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Ten Years from the Financial Crisis: Managing the Challenges Posed by Capital Flows

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TEN YEARS FROM THE FINANCIAL CRISIS: MANAGING THE CHALLENGES POSED BY CAPITAL FLOWS

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ABSTRACT

Asia has made a remarkable, if incomplete recovery in the ten years since the Asian Financial Crisis. Reflecting the economic recovery and more broadly, the globalization of finance, Asia has once again experienced massive foreign capital inflows since 2002. Unlike in the early 1990s however, a reversal of capital flows this time is unlikely to lead to a balance of payments or banking crisis similar in nature to 1997/98. Post-crisis structural reforms have strengthened the macroeconomic fundamentals of Asia, making it more robust and resilient to financial shocks. Notwithstanding the greater resilience of the region, large and volatile capital flows have brought with them other forms of risks and challenges, including excessive credit growth, sharp corrections in asset prices and high costs of sterilized foreign exchange interventions. Unfortunately, large and volatile capital flows are a permanent feature of the global financial landscape in the post-Bretton Woods era of open capital accounts and financial liberalization. Asian economies have no choice therefore but to manage the risks posed by capital flows while trying to retain control over exchange rates and monetary conditions. The best thing Asian economies can do is to enhance the robustness of their financial systems, pursue sound macroeconomic policies, judiciously build up reserves, and allow a greater degree of flexibility in their exchange rates to avoid major misalignments.

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1 INTRODUCTION

1.1 Ten years ago, what started off as a currency crisis in Thailand quickly evolved into a much broader economic, social and political crisis engulfing the whole region. Although the crisis only directly affected four countries – Thailand, Indonesia, Malaysia and Korea - few countries in the region were left unscathed. As the crisis unfolded, the collapse of stock markets, currencies and banks, widespread bankruptcy and unemployment brought about social unrest and the overthrow of longstanding political leaders across the region. So in many ways, the Asian Financial Crisis proved to be a watershed event in the history of the region. The tenth anniversary of the crisis has provided an opportunity to take stock on how Asia has fared since and assess the new challenges posed by the return of capital flows into the region.

1.2 This paper will not go into detail on the causes of the crisis, on which there is already a massive pool of literature¹. Rather, the paper focuses on a relatively narrow but central aspect of the crisis, that is, the ability of countries in the region to manage capital flows and their resilience to financial shocks. In the authors' view, the immediate cause of the crisis was a classic case of investor panic that triggered a massive withdrawal of capital from the region, leading to a liquidity crunch that evolved into a broader financial and macroeconomic crisis. Nonetheless, it is also clear that the crisis would not have become as severe as it did, if the fundamentals were stronger. Excessive investments in properties and mega infrastructure projects led to large and persistent current account deficits, which were funded mostly by short-term foreign currency denominated bank loans. These excesses were aided and abetted by weaknesses in institutional and governance structures. Once the crisis started, the dynamics and the management of the crisis further deepened its severity. The international community was not prepared for such a crisis and scrambled to put together rescue packages and programs which were not totally credible and effective. These factors interacted with each other in a malignant fashion, causing the initial liquidity crisis to spiral into a broader solvency, economic and eventually a political crisis.

1.3 This paper is organized as follows. The first section reviews how Asia has fared since the crisis, focusing on different aspects of income and output.

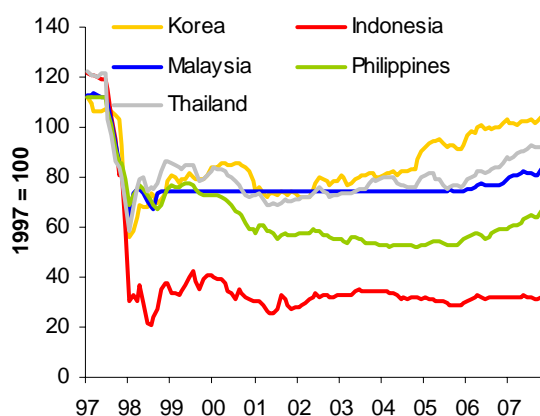
¹ See Corsetti, Pesenti and Roubini (1998) and Radelet & Sachs (1998) for two excellent, if somewhat contrasting discussions on the primary causes of the Asian Financial Crisis.

This will be followed by an examination of the challenges posed by the return of capital flows to the region, and Asia's ability to cope with these challenges. The paper then assesses some of the other prevailing risks, as well as benefits arising from large capital inflows, and concludes with a summary of the main findings of the paper.

2 ONE DECADE AFTER THE CRISIS – A STOCK TAKE

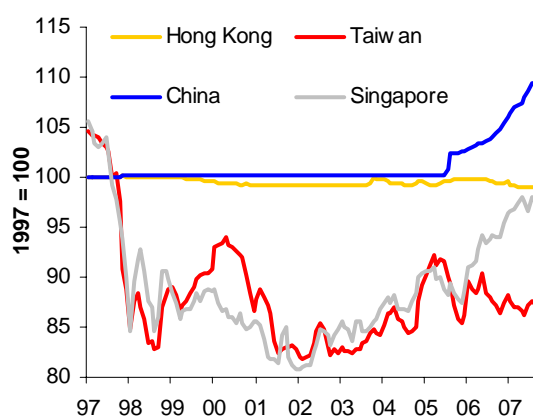
2.1 As the financial crisis was marked by a collapse of regional currencies, a useful starting point is to see how Asian currencies have fared since then. Figures 1 and 2 show the performance of Asian currencies against the US dollar. While Asian currencies have generally appreciated in recent years, most are still well below their pre-crisis levels.

Figure 1: Bilateral Exchange Rate against the US Dollar– Crisis 4



Source: CEIC Data Company Limited

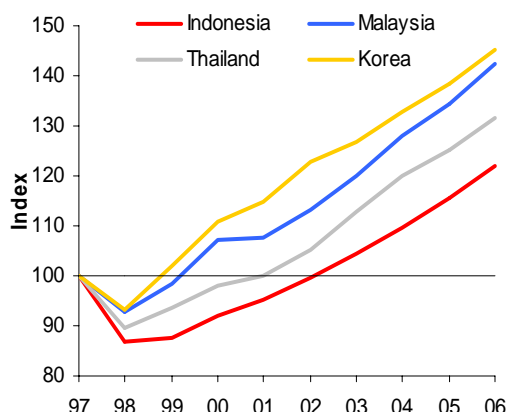
Figure 2: Bilateral Exchange Rate against the US Dollar– Other Asia



Source: CEIC Data Company Limited

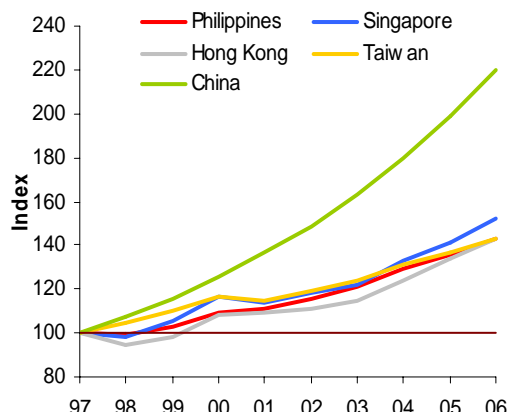
2.2 An examination of real income *levels* in Asia paints a rather positive picture. After falling by between 7-13% in 1998, real GDP in all the 4 crisis hit economies had recovered to their 1997 levels by 2003, and were 22-45% higher than their 1997 levels by 2006 (Figures 3 and 4). Korea's recovery proved to be the swiftest amongst the crisis affected economies, with real GDP recovering to its pre-crisis level as early as 1999. For the other economies, real incomes are more than 40-50% higher than in 1997, with China having more than doubled its real GDP over the past decade.

