

WP/09/06

UNESCAP WORKING PAPER

**Crises, Private Capital Flows
and Financial Instability in
Emerging Asia**

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Prepared by Ramkishen S. Rajan*

December 2009

Abstract

The views expressed in this Working Paper are those of the author(s) and should not necessarily be considered as reflecting the views or carrying the endorsement of the United Nations. Working Papers describe research in progress by the author(s) and are published to elicit comments and to further debate. This publication has been issued without formal editing.

Asia was faced with a sudden and sharp crisis in 2008-2009, the proximate cause of which was reversals in foreign capital flows, not unlike the regional crisis a decade ago. How different has this boom and bust cycle of international capital flows been from the previous one? The paper examines the balance of payments dynamics in emerging Asia to understand the magnitude and types of private capital flows to and from the region between 1990 and 2008. Attention is paid to both the crises periods of 1997-1998 as well as 2007-2008 along with the patterns of capital flows pre and post Asian crisis. While the region's capital reversals in 1997-1998 were due to "other investments," i.e. short-term bank lending, those in 2008-2009 were largely due to portfolio flows. It is not surprising that these two components are often referred to as "mobile capital" and are seen by many as a source of financial instability in comparison to foreign direct investment (FDI) which is viewed as a more stable form of external finance. However, such a conclusion needs to be tempered somewhat in view of the fact that a greater share of FDI inflows has been in the form of mergers and acquisitions (M&As) as opposed to Greenfield. The paper also discusses selected policy issues relating to liquidity and reserve adequacy, regional cooperation, exchange rate coordination and financial stability.

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CONTENTS

1. INTRODUCTION	1
2. DYNAMICS OF PRIVATE CAPITAL FLOWS IN EMERGING ASIA SINCE THE MID 1990S	2
2.1 ASIAN CRISIS AND AFTERMATH.....	3
2.2 EMERGING ASIA AS A SOURCE OF CAPITAL.....	5
2.3 GLOBAL FINANCIAL CRISIS OF 2008-2009 AND CAPITAL FLOWS.....	6
2.4 ASIA IN 1997-1998 AND EUROPE IN 2008-2009: ROLE OF SHORT- TERM BANK LENDING	9
3. MOBILE CAPITAL VERSUS FDI: IMPACT ON FINANCIAL STABILITY ...	11
4. POLICY DISCUSSION	15
4.1 IMPORTANCE OF LIQUIDITY AND RESERVE ADEQUACY	15
4.2 REGIONAL COOPERATION: FROM LIQUIDITY TO DEMAND AND DEVELOPMENT	17
4.3 BANK INTERNATIONALISATION	21
4.4 ISSUES IN FINANCIAL REGULATIONS	23
4.5 OTHER ISSUES	24
5. CONCLUSION	26
TECHNICAL ANNEX: TRENDS IN M&As IN DEVELOPING ASIA	28
REFERENCES	34
FIGURE 1: NET PRIVATE CAPITAL FLOWS TO EMERGING ASIA, 1991- 2010	38
FIGURE 2: STOCK MARKET INDICES (INDEX)	39
FIGURE 3: GLOABAL DELEVERAGING AND RISK	39
FIGURE 4: EFFECTIVE EXCHANGE RATES SINCE SEPTEMBER 2008 – MARCH 2009	40
FIGURE 5: CHANGE IN FOREIGN EXCHANGE RESERVES, JULY 2008 – FEBRUARY 2009	40
FIGURE 6: CREDIT GROWTH PRE LEHMAN BROTHERS	41
FIGURE 7: EXPORT ORIENTATION	41
FIGURE 8: CHINA'S MERCHANDISE TRADE	42

FIGURE 9: ASIAN EXPORTS TO UNITED STATES AND CHINA (INDEX)	42
FIGURE 10: ASIAN MERCHANDISE EXPORTS DURING VARIOUS CRISES (INDEX)	43
FIGURE 11: IMF LOANS DURING THE 2008-2009 CRISIS (AS OF MARCH 2009)	43
FIGURE 12: SHORT-TERM DEBT	44
TABLE 1A: GROSS PRIVATE CAPITAL INFLOWS TO ASIA AND EMERGING ECONOMIES, 1990-2007	45
TABLE 1B: GROSS PRIVATE CAPITAL OUTFLOWS FROM ASIA AND EMERGING ECONOMIES, 1990-2007	45
TABLE 2: GLOBAL CURRENT ACCOUNT BALANCES	46
TABLE 3: ESTIMATED SIZE OF LARGEST SWFs, END 2007	47
TABLE 4: IMF REVISED PROJECTIONS POST-LEHMAN BROTHERS	48
TABLE 5: NET CAPITAL FLOWS TO SELECTED EMERGING ECONOMIES, 1990-2009	49
TABLE 6: RELATIVE STABILITY OF VARIOUS COMPONENTS OF PRIVATE CAPITAL FLOWS, 1990-2009	50
TABLE 7: MACRO AND FINANCIAL INDICATORS IN SELECTED EMERGING MARKET COUNTRIES	51
TABLE 8: FOREIGN RESERVE ADEQUACY, 1996-2009	52
TABLE 9: SHARE OF ASSETS OWNED BY FOREIGN BANKS OVER TOTAL ASSETS, 1990,2000,2004	53
TABLE A1: M&A DEALS OF SELECTED ASIAN COUNTRIES	54
TABLE A2: GRAVITY EQUATION 1/2/3/	55
TABLE A3: GRAVITY EQUATION 1/2/3/	56

Crises, Private Capital Flows and Financial Instability in Emerging Asia¹

by

Ramkishen S. Rajan

1. Introduction

After decades of rapid growth and surges in capital inflows, East Asia faced a sudden withdrawal of capital flows and a sharp crisis in 1997-1998 which brought the growth in much of East Asia to a screeching halt. The region experienced a period of painful but much-needed de-leveraging and corporate and financial restructuring (including consolidation, loan loss recognition and restructuring of bad loans) as well as some institutional reforms. Asia as a whole experienced a number of setbacks, being hit by a series of negative shocks in 2000-2003, including the collapse of NASDAQ bubble, the spread of SARS, the avian flu and some natural disasters all of which helped delay full-fledged recovery in both growth and asset prices. Although some doubts were expressed about whether the region could regain its luster at all, the region re-emerged quite strongly, with growth returning to pre-crisis levels and asset prices, in most cases, even surpassing their pre-crisis levels.

The initial sub-prime mortgage crisis and the housing downturn in the United States in 2006-2007 was viewed with passing interest by the media and policymakers in Asia. As in the United States, the belief was that the sub-prime market was too small to have any significant impact on the larger U.S. economy. In addition, Asian financial institutions were relatively unexposed to the U.S. sub-prime market directly and the corporate sector was fairly strong (IMF 2009). Regional equity prices, too, remained fairly robust until early 2008. While a slowdown from the 2008 levels was anticipated, it was expected to be relatively mild; things appeared relatively manageable for the region as a whole, until Summer 2008. The Lehman Brothers bankruptcy was a “game-changer” for Asia, as it was for the rest of the world, as global credit markets withered suddenly and dramatically, largely due to a sharp capital withdrawal and

¹ The paper benefited from comments provided by ESCAP staff, including Nagesh Kumar, Aynul Hasan, Tiziana Bonapace, Shuvojit Banerjee, during a seminar organized by the Macroeconomic Policy and Development Divisions Paper, 10 August 2009.

ensuing credit crunch. So once again Asia was faced with a boom and bust cycle the proximate cause of which was inflows and reversals in foreign capital flows.

How different has this boom and bust cycle of international capital flows been from the previous one? The paper is structured as follows. Section 2 examines the balance of payments dynamics in emerging Asia to understand the magnitude and types of private capital flows to and from the region between 1990 and 2008.² Attention will be paid to both the crises periods of 1997-1998 as well as 2007-2008 along with the patterns of capital flows pre and post Asian crisis. To preview the main conclusion, while the region's capital reversals in 1997-1998 were due to "other investments," i.e. short-term bank lending, those in 2008-2009 were largely due to portfolio flows. As discussed in Section 3, it is not surprising that these two components are often referred to as "mobile capital" and are seen by many as a source of financial instability in comparison to foreign direct investment (FDI) which is viewed as a more stable form of external finance. However, such a conclusion needs to be tempered somewhat in view of the fact that a greater share of FDI inflows has been in the form of mergers and acquisitions (M&As) as opposed to Greenfield. Section 4 discusses selected policy issues relating to crises and financial stability. The final section offers a summary and a few concluding remarks. A technical Annex considers the issue of M&As to developing Asia and examines the impact of financial variables on such flows.

2. Dynamics of Private Capital Flows in Emerging Asia since the Mid 1990s

The search for higher returns led to a surge in foreign capital inflows into emerging Asia in the first half of the 1990s, averaging about 2.4 per cent of the region's GDP, peaking at almost 4 per cent of GDP by 1996 (figure 1).³ Structural or trend factors leading to an influx in global capital flows to emerging markets included rapid improvements in telecommunications and information technologies, the proliferation of financial instruments, the institutionalisation of

² We do not discuss official capital flows (such as IMF lending).

³ As defined by the IMF, emerging Asia encompasses China, India, the newly industrializing economies (NIEs) Hong Kong, Korea (South), Singapore and Taiwan, as well as the ASEAN-5 economies of Indonesia Malaysia, Philippines, Thailand and Vietnam.

savings, and the internationalisation of investment portfolios (mutual and pension funds) in search of opportunities for risk diversification. The attractive growth prospects along with stable exchange rates, sound domestic macroeconomic policies (actual or perceived) and progressive financial and capital account deregulation in many of the (East) Asian economies, were forces pulling capital flows specifically into the region in general. In terms of types of capital flows, while FDI grew steadily during the first half of the 1990s, and portfolio flows (bonds and equities) were more volatile, there was a notable jump in the “other” net private capital flows which include net short term lending by foreign commercial banks as well as foreign currency deposits and trade credits.

2.1 Asian Crisis and Aftermath

The subsequent loss of confidence in these economies resulted in a massive turnaround in capital flows in 1997, i.e. the boom was followed by bust. The data reveal that emerging Asia experienced a sharp reversal in net private capital flows in 1997 and 1998 - net private capital flows dropped by more than half in 1997 (compared to 1996) and then actually turned into outflows in 1998. This reversal was primarily due to the “other” net private capital flows. This component, which peaked at 1.2 per cent of GDP in 1996, turned into net outflows by 1998. These outflows accelerated thereafter to -4 per cent of GDP in both 1998 and 1999 as international banks became unwilling to roll over existing short-term debts to the region. This sudden reversal in bank lending is often presented as providing strong evidence in support of a bank panic model (Chang and Velasco 1998 and 1999).

However, a less emphasised feature of this period was the decline in portfolio flows following the initial bank panic as investors also tried to scale down their exposures in the region (also see Rajan and Siregar 2002). These capital flows which averaged 0.9 per cent of GDP between 1994 and 1996, slowed down markedly to around 0.25 per cent of GDP by 1997 and 1998. In contrast, FDI flows remained remarkably stable throughout the period under

consideration.⁴ In fact, FDI inflows experienced a jump up in 1998 and 1999, likely driven by fire-sale of assets in the region as well as greater inflows to China.

Looking at total net private capital flows, the region remained relatively unattractive to foreign capital between 2000 and 2002 for various reasons. In 2000 the reason was primarily because of sustained outflows in the other investments component as the deleveraging process in the region persisted from the previous two years.⁵ Despite the fact that these bank outflows finally abated and turned into inflows in 2001 and 2002 - as many regional economies, including the Republic of Korea, China and some ASEAN economies successfully issued bonds internationally⁶ - overall private net inflows still remained rather modest, largely because of the IT-induced global downturn in 2001 which led to sharp portfolio capital outflows as well as a slowdown in FDI inflows from its 1998-1999 peak. By 2003, after a prolonged period of restructuring and deleveraging, emerging Asia finally recovered from the Asian crisis of 1997-1998.⁷ While there was a resurgence in net capital inflows to the region between 2003 and 2005, total net private capital inflows were still well below the pre-crisis period (1990-1996) average. This is true even if one excludes the massive booms in 1995 and 1996 where one might reasonably argue there was somewhat of an artificial surge in “other investments” to Thailand and other economies, driven by the “carry trade” phenomenon (i.e. borrow in low interest countries like Japan and invest in higher yielding assets in Thailand). The primary reason for this difference in magnitude of total capital flows in the two periods appears to be because of the

⁴ Three caveats should be noted. One, Indonesia was the only exception, FDI having collapsed due to ongoing socio-political uncertainties (World Bank 1999 and Rajan and Siregar 2002). Two, the implicit assumption is that there is little or no relationship between the various types of capital flows. Rajan (2005) discusses the nexus between FDI and other forms of capital flows and stresses the need to be circumspect in concluding unambiguously that FDI is a stable source of financing (see Section 3). Three, there may have been a shift in the type of FDI from the Greenfield to mergers and acquisitions (M&As) (see Section 4).

⁵ The IMF (2004, chapter 4) discusses the post-crisis external debt adjustment in East Asia and other crisis-hit emerging economies.

⁶ While not readily apparent from the data, it is generally reported that the average maturity of bank loans has lengthened (World Bank 2003 and 2004). This, along with the reserve stockpiling, has resulted in the regional economies experiencing declines in short term debt to reserves and short-term debt to external debt ratios. Another important characteristic of debt inflows to Asia is the growing share of marketable debt instruments (i.e., bonds). This is a result of a deliberate decision by these economies to develop and upgrade their bond markets as a means of diversifying their financial systems and instruments.

⁷ For more details on the dynamics of capital flows in Asia till 2006, see Cavoli and Rajan (2009, chapter 7).

relative slowdown in net portfolio inflows in the post crisis period compared to the pre crisis one.⁸ This is despite the surges in equity inflows to countries like China and India. What was the reason for this relatively disappointing performance in net capital flows to emerging Asia as a whole?

2.2 Emerging Asia as a Source of Capital

To explain the foregoing seeming conundrum one needs to go behind the net private capital flows data to consider both capital inflows and outflows. To do so we draw on data from the balance of payments data from the IMF compiled by Mihaljek (2008). A caveat is in order. The country coverage of the gross flows data considered in this section is narrower than those for the net flows discussed above and the two are therefore not directly comparable.⁹ It is readily apparent from table 1a that across all types of capital the region received more gross inflows post crisis compared to the pre crisis period. At a general level, while improving fundamentals likely pulled inflows into the East Asian region, large-scale global liquidity, low industrial country interest rates and lower risk aversion appear to have been factors pushing capital from industrial countries to emerging economies in general (BIS 2004; and Upper and Wooldridge 2006). Notably, however, the region also experienced much greater gross outflows of all types of capital post crisis. As is clear from table 1b, these outflows were particularly large in the case of portfolio flows as well as other investments (especially in the form of foreign currency deposits). Clearly some of these outflows might have been recycled intraregionally, while the rest were invested outside the region. Importantly, despite these relatively lower capital account surpluses in the region as a whole,¹⁰ emerging Asian economies accumulated reserves at record levels (about half of the global total of US\$ 6,500 billion), due largely to the persistent current account surpluses run by many of the East Asian economies (table 2).

