

Staff Paper No. 85

**CAPITAL FLOWS MANAGEMENT DURING THE POST-2007
GLOBAL FINANCIAL CRISIS:
THE EXPERIENCES OF SEACEN ECONOMIES**

**Reza Y. Siregar, Vincent C.S. Lim, Victor Pontines,
Jami'ah Jaffar and Nurulhuda M. Hussain**



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Table of Contents

	Page
Abstract	v
1. Introduction	1
2. Waves of Capital Inflows across the SEACEN Region	2
2.1 Global Setting	2
2.2 Updates of Trends for SEACEN Economies	4
2.3 International Bank Claims	7
2.4 International Debt Securities	13
2.5 Stock Market	15
3. Push and Pull Determinant Factors of the Capital Surges	16
3.1 Domestic and External Drivers of International Bank Lending	22
4. Economic Consequences of Flows and Policy Dilemma Facing the Local Authorities	22
4.1 Domestic Inflation	23
4.2 Exchange Rate and Exchange Market Pressure Index	26
4.3 Stock Exchange Index	31
4.4 House Prices	33
4.5 Undue Concern of the Financial Sector	36
5. Policy Measures	39
5.1 Balancing Objectives and Trade-offs: Managing the Impossible Trinity	40
5.2 Macro-prudential Measures	49
5.3 Stepping up to Regional and Global Cooperation	55
6. Going Forward and Concluding Remarks	58
References	60

List of Tables

Table 1: Net Private Capital Flows to Emerging Markets – By Region	4
Table 2: Selected Indicators at a Glance of Selected SEACEN Economies	5
Table 3: Annual Average Growth of International Bank Claims in Selected	9
Table 4: Top 10 Performing Broad Market Indexes	16
Table 5: Knight Frank Housing Price Index	35
Table 6: Bank Regulatory Capital to Risk-Weighted Assets	37
Table 7: Return on Equity of Selected SEG Economies	38
Table 8: Non-performing Loans to Total Loans	39
Table 9: Recent Interest Rate Adjustments	41
Table 10: Selected Implemented Macro-prudential Regulations	51
Table 11: CMIM Contribution, Purchasing Multiplier and Swap Facility	58

List of Figures

Figure 1: Emerging Market Private Capital Inflows	3
Figure 2: Capital Flows in Selected SEACEN Economies	6
Figure 3: External Position of Reporting BIS Banks vis-a-vis All Sectors SEACEN Economies	8
Figure 4: Average Annual Growth Rate of Foreign and Local Bank Claims in Major East and Southeast Asian Economies	10
Figure 5: Net International Debt Securities	14
Figure 6: International Debt Securities: Outstanding	15
Figure 7: Policy Rate Differentials	17
Figure 8: Quarterly Growth Rate Differentials	20
Figure 9: Annualised Monthly Inflation	24
Figure 10: Selected Annualised Exchange Rate Appreciation Against the US dollar in July 2011	27
Figure 11: Exchange Market Pressure Index	29
Figure 12: Monthly Regional Stock Market Index (January 2005 – May 2011)	32
Figure 13: Accumulated International Reserves of the SEG Economies	46
Figure 14: Costs of Intervention	47

Abstract

Although global financial stability in late 2010 and early 2011 has, in general, improved when compared to the 2008-2009 period of the sub-prime global financial crisis, vulnerabilities remain high. The recent World Economic Outlook of the IMF (WEO, September 2011) underlines the two speed recovery processes taking place in the world economies. In advanced economies, especially those hit hardest by the crisis, firms, government and household sectors continue to be heavily indebted and are likely to spur relatively weak demand. Although the financial markets of these economies have, in most parts, returned to profitability, the overall frail balance sheets reflect the general subdued state of the local economy.

In sharp contrast, the emerging economies, including those of the SEACEN region, are posting robust growth rates until the second half of 2011, meeting new challenges associated with strong demand, rapid credit and excess liquidity. Price pressures, including potential asset price bubbles, have been the common themes of policy challenges for the SEACEN economies. Managing macro-financial risks, namely balancing growth, balance sheet soundness of the financial institutions, particularly the banking sector, and keeping a lid on inflationary pressures, have been and will likely be the primary policy challenges for these emerging markets in 2011 and 2012.

This paper takes stock of recent trends and developments with regard to capital flows in the SEACEN economies. It elaborates in detail, the breakdowns and compositions of the flows. In particular, the focus of the analyses is on key flows such as the international bank lending activities to the region. The paper also summarises and analyses some of the basic push and pull factors of these flows to understand some of the domestic and external drivers of these flows. Some of the economic consequences of these capital flows and policy dilemma facing the SEACEN economies are also looked at. The paper also examines the policy responses of the central banks/monetary authorities, in particular, to mitigate the negative consequences and maximise the benefits of capital flows.

1. Introduction

Although global financial stability in late 2010 and early 2011 has, in general, improved when compared to the 2008-2009 period of the sub-prime global financial crisis, vulnerabilities remain high. The recent World Economic Outlook of the IMF (WEO, September 2011) underlines the two speed recovery processes taking place in the world economies. In advanced economies, especially those hit hardest by the crisis, firms, government and household sectors continue to be heavily indebted and are likely to spur relatively weak demand. Although the financial markets of these economies have, in most parts, returned to profitability, the overall frail balance sheets reflect the general subdued state of the local economy. For the rest of 2011, the fragile financial institutions and the unsustainable fiscal position of the Euro economies will likely be the source of major vulnerability and risk for the world economy.

Furthermore, a recent update on the unemployment rate of the US has also added uncertainty in the overall outlook for global economic recovery. In June 2011, the US economy only added 18,000 additional jobs, despite the massive quantitative easing policies. In August, no additional job was reported in the US economy. This latest employment trend is the lowest in twelve months, exacerbating fears that the nascent recovery is stalling in the face of high petrol prices, knock-on effects from the Japanese tsunami, debt overhang in the US and the Euro-zone and chronically weak consumer confidence. The unemployment rate in the US ticked up to 9.1 per cent in second quarter of 2011. In August 2011, the Standard & Poor stripped the US economy of its triple-A credit rating.

Macroeconomic and financial outlook in the Euro-zone have also been the source of concern for the world economy. In mid-July 2011, Ireland's bond was downgraded to junk status, triggering further concern that this will have some ramifications on Greece's debt problem, in particular, and other highly indebted euro-zone economies, in general. The downgrade in the economic rating of Italy in September have fueled further worries on the sustainability of the fiscal position in many neighbouring economies particularly and the euro-zone in general. The only silver lining came from the relatively robust export performance of the US and the Euro-zone, riding on the strong demand coming from the emerging markets of Asia and Latin America. Furthermore, a recent economic report from Japan has also been a more positive one. The economic output in July 2011 is expected to return to the level prior to the March 2011 earthquake. Looking ahead, however, there are many remaining challenges facing the Japanese economy, which includes its weak labour market.

In sharp contrast, the emerging economies, including those of the SEACEN region, are posting robust growth rates until the second half of 2011, meeting new challenges associated with strong demand, rapid credit and excess liquidity. Price pressures, including potential asset price bubbles, have been the common themes of policy challenges for the SEACEN economies. Managing macro-financial risks, namely balancing growth, balance sheet soundness of the financial institutions, particularly the banking sector, and keeping a

lid on inflationary pressures, have been and will likely be the primary policy challenges for these emerging markets in 2011 and 2012.

The first part of this study takes stock of recent trends and developments with regard to capital flows in the SEACEN economies. Taking advantage of the survey conducted by the Research and Learning Contents Department of The SEACEN Centre on selected SEACEN member economies, the next section elaborates in detail, the breakdowns and compositions of the flows. In particular, the focus of the analyses will be on key flows such as the international bank lending activities to the region.

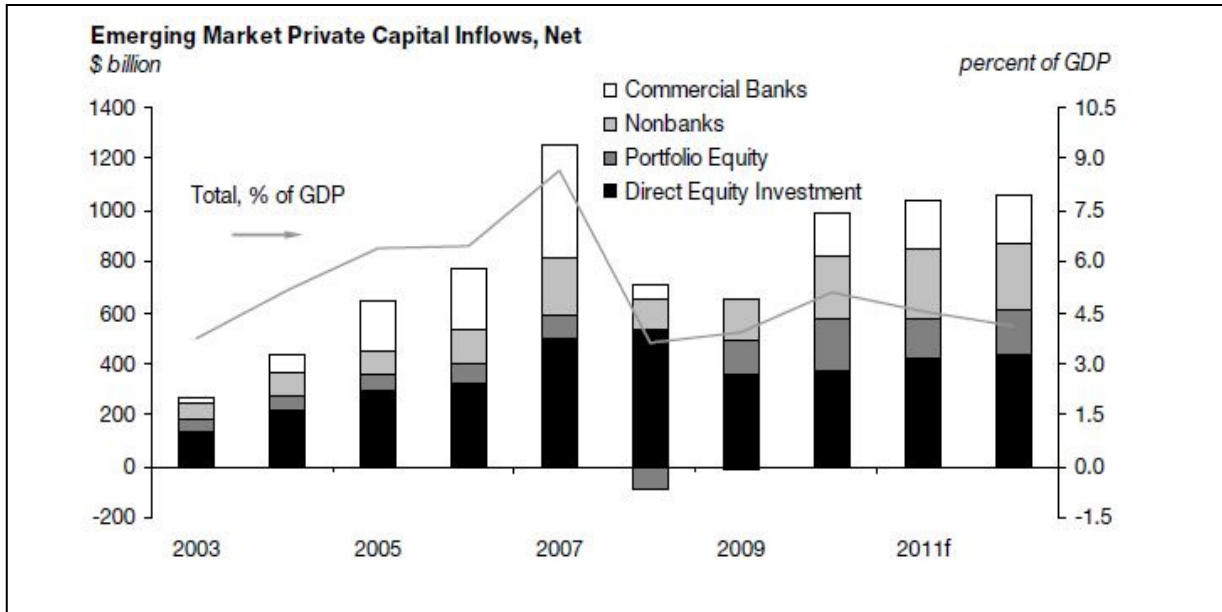
The Report then summarises and analyses some of the basic push and pull factors of these flows (Section 3). The primary objective here is to understand some of the domestic and external drivers of these flows. Next, we look closely at some of the economic consequences of these capital flows and policy dilemma facing the SEACEN economies during the recent years. The discussion will then concentrate on the policy responses of the central banks/monetary authorities, in particular, to mitigate the negative consequences and maximise the benefits of capital flows. The Report ends with some forward looking analysis and brief concluding remarks.