Figure 3: Real GDP (1997=100) - Crisis 4



Source: CEIC Data Company Limited

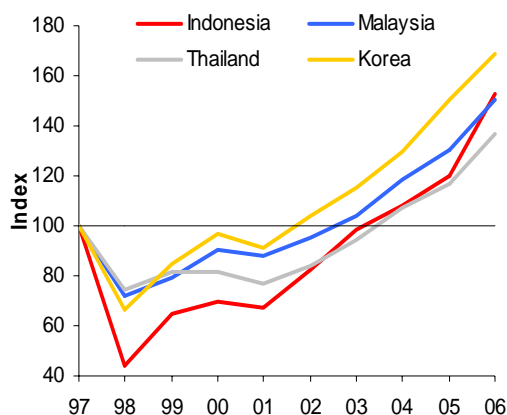
Figure 4: Real GDP (1997=100) - Other Asia



Source: CEIC Data Company Limited

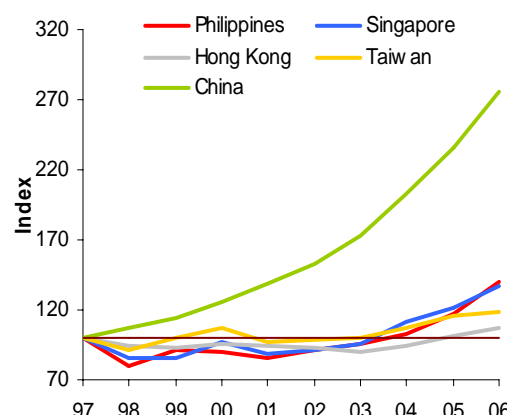
2.3 The recovery in income levels is just as impressive when measured in US\$ terms (Figures 5 and 6). For most countries, this largely reflects the real GDP growth and appreciation of their currencies against the US dollar, especially in the past 3 years. For Indonesia, which suffered the most severe collapse in real income, this also reflects higher inflation rates. Interestingly, for Hong Kong, Taiwan, and Singapore, nominal GDP in US dollar terms appears to have increased more moderately, because of deflation or very low inflation rates. In terms of *per capita* incomes, countries are also well above their 1997 levels, whether measured in purchasing power parity (PPP) terms, or in nominal US\$ terms

Figure 5: US\$ Nominal GDP - Crisis 4



Source: CEIC Data Company Limited

Figure 6: US\$ Nominal GDP - Other Asia



Source: CEIC Data Company Limited

2.4 Despite the strong recovery in output *levels*, the *growth rate* of real output has generally been lower during the post-crisis period, suggesting that

the region's recovery, while impressive, may not be fully complete. Table 1 shows real GDP growth rates since the 1980s. After growing between 7-10% in the early 1990s, growth collapsed in 1998. Indonesia was the worst affected, with real GDP contracting by more than 13% in 1998, as the collapse of the currency, run on the banking sector, ensuing social and political unrest took their toll on domestic demand. Real GDP growth in most of Asia has recovered to the 4-6% range but remains about 2-3% pts below growth rates in the 1990s.

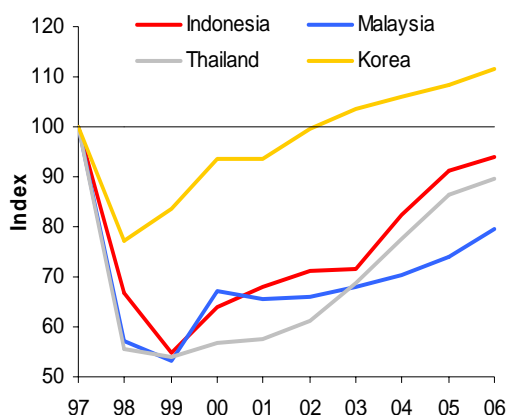
Table 1: Average Annual Real GDP Growth

	80 - 90	91 - 96	97	98	99 - 06
Hong Kong	7.2	5.4	5.1	-5.5	5.3
Korea	7.8	7.7	4.7	-6.9	5.7
Taiwan	7.9	7	6.6	4.5	4
Indonesia	5.9	7.4	4.7	-13.1	4.4
Malaysia	6.2	9.6	7.3	-7.4	5.6
Philippines	2.1	2.8	5.2	-0.6	4.6
Thailand	7.6	8.1	-1.4	-10.5	5
Singapore	7.7	8.7	8.3	-1.4	5.7

Source: IMF WEO April 2006

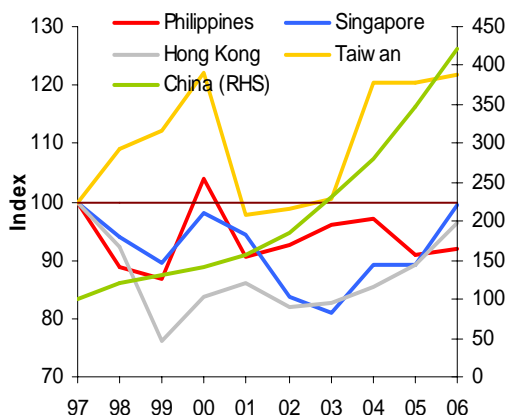
2.5 The slower real GDP growth rates in the post-crisis period partly reflect the sluggish recovery in fixed investments. Although the levels of fixed investments have recovered from the trough, investment-to-GDP ratios are still 5-20%-points below 1997 levels in all the Asian economies except in China (Figures 7 to 10). The lower rates of investments may not necessarily be bad as the pre-crisis rates were obviously too high and not sustainable, especially since a significant proportion was invested in non-productive sectors. Thus, the slow recovery in fixed investments is partly an adjustment to the excess capacity built up during the pre-crisis period. Other factors contributing to the slow recovery could be the stricter credit policy of the banks and the decline in foreign direct investments in some of the economies. Even so, the adjustment period appears to have been unusually prolonged, and supply-side bottlenecks, for example in infrastructure, have already started to appear. For growth to be sustained at a higher rate, it may be necessary for fixed investments to recover more fully.