⁸ Portfolio flows also appear to have become far more volatile post Asian crisis.

⁹ Countries included are China, India, Indonesia, Republic of Korea, Malaysia, Philippines, Singapore and Thailand. Taiwan Province of China and Hong Kong, China and Viet Nam are missing in the gross capital flows data. Of these, Hong Kong, China is the most notable exclusion given the extremely high outward flows from the city.

¹⁰ Individual countries such as India and Republic of Korea ran current account deficits.

While the bulk of the Asian central banks have been channeled into U.S. government securities (typically U.S. Treasuries), since the mid 2000s, many other capital exporting developing countries consciously began to look for more systematic ways of raising returns on their international reserves on a longer-term basis. Some did so by creating Sovereign Wealth Funds (SWFs) which are broadly designated pools of assets owned and managed by governments and predominantly (but not exclusively) invested globally (table 3).¹¹ More aggressive outward investments by emerging Asian economies in 2006 and 2007 is apparent from the data, especially in the case of portfolio flows (table 1b)

2.3 Global Financial Crisis of 2008-2009 and Capital Flows

While data are not available, the wave of gross outflows from Asia likely intensified in 2008 as the initial response of some Asian investors - especially SWFs - was to invest aggressively in selected U.S. and European financial and related assets believing them to be grossly under-priced. However, as the crisis intensified, and being faced with significant capital losses with the collapse of major financial institutions and overall asset prices in the developed world, these gross outflows from Asia likely tapered off if not reversed completely. The heightened risk aversion worldwide -- particularly following the Lehman Brothers collapse in September 2008 - also led to an abrupt about turn in gross capital inflows from all emerging economies. Looking at net capital flows data (figure 1), while the 1997-1998 bust was due largely to the reversal in short-term bank loans, the crisis in 2008-2009 has been driven somewhat more so by sharp reversals in portfolio flows, though inevitably there were also retrenchments by many international banks in response to the financial stresses faced in their headquarters in the United States and Europe.

While there were increasing fears about the impact of the crisis on the overall U.S. economy, the catch-word in Asia in 2007-2008 was “decoupling”. As long as the slowdown in the United States was not “too sharp,” the belief was that the rapid growth in China and India as

¹¹ While SWFs have been around since the 1950s, they have only recently attracted much public attention, especially with the creation of the China Investment Corporation (CIC) in September 2007. See Rajan (2009a, chapter 6) for detailed on SWFs.

well as the revitalisation of the Japanese economy would at least cushion the region if not completely offset the slowdown in the United States and ensure that the region's growth momentum was not completely derailed. In fact, in 2009, the Asian Development Bank (ADB) in its flagship publication, *Asian Development Outlook*, referred to "Asia's relative immunity" (p.28) from the crisis due to "only limited exposure to sub-prime and related products..." (p.28). This relative optimism was also mirrored in the initial IMF forecasts in mid- 2008 for regional growth in 2009-2010 (table 4). Regional equity prices, too, remained fairly robust until early 2008 (figure 2). While a slowdown from the 2008 levels was widely anticipated, it was expected to be relatively mild and things appeared relatively manageable for the region as a whole, until Summer 2008, after which credit markets worldwide froze and emerging market spreads widened markedly. The extent of deterioration in Asia is also apparent from the sharp downward revisions in growth prospects for the region for 2009 and 2010 in August 2008 compared to the initial forecasts of mid-2008.

Any region that experiences a slowdown / reversal in foreign capital flows will inevitably suffer from a negative balance of payments shock in the form of exchange rate depreciation, sharp decline in foreign exchange (forex) reserves and/or interest rate hike with deleterious effects on the domestic economy. While emerging Asia did see a sudden stop in capital flows as discussed above, most regional economies ran current account surpluses and therefore were not very vulnerable in this regard, with the notable exceptions of the Republic of Korea in particular but also of India and Indonesia (figure 3). It is not surprising; therefore, that these economies experienced some of the sharpest declines in reserves and exchange rates (figures 4 and 5). However, even in these economies the current account deficits were fairly small; suggesting the need for net capital flows to finance the deficit was fairly modest. However, two caveats are in order here. One, even countries that do not require foreign capital to finance current account imbalances but have experienced massive capital inflows in the previous year and thus have a stock of gross external liabilities that could potentially be reversible are at risk of a sudden outflow. We return to this issue in Section 4.1; it suffices to note here that countries with large current accounts surpluses and who have been net creditors such as Singapore and Malaysia have also experienced downward pressure on their reserves due to a reversal of some gross external liabilities from previous years.

Two if capital flows were the predominant source of financing of any type of domestic economic activity (including surge in asset markets), economies are left exposed to a sudden-stop in foreign capital and curtailment of credit. India and Indonesia experienced the most robust credit growth leading up to the crisis and therefore potentially faced the most risk (figure 6). Many corporates in India were borrowing overseas in US\$. When foreign capital dried up these entities had to replace it with domestic financing, thus leading to a credit shortage domestically. While monetary stimulus in general might help to cushion the negative shock, the key here is that a conventional monetary policy is a macro tool when what is required is targeting credit to entities that have experienced the boom and bust in foreign capital, including mutual funds and real estate developers or those that might otherwise face the greatest crowding out from domestic funding during a crisis (such as viable small and medium-sized enterprises).

Apart from external financing, smaller and more open economies heavily exposed to the global trading system were obviously extremely susceptible. While China has emerged as the largest export market to many Asian economies, the bulk of Asian exports to China are intermediate goods, with final processing done in China and re-exported to the United States and Europe. On this count, many of the NIEs and Southeast Asian economies, especially Singapore; Hong Kong, China; and Malaysia with large export-to-GDP ratios (figure 7).

Putting the above two together (trade and finance), countries in Asia were particularly badly impacted because of the sharp decline in trade financing, much of which involved US\$ (as regional trade is largely invoiced in US\$). There was a worldwide economic slump, including in Japan where production and exports contracted rather sharply in the fourth quarter of 2009 mainly due to the decline in global demand for autos, IT and capital goods. The impact of this shock on Asia is apparent from the sudden drop-off in Chinese exports in late 2009 and the resulting decline in exports of the rest of Asia to China as well as more generally (figures 8 and 9). There was a spike in inventory to shipping ratios, as firms in Asia were not able to get the

financing necessary to buy or sell their goods. The collapse in Asian exports was much worse than during the Asian crisis a decade ago (figure 10).¹²

2.4 Asia in 1997-1998 and Europe in 2008-2009: Role of Short-term Bank Lending

After the sharp downturn in the latter part of 2008 and early 2009, the global and Asian economies appear to have stabilised; much of Asia seems to be in a cyclical recovery phase, largely due to the thawing of credit markets as well as due to the impact of the large fiscal stimuli in countries like China.¹³ As global risk appetite has improved substantially, larger countries like India which were impacted primarily due to the sudden stop in international capital flows as opposed to high dependence on export markets have experienced the fastest recoveries compared to smaller export-dependent economies like Singapore and Taiwan Province of China where recovery may be more tepid.¹⁴ The largely liquidity-induced surges in the global stock markets (albeit from a low base) have also no doubt added to the recovery momentum (though the sustainability of the market run-up remains to be seen) as have the relative easing of commodity prices.¹⁵ The region's large international reserve holdings, the lower levels of leverage especially with regard to external short term foreign currency debt in the region, along with stronger balance sheets of Asian corporates and financial institutions have worked in tandem to ensure the capital account shock will not have long-lasting effects on Asia this time

¹² The IMF (2009a) elaborates on contagion to Asia from the global crisis due to the trade channel. As it notes:

Asia's tightly integrated supply chain propagated the external demand shock rapidly across the region. The collapse in demand from advanced economies has been transmitted through the integrated supply chain, with dramatic effects on intraregional trade. Between September 2008 and February 2009, merchandise exports fell at an annualized rate of about 70 percent in emerging Asia—about one and a half times more than during the information technology (IT) sector bust in the early 2000s and almost three times more than during the Asian crisis in the late 1990s (p.3).

The same report offers some evidence of the extent to which trade finance in Asia was impacted in the last quarter of 2008 (pp.9-10).

¹³ Contrary to the IMF (2009a) which noted "Asia's growth path will continue to run parallel to the global economy" (p.x), Asian growth appears to have run ahead of the global economy.

¹⁴ The recently conducted election and the formation of the new and -- likely quite stable -- government in India has also been a pull factor of capital inflows back into India.

¹⁵ The recent upsurge in oil prices since February 2009 (about 40 per cent since February and June 2009) does not portend well for much of Asia which depends heavily on oil imports.

unlike in 1997-1998.¹⁶ The painful structural changes that the region went through since the 1997-1998 crisis, as well as the relatively more cautious approach towards capital account liberalisation and foreign bank entry in a number of these economies helped to reduce the extent of damage that these economies faced in the recent global financial crisis.

Referring to table 5 on private capital flows, while all emerging economies including Asia experienced a sharp slowdown in net private capital flows between 2007 and 2009 (forecasted), the big difference between the two regions has to do with the turnaround in other private flows. This component of net capital flows in the case of emerging Asia switched from a surplus of US\$15.2 billion in 2007 to an estimated outflow of US\$ 29 billion by 2008. While Asia has clearly not been buffeted by the global economic slump and dislocations it has notably suffered far less than other emerging economies, particularly those in Eastern Europe. Indeed, the vast majority of the emerging economies that recently approached the IMF for crisis-related lending has been from emerging Europe and the Commonwealth of Independent States (CIS) – broadly termed Eastern Europe hereafter.¹⁷ Among the Eastern European borrowers that have negotiated Stand-by Arrangement (SBA) loans are Romania, Ukraine, Hungary, Iceland, Belarus and Latvia (figure 11). In the case of Eastern Europe, the turnaround was much sharper in magnitude, from US\$ 195 billion in 2007 to about -US\$ 40 billion by 2008 with an accelerated outflow of -US\$ 200 billion in 2009 (estimated).

Unlike emerging Asia, many Eastern European economies were running fairly large current account deficits and the predominant source of financing was “other investments” primarily short-term bank lending. The pointed reversal in capital flows led to large declines in exchange rates and depression in domestic asset prices, not unlike the experience of emerging Asia in 1997-98. As in Asia then, much of the external debt was unhedged in foreign currency (US\$ in Asia, Euros in Eastern Europe). Thus, the currency depreciations led to a massive rise in

¹⁶ IMF (2009a) explores the resiliency of the Asian corporate sector.

¹⁷ The only Asian borrowers were Pakistan and recently Sri Lanka both had more deep-seated structural issues. The IMF categorizes Central and Eastern Europe as Albania, Bulgaria, Croatia, Estonia, Hungary, Latvia, Lithuania, Macedonia, Former Yugoslav Republic of, Poland, Romania and Turkey, They have a separate category of Commonwealth of Independent States (CIS) composed of Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russian Federation, Serbia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.

the domestic currency value of foreign currency liabilities, leading to large-scale insolvencies of many companies and individuals. The worsening of domestic economic activity further worsened the balance sheets of foreign institutions that had exposures to these economies, leading to a further retrenchment in loans forced adjustment of the current account via import-compressions. While this dynamic of capital outflows - capital losses in banks and further lending retrenchments - occurred between Japanese banks and East Asia in 1997-1998, the same dynamic has been occurring in the case of Western European banks and Eastern Europe. To be sure, while countries which had the weakest fundamentals - like Latvia and in Eastern Europe in 2007-2008 and Thailand and Indonesia in Asia in 1997-1998 - were the countries initially and most impacted and in need of IMF support, there were inevitable spillovers to other countries with otherwise fairly strong fundamentals (Poland, Czech Republic in Eastern Europe and Singapore and Hong Kong, China in Asia in 1997-1998).

3. Mobile Capital versus FDI: Impact on Financial Stability¹⁸

While the boom and bust in cycles in Asia the last decade have been due to the so-called “mobile capital,” i.e. bank flows plus portfolio flows, FDI has been remarkably stable over the period under consideration. Examination of simple coefficient of variances over a longer period further confirms this relative stability (table 6). Received wisdom linking the composition of international capital flows to economic instability and financial crises is quite straightforward. It argues that short-term inflows (or “hot money”) can be easily reversed, while longer-term flows (in the form of long-maturity bonds and loans and especially FDI) cannot. Movements of hot money are seen as being dominated by interest rate differences and by expected exchange rate changes which can alter rapidly leading to capital volatility, while FDI is determined by long-term fundamental economic characteristics which are more stable. Indeed, FDI is often presented as being relatively irreversible in the short-run. Since it is supposed to enhance the productive capacity of the host country, it produces the revenue stream necessary to cover future capital outflows¹⁹. As the World Bank (1999a) has noted, “recent rapid increases in FDI flows might be

¹⁸ The discussion here draws on and builds upon Bird and Rajan (2002).

¹⁹ The World Bank (1998, 1999b) has summarised the many benefits of FDI on host country economic growth via technology transfer, crowding in of domestic investment, and the like. They note that these growth-inducing benefits to the host country are maximized when accompanied by sound domestic

construed as being the ‘jet-airplane’ variety, bringing benefits with fewer risk” (p.128).

But does the evidence confirm the greater stability of FDI over other capital flows? Chuhan et al. (1996), Sarno and Taylor (1999) and the World Bank (1999a) reach a similar conclusion. Empirical analysis suggests that emerging economies most prone to currency crashes tend to have a relatively smaller share of FDI in total capital inflows and a relatively higher share of short-term external debt. Using probit analysis Frankel and Rose (1996) see the probability of a currency crisis as a function of the stock of FDI and non-FDI liabilities. Based on a set of over 100 emerging economies for the period 1971-1992, they find that a low ratio of FDI to debt is linked to a greater likelihood of a currency crisis. More specifically, a decline in FDI inflows by one percent of external debt is associated with an increase in the probability of crisis by 0.3 per cent²⁰. While Frankel and Rose do not find overall indebtedness or the share of short-term debt to have any statistical effects on the probability of crisis, other recent studies have suggested that short-term indebtedness is a robust predictor of financial crises (Dadush et al. 1999; Rodrik and Velasco 1999; World Bank 1999a and 2000).

There are models that conveniently explain the volatility of short-term capital flows, covering both bank lending and portfolio flows. The essence of these models is that a relatively small initial loss of confidence can translate quickly into panic and a mass exodus of funds, especially when international reserves fall below a threshold where they become insufficient to cover short-term liabilities. The conventional wisdom is that it is these short-term flows that are highly liquid and mobile and therefore make a country vulnerable to crisis. It is easy to see how the above theory combined with the empirical evidence for developing countries has resulted in the conventional wisdom that switching from short-term to long-term capital flows may reduce the probability of currency crises. But is the conventional wisdom unassailable? Is there any empirical evidence that runs contrary to it, and if there is, can this be explained?

policies and greater openness. We do not pursue any of these issues here as our focus is on capital account reversal (liquidity) as opposed to issues of resource allocation.

²⁰ Hausmann and Fernandez (2000) confirm the Frankel-Rose result but show that it is not robust when extended to industrial countries. The authors note that these results may be because industrial countries have a much larger stock of non-FDI liabilities than do developing countries and have a lower frequency of crisis.