2. Waves of Capital Inflows across the SEACEN Region

2.1 Global Setting

In 2010, private capital flows to emerging economies revived sharply and should continue to be relatively buoyant in 2011 and 2012, as ongoing robust growth and financial deepening encourage greater foreign investments (IIF, June 2011). Net private capital inflows to emerging economies are estimated to be USD 990 billion in 2010, some USD 350 billion higher than in 2009. The projected private flows in 2011 and 2012 are even higher at USD 1041 billion and USD1056 billion respectively (Figure 1).

Figure 1
Emerging Market Private Capital Inflows



In terms of the composition of the flows, most of the increase in capital inflows in 2010 was due to higher bank and non-bank debt flows, although equity investments also picked up. In addition, the current account surplus of the emerging market also increased marginally in 2010. These sources of funds were balanced by strong emerging market external asset acquisitions, including a surge in reserve accumulation. Looking at the net private capital flows by region, Emerging Asia was the largest recipient of flows at around USD 499.5 billion in 2010 as compared to USD 264.9 billion for Latin America, USD148.4 billion for Emerging Europe and US\$76.9 billion for Africa/Middle East. For 2011, it is forecasted that net private capital inflows into emerging markets of Asia will be around USD 484.1 billion, representing more than 45% of total private inflows to emerging markets (Table 1).

Table 1
Net Private Capital Flows to Emerging Markets – By Region
(Billions of USD)

	2009	2010	2011f	2012f
Total Private Inflows, net	643.7	989.8	1041.1	1056.4
Emerging Asia	377.5	499.5	484.1	446.0
Latin America	155.5	264.9	254.7	238.5
Emerging Europe	56.0	148.4	246.6	300.1
Africa/Middle East	54.6	76.9	55.7	71.8

e = estimate, f = IIF forecast

Source: IIF (June 2011).

2.2 Updates of Trends for SEACEN Economies

Following the remarkable economic recovery across the region, fueled by abundant global liquidity associated with loose monetary policy and increased risk appetite in major advanced economies, most SEACEN economies had, in general, seen a substantial turnaround in capital flows, leading to positive overall net capital flows and favourable balance of payment positions (Table 2 and Figure 2). Between 2008 and 2009, the capital outflows totaled USD221.3 billion but the trend was reversed in 2010, with registered capital inflows of USD36.6 billion.² Equally important to note is that the net capital inflows remained positive consistently throughout all four quarters of 2010.

The first half of 2011 saw another round of very volatile period of capital movements in and out the Asian region. In the first quarter of 2011, the region saw a small net capital outflow of USD7 billion. This was due to USD3.4 billion and USD8.7 billion outflows in portfolio and other investments respectively. However, by the second quarter of 2011, there was a large surge in capital flows into the SEACEN economies. In that quarter alone, net capital inflows registered USD43 billion, larger than the totaled annual inflows in 2010. The net capital inflows were overwhelmingly dominated by portfolio inflows since 2009. This shows that while net portfolio flows were relatively volatile, investors continue to channel their funds into this region in search of higher yields. However, the trend was different for foreign direct investments as both inward and outward direct investments rebounded in 2010. While the region remained an attractive venue for foreign direct investments, there is increasing trend of domestic companies continuing to tap profitable opportunities outside their respective economies.

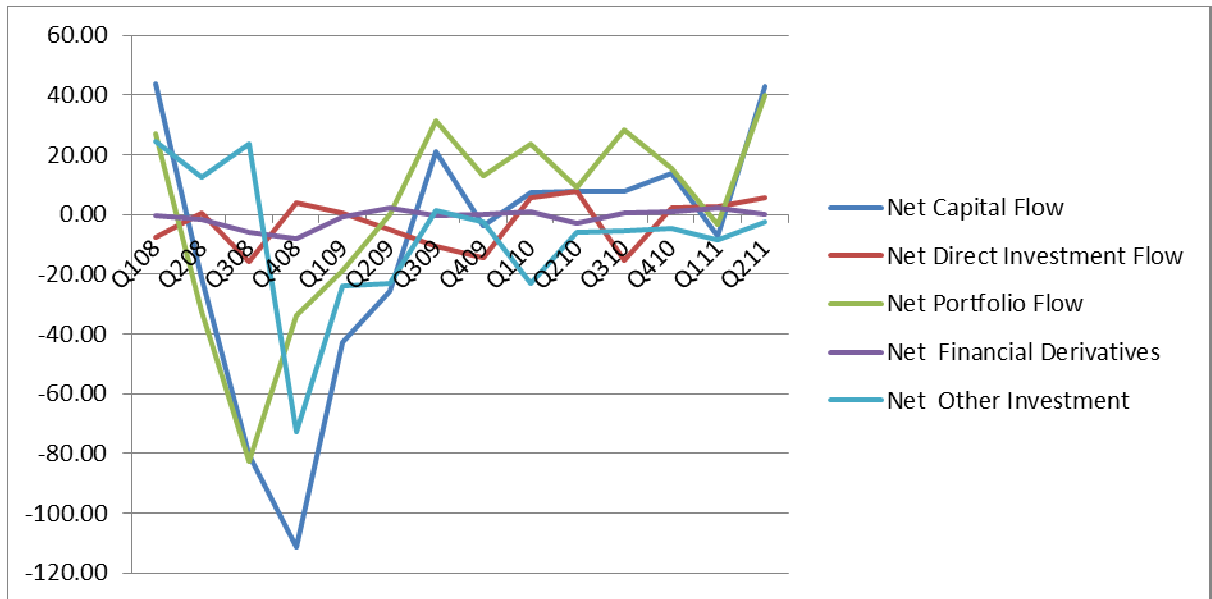
² Excludes China, Papua New Guinea and Myanmar.

Table 2
Selected Indicators at a Glance of Selected SEACEN Economies 1/
(US\$ Billion)

	2008	2009	2010	2010				2011	
				Q1	Q2	Q3	Q4	Q1	Q2
Net Capital Flow	-169.7	-51.6	36.6	7.3	7.9	7.7	13.7	-7.0	43.0
Net Direct Investment Flow	-19.1	-30.2	-0.2	5.5	7.6	-15.5	2.2	2.8	5.5
Net Portfolio Flow	-122.2	25.7	76.5	23.8	9.1	28.2	15.4	-3.4	39.9
Net Financial Derivatives	-16.0	1.4	-0.5	1.0	-2.9	0.5	0.8	2.2	0.2
Net Other Investment	-12.4	-48.5	-39.2	-23.1	-5.9	-5.4	-4.8	-8.7	-2.6

Data excludes China, Papua New Guinea and Myanmar.

Figure 2
Capital Flows in Selected SEACEN Economies
(US\$ billion)



Source: Survey conducted by The SEACEN Centre and the CEIC Database.

Given the diversities of the economies, the composition and the size of these net flows differ from one SEACEN economy to another. In general, those at the early stages of their economic development and are endowed with abundant natural resources experienced massive injection of direct investments. In the case of Mongolia for instance, there was a dramatic increase in FDI inflows, amounting to USD1.874 billion in 2010, an almost 140 percent rise from the level in 2009. The investments in the mining sector, particularly for copper, gold and coal, accounted for a major share of the investments. A similar phenomenon was reported in Myanmar where in 2008/9, direct investments to the power, oil and gas and mining sectors attracted a little less than USD1 billion. However, with rapid liberalisation of various key sectors of the economy, viz. agriculture, mining and manufacturing sector, foreign direct investments to the economy soared to well above USD 19 billion in 2010/11. A significant jump in FDI was also reported in Cambodia where in 2010, net direct investments increased by around 48 per cent, primarily in the agricultural and textile sectors.