Figure 7: Real Gross Fixed Capital Formation - Crisis 4



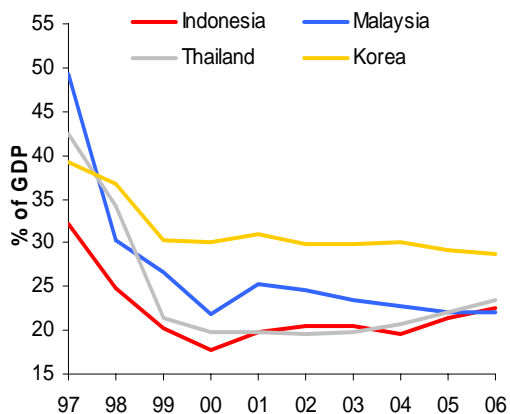
Source: CEIC Data Company Limited

Figure 8: Real Gross Fixed Capital Formation – Other Asia



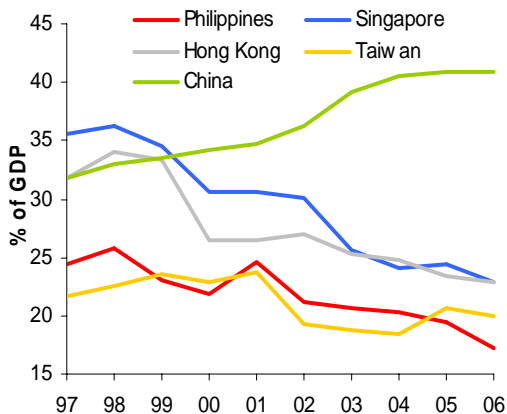
Source: CEIC Data Company Limited

Figure 9: Fixed Investments to GDP Ratio - Crisis 4



Source: CEIC Data Company Limited

Figure 10: Fixed Investments to GDP Ratio - Other Asia

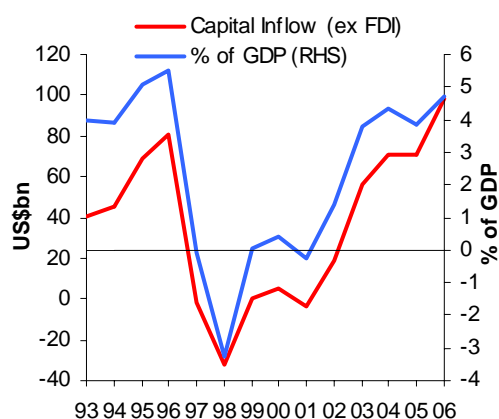


Source: CEIC Data Company Limited

3 COPING WITH THE CHALLENGES POSED BY CAPITAL FLOWS

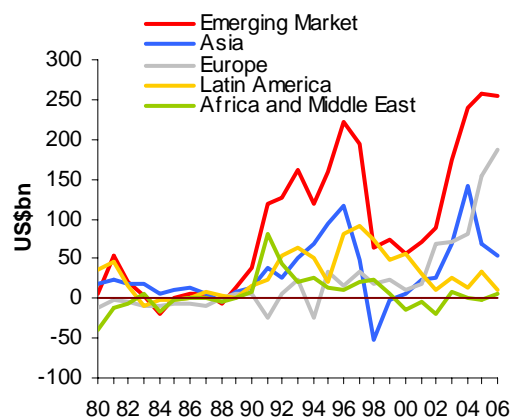
3.1 The region's economic recovery and the prospect of earning attractive returns on Asian assets have led to a massive resurgence of foreign capital inflows in recent years, not unlike the situation in the early 1990s. Figure 11 shows that the surge of gross foreign capital inflows in early 1990s was followed by massive outflows in 1997-98. However, since 2002, foreign capital has once again returned to these countries. Indeed since 2005, the value of such flows has exceeded the pre-crisis peaks. As a proportion to GDP, these foreign capital inflows are now close to the peak of 5.5% in 1996.

Figure 11: Gross Capital Inflows, excluding FDI - ASEAN-4, Korea and Taiwan



Source: CEIC Data Company Limited

Figure 12: Net Private Capital Inflows to Emerging Markets



Source: IMF WEO Database

3.2 The present resurgence of capital inflows should be seen in the broader historical context of the post Bretton Woods period, when capital accounts were liberalized in the industrialized countries. Figure 12 shows net private capital flows to emerging markets. The large upswing in capital flows during the 1970s reversed in the early 1980s during the Latin America debt crisis. There was another sharp cyclical upswing in capital flows from 1990 to 1996, especially to developing Asia, which subsequently reversed following the Asian financial crisis. The current wave of private capital flows to emerging markets started sometime in 2002, driven by the search for yields as interest rates in the developed countries were at record lows.

3.3 Besides the larger volume of private capital flows, the post Bretton Woods period has also been characterized by increased *volatility* of such

capital flows, as shown in Table 2. In the 1980s, this was mainly due to volatility of net flows to Latin America. In the 1990s, it was Asia that experienced greater volatility of capital flows, especially during the Asian financial crisis. Volatility of capital flows to Asia has also been high in the more recent period.

Table 2: Coefficient of Variation of Net Private Capital Flows to Emerging Markets

	1880-1913	1970-1979	1981-1990	1991-1996	1997-1998	1999-2006
Total net private capital flows to emerging markets	1.71	0.29	1.9	0.26	0.72	0.55
Asia	1.65	0.67	0.72	0.53	-24.74	1.01
Western Hemisphere	1.97	0.67	2.27	0.47	0.16	0.58
Eastern Europe	7.04	-1.12	-1.6	5.07	0.39	0.76

Source: IMF

3.4 The situation in the post-Bretton Woods period can thus be characterised as one whereby smaller emerging economies have had to manage the increased volatility of capital flows originating from industrialised countries. The increased magnitude and volatility of capital flows can be thought of, in some sense, as an exogenous shock imposed on emerging market economies. Boom-bust cycles in emerging economies have historically accompanied each wave of capital flows. This point has been made in a paper by Kaminsky, Reinhart and Vegh (2004)², which argues that capital flows tend to be pro-cyclical. This means that the direction of capital flows can exacerbate economic or financial distress - “when it rains, it pours”. A natural question that arises is whether a reversal of the current tide of inflows would result in a financial crisis in the region, similar to that seen in 1997/98.

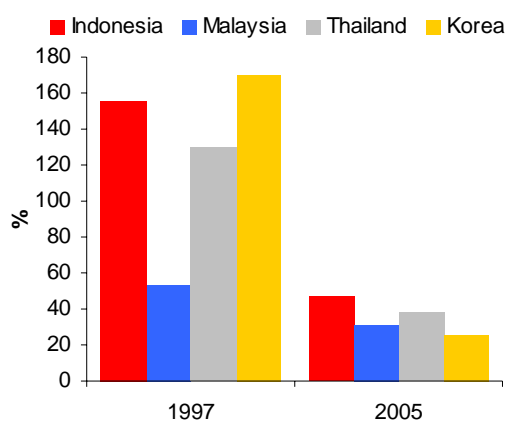
3.5 On the whole, the authors’ assessment is that a banking or balance of payments crisis similar to that in 1997/98 is unlikely even if these capital flows were to reverse. Macroeconomic and institutional frameworks in Asia are much stronger today than before the pre-crisis period, increasing the region’s resilience to financial shocks. In addition, there have also been changes in the financial landscape which have mitigated against the risks of such a financial crisis occurring. We next elaborate on these factors.

² See Kaminsky, Reinhart and Vegh (2004), “When it Rains, it Pours: Pro-cyclical Capital Flows and Macroeconomic Policies”

Increased resilience of the financial system

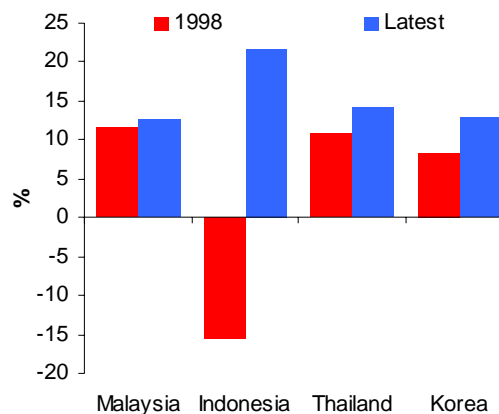
3.6 First, the various structural reforms undertaken in the aftermath of the financial crisis have strengthened the resilience of Asia's financial systems to shocks. Following the crisis, non-performing loans were carved out or written off, banks were recapitalized, and the corporate de-leveraged (Figures 13 and 14). With the authorities' active encouragement of the development of bond markets, the corporate sector has also started to issue more bonds and reduce its reliance on bank borrowing.