This question may be answered in two ways. First, a few empirical investigations into the causes of currency crises in emerging economies have raised doubts about the existence of a direct link between FDI and the probability of currency crisis. For instance, in a study involving 26 emerging economies during the crises periods (1994 and 1997), Nitithanprapas and Willett (2000) found that low FDI is a robust indicator of a country's vulnerability to contagion only if combined with the current account deficit and real exchange rate. Thus they concluded that "the composite indicator of current account, FDI, and real exchange rate is a useful indicator of external vulnerability to financial contagion" but FDI by itself may not be (p.35). Similarly Bussiere and Mulder (1999) tested for the significance of FDI (to GDP ratio) in the crises in emerging economies in 1997 and 1998. They found that the variable was not significant at the 10 percent level, although it had the correct sign, suggesting to them "only a limited reduction in vulnerability as a result of FDI financing of the deficit" (p.17).

Second, a potential criticism of the conventional view regarding differing degrees of stability of various capital flows is that it fails to take into account the complex interactions between FDI and other flows. Examining each flow individually, particularly during short periods of time (such as year-to-year variations), may at best be an unreliable indicator of the degree of risk of various classes of flow, and at worst could be highly misleading²¹. Capital that flows in under the guise of FDI, may flow out under another guise. Hausmann and Fernández-Arias (2000) have recently found that the standard deviation of FDI is not very different from that of total net flows, especially in the case of Latin America, and that the volatility of FDI itself has been on the rise. Furthermore while the overall share of FDI in capital flows has been rising in many developing countries during the 1990s, this has failed to make the overall capital account more stable. Even though FDI has become the single largest component of capital flows for developing countries, this has not been discernibly matched by declining international capital market volatility and a reduced incidence of financial crises. This is consistent with Dooley et al. (1994) who have found that a high level of FDI is associated with greater and not lower

²¹ Claessens et al. (1995) computed statistical measures of volatility for a group of ten developed and developing countries (France, Germany, Japan, Great Britain, and the United States; Argentina, Brazil, Indonesia, Republic of Korea, and Mexico) and failed to unearth any systematic pattern in the volatilities of the various types of capital flows.

variability in capital flows.

What could explain this? Contrary to popular belief, FDI is not “bolted down,” although the physical assets it finances are. Foreign investors can use the physical assets as collateral to obtain a loan from banks and can then place the funds abroad. In other words, the foreign direct investor may hedge the firm’s FDI exposure by borrowing domestically and taking short-term capital out of the country. Hence a firm may be doing one thing with its assets and a completely different thing with the manner in which it finances them. The World Bank (1999b) has also cautioned against the presumption that FDI necessarily implies greater financial stability by pointing out that:

“during a crisis, ‘direct investors’ may contribute...to capital withdrawals by accelerating profit remittances or reducing the liabilities of affiliates toward their mother companies. While these are non-FDI flows, they result from decisions by foreign investors. It is difficult to determine the extent to which foreigners involved in direct investment took out capital through non-FDI flows during the financial crisis because the data are available only with considerable delay. In addition to long-term determinants, FDI is affected by many short-run factors..., such as movements in host countries’ exchange rates and asset prices and growth prospects, as well as the economic environment in FDI source countries” (p.54).

The IMF (1998) has similarly drawn attention to the fact that the distinction between portfolio and FDI flows in the balance of payments can be somewhat arbitrary and that the proportion of FDI flows in aggregate capital flows may be overstated. Small differences in equity ownership, which may serve to reclassify financial flows, are unlikely to represent substantially different investment horizons. This is especially relevant in view of the fact that an increasing share of FDI is in the form of M&As (i.e. ownership stake of over 10 per cent) in recent years and is usually the reason for the increase in FDI immediately after a crisis as foreign investors purchase assets on fire sales (also see Hattari and Rajan 2009). Despite the importance of this mode of external financing, research on it has been fairly sparse. The technical Annex therefore examines the impact of financial factors on M&As in emerging Asia.

4. Policy Discussion

As discussed, Asia has done many things right ever since the 1997-1998 crisis and that has reduced the extent of structural damage from the global financial crisis (unlike, for instance, Eastern Europe). Asia's relative strength from a macro and financial perspective is apparent from table 7 which is based on six key indicators. The IMF (2009b) has determined the cut-off values to be as follows "current account balance below -5 per cent of GDP; refinancing needs in excess of 100 per cent of reserves; net external liabilities to BIS reporting banks above 10 per cent of GDP; average real growth of credit to the private sector greater than 30 per cent year-on-year; loan-to-deposit ratio exceeding 1; and foreign currency-denominated loans exceeding 50 per cent of total loans.". While one could argue about the exact cut-off values as well as the indicators used and could certainly include others – such as those pertaining to reserves adequacy (see discussion below), asset price appreciations (real exchange rates, property prices, etc), household indebtedness, fiscal deficit, and measures of liquidity and solvency of the corporate and financial sector -- they are nevertheless quite helpful in getting a sense of potential vulnerability of a country. With the exception of most indicators, Asia appears well outside the zone of vulnerability. This section discussed a few issues that have come to fore in the current crisis that Asia need to pay attention to.

4.1 Importance of Liquidity and Reserve Adequacy

It has long been recognised that inadequate liquidity can threaten the stability of international financial regimes (Bird and Rajan 2002). Illiquidity can create crises even when economic fundamentals are sound, or it can make a bad situation worse when the fundamentals are weak. Moreover, once it becomes a problem, illiquidity further undermines the confidence of international capital markets. Capital outflows increase, thereby reducing liquidity still further. Having appreciated the importance of ensuring adequate liquidity as a safeguard against future financial crises, many Asian countries consciously attempted to build up reserves immediately after the 1997-1998 crisis partly as a precautionary motive (Aizenman and Marion 2003; also see Rajan and Siregar 2004 and Rajan, 2009a, chapter 9). The current financial crisis has likely only reiterated the importance of this policy.

Having appreciated the importance of ensuring adequate liquidity as a safeguard against future financial crises, many Asian countries consciously attempted to build up reserves immediately after the 1997-1998 crisis partly as a precautionary motive (Aizenman and Marion, 2003; also see Rajan and Siregar 2004 and Rajan, 2009a, chapter 9). While the reserve holdings have skyrocketed in Asia, what is rather unclear is the appropriate size of reserves, i.e. reserve adequacy. Asia clearly holds adequate reserves based on imports and short-term debt (table 8). However, as discussed – and as shown by the Republic of Korea and other countries – one also has to be concerned about other forms of mobile capital such as portfolio flows (a significant issue in the Republic of Korea during 2008-2009) and possible even M&As which may at times be just as reversible as portfolio flows. There is, however, no properly developed yardstick to account for the potential reversibility of these other types of capital flows (see Bird and Rajan, 2003 and De Beaufort Wijnholds and Kapteyn 2001).

A promising yardstick appears to be overall gross external liabilities of a country that are reversible as of the beginning of that year plus any projected current account deficit for that year itself. This is important as a country that has a sizeable current account surplus is not necessarily immune if it has an accumulated stock of gross external reserves that is potentially reversible. *Gross* rather than *net* is appropriate because if foreigners choose to withdraw their funds, it is unclear whether a country is able to coordinate things in such a way to remit its gross external assets back to the country simultaneously (particularly if the investments to and from the country are done by unconnected parties). An outstanding issue pertains to which of the external liabilities are potentially vulnerable. This is a difficult issue for reasons elaborated above. As a start, one could think of ranges of coverage, starting with a minimum coverage of short-term gross external debt liabilities, then adding to it portfolio flows, then FDI flows. While one might fairly argue that reserves coverage of all accumulated portfolio and FDI flows is overly cautious, it should be kept in mind that the focus here has only been on the so-called “external drain”, i.e. capital reversals by foreigners. Countries are also susceptible to “internal drain”, i.e. capital flight by residents. Potentially some portion of broad money (M2) is also reversible. Given that the gross external liabilities discussed above had not considered the possibility of internal drain, it would not be unreasonable to include all gross external liabilities as a yardstick for reserve

adequacy in the first instance.

While the issue of reserve adequacy is an important area for further research with important policy implications, clearly reserve accumulation (so-called “floating with a life-jacket”) is costly on many fronts (as the country effectively swaps high yielding domestic assets for lower yielding foreign ones). This in turn also leads to the question as to whether a completely open capital account is necessarily appropriate from a cost-benefit analysis (Rodrik 2006), particularly since research has suggested that the benefits of such openness is ambiguous at best (Kose, Prasad and Rogoff 2006). The discussion of capital controls is highly involved with no definitive policy conclusion to date. We note here that restraints on capital movements may be divided into controls on capital account transactions per se (*capital controls*) and controls on foreign currency transactions (*exchange controls*). When analysing curbs on capital movements, the four key features to keep in mind are whether they are *comprehensive* or *selective*; whether they are meant to be *temporary* or *permanent*; whether they are imposed on *outflows* or *inflows*; and whether they are *direct/administrative* or *price-based*. While the debate on the pros, cons and effectiveness of restraints on capital flows has invariably intensified with the onset of any currency and financial crisis, on balance, the opponents of such restraints have thus far prevailed. However, the frequency and magnitude of financial crises have given renewed and unprecedented vigor to proponents of restraining cross-border capital movements. Renewed attention should be paid to the Chilean unremunerated reserve requirements (URR) or *Encaje* which appears to have been helpful in managing capital surges when it was in place in the 1990s (see Bird and Rajan 2000 and references cited within).

4.2 Regional Cooperation: From Liquidity to Demand and Development

Since the crisis of 1997-1998, Asian countries have, with some exceptions, chosen to maintain a fairly open capital account but have recognised that they need to buttress their own reserve holdings with external liquidity arrangements. Against this background, and in recognition that financial stability has the characteristics of a regional public good,²² it is

understandable that Asian countries have been eager to promote regional monetary cooperation. The Chiang-Mai Initiative (CMI) has taken centre-stage in this regard.²³ As far back as the 8th APT's Finance Ministers' Meeting in Istanbul in May 2005 there was an agreement to re-evaluate the process, including the possibility of regionalizing the arrangements.²⁴ As part of this there was an agreement to look into developing a collective mechanism to activate the swaps. There was also a recognition of the need to improve on the extent of regional dialogue and surveillance and link these more closely and effectively to the CMI. There was not very much forward movement on these issues until recently. However, in the latest meeting of APT Finance Ministers in Phuket, Thailand in April 2009 the APT countries finally reached an agreement to transform the existing bilateral arrangements into a regional foreign reserve pool of US\$ 120 billion to "address short-term liquidity difficulties in the region and to supplement the existing international financial arrangements."²⁵ The CMI multilateralization (CMIM) is expected to be launched by end of 2009.

The "Plus Three" countries of China, Japan and the Republic of Korea will contribute 80 per cent, while the ten ASEAN countries share the rest of 20 per cent. Of this, Japan will contribute US\$ 38.4 billion to the pool (it has also extended a US\$ 60 billion of yen-denominated swap facilities separately) as will China (in conjunction with Hong Kong, China), while the Republic of Korea will contribute US\$ 19.2 billion. Within ASEAN the contributions of members economies will be primarily by Indonesia, Malaysia, Thailand and Singapore (each contributing US\$ 4.76 billion) and the Philippines (US\$ 3.68). Other details remain unclear, though it appears that the same conditions as the CMI (i.e. 20 per cent unrestricted borrowing and 80 per cent balance only with IMF conditionality) remain in place. Importantly, the regional economies have agreed to create a stronger regional surveillance system in conjunction with the ADB and the ASEAN Secretariat to provide oversight of the fund and help with its operation.

Presumably if and when this surveillance system is effectively established, the 20 per cent

²² More specifically, financial crises emanating from developed countries tend to have global dimensions while those from emerging economies tend to be more regional in scope.

²³ The discussion here draws on Rajan (2009b).

²⁴ See <http://www.aseansec.org/17448.htm>.

²⁵ See <http://www.aseansec.org/22536.htm>. Final agreement was reached at the side-lines of the ADB annual meetings in Bali, Indonesia in May 2009.

of reserve that can be tapped without IMF conditionality will be increased, though one will have to wait and see. Given that the region holds well over US\$ 3,500 billion of reserves, the proposed reserve fund is modest as of now, but has the potential for significant expansion over time especially if countries like India are included. While the membership issues need to be effectively resolved, the CMIM has provided much-needed impetus to monetary regionalism in Asia and is an important step in creating pools of liquidity of the type initially recommended by Rajan and Siregar (2004). A regional reserve pool could involve three tiers of liquidity. The first tier would be owned reserves which offer the highest degree of liquidity and have zero conditionality, but is costly. The second tier would be sub-divided into a country's own reserves placed with a regional pool and other members' reserves with the pool (CMIM). The third tier would be conventional IMF lending via its various facilities. With such a structure the degree of liquidity could be inversely related to the degree of conditionality. Such a regional reserve or insurance pool would help supplement the ongoing restructured / new IMF lending facilities to fortify the regional economies against future financial crises.

However, effective deepening of regional monetary integration will not happen until there is considerable strengthening of the regional surveillance mechanism with well worked out surveillance and policy conditionality. Thus, the announcement of strengthening of surveillance alongside the creating of the CMIM is an important step. Not though that surveillance itself is insufficient if it lacks teeth and if it does not include remedial actions by regional members that are found to be running unsustainable policies. There is an equally hard issue of what such a regional liquidity arrangement implies for exchange rate coordination. Countries with relatively more fixed exchange rates will require somewhat more reserves to manage their currencies and/or pursue much more disciplined domestic economic policies, while countries running more flexible regimes could potentially cause or be faced with competitiveness pressures in the near-term vis-à-vis the other countries if their currencies appreciate or depreciate sharply. Neither surveillance nor exchange rate coordination are issues that have seen much progress in Asia to date, leaving one somewhat skeptical about how viable or effective the CMIM or any sort of regional liquidity arrangement might be going forward.²⁶

²⁶ It should be noted that at a global level, the IMF has clearly recognised this need for such liquidity facilities with the creation of Flexible Credit Line (FCL) in 2009. See

It is fair to say that one needs to look beyond the CMIM to consider more intensive forms of regional cooperation to boost regional demand and development. Why? Apart from the fact that the ongoing crisis has illustrated clearly the risks of depending too heavily on external demand, emerging Asia needs to pay particular attention to boosting regional demand as there are serious questions about whether the export-led growth has reached its limit with medium-term trend growth in the United States and European Union likely to be slower than the leveraged-induced pre 2007 growth. While intra-regional trade in Asia has appreciated markedly (about 50 per cent of total trade), the bulk of the trade is in intermediate products with final demand still being the United States and Europe. In this regard, the region should redouble its efforts to pursue the various free trade agreements (FTAs), particularly with China and India. Schemes to assist cross-border infrastructural development, the development of regional tourism, and other such initiatives should all be pursued with renewed vigour. This in turn necessitates significant boosts in consumption and investment which will almost inevitably mean a decline in regional current account surpluses and possibly a recycling of a greater share of external surpluses to the rest of the region. Promising investment opportunities in the region abound, with fast-growing Asian countries such as India needing massive infusions of new investments in infrastructure and supporting facilities over the coming years.