The role of FDI is expected to grow in Indonesia, Malaysia and Thailand. In 2010, Indonesia saw FDI increase by more than 250 per cent from that reported in 2009. A mild increase in FDI was reported for Thailand in 2010 in comparison to the previous year, albeit still lower than the level in 2008. Malaysia welcomed almost RM28 billion in FDI in 2010 as compared to a mere RM5 billion in 2009. However, not all SEACEN economies continued to attract increasing FDI. For example, Sri Lanka and the Philippines have seen FDI numbers moderate slightly in 2010 as compared to a year earlier. It is also important

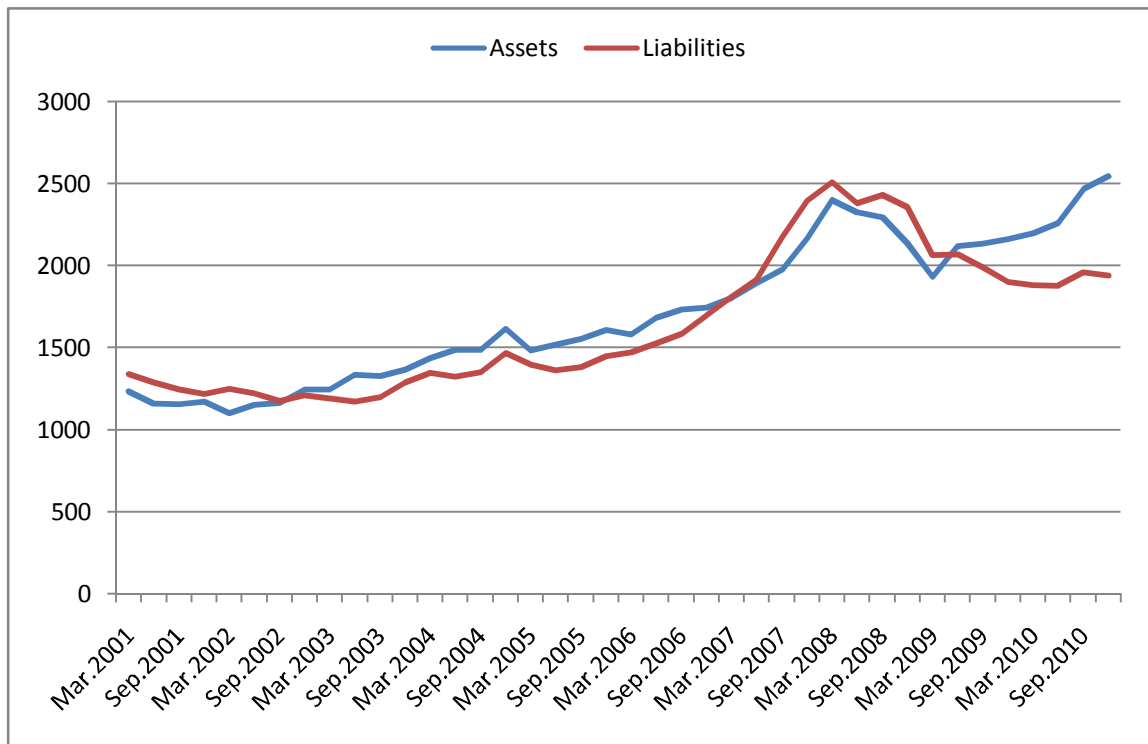
to highlight here that a number of SEACEN economies, such as Malaysia, Korea, Chinese Taipei and Singapore, have long been reporting outward direct investments to take advantage of the higher returns beyond the border. In the case of Chinese Taipei, a significant rise in direct investments abroad in 2010 contributed to the sudden turnaround - from net inflows of around USD2.6 billion and USD 5.9 billion in the first and second quarter of 2010, respectively, to net outflows of USD 2.5 billion and USD 6.6 billion in the third and fourth quarter of 2010, respectively.

In most of the SEACEN economies with more developed capital markets, portfolio inflows dominated and accounted for the largest share of net capital inflows into the domestic markets (Figure 2). A fair share of these portfolio investments into the SEACEN economies targeted sovereign bonds and securities. This is evidently demonstrated in the case of Indonesia, Philippines and Thailand. In Indonesia, foreign holdings of government bonds increased by USD3 billion during the period of February to April 2011, boosting foreigners' share of outstanding bonds to 33 per cent. In comparison, the respective share in the US was 42 per cent while in Korea it was 15 per cent of total outstanding bonds. Equity investments in local firms and banks were also strong, reflecting the return of risk appetites of global investors and abundant liquidity, driven partly by the expansionary monetary policies of advanced economies.

2.3 International Bank Claims

Other investments have also increased, particularly bank lending of the international banks. From an international bank lending perspective, the region has turned from debtor to net creditor throughout most of the subprime crisis period. As shown in Figure 3, the net claims of the BIS reporting banks in the SEACEN region during the period of March 2007 to March 2009, showed a significant outflow of cross border funds from the SEACEN economies. However, the trend reversed during the second quarter of 2009. This gap has widened significantly compared to before the crisis, following improvements in global liquidity resulting in significant inflows into the SEACEN economies. This is reflected by a more than two-fold increase in the net inflows of US\$266 billion during the last quarter of 2009 compared to US\$608 billion in the same period in 2010.

Figure 3
External Position of Reporting BIS Banks vis-a-vis All Sectors
(March 2001 - December 2010, in US\$ billion)



Source: BIS Statistics.

Total foreign claims of international banks, in general, sustained strong momentum in some of the emerging markets of the Asian region up to the fourth quarter of 2008. However, during the immediate weeks and months following the Lehman Brothers debacle, six of the eight SEACEN economies were engulfed in a sharp and sudden reversal of international bank claims. The unforeseen and sheer size of these reversals in international bank flows out of these six SEACEN economies saw the annual growth rate of these flows hitting negative territory by end- 2008, with the exception of Thailand and Sri Lanka.³ More recent data reveals that inflows of international bank lending have again returned strongly to these economies in 2010⁴ (Table 3)⁵ and the first quarter of 2011(Figure 3).

³ Though Thailand only experienced a very marginal increase in international bank inflows.

⁴ With the exception of Korea

⁵ The only exception is Sri Lanka, which suggests that the adverse effects of the Global Financial Crisis impacted the economy with a lag.

Table 3
Annual Average Growth of International Bank Claims in Selected
SEACEN Economies

Economies	1983- 1988	1989- 1996	1997- 2000	2001- 2002	2003- 2007	2008	2009	2010
Indonesia	8.59	16.11	-6.27	-13.33	15.16	-0.85	14.01	31.8
Korea	-0.97	20.09	-7.49	6.85	34.50	-19.98	16.76	-3.0
Malaysia	0.84	16.12	15.88	1.39	16.69	-5.91	2.75	19.9
Philippines	-2.98	6.08	10.30	-2.0	8.44	-20.35	10.89	26.1
Singapore	18.8	10.0	-10.4	-0.9	15.3	-4.2	5.3	25.7
Sri Lanka	7.09	3.62	21.87	2.34	22.93	14.24	-4.82	18.5
Chinese Taipei	18.94	10.13	1.43	11.05	23.33	-15.60	21.09	46.6
Thailand	8.45	30.65	-13.35	-9.19	9.32	1.61	19.38	30.6

Source: BIS Consolidated Banking Statistics for the Basic Data and RLC Department of SEACEN.

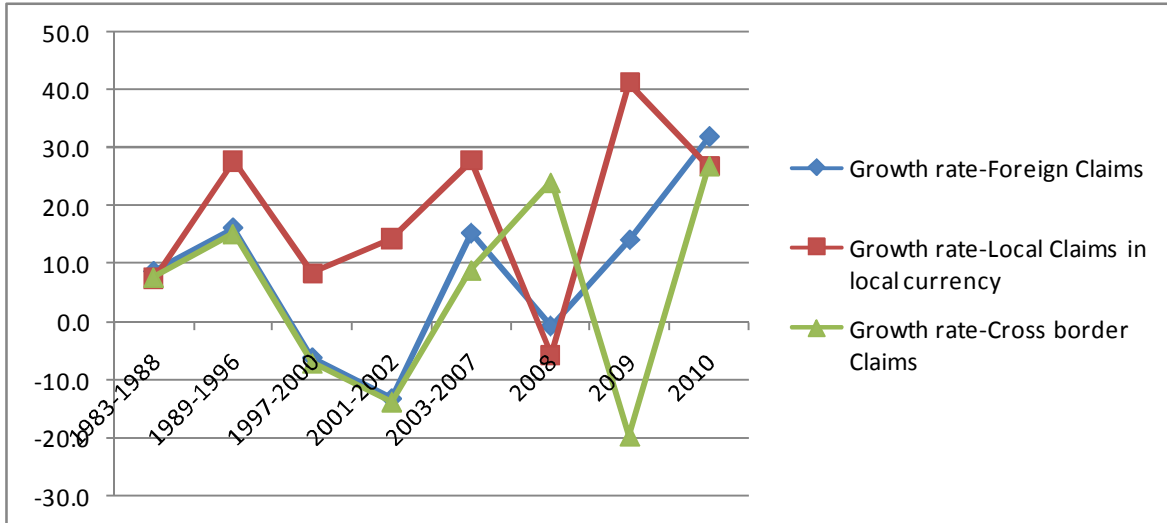
While international bank lending retreated substantially in almost all of the eight SEACEN economies in the immediate aftermath of the Lehman Brothers debacle, the key component of these international bank lending in the form of local claims of foreign banks operating within the domain of the SEACEN economies, remained strong and was less adversely affected by the external shock originating from the US. As depicted in Figure 4, while the local claims booked by offices of foreign banks retreated in Indonesia, Korea, Philippines and Thailand, such was not the case for Malaysia and Chinese Taipei in 2008.