Figure 13: Listed Non-Financial Corporates Median Debt-to-Equity Ratios



Source: Thomson Financial

Figure 14: Commercial Banks' Capital Adequacy Ratios



Source: CEIC Data Company Limited

3.7 Beyond balance sheet restructuring, regulators have strengthened their prudential framework for supervision of banks and other financial institutions with the adoption a more risk-based approach. Operational restructuring has also made progress with the improvement in risk management capabilities, and corporate governance has been strengthened. Improvements in these areas have also been helped by the injection of foreign management expertise in many cases. In many countries, steps have been taken to reduce the relationship-based lending practices that were the norm before the crisis. These developments have been complemented by enhanced surveillance of financial systems by regional central banks.

3.8 To be sure, restructuring is an ongoing process, and there is room for further improvements. For example, recent studies have pointed to continued weaknesses in enforcement, which limits the gains achieved through

tightening accounting standards³. Nonetheless, compared to 1997, much progress has been made. On the whole, the present situation is quite unlike during the pre-crisis period, where balance sheet weaknesses meant that financial shocks were quickly amplified and transmitted to the real economy. For instance, where balance sheet vulnerabilities are present, a sharp rise in interest rate or fall in the exchange rate can lead to a sharp increase in bad loans, greater risk aversion amongst banks, reduction in bank lending and a credit crunch for the corporate sector.

Improved credibility of macroeconomic policies and greater exchange rate flexibility

3.9 Second, Asian authorities have also made great efforts to improve the effectiveness and credibility of their macroeconomic policies. Although the cost of banking sector restructuring had led to large fiscal deficits in the immediate aftermath of the crisis, fiscal deficits have since narrowed or swung to surpluses, leading to a significant decline in public debt.

3.10 Another important development has been the adoption of inflation targeting by a number of regional central banks in order to establish a new nominal anchor for price stability (Table 3). Inflation targeting commits the central bank to an explicit inflation target and requires it to be more transparent and accountable. The greater transparency, and other institutional reforms that come with an inflation targeting framework, will, over time, enhance central bank credibility and help to anchor price stability more firmly. With price stability more firmly anchored, the pass-through effects of exchange rates to domestic prices are likely to weaken, and central banks would be able to allow greater flexibility in their exchange rates.

3.11 Indeed, most Asian currencies have exhibited greater flexibility in the post crisis period (Figure 15). The move towards greater exchange rate flexibility is also important, as relatively fixed exchange rate regimes were regarded as one of the main vulnerabilities behind the financial crisis. Greater exchange rate flexibility will encourage greater hedging by domestic agents of their foreign currency exposures, whilst also allowing for greater flexibility of the domestic economy in response to external shocks.

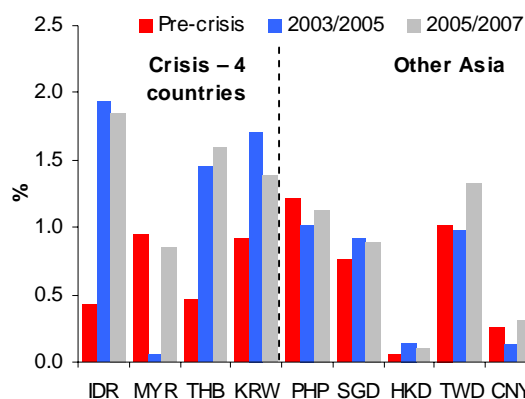
³ See Ball, et al (2003), "Incentives versus Standards: Properties of Accounting Income in Four East Asian Countries"

Table 3: Inflation Targeting in Asia

	IT Adoption Date	Current Inflation Target (percent)	Publishes Forecast
Thailand	2000Q2	0-3.5	Y
Korea	2001Q1	2.5-3.5	Y
Philippines	2002Q1	4-5	Y
Indonesia	2005Q3	6 (+/- 1)	Y

Source: Various National Central Banks

Figure 15: Monthly Standard Deviation of Bilateral Exchange Rate Movements

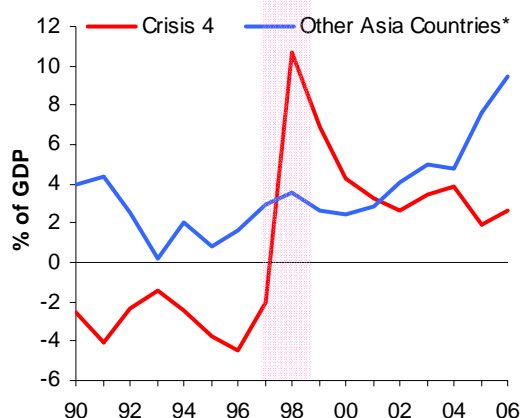


Source: Bloomberg, Authors' calculations

Stronger external positions

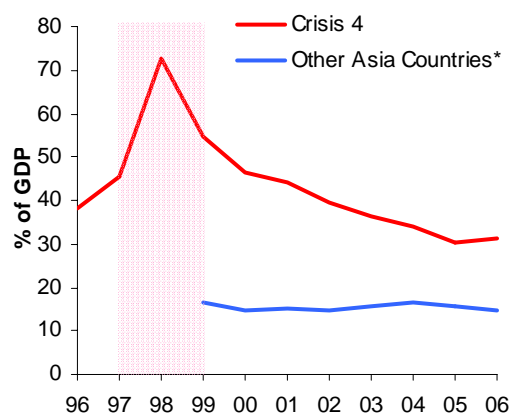
3.12 Third, Asia's external position has improved markedly since 1998. Unlike in the mid 1990s, Asia is not faced with the problem of financing large current account deficits. In fact, almost all Asian countries ran large current account surpluses in the immediate post crisis period, as a result of the collapse in investments even as saving rates remained fairly stable (Figure 16). Without the need to finance large current account deficits, most countries have been able to pare down their external debt. Indeed, external debt in the four crisis-hit countries has been reduced from a peak of over 70% of GDP in 1998, to around 30% currently (Figure 17). Moreover, the crisis-hit countries have all repaid their debts to the IMF ahead of schedule.

Figure 16: Current Account Positions



Source: CEIC Data Company Ltd

Figure 17: External Debt Positions



*Incl Philippines, Taiwan and China
Source: CEIC Data Company Ltd

3.13 Asia's external resilience is further bolstered by the substantial stock of foreign reserves held by Asian central banks, reflecting the current account surpluses and capital inflows. These reserves were accumulated mostly through sterilized interventions and can be seen as an attempt by Asian central banks to purchase self-insurance against the risk of "sudden stop" in capital flows (see box item below).

Box Item: Is Asia pursuing a mercantilist export led growth strategy?