There are clear synergies to be had from regional cooperation to stimulate demand and

<http://www.imf.org/external/np/exr/facts/howlend.htm>. The FCL is described on the IMF website as follows:

The FCL is for countries with very strong fundamentals, policies, and track records of policy implementation and is particularly useful for crisis prevention purposes. FCL arrangements are approved for countries meeting pre-set qualification criteria. The length of the FCL is 6 months or 1 year (with a mid-term review). Access is determined on a case-by-case basis, is not subject to the normal access limits, and is available in a single up-front disbursement rather than phased. Disbursements under the FCL are not conditioned on implementation of specific policy understandings as is the case under the SBA. There is flexibility to draw on the credit line at the time it is approved, or it may be treated as precautionary.

This is the IMF's third attempt at creating such a liquidity facility, the first two attempts being the Contingent Credit Line in 1999 and the Short-Term Liquidity Facility (SLF) in 2008. Both found no takers and were eventually terminated. While the FCL could be complementary to individual country reserve holdings as a means of reducing financial instability going forward, it is not clear how willing emerging Asian economies will be to avail themselves of this new facility in view of the problems some of them had with the IMF during the Asian crisis of 1997-1998.

advance development in the region. The region needs to be more self-reliant in terms of sustaining economic growth. Asian economies should consider the creation of an explicit or implicit regional development fund to help recycle available funds in the region with the aim of boosting regional demand and development. This is an issue that regional bodies such as ESCAP or the ADB need to pay serious attention to going forward. There may even be scope to consider the creation of a regional development fund, partly financed by some of the massive central bank reserves in the region, along with those of some of the sovereign wealth funds (SWFs) in the region. Given that Asia's poor are the most vulnerable whenever the regional economies are faced by negative shocks, it is imperative that policymakers focus on practicable initiatives that will reduce the degree of susceptibility of regional economies to booms and busts. Pursuit of stable economic growth must be given as much attention as the pace of growth.

The collapse of regional trade partly due to the lack of trade financing indicates that there is considerable scope for boosting regional cooperation at the micro-financial level. Greater focus should also be paid to reducing the extent of trade invoicing of regional trade in US\$ which was adversely affected by the crisis due to a severe dollar shortage. Other areas to focus on include continued development of regional bond markets and coordination of policies during future international financial strains, including policies towards deposit insurance schemes. Steps towards building a robust financial system should also help accelerate domestic demand by reducing the credit constraints of households and firms, though care must be taken to ensure that the credit expansion does not create "over-leverage" and consequent booms and busts cycles (as has been experienced by the Republic of Korea since the Asian crisis).

4.3 Bank Internationalisation

There is a growing body of empirical evidence of the benefits of foreign bank entry in emerging economies by way of reductions in cost structures, improvements in operational efficiency, introduction and application of new technologies and banking products, marketing skills and management and corporate governance structures. In relation to this, foreign banks could enhance the quality of human capital in the domestic banking system by importing high-skilled personnel to work in the local host subsidiary as well as via knowledge spillovers to local

employees. Customers ought also to benefit in terms of being able to access new financial services. Bank internationalisation may also create domestic pressures for local banking authorities in the host countries to enhance and eventually harmonise regulatory and supervisory procedures and standards and the overall financial infrastructure to international best practice levels.

This said, it is striking that most of Asia continues to lag other emerging markets in Eastern Europe and Latin America (table 9). The relatively low penetration of banks into Asia is consistent with the fact that while Asian economies have been deregulating their banking systems for reasons, they have approached this process more cautiously than their counterparts in East Europe or Latin America. Apart from parochial protectionist arguments, there are actually some valid concerns with the internationalisation of the banking sector that need to be addressed. For some time, the conventional wisdom used to be that a banking system with an internationally diversified asset base may be more likely to be stable and less crisis-prone. There is evidence, for instance, that the foreign bank branches have lower non-performing loan (NPL) ratios than domestic banks in the Republic of Korea, Malaysia and Thailand. In addition, the domestic branches of foreign banks may be able to obtain financing from the foreign head office which could act as a private lender of last resort during a period of financial stress (Goplalan and Rajan 2009).

Conversely, however, there are rising anxieties in some quarters that foreign banks might be a source of instability and contagion rather than stability. This appears to have been the case in the recent global financial crisis which hit the Eastern European financial system much harder than it has the relatively more closed and regulated Asian financial system. Another outstanding concern of deregulating the domestic banking system that has gained greater credence recently is that it could weaken the ability of the central bank to use “moral suasion” in times of a crisis. For instance, the ongoing financial crisis has made apparent the lack of effectiveness of conventional monetary policy, due in part to the fact that liquidity infusions by many central banks into the domestic financial system have remained clogged up without being passed on to the real economy in terms of bank lending (hence resulting in a sharp decline in the money multiplier). However, this has been somewhat less of a problem in some Asian economies such as India and

China with large public-sector dominated banks (de facto or de jure) as the central banks in these countries have been able to “cajole” the domestic commercial banks to lower lending rates and increase lending to the private sector (see Islam and Rajan 2009).

There is also a belief in some quarters that large foreign multinational banks can be difficult to supervise given their complex structures. The quasi-nationalisation of some major financial institutions in the United States has only fuelled concerns in parts of Asia and elsewhere on allowing unmitigated denationalisation of the banking system of any kind, particularly foreign bank entry. In view of this, it is likely that Asian economies will take steps to ensure that the domestic financial institutions continue to play a crucial role in the financial system. However, it should be reiterated that as long as the internationalisation of the banking sector is properly managed, fears that no domestic financial institutions may survive following foreign bank entry are exaggerated. Indeed, cross-country evidence suggests that the first-mover and informational or familiarity advantages enjoyed by domestic banks for some business often limits the extent of inroads that foreign banks can make, at least in the short run. This said, it is important to ensure that foreign investments do not largely originate from a single source country as this might actually increase rather than decrease instability as made apparent by Eastern Europe’s) over-dependence on Western European banks.

4.4 Issues in Financial Regulations

More broadly, the Greenspan-inspired view of a relatively light, market-based approach to financial regulations was all too readily accepted in many emerging economies. Market discipline and self-regulation proved to be grossly inadequate. Prudential regulations need to be comprehensive, counter-cyclical and well-enforced and there is an urgent need to strengthen the abilities of supervisors to enforce regulations. Particular attention needs to be paid to systemic risks posed by large institutions that are considered too large or too interconnected-to-fail. In a recent speech, Ben Bernanke (2009) made the following observations regarding financial sector reforms in the United States, which seem equally pertinent to emerging Asia:

First, we must address the problem of financial institutions that are deemed too big--or perhaps too interconnected-to fail. Second, we must strengthen what I will call the financial infrastructure--the systems, rules, and conventions that govern

trading, payment, clearing, and settlement in financial markets--to ensure that it will perform well under stress. Third, we should review regulatory policies and accounting rules to ensure that they do not induce excessive procyclicality-that is, do not overly magnify the ups and downs in the financial system and the economy. Finally, we should consider whether the creation of an authority specifically charged with monitoring and addressing systemic risks would help protect the system from financial crises like the one we are currently experiencing. ... The elements of such an authority's mission could include, for example, (1) monitoring large or rapidly increasing exposures-such as to subprime mortgages – across firms and markets, rather than only at the level of individual firms or sectors; (2) assessing the potential for deficiencies in evolving risk-management practices, broad-based increases in financial leverage, or changes in financial markets or products to increase systemic risks; (3) analysing possible spillovers between financial firms or between firms and markets, such as the mutual exposures of highly interconnected firms; and (4) identifying possible regulatory gaps, including gaps in the protection of consumers and investors, that pose risks for the system as a whole.

The concerns noted by Bernanke above, including those pertaining to institutions that are too-big-to-fail have been addressed somewhat in the new financial blueprint recently released by the Obama Administration entitled “Financial Regulatory Reform: A New Foundation: Rebuilding Financial Supervision and Regulation”.²⁷ There needs to be a similar fundamental re-evaluation of the role of government in regulating financial sectors by Asian countries to mitigate the chances, extent, and impact of future financial busts and meltdowns. While the aim of regulatory overhaul should be to build a more stable and less crisis-prone financial system, crises will almost inevitably re-occur. Policymakers must also therefore consciously work towards redesigning central bank liquidity frameworks in order to facilitate more effective crisis-management as part of reorganizing the post-crisis regulatory architecture.

4.5 Other Issues

There are, of course, a host of other policy issues to discuss going forward. For instance, while the issue of capital controls always rears its head after each crisis, Asian countries must certainly keep track of the extent of dependence of their institutions – financial and corporate – on wholesale funding which could suddenly freeze. As happened in many Asian countries like

²⁷ http://www.financialstability.gov/docs/regs/FinalReport_web.pdf.

India, these institutions which found themselves suddenly in need of funds had to substitute these foreign funds for domestic ones, driving up local lending rates quite sharply. In other words, foreign shocks get quickly transmitted to home countries via wholesale markets.

The severity of the downturn has further emphasised the need to ensure that policymakers are able to effectively use fiscal policy when needed. This in turn implies the need to ensure that fiscal deficits and public debts are trimmed during boom times so that they can be expanded when needed (as in the case of China, Singapore, etc). While emerging Asian economies have generally been fairly fiscally disciplined, India and the Philippines had relatively high government debt burdens due to past periods of relative profligacy. As recovery takes shape in Asia, it is all the more important for Asian government to put in place plans to start reigning in expenditures and work towards broadening the tax base as they prepare for the future.

With regard to monetary policy, there is an issue of how it should respond to domestic asset bubbles. Central banks often intervene during asset price busts to limit the damage to the real sector, if they are willing to act to limit the incidence and extent of asset price busts through massive emergence support, should not then the central bank be willing to respond effectively to 'obvious' asset price misalignments in the upturn? Yet many have argued that central banks should ignore asset price misalignments simply because they are hard to identify and measure. For instance, if the Fed and other central banks worldwide were concerned about asset price bubbles, arguably it would not have kept interest rates so low for such prolonged periods during the latter part of the Greenspan era. Surely, monetary policy response needs to be symmetric to both booms and busts, failing which there could be obvious moral hazard concerns. Policymakers in Asia would be wise not to underestimate the credit ad related risks during future credit and assets booms.

5. Conclusion

Asia has clearly not been buffeted by the global economic slump and dislocations. However, going forward, the large international reserve holdings in Asia, the region's relatively more flexible exchange rates, the lower levels of leverage especially with regard to external short term foreign currency debt in the region, along with stronger balance sheets of Asian corporates and financial institutions will work in tandem to ensure the capital account shock will not have long-lasting effects on Asia this time unlike in 1997-1998. Positive signs - so-called green shoots - are already emerging, with the thawing of credit markets, declining risk aversion, stabilization of output and trade, and recovery in international capital flows into the region, especially for countries like India and Korea. It looks likely that the economic recovery in emerging Asia will outpace the rest of world. However, if emerging Asia is to hope to return to a period of sustained robust growth, it must place greater emphasis on generating domestic and regional demand.

Concerted efforts must also be made to promote domestic demand in a sustainable manner (i.e. preventing household and corporate stress), especially in larger economies like China, Japan, and the Republic of Korea (Indonesia's and India's domestic demand, in contrast, is fairly robust).²⁸ Even smaller economies like Singapore, Malaysia and Hong Kong, China can do so by attempting to reduce domestic household and corporate savings. One way of reducing corporate savings (retained earnings) is by altering tax incentives so as to transfer corporate profits from retained earnings to greater dividend payouts to shareholders. While the ongoing fiscal stimulus is important in helping alleviate the effects of the downturn, the medium- and long-term focus should be on rebalancing growth more towards domestic demand by focusing more on the provision of social services like health care, pensions, education, and social safety nets. An ease in uncertainties regarding the availability of or access to these social services should, in turn, reduce the need for precautionary savings and consequently assist in boosting domestic consumption. Improvements in infrastructure should help improve the investment climate as well. Governments can do more to assist in the financing and nurturing of domestic entrepreneurship and SMEs. Regional cooperation also needs to be intensified in this regard with

²⁸ The ADB (2009) discusses this issue in more detail.

greater attention being paid to boosting regional demand and development as opposed to just liquidity (*a la* the CMIM).

Short-term capital volatility has been seen as lying at the heart of recent financial crises. The policy debate has focused on reducing the instability of short-term capital flows by controls or by taxation and regulation, and on switching the composition of capital flows to the longer-term end, particularly in the form of FDI. The conventional wisdom has become that a country can reduce its vulnerability to crisis by increasing the share of FDI in capital inflows. Although at a highly aggregated level there appears to be some empirical justification for this view, a more detailed examination of the evidence and of the underlying analytics counsels caution. Indeed increasing FDI may itself be associated with and causally connected to increased instability in portfolio flows, implying that the apparent stability of FDI may be of spurious importance. A potential danger is then that policy measures designed to encourage FDI may involve a distortionary cost but little gain in terms of enhanced financial stability. Such measures would not substitute for those designed to stabilize short-term capital movements and might even make them more needed²⁹. At the very least the analysis in this paper suggests that the casual presumption that the switch towards FDI alone will automatically imply that extreme capital instability will become a thing of the past may be flawed. Invariably, the issue of capital controls also needs to be revisited with objectivity. If the crisis has shown us anything, it is that policy choices should not be made on ideological grounds. Market failures can be as pervasive and hazardous as government failures.

²⁹ However Jeanne (2000) argues that it is not clear that short-term debt contracts ought to be discouraged as they may play a socially advantageous function in reducing agency problems. The World Bank (1999b) surveys recent literature on short-term debt. Hausmann and Fernandez (2000) find that countries which are riskier and financial under-developed tend to have lower aggregate private capital inflows but a higher share of FDI in overall capital inflows.

Technical Annex: Trends in M&As in Developing Asia

A large part of the upsurge in global FDI has been due to mergers and acquisitions (M&As) as opposed to “Greenfield” FDI. There were almost 7000 M&A deals globally in 2006 valued at around US\$ 880 billion, having peaked in 2000 at almost US\$ 1200 billion. In comparison, there were a negligible number of deals pre 1980 and a relatively modest US\$ 150 billion worth of M&A deals in 1990. Also noteworthy is the growing significance of developing Asia in these cross-border M&As, both as sources of finance as well as destinations of investments. These cross-border M&A flows have deepened the economic integration of developing Asia with the global economy. According to UNCTAD data, the Triad (the European Union, Japan and the United States) continue to dominate, both as sources and destinations of M&A deals. However, it is interesting to note that in 2003-2006 the share of developed economies’ M&A purchases (sales) declined from 96.5 (95) per cent in 1987 to 87 (83) per cent by 2006. This decline was largely reflected in a rise in developing Asia’s share (Hattari and Rajan 2009). The region is home to more cross-border M&As than other regions, both in terms of US\$ amount and number of deals. Cross-border M&A sales and purchases involving developing Asia grew almost sixteenth-fold from around US\$ 10 billion in 1990 to US\$ 150 billion in 2006 (table A1).