In retrospect, when we look back at previous crises such as the Asian financial crisis and the 2001-2002 collapse of the IT bubble in the US, almost all of the eight SEACEN economies experienced sharp reversals in total international bank flows during these two separate crisis periods similar to the one that recently occurred at end-2008. However, remarkably, as noted above local claims of these international banks continue to register positive average annual growth rates during the past crisis episodes, namely the 1997 East Asian crisis and the 2001-2002 IT bubble. In addition, more recent data in the post-global financial crisis (GFC) period indicates that the local claims of foreign banks in 2010 recovered immediately and grew positively in eight economies, with the lesser exception of Korea (Figure 4). The almost similar experiences across a broad sample of SEACEN economies highlights the indisputable evidence of the growing inter-connectedness of global banks to the SEACEN economies in which these same global banks act as a conduit of financial shock transmission from the global financial markets to the local economy⁶.

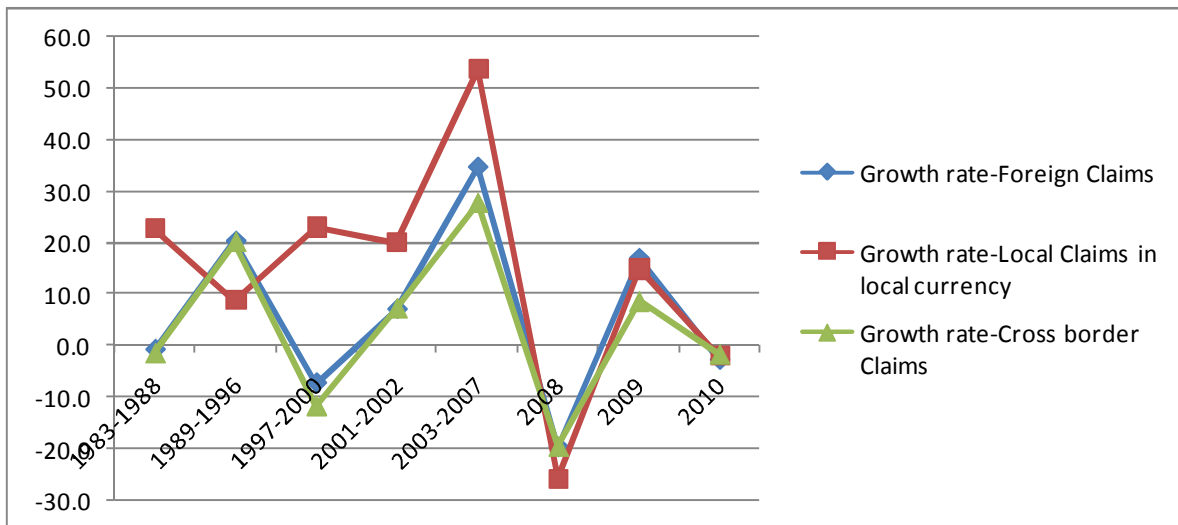
⁶ For a more comprehensive study, refer to recent study conducted at The SEACEN Centre (Pontines and Siregar, 2011).

Figure 4
Average Annual Growth Rate of Foreign and Local Bank Claims in major
East and Southeast Asian Economies