One view that has become quite popular among economists and market analysts in recent years is the idea that Asia is pursuing a mercantilist export led growth strategy. The main thrust of this view is that despite the rhetoric of a move towards more flexible exchange rate regimes, Asia has effectively returned to a system of fixed exchange rates, in other words, the emergence of Bretton Woods II. Bretton Woods II is a description coined by David Folkerts Landau, Peter Garber and Michael Dooley of Deutsche Bank some years ago to characterize the economic model followed by the Asian countries that aims to promote exports and suppress domestic demand via an undervalued exchange rate.

While it is true that manufacturing sectors in Asian economies are generally highly dependent on exports for growth, it does not follow that the Asian economies are suppressing domestic demand. The fact that Asian manufacturing sector is oriented towards exports simply means that their manufacturing sectors are closely integrated into the global economy and the global division of labor. They produce for the global markets and in turn earn foreign exchange which is used to finance imports to meet their domestic consumption and investments. The strength of their domestic spending has little to do with the export orientation of their manufacturing sector.

Indeed, figures A to D show that domestic demand has been the dominant contributor to growth in most of the Asian countries. While exports do account for a substantial share of aggregate demand, once imports are netted out, domestic demand constitute the dominant component of growth in expenditures. Indeed, it was excessive domestic demand via excessive investments that brought about the Asian financial crisis. While the immediate post-crisis period in 1999-2000 was characterised by large positive net exports, since 2001, domestic demand has again been the main contributor to growth in the ASEAN-4 economies, as private consumption has been supported by strong growth in consumer credit and rural incomes, which reflect high commodity prices. In the case of the NIEs, domestic demand was the major contributor to growth from 1999-2002, reflecting the strength of private consumption in Korea before the collapse of the credit card bubble in 2003.

Figure A: Contribution to Real GDP growth - ASEAN-4

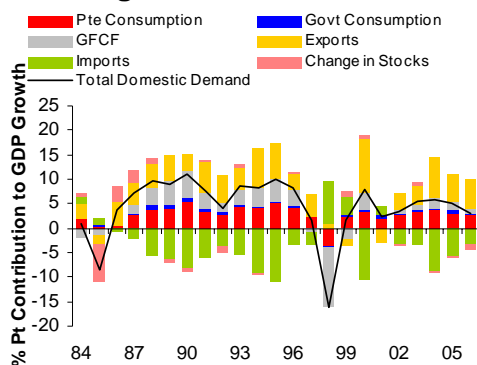


Figure B: Contribution to Real GDP growth - ASEAN -4

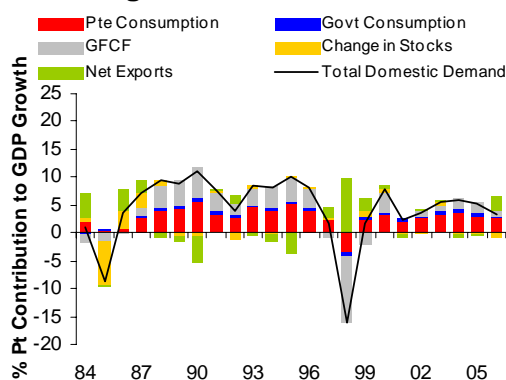


Figure C: Contribution to Real GDP growth - NIEs

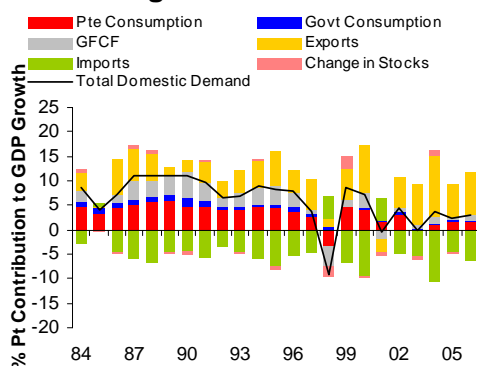
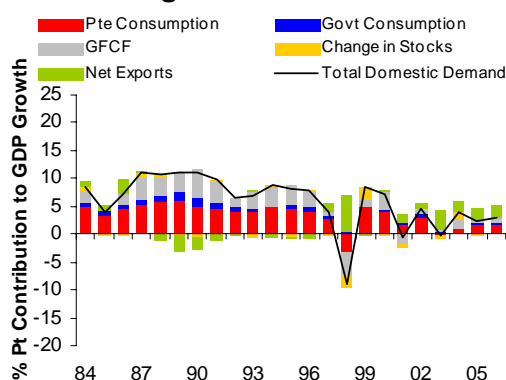


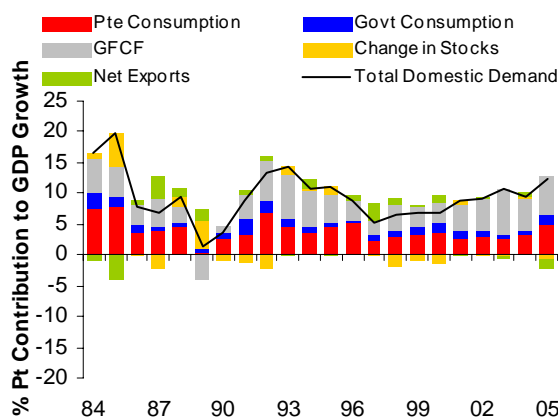
Figure D: Contribution to Real GDP growth - NIEs



Source: CEIC Data Company Ltd, authors' calculations

For China, again domestic demand has accounted for the bulk of its growth (Figure E). Although gross exports constitute a large share of GDP, net exports have been relatively small. Unlike the rest of Asia however, the high domestic expenditures have been mainly due to high rates of investments, rather than consumption. Going forward, the challenge for China is to rebalance growth by raising the contribution of private consumption to overall growth

Figure E: Contribution to Real GDP growth - China



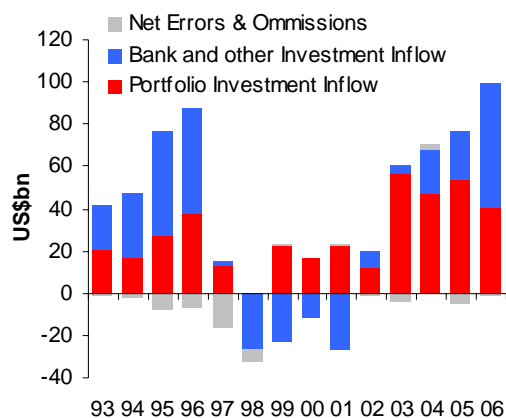
Source: United Nations Statistics, authors' calculations

The importance of domestic demand in driving Asia’s growth weakens the argument that Asian central banks have been intervening in currency markets to pursue a mercantilist export led growth strategy. Rather, Asian central banks’ interventions have been aimed at preventing their exchange rates from becoming misaligned and curbing excessive exchange rate volatility. Given the large size and inherent volatility of capital flows, and the small size of Asian foreign exchange markets, movements in capital flows can cause the exchange rates to overshoot and become overvalued, eroding the competitiveness of their manufacturing exports and resulting in lower growth. Excessive volatility of the exchange rates can also lead to uncertainty for investors. Hence the intention is to smooth out excessive volatility in exchange rates and avoid currency misalignment, rather than to keep exchange rates artificially weak in order to gain export shares.