At a general level, the buoyant global economic conditions and the liberalisation of most of the developing Asian economies in the early and mid 1990s led to a significant wave of M&As globally and regionally. However, there was a marked increase in M&A sales in Asia following the crisis of 1997-1998, with the average of M&A sales jumping threefold from US\$ 7 billion between 1994-1996 to US\$ 21 billion between 1997-1999. Clearly this spike in sales was a combination of fire-sales possibly due to the depressed asset values compared to pre-crisis period, as well as the simultaneous liberalization of foreign ownership regulations in crisis-hit Asian economies. Not surprisingly, purchases rose sharply particularly in the three economies hit by the crisis, viz. Indonesia, Republic of Korea, Thailand. Interestingly, Hong Kong, China also experienced a significant jump in M&A sales.

Apart from purchases by outward bound Chinese companies, Hong Kong's currency board arrangement necessitated all the adjustment to the external shock took place via domestic price adjustments. Thus it faced a rather deep domestic asset price deflation. In contrast, M&A purchases by developing Asian firms remained subdued between 1998 and 2004, with Singapore being a notable exception. The city state which came out of the crisis in fairly good condition used the opportunity to aggressively expand its overseas purchase of assets both within the region and extraregionally. M&A purchases from Singapore averaged just above US\$ 1 billion annually in the first sub-period and close to US\$ 8 billion in the second sub-period. These investments were by Singapore companies, foreign multinationals based in Singapore, as well as by Singapore's sovereign wealth funds (SWFs), Temasek and Government of Investment Singapore (GIC). Apart from Singapore, Hong Kong, China and India have been the top developing economy sources of M&A in recent years. India also shows up prominently as a source of funds, a reflection of the more aggressive stance taken by Indian multinationals with regard to overseas acquisitions and building their global footprints.

Having analysed broad trends and patterns in cross-border M&As in developing Asia, we aim to understand the main financial determinants of such flows. We start at a general level, but focus specifically on the purchases in developing economies, especially developing Asia.³⁰

We estimate an augmented gravity model to understand the main drivers of cross-border M&As in developing Asia. Since a large proportion of our dependent variable are zero observations, our econometric analysis follows di Giovanni (2005) and Hattari and Rajan (2008a and 2008b) by computing a Tobit model using the two-step procedure. First, a probit model is estimated for whether a deal is observed or not conditional on the same right-hand variables as in equation (1), and the inverse Mills' ratio is constructed from the predicted values of the model. Second, a regression is run to estimate equation (1) including the inverse Mills ratio as a regressor.

³⁰ This section draws on Hattari and Rajan (2009).

a) Data

Our bilateral M&A deals data are based on the Zephyr database in millions of US\$. We deflated the data by 1996 U.S. CPI for urban consumers. Real GDP and real GDP per capita in constant 2000 US\$ are taken from the World Bank's *World Development Indicators* database. Data on distance is taken from the CEPII.³¹ Data on the ratio of stock market turnover, exchange rate, CPI of the host and source countries, and the ratio of money supply to GDP are taken from the World Bank's *World Development Indicators* database. Monthly data on stock market index are taken from the World Bank's *Global Economic Monitoring* database. For financial openness we used the index developed by Chinn and Ito (2002). The index is based on the four binary dummy variables, viz. does the country have multiple exchange rates, current account restrictions, capital account restrictions, and requirements of the surrender of export proceeds (as reported in the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER)).

b) Model

The baseline specification of my estimated model is outlined below:

$$\ln(MA_{ijt}) = \beta_0 + \beta_1 \ln(GDP_{it}) + \beta_2 \ln(GDP_{jt}) + \beta_3 \ln(DIST_{ij}) + \beta_4 X_{ijt} + \eta_i + \lambda_t + v_{ijt} \quad (1)$$

where: MA_{ijt} is the real MA flow from source country (i) to host country (j) in time (t); GDP_{it} and GDP_{jt} are real GDPs in US dollar for the source country (i) and the host country (j) in time (t); $DIST_{ij}$ is the the unobservable time effects (we use year dummies); and v_{ijt} is a nuisance term.³²

We expect the coefficients of the real GDP of the source and destination countries to both be positive as they proxy for masses which are important in gravity models. A destination country that has a large market tends to attract more capital flows, in our case M&A deals. The sign of the source country size is ambiguous. While large real GDP indicates greater aggregate

³¹ For more information, see CEPII's website at <http://www.cepii.fr/>.

³² According to CEPII's website, geographical distance is calculated following the great circle formula which uses latitudes and longitudes of the most important cities/agglomerations (in terms of population).

income and therefore higher ability to invest abroad, small real GDP implies limited market size and consequent desire by companies to expand their wings overseas to gain market share. The sign for distance from the source to the host country should be negative, as greater distance between countries makes a foreign operation more difficult and expensive to supervise and might therefore discourage M&A deals.

We augment the basic gravity model with financial variables. We hypothesise that easier credit availability (proxied by greater M2-to-GDP) in the source country will translate into more M&A deals. We also include four measures of financial risks, all of which should reduce M&As purchases in that country. We included the volatility of stock market of the host country as a proxy for domestic market risk by calculating the rolling standard deviation of the host countries' stock market daily data within a year. We also calculated the rate of depreciation/appreciation of the bilateral real exchange rates by taking the change in the natural log difference of period t and period $t+1$. as a measure of exchange rate-related market risk (measured per unit for host currency). We proxy the liquidity risks by looking at the stock market turnover ratio which is defined as the total value of shares traded during the period divided by the average market capitalization for the period. We used a financial openness index in the host country to test whether financial openness in general can lead to more M&A deals between emerging Asia economies when controlling for other factors.

c) Empirical Results

Equation (1) is our baseline model. We then interact each of our control variables with Developing Asia as source countries and with intra-developing Asia M&A deals so as to establish whether the results change when we move from global perspective to regional perspective.

In our global specification of table A2 (i.e. including all countries in our database) the distance variable is statistically and economically significant. Greater distance between the host and source country tends to lower bilateral M&As. Despite all the hype about the “death of distance” and the “world being flat,” cross-border economic transactions remain hampered by

physical distance which may be proxying transaction costs and/or information gaps.³³ As expected, larger countries experience greater purchases and sales of M&As. The level of liquidity in source country positively impacts the level of M&As in the host country. A one per cent increase in the M2-to-GDP ratio in the source country is associated with a two per cent increase of M&As to the host country and this result is statistically significant, signalling that sources/availability of funds is important. Greater exchange rate variability appears to deter bilateral FDI flows. With regard to the financial risk variables, market risks in the host country proxied by stock market volatility appears to deter M&As to that country (statistically significant at the 10 per cent level), while the result on the liquidity risk's impact is statistically but economically that significant. A host country that is more financially open seems to attract more M&A deals flows, this results being highly significant economically and statistically. Overall, financial variables – liquidity as well as risk - clearly impact cross-border M&A transactions.

Do financial variables impact M&As to developing Asia and particularly intra-(developing) Asian M&A flows differently from M&A flows globally in general? Table A3 includes dummy interactions for the various control variables with developing Asia as a host. As can be seen, the basic gravity and the augmented models remain broadly consistent with the results in table A2. There are three things worth highlighting once we interact our augmented model with developing Asia as a host. First, the liquidity risk elasticity which was marginally positive now turn marginally negative but is not economically significant. Second, there is some evidence that real exchange rate volatility hurts M&As to developing Asia relatively less than they do global M&A flows (elasticity decreasing by 0.5), though this result is not statistically significant. Third, and most noteworthy, the financial openness appears to be especially important for foreign M&As of firms in developing Asia, this result being highly statistically and economically significant.

³³ The persistence of the distance puzzle is fairly robust across different types of cross-border activities. Hattari and Rajan (2008a and 2008b) find the distance elasticity to be statistically and economically significant in the case of intra developing Asian FDI flows. Hattari and Rajan (2008b) suggest it may be proxying for time zone differences or information gaps.

d) Summary of Results

Developing economies have experienced a surge in cross-border M&As over the last two fifteen years. In many cases M&As have been the predominant form of FDI. Despite this, the academic literature on the subject has been fairly thin, owing possibly to lack of data. This paper has attempted to fill this void by analyzing trends, patterns and determinants of M&As in developing economies. We find that certain financial liquidity and risk variables along with the financial openness in the host countries appear to be important in determining of M&A flows, particularly with regard to intra-(developing) Asian M&A flows. In this regard, the ongoing global financial crisis is likely to sharply curtail the extent of cross-border M&A transactions. Beyond attempts by governments to ease domestic liquidity sharply, at a time of depressed macroeconomic conditions, they would be well-advised to focus on reviewing possible microeconomic and regulatory factors that might hinder cross-border M&A transactions.

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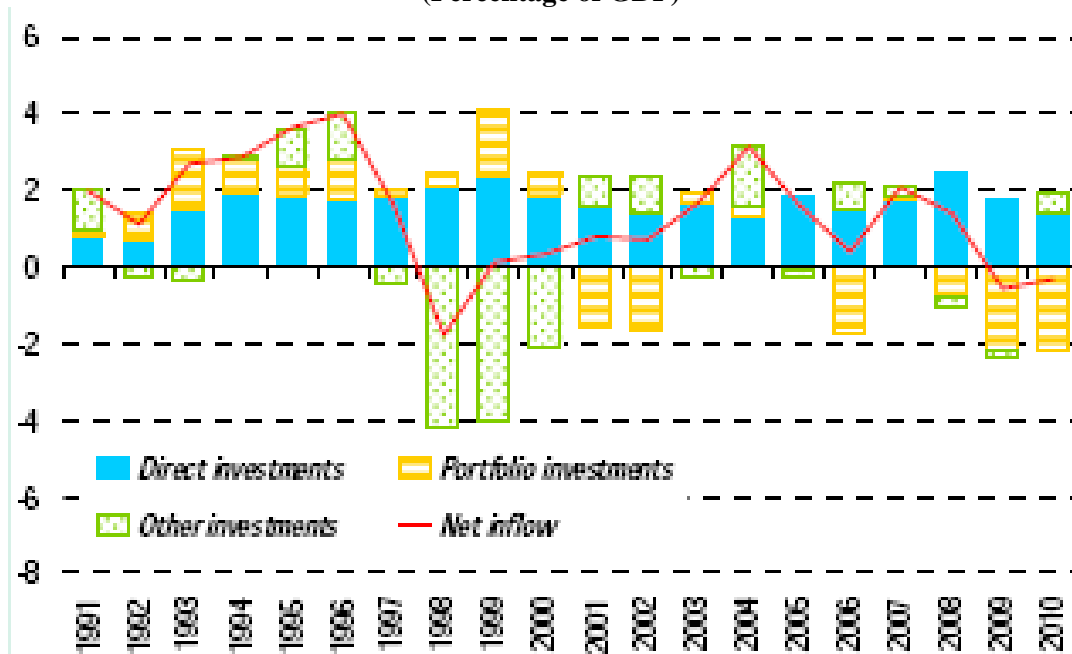
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Foreign and Domestic Banks in Emerging Economies: A Difficult (and eventually impossible) Cohabitation

First Version

March 2007

**Figure 1: Net Private Capital Flows to Emerging Asia¹, 1991-2010²
(Percentage of GDP)**

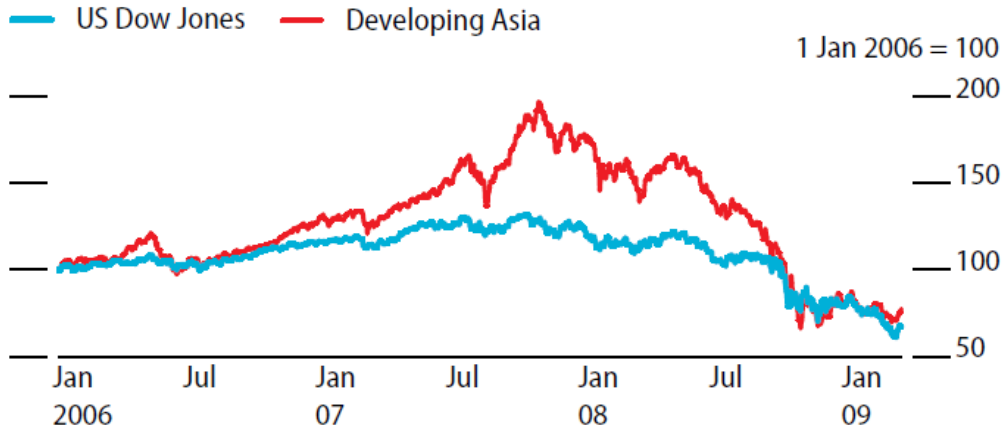


Notes: 1) Emerging Asia” refers to China, India, Hong Kong SAR, Korea, Singapore, Taiwan Province of China, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam.

2) 2009 and 2010 are projections.

Source: IMF (2009b).

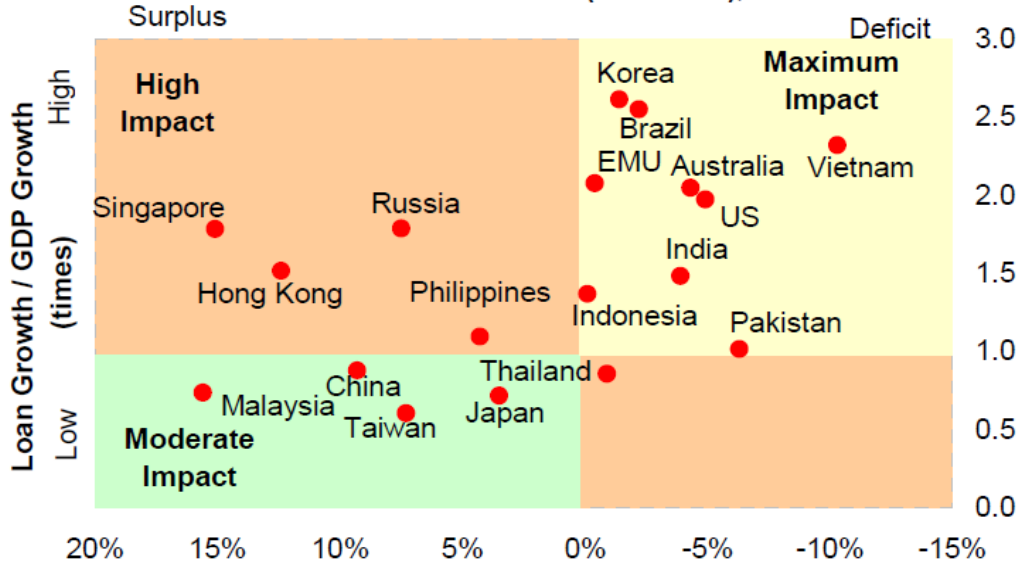
Figure 2: Stock Market Indices (Index)



Note: Developing Asia includes China, People’s Rep. of; Hong Kong, China; India; Indonesia; Korea, Rep. of; Malaysia; Philippines; Singapore; Taipei,China; and Thailand.