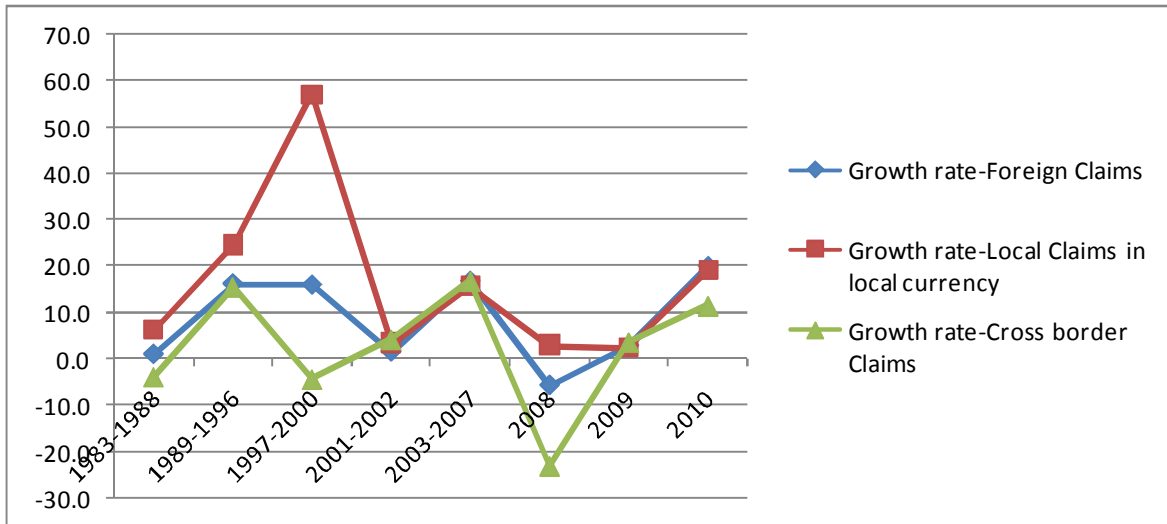
Indonesia



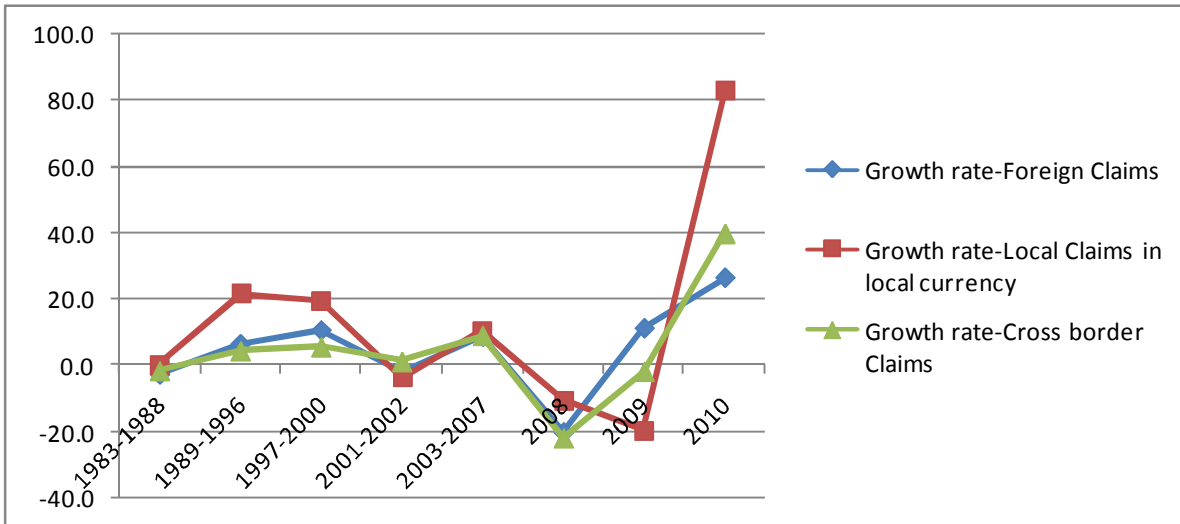
Korea



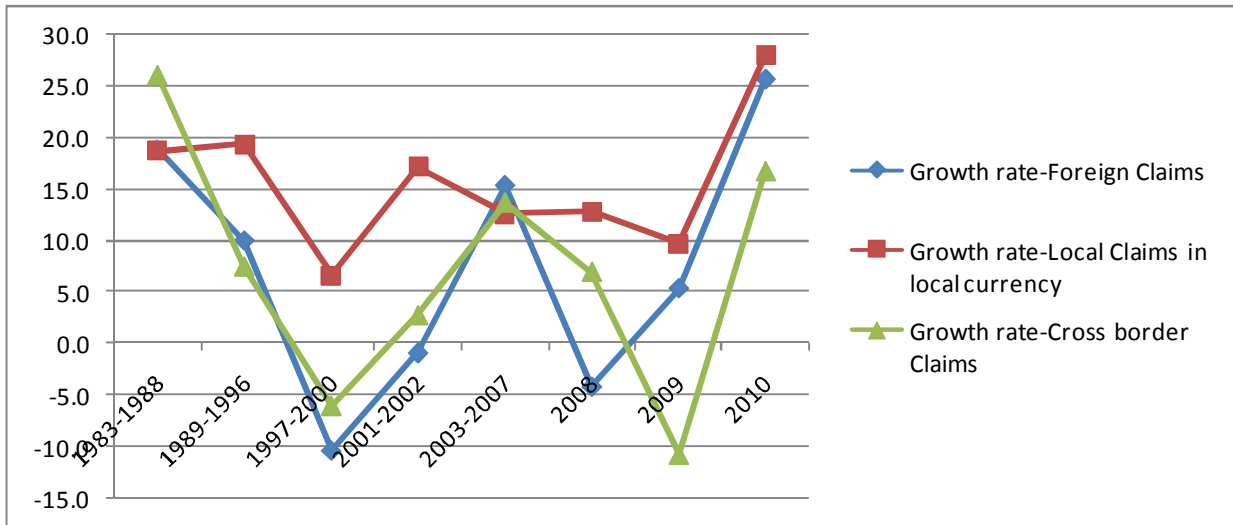
Malaysia



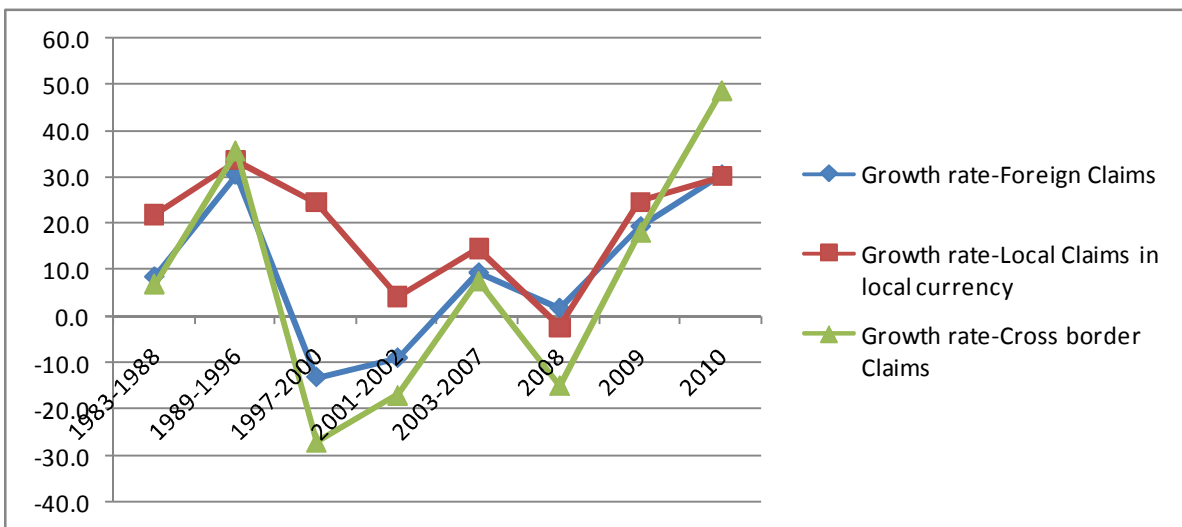
Philippines



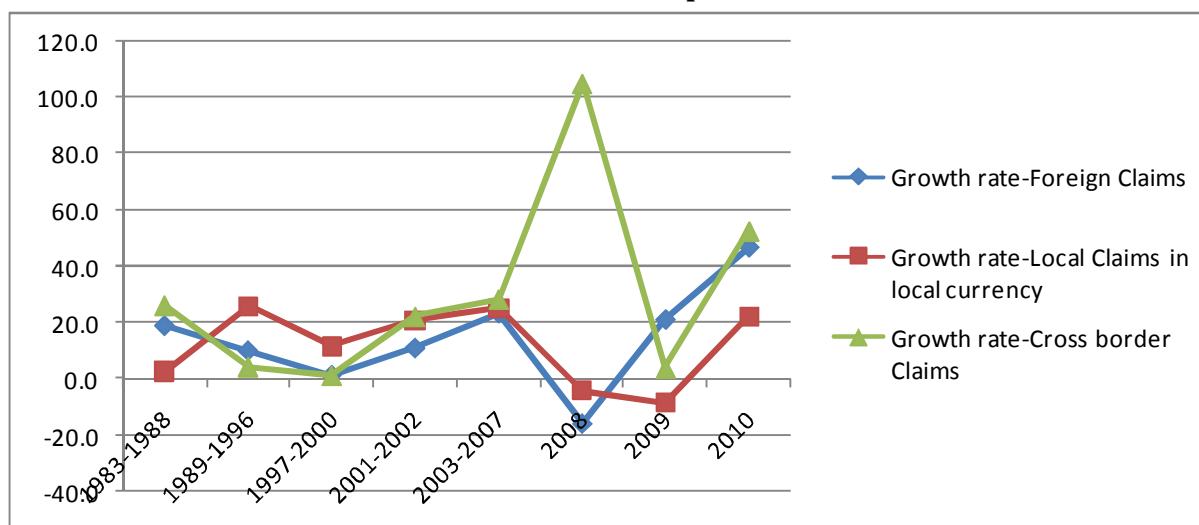
Singapore



Thailand



Chinese Taipei



Source: BIS Consolidated Banking Statistics and RLC Department of SEACEN.

2.4 International Debt Securities

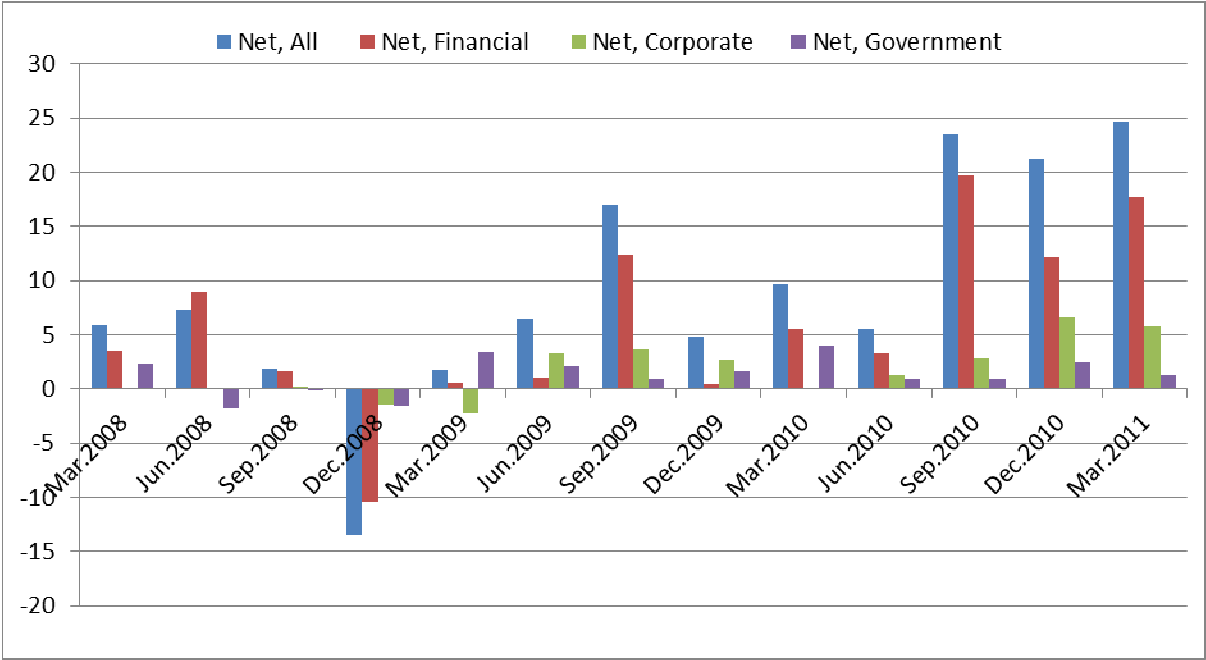
In the case of net international debt securities issuance, net borrowings which started to pick up from June 2009 onwards, experienced a drop in June 2010 before recovering in September 2010 (Figure 5). With the exception of the government sector, net international debt securities issuance was negative in June 2010. However, from the third quarter of 2010 to the first quarter of 2011, all sectors registered net positive issuance. Among the sectors, financial institutions registered as the highest issuers of net international debt securities, which accounted for around 80 percent of the total international debt issuance of the SEACEN economies in March 2011 (Figure 6). This signifies the importance of financial institutions' role in raising funds in the SEACEN economies.

Net international debts issued in all sectors were mostly volatile for the individual economies. During March 2011, the net international debt issued by the financial sector registered the largest volume in China, Korea and Singapore. In addition, these three economies led in the net international financial debt issuances by the corporate sector during the same period. On the other hand, the net issuance by the corporate sector registered net negative flows in Indonesia. In absolute terms, from March 2008 to March 2011, Korea recorded the largest amount outstanding in terms of net international debt issued by the corporate sector, followed by Singapore and China. These three economies contributed to around 73 per cent of the total amount outstanding in the selected SEACEN economies⁷. For the financial sector, Korea, China, Singapore as expected, dominated the amount outstanding of financial debt securities (77 per cent of the total

⁷ The selected SEACEN economies are China, Korea, Indonesia, Malaysia, Philippines, Singapore, Sri Lanka, Thailand, Chinese Taipei and Vietnam.