Changes in the composition of capital flows

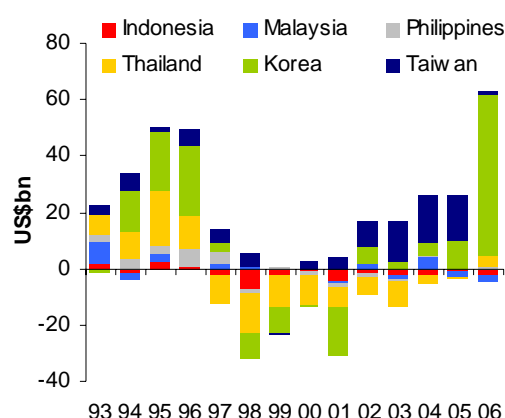
3.14 In addition, changes in the composition of capital inflows may also be an important mitigating factor. Unlike in the pre-crisis period when the capital inflows were mostly in the form of short term bank loans, most of the capital inflows in the recent period have been in the form of portfolio investments (Figure 18).

Figure 18: Capital Flows (ex FDI) into ASEAN-4, Korea and Taiwan



Source: CEIC Data Company Ltd

Figure 19: Bank and Other Investment Inflows into ASEAN-4, Korea and Taiwan



Source: CEIC Data Company Ltd

3.15 While portfolio flows can also be highly volatile, they are less risky compared to bank lending. First, prices in capital markets adjust to changes in perceived risk automatically, and in ways that can pose less systemic risk than foreign currency denominated short term loans. Second, portfolio inflows also involve larger number of creditors and investors, reducing the problem of

relationship lending and other problems associated with bank-centered financing that precipitated the crisis.

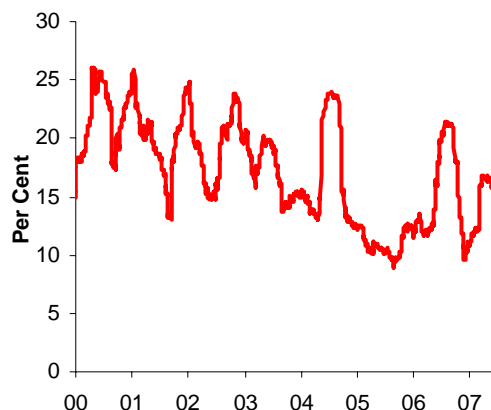
3.16 The exception to this has been in Korea, where bank liabilities increased substantially in 2006, due to requirements by the Bank of Korea for the shipping industry to hedge their future foreign currency receipts (Figure 19). In addition, foreign banks have been increasing their exposure to Korean banks since 2002, in tandem with improvements in their creditworthiness. The historically low interest rates in Japan have also given a strong incentive for SMEs to borrow in yen. As a result, Korea's short-term external debts rose to a record level of US\$137.9bn at the end of the second quarter of 2007, exceeding the previous peak in 1997. In response to the rising currency and interest rate risks facing retail customers, the authorities have instructed banks to adopt stricter requirements for yen-denominated lending.

Changes in the global financial landscape

3.17 There have also been dramatic changes in the global financial landscape since the crisis, which has changed the level and profile of risk in the system.

3.18 First, there has been a sharp proliferation in the number and variety of financial instruments and players. Financial innovation has allowed for risk in the system to be dispersed amongst different players, reducing concentration risk within the system. On the other hand, the dispersion of risks may have actually increased the aggregate demand for it, thereby contributing to higher risk appetite in financial markets in recent years, as seen in compressed credit spreads and lower volatility of asset returns (Figure 20).

**Figure 20: MSCI Asia-ex Japan 90 Day
Volatility**



Source: Bloomberg, authors' calculations

3.19 Second, there have also been significant changes in the hedge fund industry. In general, there appears to be a wider range of hedge fund players now, employing a greater diversity of strategies, as compared to during 1997-1998. For example, a recent paper by the Federal Reserve Bank of New York has shown that while correlation of hedge fund returns has increased recently, this has been due to lower volatility of returns, rather than an increase in covariance of hedge fund returns, as was the case in 1998.⁴ Indeed, covariance of returns is currently significantly lower compared to the long run average. This reduces the possibility of many hedge funds recording losses simultaneously, and the adverse consequences for market stability and liquidity.

⁴ See Adrian(2007), "Measuring Risk in the Hedge Fund Sector", Current Issues in Economics and Finance, Federal Reserve Bank of New York

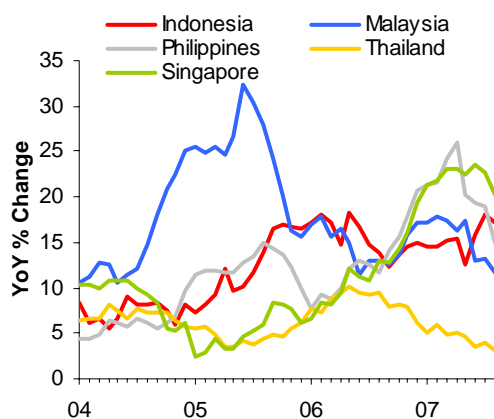
4 RISKS

4.1 While the risk of a banking crisis or a balance of payments crisis may be limited, large and volatile capital inflows have nonetheless brought with them other forms of risks and challenges.

Excess Liquidity and Asset bubbles

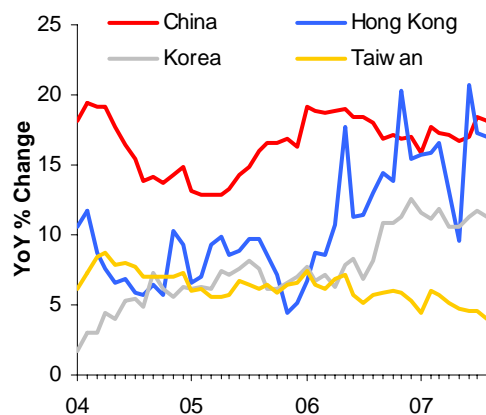
4.2 The resurgence in capital inflows has led to strong acceleration in liquidity and broad money growth in many Asian countries recently. For example, M2 growth has accelerated well above nominal GDP growth for a number of countries in the region (Figures 21 and 22). However, the correlation is not perfect. The acceleration in monetary growth has not been uniform across all the countries. For example, monetary growth in Taiwan and Thailand were in the single digit range and, for Singapore, it was also in the single digit until 2006, when it began to accelerate sharply. On the other hand, monetary growth has been in the double digits in China for a significant period, even in the early 1990s.

Figure 21: M2 Growth - Southeast Asia



Source: CEIC Data Company Ltd

Figure 22: M2 Growth - Northeast Asia



Source: CEIC Data Company Ltd

4.3 Strong capital inflows have manifested themselves in higher asset prices. For example, until recently, foreign buying had driven the stock markets to record highs in several economies, some as much as twice the level of the previous peak (Figures 23 and 24). However, again the run-up in the market has not been uniform. China has experienced a sharp spike but Thailand has been straggling behind the other markets. Also although high, the valuations of the market in terms of price-to-earnings ratios are not excessive. In other words, the run up in prices have been driven more by

earnings growth than pure speculation. Hence investors seem to quite discerning and not entirely irrational. Similarly in the property markets, there is some evidence of speculative activities and an asset bubble in some countries (Figures 25 and 26). This is particularly the case for high-end residential properties which has become an asset class that is rather popular with foreign investors.

