758.6	2169.9
India	40.0	43.0	69.2	73.4
Indonesia	88.3	126.1	84.6	80.3
Japan	93.8	105.7	173.5	199.1
Korea	53.8	86.6	115.9	140.7
Malaysia	161.8	178.4	205.0	238.0
New Zealand	178.1	209.1	236.0	223.7
Pakistan	51.4	64.2	60.7	53.4
Philippines	96.9	136.2	123.7	114.7
Singapore	445.1	857.5	1108.0	1643.0
Taiwan	91.2	151.0	306.2	360.3
Thailand	103.9	138.4	143.2	168.9

Note: Based on updated version of dataset described in Lane and Milesi-Ferretti (2007).

IFI ratio is sum of foreign assets and foreign liabilities expressed as a ratio to GDP.

Table 3: Debt-Equity Ratio: Foreign Assets

	1996	2001	2006	2011
Australia	0.5	0.4	0.5	0.7
China			15.1	8.2
Hong Kong		1.4	0.9	0.9
India	27.6	12.6	7.0	2.6
Indonesia		15.3	5.7	3.4
Japan	5.4	4.4	3.8	3.5
Korea		6.8	4.2	2.1
Malaysia		2.5	2.8	1.5
New Zealand	1.1	0.9	0.8	0.9
Pakistan			13.1	14.1
Philippines		9.0	9.2	8.2
Singapore		1.4	1.4	1.9
Taiwan		1.9	1.9	2.0
Thailand	13.7	12.7	13.1	7.5

Note: Based on updated version of dataset described in Lane and Milesi-Ferretti (2007).

Table 4: Debt-Equity Ratio: Foreign Liabilities

	1996	2001	2006	2011
Australia	1.1	1.1	1.1	1.3
China			0.3	0.4
Hong Kong		0.5	0.4	0.5
India	3.9	2.2	0.7	0.7
Indonesia		6.5	1.3	0.7
Japan	4.1	2.6	1.1	2.9
Korea		1.0	0.6	0.9
Malaysia		1.1	0.6	0.8
New Zealand	0.7	1.7	1.3	1.7
Pakistan			2.2	2.5
Philippines		3.1	1.4	1.2
Singapore		0.9	0.7	1.3
Taiwan		0.5	0.5	0.8
Thailand	2.9	1.4	0.5	0.4

Note: Based on updated version of dataset described in Lane and Milesi-Ferretti (2007).

Table 5: FDI Liabilities as a Share of Global FDI Liabilities

Emerging Asia	8.6
AUS/NZ	1.3
Japan	0.5

Note: Based on CDIS dataset.

Table 6: Private Domestic Credit

	2002	2007	2009
Emerging Asia	78	60	53
Japan	110	97	93
Australia	87	114	130
New Zealand	109	140	153

Note: This table reports private credit by deposit money banks and other financial institutions as a percentage of GDP. Source: Beck et al (2009).

Table 7: Public Debt Ratios

	1996	2001	2006	2011
Australia	29.3	17.1	10.0	22.9
China	6.8	17.7	16.2	25.8
Hong Kong	n/a	25.1	33.0	33.9
India	68.7	77.8	78.5	68.1
Indonesia	n/a	80.2	39.0	25.0
Japan	99.0	153.6	186.0	229.8
Korea	8.6	18.7	31.1	34.1
Malaysia	35.2	41.4	43.2	52.6
New Zealand	39.4	29.8	19.4	37.0
Pakistan	73.4	87.9	57.5	60.1
Philippines	54.7	58.8	51.6	40.5
Singapore	69.6	95.4	86.4	100.8
Taiwan	n/a	30.7	34.2	40.8
Thailand	15.2	57.5	42.0	41.7

Note: Based on IMF data.