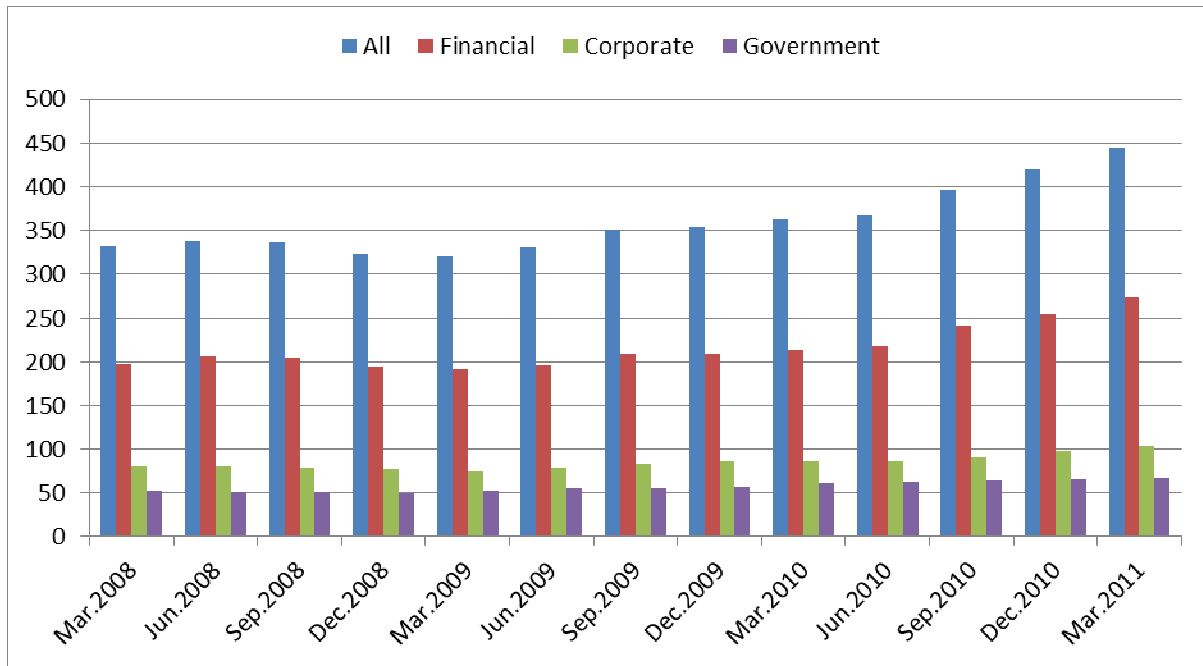
outstanding). On the other hand, the amount outstanding in the government sector was largest in the Philippines, Indonesia and Korea (79% of total outstanding)

Figure 5
Net International Debt Securities
 (US\$ billion)



Source: BIS Database.
 Data is for China, Vietnam, Singapore, Chinese Taipei, Indonesia, Malaysia, Philippines, Korea, Sri Lanka and Thailand.

Figure 6
International Debt Securities: Outstanding
 (US\$ billion)



Source: BIS Database.

Data is for China, Vietnam, Singapore, Chinese Taipei, Indonesia, Malaysia, Philippines, Korea, Sri Lanka and Thailand.

2.5 Stock Market

According to the World Federal of Exchanges (2011), during the first six months of 2011, volumes were relatively stable (experiencing a mild contraction of -0.8 per cent) with large regional contrasts with the America's trading decreasing by 9.3 per cent whereas Asia-Pacific's volumes rose by 13.8 per cent. From June 2010 to June 2011, four SEACEN exchanges were among the top ten performers world-wide (Table 4). In terms of percentage change in the same period, the Colombo Stock Exchange (48.0 per cent), Indonesia Stock Exchange (33.5 per cent), Stock Exchange of Thailand (30.6 per cent) and Philippines Stock Exchange (27.6 per cent) were among the top ten performing stock markets world-wide. The increase reflects the large portfolio flows into the SEACEN region.

**Table 4:
Top 10 Performing Broad Market Indexes**

Exchange		Broad index name	% change end-June 2011 /end- June 2010 <i>(in local currency)</i>
1.	Tehran Stock Exchange	<i>TEDPIX</i>	68.4%
2.	Buenos Aires Stock Exchange	<i>Composite index</i>	49.3%
3.	Colombo Stock Exchange	<i>CSE All Share</i>	48.0%
4.	Lima Stock Exchange	<i>Indice General BVL (IGBVL)</i>	35.0%
5.	Indonesia Stock Exchange	<i>JSX Composite Index</i>	33.5%
6.	NASDAQ OMX US	<i>Composite index</i>	31.5%
7.	Stock Exchange of Thailand	<i>SET Index</i>	30.6%
8.	NYSE Euronext US	<i>Composite index</i>	28.6%
9.	MICEX	<i>MICEX index</i>	27.3%
10.	Philippine Stock Exchange	<i>PSE Index (PSEi)</i>	27.2%

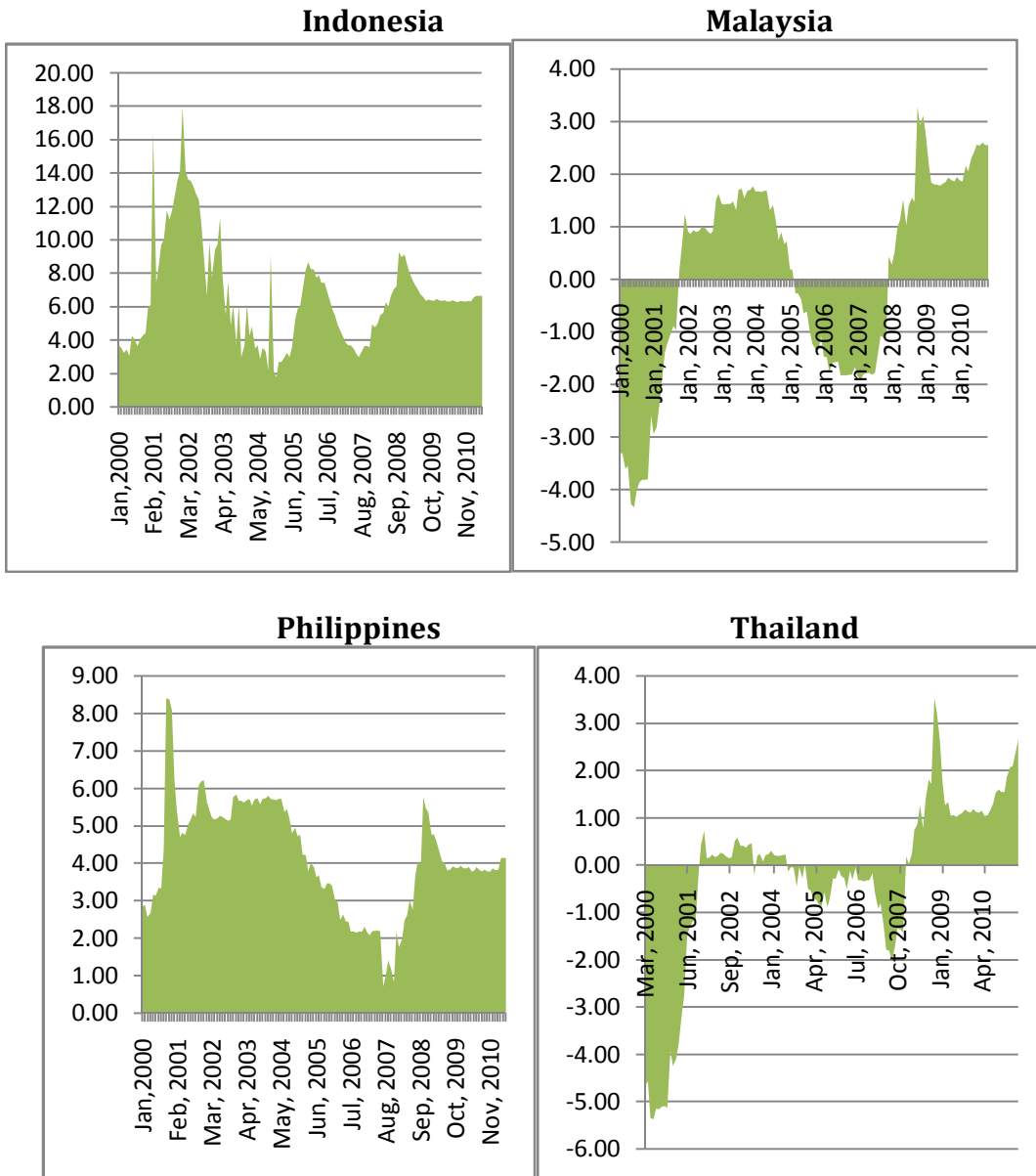
Source: World Federation of Exchanges (2011).