Figure 23: Stock Prices - Southeast Asia

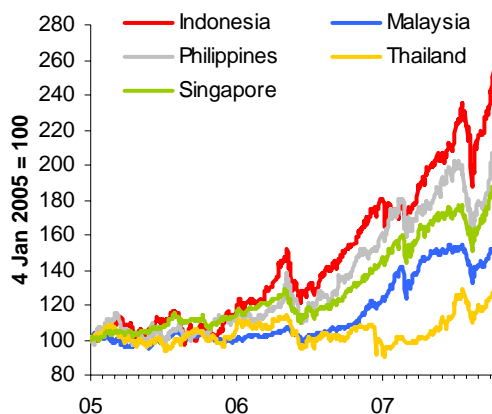


Figure 24: Stock Prices - Northeast Asia

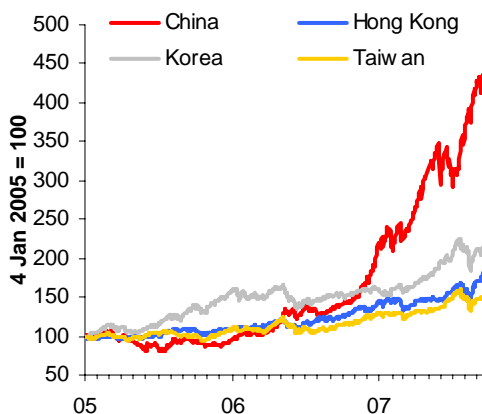
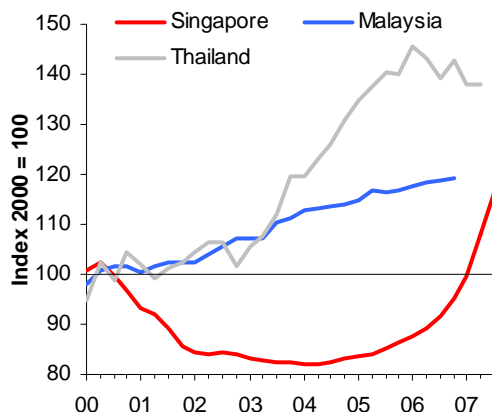
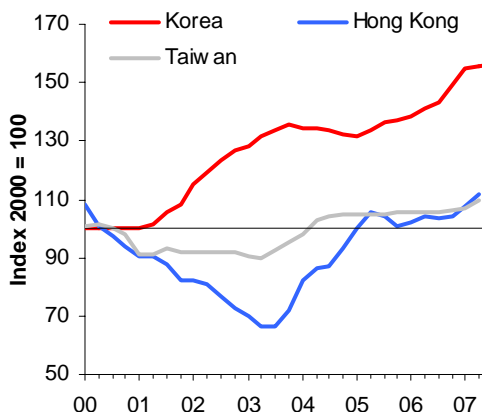


Figure 25: Residential Property Prices – Southeast Asia



Source: CEIC Data Company Ltd

Figure 26: Residential Property Prices - Northeast Asia



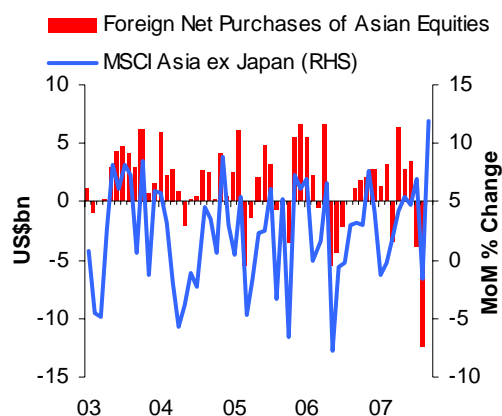
Source: CEIC Data Company Ltd

4.4 A key risk is that asset prices could fall sharply in the event of a sudden reversal of foreign capital inflows. As Figure 27 suggests, there is a reasonably strong correlation between foreign net purchases of Asian equities and stock price movements. Downside surprises in incoming economic data could trigger a broad-based re-pricing of Asian assets by foreign investors, spikes in risk premiums and a sharp correction in regional equity markets. Sporadic episodes of such heightened risk aversion and market volatility

cannot be ruled out, especially if incoming economic data surprises on the downside.

4.5 Given the strength of the external balance, regional central banks should be able to accommodate the capital outflows and it is unlikely that the capital outflows will result in a liquidity crunch or balance of payments difficulties. Asset price corrections should, under normal circumstances, not cause significant damage to the banking sector unless asset purchases are financed heavily by bank borrowing, which does not appear to have been the case so far. Since the start of 2006, there have been three such significant corrections in the asset markets and so far, the impact on the economy appears to have been contained.

Figure 27: Foreign Net Equity Purchases and Stock Prices



Source: CEIC Data Company Ltd, Bloomberg

4.6 Notwithstanding the small direct impact, asset price corrections could affect the economy through other indirect channels. For example, a sharp correction in asset prices could dampen consumer spending through a negative wealth effect, or simply by lowering consumer confidence. Domestic banks could also be affected in a global asset market correction, via their holdings of risky overseas assets, for example, collateralized debt obligations (CDOs) linked to sub-prime mortgages. Whilst not underestimating the consequences of such occurrences, they are nonetheless distinct from a currency and banking crisis induced by capital flow reversals from the region.

4.7 Some observers have also argued that the underlying cause of the capital inflows and asset price inflation is the foreign exchange intervention by Asian central banks to moderate the appreciation of their currencies. Incomplete sterilization of these interventions has led to an increase in the

monetary base and broad money supply via the money multiplier process. However, even some industrial countries such as Australia, NZ, UK and Iceland which are on floating exchange rate regimes have been unable to stop the surge of capital inflows and asset price inflation. In these cases, despite the absence of intervention and relatively stable money supply, capital inflows have nonetheless led to an acceleration in broad money growth, fuelling asset price inflation. In short, the root cause of asset price inflation is perhaps less an issue of the exchange rate regimes and the excess liquidity from foreign exchange intervention per se, but primarily one stemming from strong capital inflows, driven by attractive returns on investments.

Rising Sterilization Costs

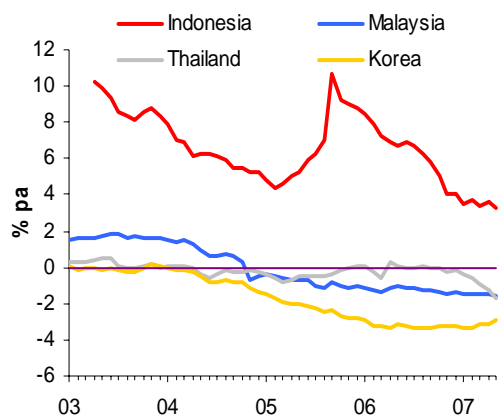
4.8 Another commonly cited risk is the rising cost of sterilizing interventions in the foreign exchange markets. To avoid excessive volatility and overshooting of the exchange rates while retaining a meaningful degree of monetary-policy independence, a number of Asian countries have engaged in sterilized interventions. Sterilisation helps mop up excess liquidity resulting from interventions and rein in credit growth.