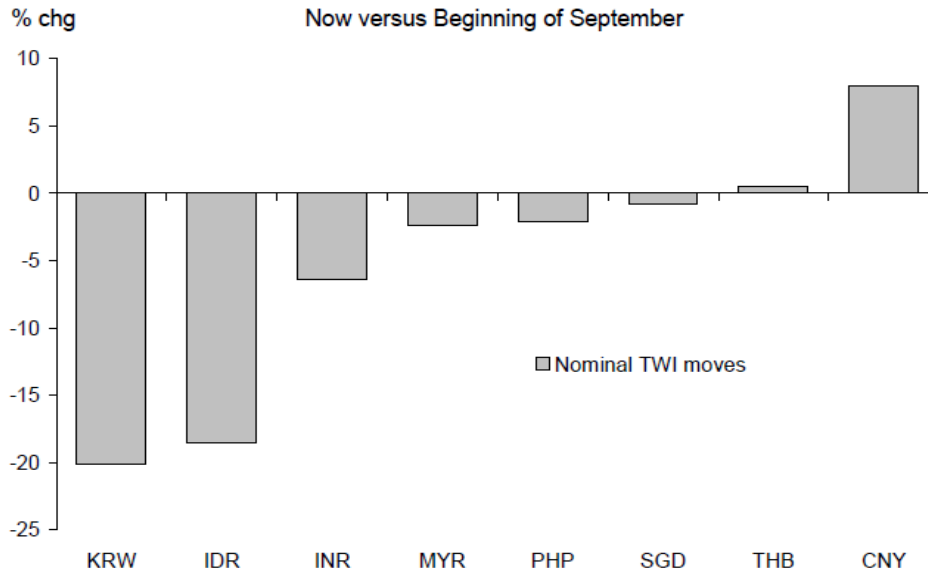
Source: ADB.

Figure 3: Global Deleveraging and Risk
Current Account Balance (% of GDP), 2008E



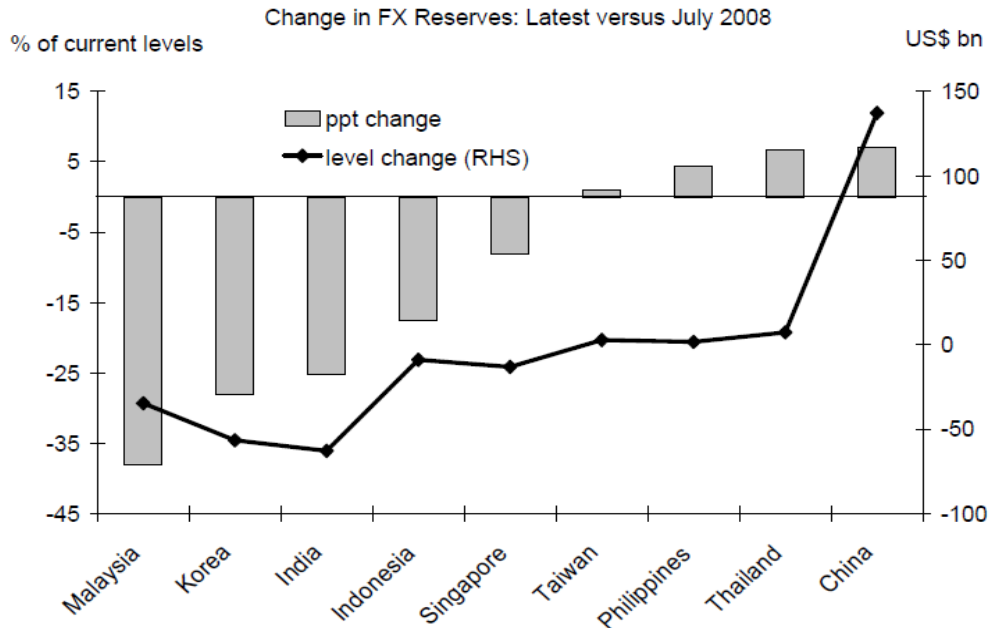
Source: Morgan Stanley.

Figure 4: Effective Exchange Rates since September 2008-March 2009 (Percentage)



Source: Goldman Sachs.

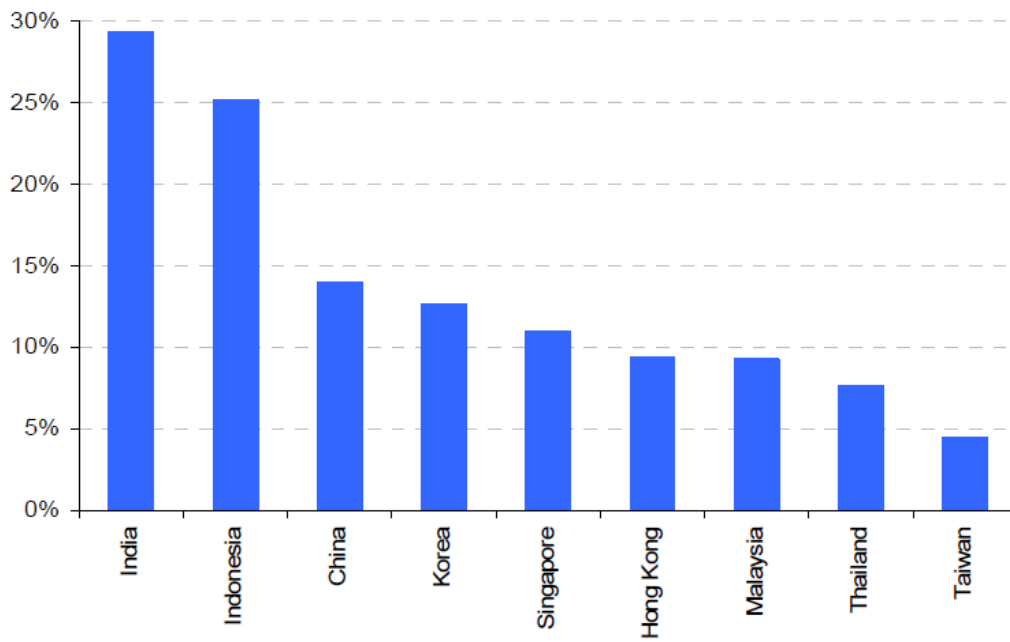
Figure 5: Change in Foreign Exchange Reserves, July 2008-February 2009 (Percentage)



End December 2008 data for China, end February 2009 data for all other countries.

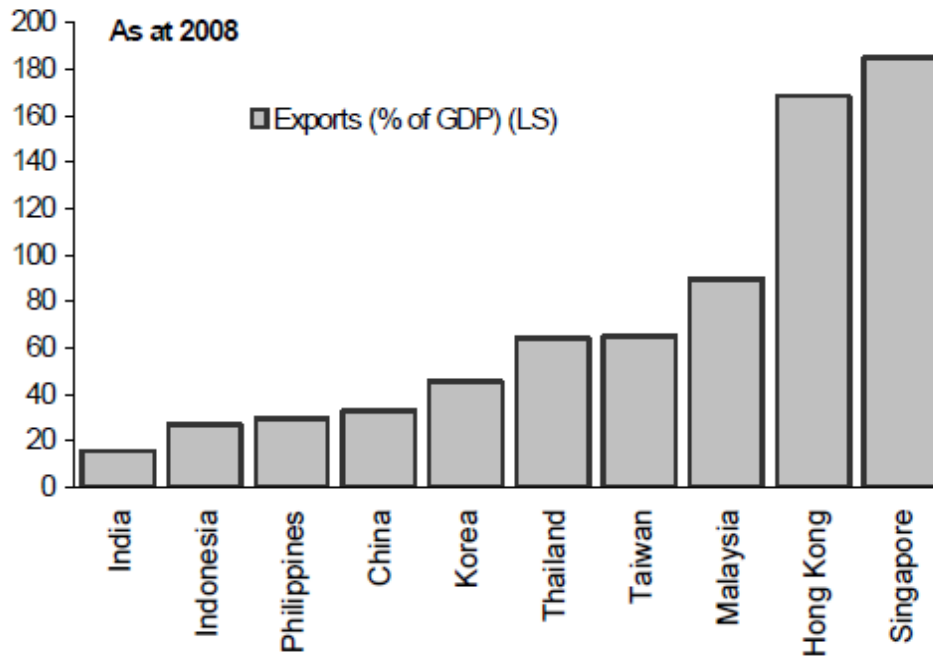
Source: Goldman Sachs.

Figure 6: Credit Growth Pre Lehman Brothers (Three Year Percentage CAGR)



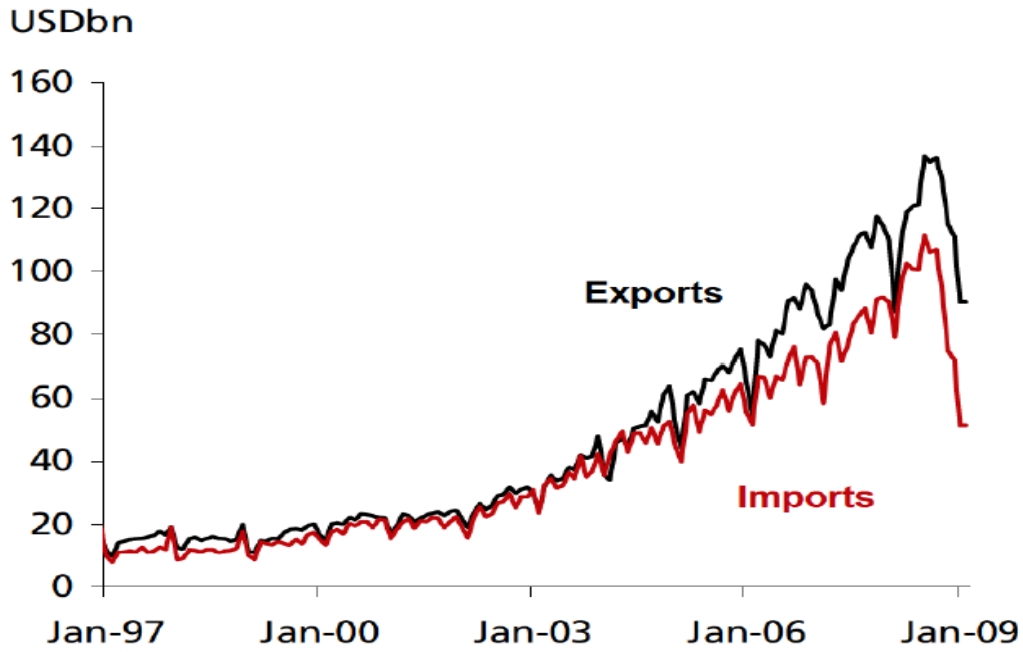
Source: Morgan Stanley.

Figure 7 : Export Orientation (Percentage)



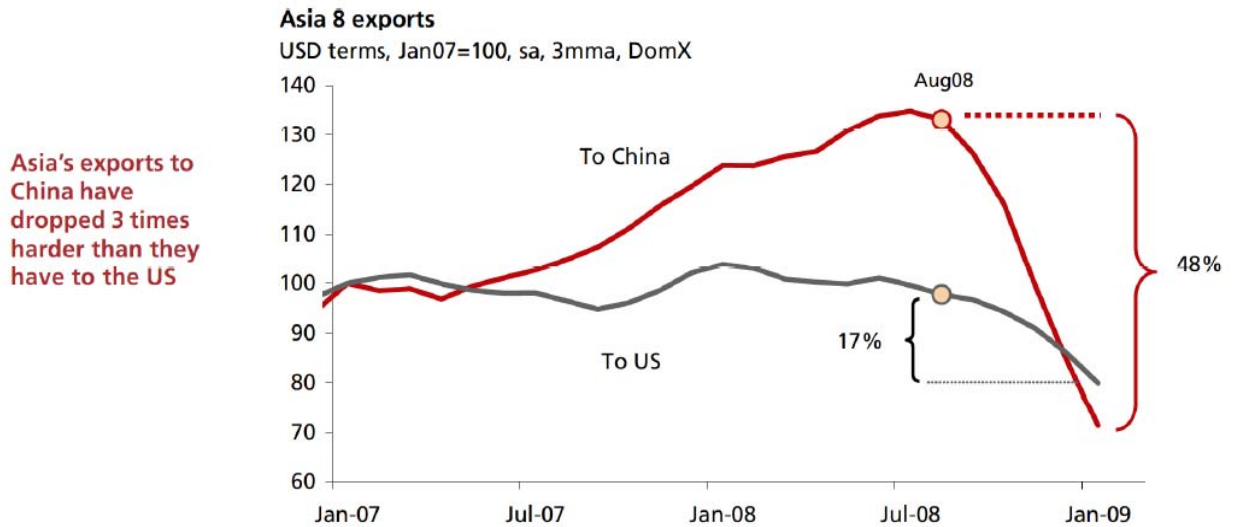
Source: Morgan Stanley.

Figure 8: China's Merchandise Trade (US\$ billions)



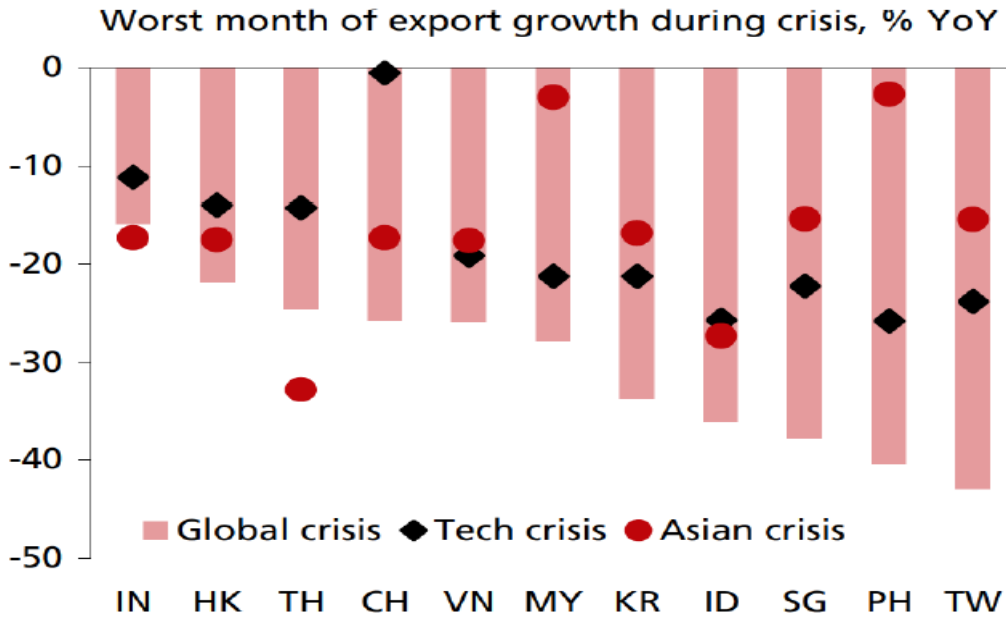
Source: DBS.

Figure 9: Asian Exports to United States and China (Index)



Source: DBS.