3. Push and Pull Determinant Factors of the Capital Surges

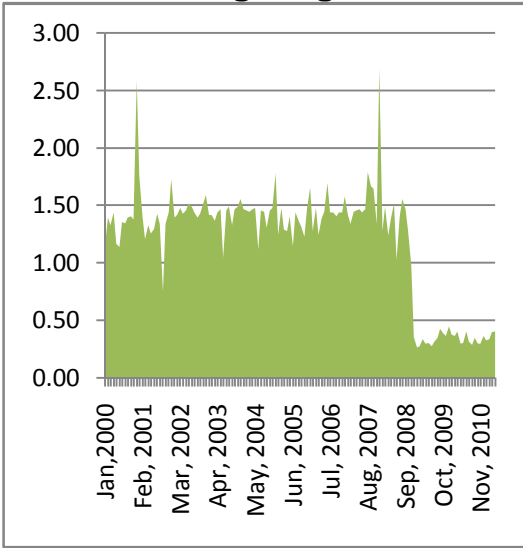
The developing Asian economies continue to be the backbone of global economic growth. While the advanced economies only grew by about 3.0 per cent in 2010, developing Asia region reported a growth rate of slightly less than 10 per cent (World Economic Outlook (June 2011)). More importantly, the emerging markets of Asia are expected to remain as the growth engine of the world economy in 2011 and 2012, albeit with more moderate forecasted growth rates. As mentioned earlier, global liquidity, supported by quantitative easing measures in the advanced economies and the returns in investor risk appetites following signs of normalisation in the global financial markets in the first half of 2011, have added stimulus to the surge of capital inflows into the SEACEN economies.

Several push (external) and pull (domestic) factors have contributed to the resurgence of capital flows into the SEACEN economies in 2010 and early 2011. The pull factors being higher relative interest yields (Figure 7), booming housing markets and expectation of appreciating domestic currencies, combined with rising sovereign debt risks in many advanced economies and sound domestic macroeconomic fundamentals together with strong growth prospects. In Malaysia, Korea, Chinese Taipei and Thailand, the interest rate differentials since 2008 have, on average, been below 3 per cent; in the Philippines and Australia around 4 per cent; while in Hong Kong, it is less than 1 per cent. Amid excessive domestic liquidity and strong private credit growth, both Indonesia and Sri Lanka had to keep the interest rate differential relatively high, at close to 7-8 per cent.

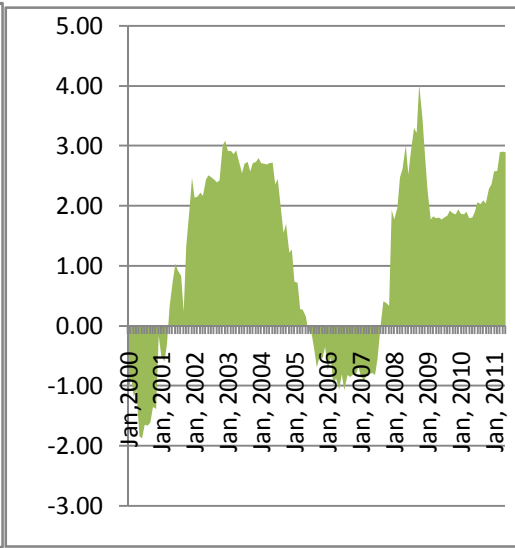
Figure 7: Policy Rate Differentials



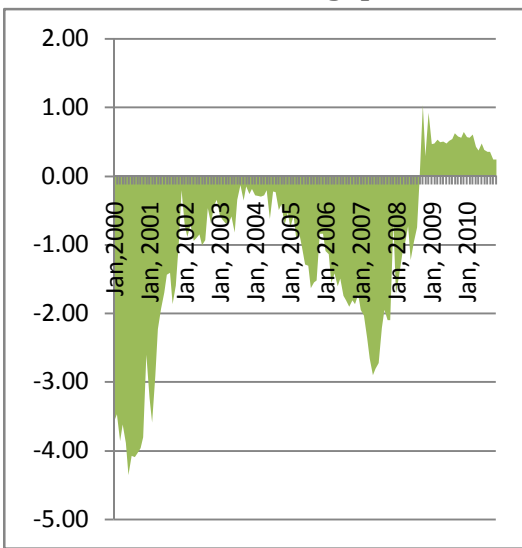
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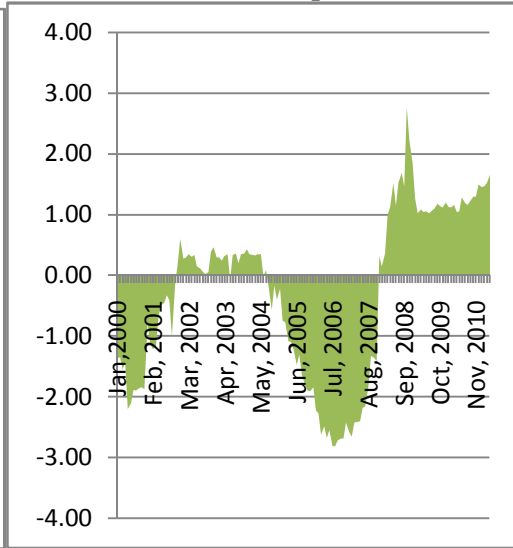
Korea