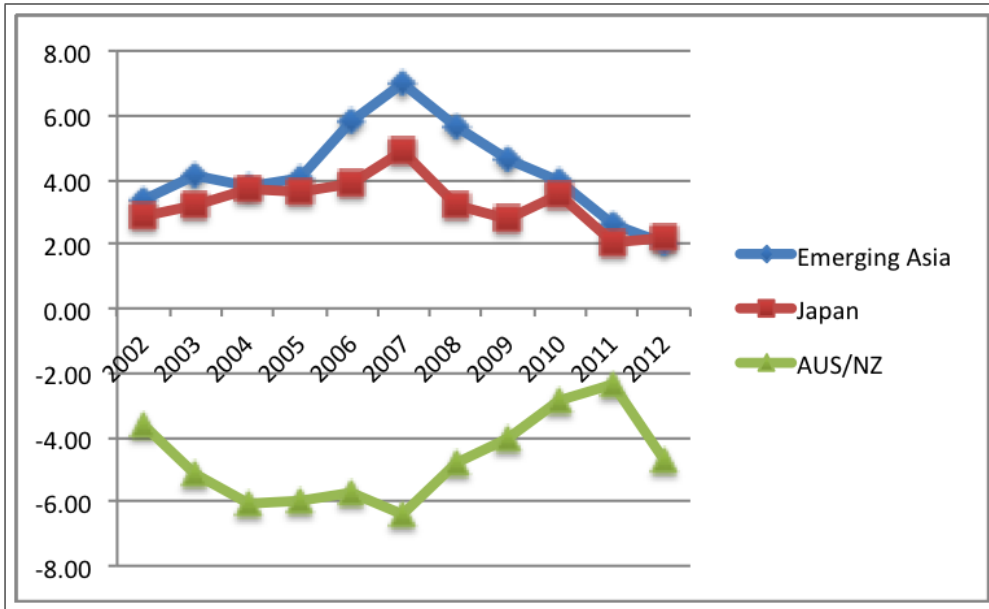


Figure 1: Regional Current Account Balances, 2002-2012. Note: Expressed as ratios to GDP.

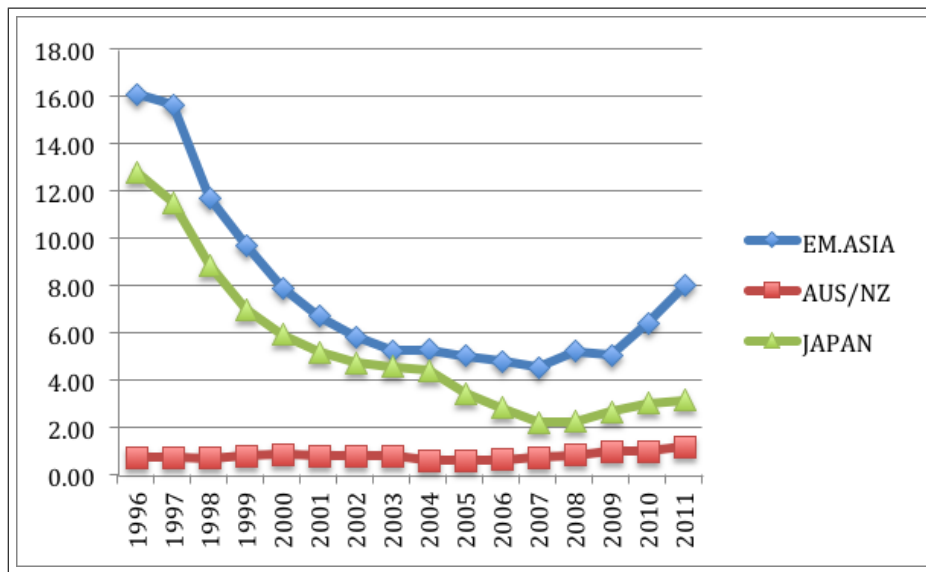


Figure 2: Foreign Loan Liabilities as a Share of Global Cross-Border Loans. Source: BIS

Table 7A.