Figure 10: Asian Merchandise Exports During Various Crises (Index)



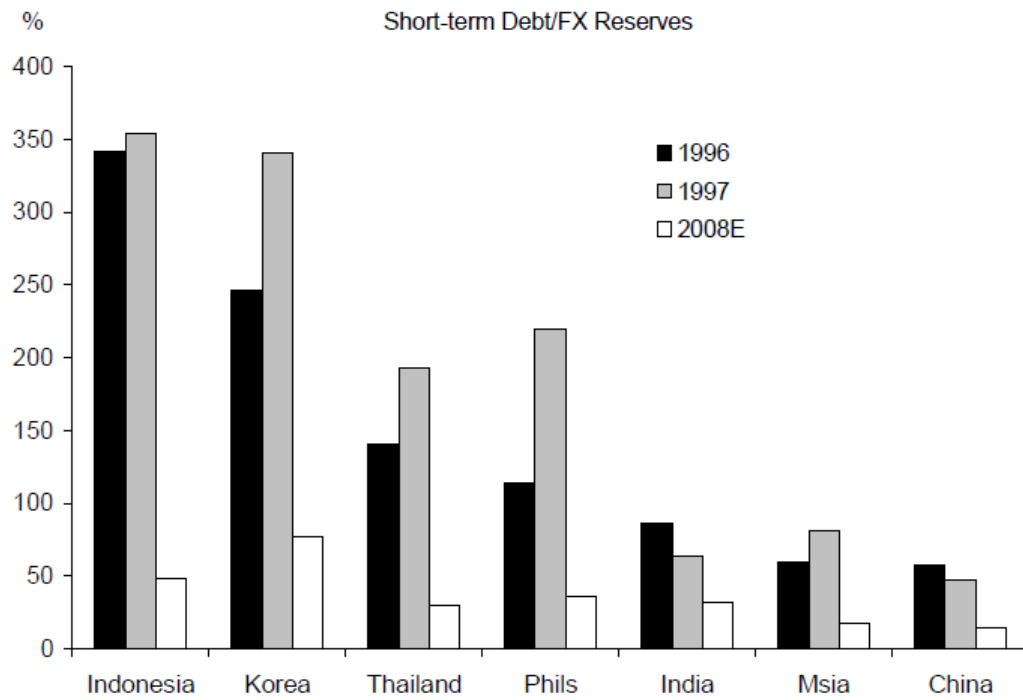
Source: Nomura.

Figure 11: IMF Loans During the 2008-2009 Crisis (as of March 2009)



Source : The Economist (2009). "The IMF - Mission: Possible," April 8th 2009.

Figure 12: Short-term Debt (Percentage)



Source: Goldman Sachs

Table 1a: Gross Private Capital Inflows to Asia and Emerging Economies, 1990-2007
(billions of US\$)

	Annual averages		2005	2006	2007
	1990-97	2002-06			
Emerging market economies¹					
Total inflows	210	456	599	824	1,347
Direct investment	81	220	270	332	400
Portfolio investment	70	94	127	164	432
Equity	24	54	71	95	193
Debt	47	40	57	69	239
Other investment	60	142	202	328	515
Banks	27	67	77	176	231
Other sectors	33	75	124	152	284
<i>Memo: Current account balance</i>	-58	252	349	453	507
<i>Change in reserves²</i>	-54	-382	-470	-603	-1,040
<i>Official inflows</i>	-20	-24	-28	-45	...
Asia³					
Total inflows	102	221	270	375	681
Direct investment	46	106	130	145	154
Portfolio investment	20	55	66	90	350
Equity	10	38	46	60	...
Debt	11	17	20	30	...
Other investment	36	61	74	140	177
Banks	16	30	21	88	...
Other sectors	20	31	53	51	...
<i>Memo: Current account balance</i>	-13	170	202	319	445
<i>Change in reserves²</i>	-34	-247	-264	-353	-641
<i>Official inflows</i>	4	-5	-5	-2	...

Table 1b: Gross Private Capital Outflows from Asia and Emerging Economies, 1990-2007
(billions of US\$)

	Annual averages		2005	2006	2007
	1990-97	2002-06			
Emerging market economies¹					
Total outflows	76	327	435	681	830
Direct investment	16	68	71	157	182
Portfolio investment	17	118	159	283	400
Equity	8	25	28	48	69
Debt	9	93	131	235	331
Other investment	40	143	212	251	248
Banks	20	44	73	116	124
Other sectors	17	99	140	135	124
<i>Memo: Official outflows</i>	0	-3	-6	2	...
Asia					
Total outflows	51	139	177	316	502
Direct investment	10	26	30	54	77
Portfolio investment	9	57	58	166	335
Equity	6	15	17	31	...
Debt	3	42	42	135	...
Other investment	29	58	97	105	90
Banks	13	21	44	47	...
Other sectors	13	38	53	59	...
<i>Memo: Official outflows</i>	1	1	0	2	...

Notes: "Other sectors" comprises non-financial corporations, insurance companies, pension funds, other non-depository financial intermediaries, private non-profit institutions and households.

¹ Comprises the regions below plus Russia, Saudi Arabia and South Africa.

² A minus sign indicates an increase.

³ China, India, Indonesia, Korea, Malaysia, the Philippines, Singapore and Thailand.

Source: Mihaljek (2008).

**Table 2: Global Current Account Balances
(billions of US\$)**

	2007	2008	2009f	2010f
United States	-731	-673	-313	-307
Euro area	19	-136	-152	-161
Japan	213	159	86	98
Other Mature Countries	11	81	-9	20
Emerging Economies(IIF 34*)	634	697	331	441
Africa/MidEast (ex.GCC)	11	10	-32	-29
Gulf Cooperation Council	205	297	10	87
Latin America	24	-9	-55	-26
Emerging Europe	-28	-29	-20	-18
o/w Russia	75	102	22	39
Emerging Asia	422	428	428	427
o/w China	372	426	380	400
Global Discrepancy	145	128	-58	91

Notes: Based on 34 economies tracked by the IIF. Emerging Asia here is limited to China, India, Indonesia, Malaysia, the Philippines, South Korea and Thailand.

Source: Institute of International Finance (2009).

Table 3: Estimated Size of Largest SWFs, End 2007
(billions of US\$)

Country	Name of Fund	Assets (range)	
		Lower	Upper
I. Oil and Gas Exporting Countries			
UAE	Abu Dhabi Investment Authority	250	875
Norway	Government Pension Fund-Global	380	380
Saudi Arabia ¹	No designated name	289	289
Kuwait	Reserve Fund for the Future Generations	213	213
Russia	Reserve Fund	125	125
	National Welfare Fund	32	32
Libya	Libyan Investment Corporation	50	50
Qatar	State Reserve Fund / Stabilization Fund	30	50
Algeria	Reserve Fund / Reserve Regulation Fund	43	43
USA (Alaska)	Alaska Permanent Reserve Fund	40	40
Brunei	Brunei Investment Authority	30	30
Kazakhstan	National Fund	21	21
Malaysia	Khazanah Nasional BHD	19	19
Canada	Alberta Heritage Savings Trust Fund	16	16
Nigeria	Excess Crude Account	11	11
Iran	Oil Stabilization Fund	9	9
Azerbaijan	State Oil Fund	2.5	2.5
Oman	State General Reserve Fund	2	2
Timor-Leste	Petroleum Fund of Timor-Leste	1.4	1.4
Venezuela	FIEM-Macroeconomic Stabilization Fund	0.8	0.8
Trinidad & Tobago	Revenue Stabilization Fund	0.5	0.5
II. Emerging Asia			
Singapore	Government Investment Corporation	100	330
China	China Investment Corporation	200	200
Singapore	Temasek Holdings	108	108
Korea	Korea Investment Corporation	30	30
Taiwan, P.O.C.	National Stabilisation Fund		
		15	15
III. Other Countries			
Australia	Australian Future Fund	54	54
Chile	Economic and Social Stabilization and Pension Funds	16.4	16.4
Botswana ¹		4.7	4.7
Kiribati		0.4	0.4
Total		2,093	2,968
Memo:		Estimate	
Pension Funds		28,500	
Mutual Funds		27,300	
Insurance Funds		19,100	
Hedge Funds		1,900	
Private Equity		800	

Source: Based on International Financial Services London (IFSL) (2008) and IMF (2008).

Table 4: IMF Revised Projections Post-Lehman Brothers

Latest IMF projections						
(year over year percent change)						
	2007	2008	Projections		Difference from 2008 WEO projections	
			2009	2010	2009	2010
World output¹	5.2	3.4	0.5	3.0	-1.7	-0.8
Advanced economies	2.7	1.0	-2.0	1.1	-1.7	-0.5
United States	2.0	1.1	-1.6	1.6	-0.9	0.1
Euro area	2.6	1.0	-2.0	0.2	-1.5	-0.7
Germany	2.5	1.3	-2.5	0.1	-1.7	-0.4
France	2.2	0.8	-1.9	0.7	-1.4	-0.8
Italy	1.5	-0.6	-2.1	-0.1	-1.5	-0.1
Spain	3.7	1.2	-1.7	-0.1	-1.0	-0.9
Japan	2.4	-0.3	-2.6	0.6	-2.4	-0.5
United Kingdom	3.0	0.7	-2.8	0.2	-1.5	-0.9
Canada	2.7	0.6	-1.2	1.6	-1.5	-1.4
Other advanced economies	4.6	1.9	-2.4	2.2	-3.9	-1.0
Newly industrialized Asian economies	5.6	2.1	-3.9	3.1	-6.0	-1.1
Emerging market and developing economies ²	8.3	6.3	3.3	5.0	-1.8	-1.2
Africa	6.2	5.2	3.4	4.9	-1.4	-0.5
Sub-Saharan Africa	6.9	5.4	3.5	5.0	-1.6	-0.7
Central and eastern Europe	5.4	3.2	-0.4	2.5	-2.6	-1.3
Commonwealth of Independent States	8.6	6.0	-0.4	2.2	-3.6	-2.3
Russia	8.1	6.2	-0.7	1.3	-4.2	-3.2
Excluding Russia	9.7	5.4	0.3	4.4	-1.3	-0.3
Developing Asia	10.6	7.8	5.5	6.9	-1.6	-1.1
China	13.0	9.0	6.7	8.0	-1.8	-1.5
India	9.3	7.3	5.1	6.5	-1.2	-0.3
ASEAN-5	6.3	5.4	2.7	4.1	-1.5	-1.3
Middle East	6.4	6.1	3.9	4.7	-1.5	-0.6
Western Hemisphere	5.7	4.6	1.1	3.0	-1.4	-1.0
Brazil	5.7	5.8	1.8	3.5	-1.2	-1.0
Mexico	3.2	1.8	-0.3	2.1	-1.2	-1.4

Source: IMF, *World Economic Outlook*, January 2009.

¹The quarterly estimates and projections account for 90 percent of the world purchasing-power-parity weights.

²The quarterly estimates and projections account for approximately 76 percent of the emerging and developing economies.

Table 5: Net Capital Flows to Selected Emerging Economies, 1990-2009
(Billions of US\$)

	Average									
	1998–2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Emerging and developing economies										
Private capital flows, net ²	64.3	73.5	54.0	154.2	222.0	226.8	202.8	617.5	109.3	-190.3
Private direct investment, net	164.2	180.5	144.4	161.3	183.9	243.7	241.4	359.0	459.3	312.8
Private portfolio flows, net	41.4	-76.9	-86.4	-3.8	10.0	-5.6	-100.7	39.5	-155.2	-234.5
Other private capital flows, net	-141.2	-30.1	-4.1	-3.3	28.0	-11.3	62.2	219.2	-194.6	-268.5
Official flows, net ³	7.1	2.3	14.8	-43.3	-64.9	-98.5	-154.1	-100.5	-60.0	57.6
Change in reserves ⁴	-89.5	-132.7	-191.3	-360.6	-501.9	-585.7	-751.7	-1257.8	-865.7	-266.5
<i>Memorandum</i>										
Current account ⁵	41.7	93.3	138.0	233.6	312.3	532.0	728.7	741.5	793.0	355.7
Africa										
Private capital flows, net ²	3.8	1.3	2.0	4.9	13.0	26.0	35.2	33.4	24.2	30.2
Private direct investment, net	7.4	23.1	14.3	17.1	15.8	23.3	23.4	32.1	32.4	27.6
Private portfolio flows, net	3.8	-7.9	-1.6	-0.4	5.6	4.2	17.6	9.9	-15.8	0.9
Other private capital flows, net	-7.3	-14.0	-10.7	-11.8	-8.4	-1.5	-5.7	-8.3	7.9	1.8
Official flows, net ³	5.3	6.5	8.8	6.2	4.2	0.5	-10.0	5.0	11.1	15.1
Change in reserves ⁴	-3.9	-10.2	-5.7	-11.5	-31.7	-43.3	-54.3	-61.6	-53.8	21.7
Central and eastern Europe										
Private capital flows, net ²	30.8	5.6	25.9	42.3	61.3	99.9	120.0	173.6	147.1	-38.3
Private direct investment, net	15.4	17.4	12.2	13.3	30.0	37.4	58.9	72.0	64.1	30.1
Private portfolio flows, net	4.1	0.2	3.1	9.7	25.3	25.9	9.4	-7.4	-13.2	-6.1
Other private capital flows, net	11.3	-12.0	10.6	19.2	6.1	36.6	51.7	108.9	96.2	-62.4
Official flows, net ³	-0.7	5.2	4.5	-2.4	-4.1	—	-7.9	-6.0	7.3	26.8
Change in reserves ⁴	-8.4	-11.0	-14.2	-9.3	-8.1	-36.1	-20.3	-31.2	-9.7	36.6
Commonwealth of Independent States										
Private capital flows, net ²	-16.3	6.9	15.7	19.0	2.6	30.4	55.1	127.2	-127.4	-119.0
Private direct investment, net	4.2	4.9	5.2	5.4	13.1	11.6	20.7	26.6	44.4	17.3
Private portfolio flows, net	-3.5	-1.2	0.4	-0.4	4.3	-4.9	12.9	14.5	-36.8	1.6
Other private capital flows, net	-17.0	3.1	10.1	14.1	-14.8	23.7	21.5	86.1	-135.1	-137.9
Official flows, net ³	-2.2	-5.1	-10.8	-9.4	-7.6	-19.6	-29.8	-5.9	-0.7	25.1
Change in reserves ⁴	-4.8	-14.4	-15.1	-32.7	-54.9	-77.1	-127.8	-168.1	33.1	94.3
Emerging Asia⁶										
Private capital flows, net ²	-13.4	24.3	23.9	66.9	145.6	85.3	31.8	164.8	127.9	-46.9
Private direct investment, net	64.0	53.5	52.4	70.6	64.7	100.5	94.3	138.5	222.6	161.6
Private portfolio flows, net	27.6	-50.7	-60.2	10.3	10.2	-5.3	-107.2	11.2	-65.9	-192.1
Other private capital flows, net	-105.0	21.4	31.7	-13.9	70.7	-10.0	44.6	15.2	-28.7	-16.3
Official flows, net ³	2.4	-13.1	2.6	-18.4	-13.4	-21.7	-21.7	-36.6	-13.1	-11.3
Change in reserves ⁴	-67.2	-87.7	-154.9	-236.7	-338.7	-288.3	-372.2	-673.1	-634.3	-514.5

Source: IMF, *World Economic Outlook Database*.