4.9 However, sterilization is becoming increasingly difficult because of the large size of capital inflows relative to the size of the money markets. As a result, some central banks have run out of instruments to mop up the liquidity and have had to resort to issuing their own bills, administrative measures, or partial sterilization. The problem is compounded if domestic interest rates are higher than foreign interest rates, as this implies that the interest cost of servicing sterilization bonds is higher than the returns on investments of the foreign reserves. These costs could become prohibitive and result in losses on the central banks' balance sheet. In addition, central banks are likely to suffer translation losses on their foreign exchange reserves should their currencies appreciate.

4.10 One consequence of this is that further sterilized foreign exchange interventions become increasingly difficult politically, forcing central banks to resort to other measures, including the imposition of capital controls. While such measures may be understandable based on domestic political considerations, they also come with their own set of costs, such as the negative impact on investor confidence. This may affect not just short term foreign portfolio investors, but also long term direct investors as well, since capital controls inevitably increase the risk and costs of doing business in a

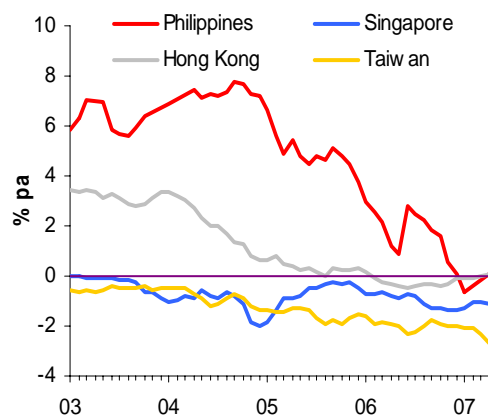
country. These costs can be quite significant, particularly in a world characterized by stiff competition for foreign investments.

Figure 28: Yield differentials between 1 year government bonds (Asia - US Treasury)



Source: CEIC Data Company Ltd

Figure 29: Yield differentials between 1 year government bonds (Asia - US Treasury)



Source: CEIC Data Company Ltd

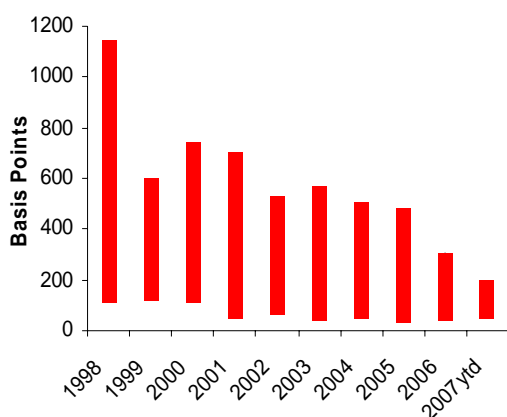
4.11 At this point however, sterilization costs remain manageable for most countries in the region. The cost of servicing sterilization bonds appears to be fully offset by the interest income earned by central banks' investment of foreign reserves. With the exception of Indonesia, the yield gap between a 1-year Asian government bonds and the US equivalent, turned negative around 2005 for most Asian countries, and has been widening since (Figures 28 and 29). With the yield differential now between 90 to 300bps, it would take a significant spike in Asian interest rates and/or a sharp fall in US interests before sterilization costs become prohibitive. While unlikely at this point, such a scenario could materialize if Asian central banks are forced to hike interest rates sharply in response to a sharp rise in inflation in Asia, or if a hard landing of the US economy leads to a sharp cut in interest rates by the US Federal Reserve.

5 BENEFITS OF CAPITAL FLOWS

5.1 The size and volatility of capital flows poses major challenges for Asian central banks. However, such inflows have also brought about substantial benefits to recipient countries.

5.2 First, the self insurance that Asian countries have purchased via the foreign exchange reserves accumulated in the course of their interventions has strengthened their external positions, improved their resilience, and reduced their vulnerabilities to balance of payments crisis. This in turn, has led to a reduction in risk premia, improvement in credit ratings, lower domestic interest rates, and reduced the cost of capital for domestic firms (Figure 30). For the central banks, the greater degree of self-insurance has given central banks greater confidence to operate a more flexible exchange rate regime, since a larger war-chest of reserves will allow central banks more leeway to effectively counter speculative attacks on their currencies.

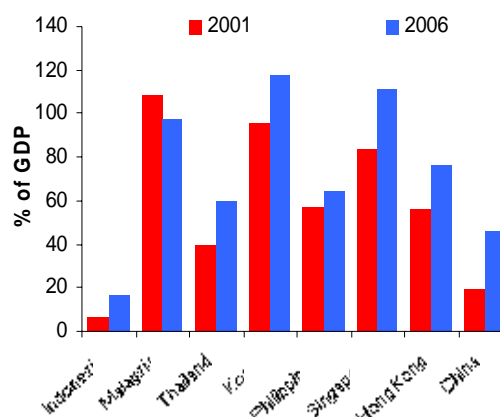
Figure 30: EMBIG Spread Range



Note: The top end of the bars indicate the spread of the country with the widest spread over US Treasuries, and conversely for the bottom end of the bar.

Source: JP Morgan

Figure 31: Local Currency Bond Market Capitalization



Source: Asia Bonds Online

5.3 Second, capital inflows have also indirectly encouraged countries to develop their financial markets. In particular, the painful experience of the 1997/98 banking crisis has given regional governments a strong incentive to develop local currency bond markets, and reduce the reliance on bank centred financing (Figure 31). Many countries have also attempted to offset the impact of capital inflows on their exchange rates, through the liberalization

of restrictions on capital outflows. The opportunities offered by such liberalization measures could spur domestic financial institutions to broaden the range of services offered to customers. More broadly, whilst contributing to market volatility, capital inflows have also increased market liquidity, an essential condition for further financial market developments.

5.4 Lastly, the potential impact on financial stability caused by these inflows has also catalyzed efforts to strengthen regional financial cooperation, for example through the bilateral swap arrangements under the Chiang Mai Initiative, and more recently, regional reserve pooling initiatives. Regional financial surveillance has also been stepped up, through fora such as the ASEAN+3 and EMEAP. Such regional financial cooperation efforts could be further enhanced

6 CONCLUSION

6.1 On many measures of income and output, Asia has made a remarkable recovery since the Asian financial crisis. Economic output and growth have recovered, the financial system has been reformed, the external position has been strengthened, and the macroeconomic policy framework has been enhanced. However, it is also clear that the recovery may not be complete, as growth and investment rates in many countries are still significantly lower than the 1990-97 levels.

6.2 The resurgence of large scale capital flows into the region, drawn by the reflation story in Asia, raises questions as to whether another financial crisis could occur if there were a massive reversal of these capital flows. In our view, the structural reforms and stronger macroeconomic fundamentals of the economies have made the economies more robust and resilient to financial shocks and a balance of payments or banking crisis of the nature of 1997/98 is therefore unlikely. Nonetheless, this does not preclude the possibility of other kinds of risk scenarios materializing, including financial market distress in the event that investor confidence takes a hit and capital flows reverse.

6.3 Ultimately, the challenges Asian central banks face arises from the free flow of capital and the globalisation of finance in the post Bretton Woods period. There is no ideal solution to the difficulty of coping with capital inflows while retaining adequate control over exchange rates and monetary conditions. The best thing that the emerging economies of Asia can do under the circumstances is to continue to manage the inflows by enhancing the robustness of their financial system, pursuing sound macroeconomic policies, judiciously building up reserves, and allowing a greater degree of flexibility in their exchange rates to avoid major misalignments.

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