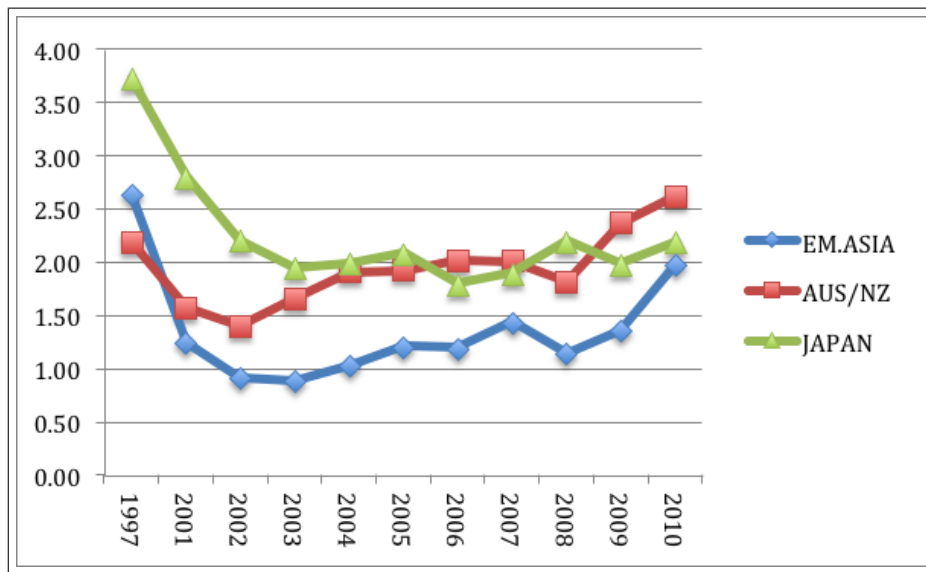


Figure 3: Foreign Portfolio Debt Liabilities as Share of Global Cross-Border Holdings.

Source: CPIS dataset.

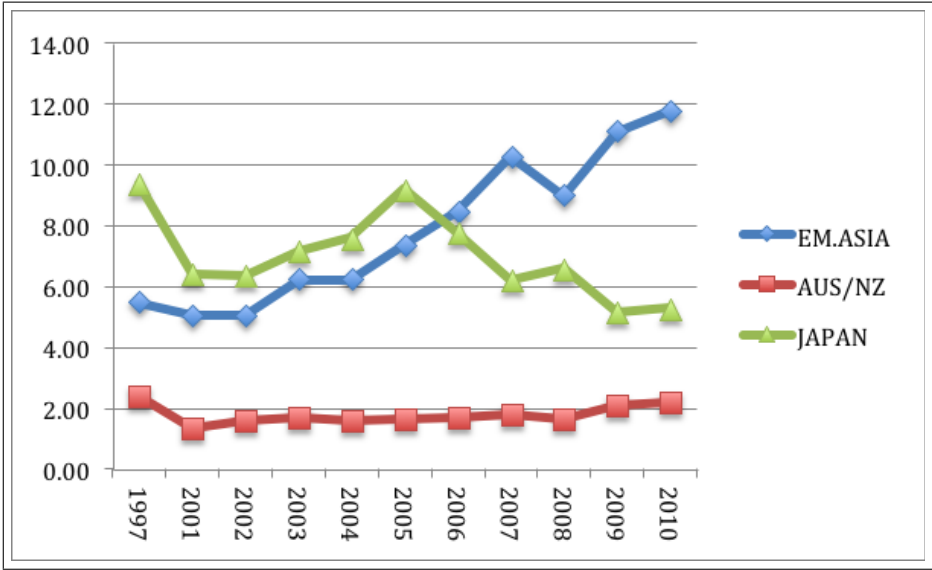


Figure 4: Foreign Portfolio Equity Liabilities as Share of Global Cross-Border Holdings.

Source: CPIS dataset.