<http://www.imf.org/external/pubs/ft/weo/2009/01/weodata/weoselagr.aspx>. The source also provides the country coverage.

Notes:

- 1) Net capital flows comprise net direct investment, net portfolio investment, and other long- and short-term net investment flows, including official and private borrowing. In this table, Hong Kong SAR, Israel, Korea, Singapore, and Taiwan Province of China are included.
- 2) Because of data limitations, flows listed under private capital flows, net, may include some official flows.
- 3) Excludes grants and includes overseas investments of official investment agencies.
- 4) A minus sign indicates an increase.
- 5) The sum of the current account balance, net private capital flows, net official flows, and the change in reserves equals, with the opposite sign, the sum of the capital account and errors and omissions.
- 6) Consists of developing Asia and the newly industrialized Asian economies.

Table 6: Relative Stability of Various Components of Private Capital Flows, 1990-2009

	Absolute Value of Coefficient of Variances (CVs)	
	Developing Asia	All Emerging and Developing Economies
Total net private capital flows	0.95	0.84
Net Direct Investment flows	0.73	0.69
Net Portfolio flows	16.38	5.57
Net Other Private capital flows	7.95	4.71

Source: Computed by author from IMF, World Economic Outlook Database.

<http://www.imf.org/external/pubs/ft/weo/2009/01/weodata/weoselagr.aspx>. The source also provides the country coverage.

Table 7: Macro and Financial Indicators in Selected Emerging Market Countries

	Current Account Balance ¹ (Percent of GDP)	External Debt Refinancing Needs in 2009 ² (Percent of reserves)	Net External Position vis-à-vis BIS Reporting Banks ³ (Percent of GDP)	Average Real Credit Growth over the Last Five Years ⁴ (Percent, year-on- year)	Loan/Deposit ⁵ (Ratio)	Forex Share of Total Loans (Percent of total loans)
Europe						
Bulgaria	-12.3	132	-34.9	35.9	1.3	66.9
Croatia	-6.5	136	-44.5	13.1	1.1	62.0
Czech Republic	-2.8	89	-13.1	16.0	0.8	13.6
Estonia	-6.3	346	-68.8	27.3	2.1	85.3
Hungary	-3.9	101	-50.2	14.3	1.4	65.7
Kazakhstan	-6.4	82	-5.1	50.1	1.7	43.6
Latvia	-6.7	331	-57.6	38.4	2.8	89.3
Lithuania	-4.0	204	-41.5	43.2	2.0	64.0
Poland	-4.9	141	-15.4	14.7	1.1	32.6
Romania	-7.5	127	-32.5	47.1	1.3	55.5
Russia	0.2	34	3.1	34.5	1.3	15.3
Serbia	-12.2	...	-12.2	26.2	1.2	68.0
Turkey	-1.1	110	-11.9	29.8	0.7	28.9
Ukraine	0.6	117	-10.3	47.5	2.0	59.5
Gulf States						
Kuwait	25.8	109	3.8	19.8	1.1	...
Saudi Arabia	-1.8	...	22.3	22.2	0.9	8.2
United Arab Emirates	-5.6	...	-12.2	...	1.2	18.9
Africa						
Egypt	-3.0	14	8.5	0.9	0.6	28.0
Ghana	-10.9	13	-5.0	26.4	0.8	...
Nigeria	-9.0	...	10.3	34.2	1.1	...
South Africa	-5.8	49	4.4	12.8	1.2	...
Uganda	-6.2	17.7	0.8	...
Asia						
China	10.3	14	0.7	11.3	0.8	...
India	-2.5	33	-8.9	18.2	0.8	...
Indonesia	-0.4	73	-7.5	15.1	0.8	19.8
Korea	2.9	93	-18.9	6.3	1.2	8.5
Malaysia	12.9	23	-8.3	5.2	0.9	...
Pakistan	-5.9	28	2.4	13.5	0.7	...
Philippines	2.3	39	-2.2
Thailand	0.0	34	1.3	2.6	1.0	...
Vietnam	-4.8	8	-7.4	26.4	1.1	21.2
Latin America						
Argentina	2.3	85	2.5	14.6	0.7	15.8
Brazil	-1.8	40	-7.1	15.9	0.8	...
Chile	-4.8	119	-7.2	11.6	1.4	...
Colombia	-3.9	52	0.5	16.0	2.0	6.3
Mexico	-2.5	64	-2.1	11.7	0.8	11.6
Peru	-3.3	27	-2.2	8.2	0.9	57.5
Venezuela	-0.4	59	19.7	45.8	0.8	<0.5

Notes: The shaded boxes of the table point to areas of potential concern (see Section 5 in the main-text).

¹ Projections of the current account balance and GDP for 2009 in dollar terms from the IMF *World Economic Outlook*.

² Short-term debt at initial maturity at end-2008 plus amortizations on medium- and long-term debt during 2009, estimated by IMF staff. Care should be taken in interpreting the figures, as circumstances among countries differ. For instance, the figures include obligations resulting from lending by foreign parent banks to domestic subsidiary banks, so the stability of the relationship between parents and subsidiaries needs to be taken into account. In addition, some countries have sovereign wealth funds whose assets may not be included in reserves.

³ Data on external positions of reporting banks vis-à-vis individual countries and all sectors from the BIS, as of September 2008.

⁴ Average growth of credit to the private sector, adjusted for inflation.

⁵ Credit to the private sector relative to demand, time, saving, and foreign currency deposits.

Table 8: Foreign Reserve Adequacy, 1996-2009¹
Outstanding year-end reserves position

	In billions of US dollars				As a percentage of:								
					GDP	Short-term external debt ²				Imports			
	96	07	08	09	08	96	07	08	09	96	07	08	09
Asia ³	477	2,907	3,320	3,355	45	170	449	589	595	49	84	74	83
China	105	1,528	1,946	1,954	44	376	1,249	1,865	1,873	76	160	172	186
India	20	267	247	242	20	260	339	333	324	55	123	85	88
Korea	33	262	200	212	21	45	176	173	177	22	73	46	55
Other Asia ⁴	319	850	927	948	52	145	389	502	511	48	69	62	72
Latin America ⁵	142	397	440	410	13	145	238	369	300	89	82	71	69
Brazil	58	179	193	186	12	111	292	342	329	109	149	111	115
Chile	16	17	23	24	14	201	86	113	114	89	38	40	47
Mexico	19	86	94	84	9	60	256	241	218	21	31	30	29
CEE ⁶	53	227	233	211	17	504	114	107	92	36	51	43	...
Middle East ⁷	17	58	54	47	9	111	98	112	90	34	51	41	...
Russia	11	467	413	368	25	42	486	509	446	16	209	141	143
<i>Memo:</i>													
<i>Net oil exporters⁸</i>	<i>93</i>	<i>883</i>	<i>885</i>	<i>...</i>	<i>21</i>	<i>200</i>	<i>1,050</i>	<i>1,862</i>	<i>...</i>	<i>42</i>	<i>98</i>	<i>87</i>	<i>...</i>

Notes: ¹ Regional aggregates are the sum of the economies listed; for percentages, simple averages. For 2009, latest available data.

² Consolidated cross-border claims of all BIS reporting banks on countries outside the reporting area with a maturity of up to one year plus international debt securities outstanding with a remaining maturity of up to one year.

³ Countries listed.

⁴ Chinese Taipei, Hong Kong SAR, Indonesia, Malaysia, the Philippines, Singapore and Thailand.

⁵ Countries listed plus Argentina, Colombia, Peru and Venezuela.

⁶ Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia.

⁷ Kuwait, Qatar and Saudi Arabia. For Saudi Arabia, excluding investment in foreign securities.

⁸ Algeria, Angola, Kazakhstan, Mexico, Nigeria, Norway, Russia, Venezuela and the Middle East.

Source: BIS (2009)

**Table 9:
Share of Assets owned by Foreign Banks over Total Assets, 1990, 2000, 2004**

	1990	2000	2004		1990	2000	2004		1990	2000	2004
Bulgaria	0.0	24.0	45.0	India	5.5	7.0	6.2	Argentina	10.1	18.8	18.8
Czech Republic	9.5	66.8	67.4	Indonesia	4.3	11.0	16.7	Brazil	6.2	11.0	18.0
Hungary	10.7	38.7	64.7	Korea	8.7	21.0	20.4	Chile	19.4	27.2	27.7
Poland	3.2	29.7	60.4	Malaysia		18.2	16.8	Colombia		21.9	13.4
Romania		60.7	52.5	Philippines	8.8	4.2	6.9	Mexico	2.4	39.9	47.2
Russia	6.3	10.0	9.2	Thailand	4.8	14.4	12.6	Peru	4.0	60.2	53.2
Turkey		20.7	20.9					Venezuela		22.0	16.0
CEE	8.9	38.8	47.9	Asia	6.8	10.8	10.9	Latam	10.3	27.7	27.2

Notes Banks in which a foreign entity owns at least 50 percent of the stake.
Source: Based on national banks and BIS compiled by Jazbec and Silipo (2007).

Table A1: M&A Deals of Selected Asian Countries (Billions of US\$)

Country	1990-1997	1998-2006	2000	2001	2002	2003	2004	2005	2006
Sales									
World	154.9	631.1	1,143.8	594.0	369.8	297.0	380.6	716.3	880.5
<i>East Asia</i>	<i>4.1</i>	<i>16.9</i>	<i>14.1</i>	<i>18.8</i>	<i>10.0</i>	<i>14.1</i>	<i>16.7</i>	<i>25.8</i>	<i>28.3</i>
China	0.7	3.9	2.2	2.3	2.1	3.8	6.8	8.3	6.7
Hong Kong, China	3.0	6.1	4.8	10.4	1.9	6.1	3.9	9.5	12.8
Korea, Republic of	0.3	5.4	6.4	3.6	5.4	3.8	5.6	6.5	2.8
Taiwan Province of									
China	0.1	1.4	0.6	2.5	0.5	0.4	0.4	0.8	5.7
<i>South Asia</i>	<i>0.5</i>	<i>2.9</i>	<i>1.2</i>	<i>1.1</i>	<i>1.9</i>	<i>1.5</i>	<i>2.2</i>	<i>4.6</i>	<i>10.1</i>
India	0.3	2.1	1.2	1.0	1.7	0.9	1.8	4.2	6.7
<i>South-East Asia</i>	<i>2.4</i>	<i>8.9</i>	<i>5.7</i>	<i>13.1</i>	<i>4.9</i>	<i>4.6</i>	<i>5.2</i>	<i>14.8</i>	<i>15.4</i>
Indonesia	0.3	2.2	0.8	3.5	2.8	2.0	1.3	6.8	0.6
Malaysia	0.3	1.1	0.4	1.4	0.5	0.1	0.6	1.5	2.8
Philippines	0.9	0.9	0.4	2.1	0.5	0.2	0.7	0.3	0.2
Singapore	0.6	2.9	1.5	4.9	0.6	1.8	1.2	5.8	7.3
Thailand	0.2	1.7	2.6	1.0	0.2	0.1	1.2	0.3	4.3
Purchases									
World	154.9	631.1	1143.8	594.0	369.8	297.0	380.6	716.3	880.5
<i>East Asia</i>	<i>4.4</i>	<i>9.0</i>	<i>9.1</i>	<i>3.8</i>	<i>6.3</i>	<i>6.7</i>	<i>5.2</i>	<i>16.8</i>	<i>24.2</i>
China	0.4	2.9	0.5	0.5	1.0	1.6	1.1	5.3	14.9
Hong Kong, China	3.0	4.9	5.8	3.0	5.1	4.2	3.0	10.5	7.8
Korea, Republic of	0.8	0.6	1.7	0.2	0.1	0.7	0.4	0.5	0.9
Taiwan Province of									
China	0.3	0.5	1.1	0.2	0.1	0.3	0.7	0.6	0.5
<i>South Asia</i>	<i>0.2</i>	<i>1.5</i>	<i>0.9</i>	<i>2.2</i>	<i>0.3</i>	<i>1.4</i>	<i>0.9</i>	<i>2.6</i>	<i>4.7</i>
India	0.2	1.5	0.9	2.2	0.3	1.4	0.9	2.6	4.7
<i>South-East Asia</i>	<i>3.2</i>	<i>11.0</i>	<i>11.1</i>	<i>18.8</i>	<i>4.2</i>	<i>8.9</i>	<i>13.2</i>	<i>15.9</i>	<i>18.1</i>
Indonesia	0.2	1.0	1.4	0.0	0.2	0.0	0.5	5.9	0.3
Malaysia	1.7	1.6	0.8	1.4	0.9	3.7	0.8	1.7	3.0
Philippines	0.1	0.3	0.1	0.3	0.0	0.0	0.1	2.0	0.2
Singapore	1.1	7.8	8.8	16.5	2.9	5.0	11.6	6.1	14.2
Thailand	0.1	0.2	0.0	0.7	0.1	0.2	0.2	0.2	0.2

Source: Rajan and Hattari (2009) based on UNCTAD.

Table A2: Gravity Equation 1/ 2/ 3/

Dependent variable: ln of bilateral real M&A deals

Regression type	Two-stage Tobit
Source countries	All
ln(real GDP i)	4.814*** (0.953)
ln(real GDP j)	1.164*** (0.088)
ln distance	-1.571*** (0.129)
Change in ln RXR of i wrt j	-1.155** (0.460)
ln M2 to GDP in i	2.092*** (0.542)
ln stock market volatility in j	-0.325*** (0.070)
Stock market turnover in j	0.003*** (0.001)
Financial openness index in j	0.640*** (0.063)
Observations	2883
Adjusted R-squared	0.26

Notes: 1/ Robust standard error in parentheses.

2/ * significant at 10%; ** significant at 5%; *** significant at 1%.

3/ Year dummies, source countries dummies, inverse Mills' ratio, and constant are not shown.

Source: Authors' calculations.

Table A3: Gravity Equation 1/ 2/ 3/

Dependent variable: ln of bilateral real M&A deals	Regression
Regression type	Two-stage Tobit
Source countries	All
ln(real GDP i)	4.854*** (0.945)
ln(real GDP j)	1.159*** (0.089)
ln distance	-1.554*** (0.127)
Change in ln RXR of i wrt j	-1.355*** (0.472)
ln M2 to GDP in i	2.093*** (0.541)
ln stock market volatility in j	-0.294*** (0.068)
Stock market turnover in j	0.007*** (0.001)
Financial openness index in j	0.412*** (0.080)
Developing Asia as host	0.434 (1.202)
Developing Asia as host * The change in ln RXR of i wrt j	0.553 (1.818)
Developing Asia as host * ln M2 to GDP in i	-0.028 (0.278)
Developing Asia as host * ln stock market volatility in j	0.075 (0.125)
Developing Asia as host * Stock market turnover in j	-0.010*** (0.002)
Developing Asia as host * Financial openness index in j	0.415*** (0.103)
Observations	2883
Adjusted R-squared	0.26

Notes: 1/ Robust standard error in parentheses.

2/ * significant at 10%; ** significant at 5%; *** significant at 1%.

3/ Year dummies, source countries dummies, inverse Mills' ratio, and constant are not shown.

Source: Authors calculations.