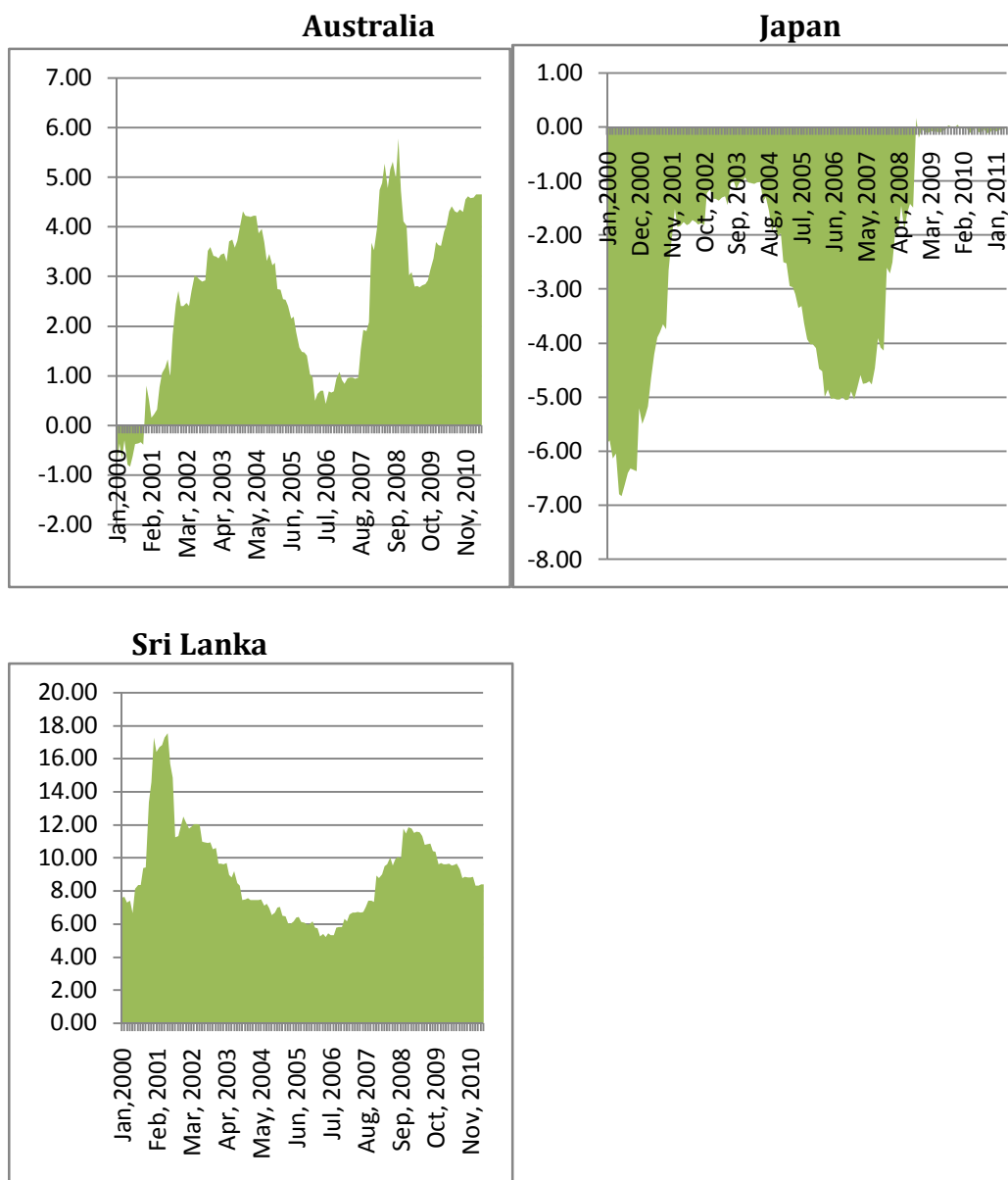


Singapore



Chinese Taipei



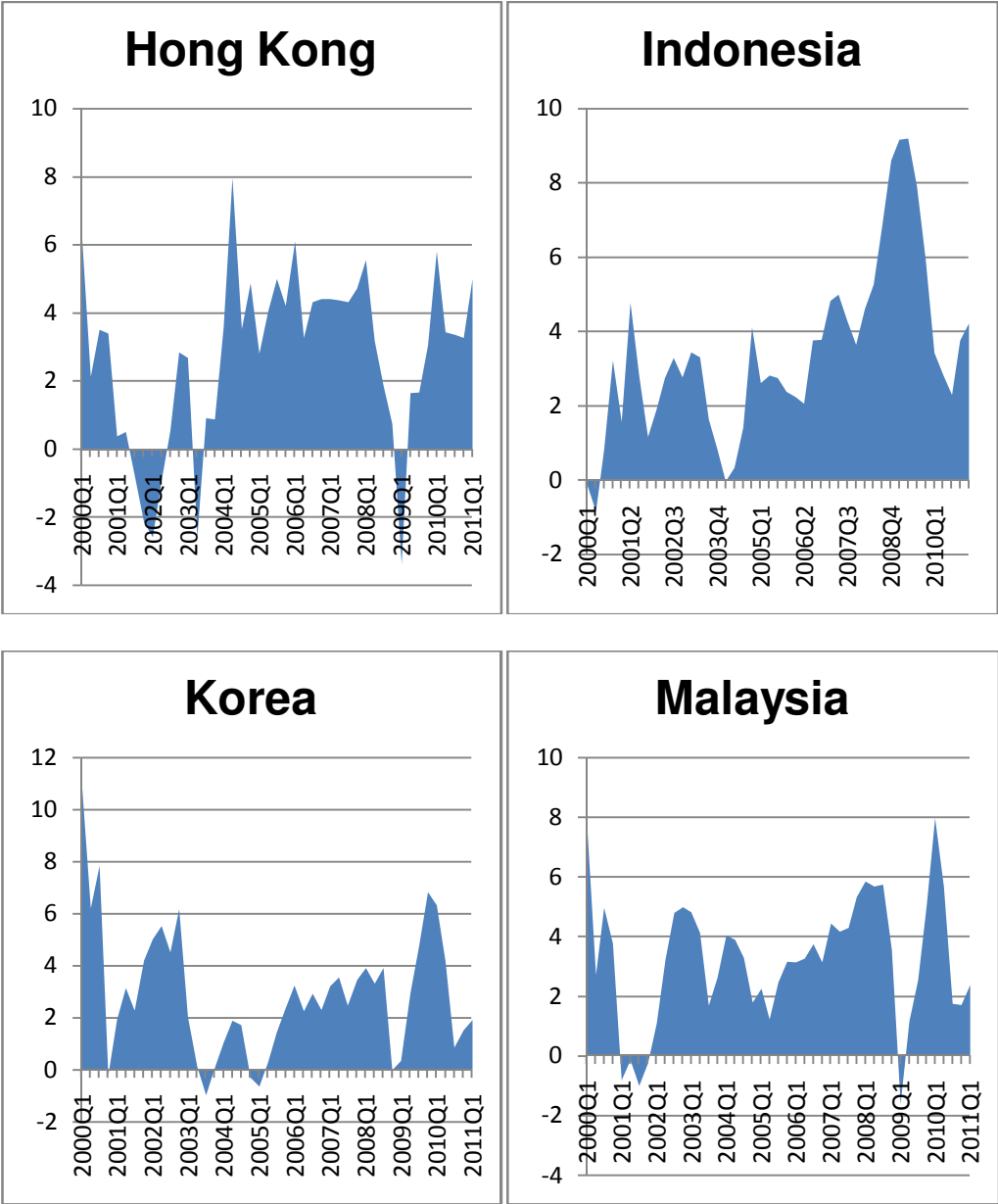


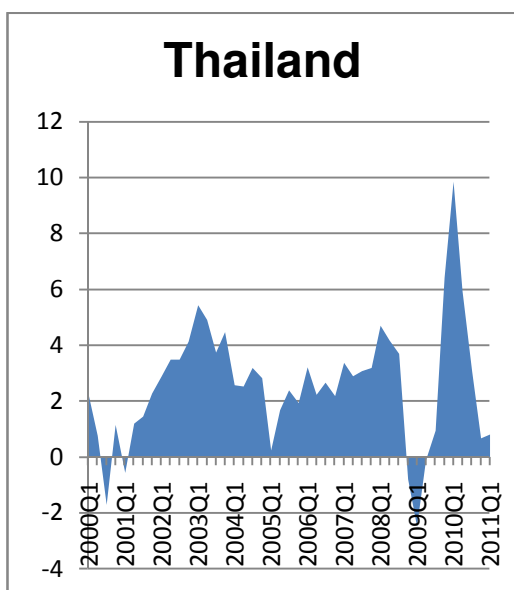
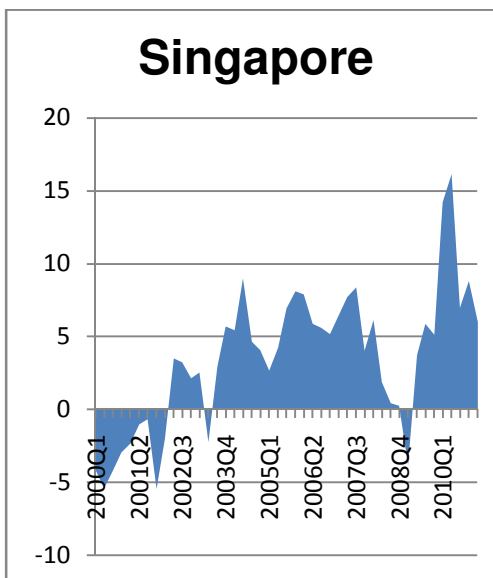
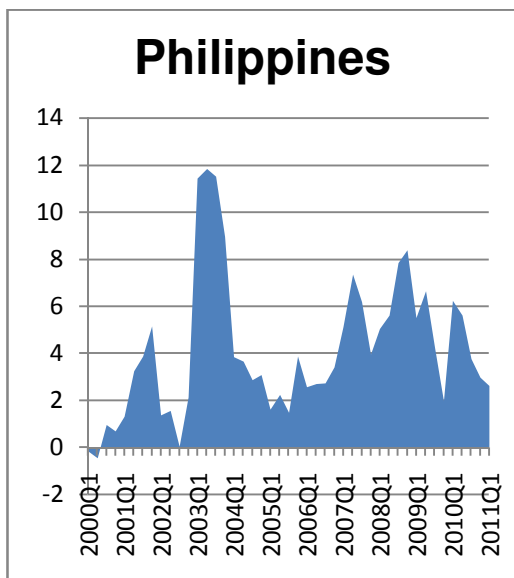
Source: SEG Database and CEIC Database.

One can argue that the global financial crisis was a temporary watershed event for some Asian economies. The large positive growth rate differential that selected Asian economies experienced with respect to the case of the US for the entirety of the early and mid-2000s in which economies to name a few such as the Philippines (2003Q2), Singapore (2004Q2), Hong Kong, China (2004Q2), Malaysia (2002Q4) and Thailand (2003Q1) enjoyed positive quarterly growth differentials against the US of between 5 and 12 per cent, disappeared around the time of the crisis (Figure 8). However, along with the resurgence in capital flows in the region and amidst the lingering economic weaknesses in the developed economies in the aftermath of the recent crisis, these wide positive growth differentials had immediately returned to the region. Indeed, this large positive growth differential with respect to the US never disappeared even during the period of the crisis in

the case of Indonesia, while large positive quarterly growth differentials in the order of between 3 per cent to as high as 14 per cent in the case of Singapore (2010Q1) have undoubtedly contributed to the resurgence in large capital inflows to the region during the post sub-prime crisis.

Figure 8
Quarterly Growth Rate Differentials





A number of emerging SEACEN economies such as Indonesia, the Philippines, Mongolia and Sri Lanka have seen their sovereign rating upgraded, reflecting the overall sound macroeconomic positions which include fiscal strength. In Korea, the prospects of the Korean Stock Market joining the MSCI Developed Market Index and of the Korean Bond Market joining the World Government Bond Index (WGBI) contributed to the strong surge of portfolio capital. Closer economic integration with mainland China was also a crucial factor, especially for Hong Kong SAR and Chinese Taipei (with the expectation of the cross strait Economic Framework Agreement (ECFA)).

The return of more stable political and economic environment has also been a strong impetus for massive capital inflows. In Nepal and Sri Lanka for instance, the much-improved internal security situations spurred strong investment drives in the domestic

economies. In Cambodia, the commitments and efforts to pursue open market policies, to further reform the economy, and to improve the legal and institutional infrastructure contributed immensely to making the economy an attractive investment location for both regional and global investors. In more developed economies such as Chinese Taipei, a number of tax incentives, such as reductions in the tax bequest rate and profit-seeking enterprise income tax rate, and full insurance of deposits, successfully attracted foreign deposits of local residents back into the domestic economy.

3.1 Domestic and External Drivers of International Bank Lending

In a recent study conducted at The SEACEN Centre for a number of SEACEN economies (Cambodia, Chinese Taipei, Indonesia, Korea, Malaysia, the Philippines, Myanmar and Sri Lanka), Pontines and Siregar (2011) highlight several fundamental determinant factors of bank lending from three major advanced economies, namely Japan, the UK and the US to these SEACEN economies. To start with, the real GDP growth rates of the home (Japan, UK and US) and host (or SEACEN) economies have, indeed, been an important factor. In particular, the pro-cyclicality of these flows, i.e., better (worse) economic conditions in the host (home) economies leads to greater (less) bank flows into some of these SEACEN economies.

The short-term uncertainties and volatilities of the global economies, captured by the widely used S&P 100 Volatility Index (VIX_t) of the Chicago Board Options Exchange, are found to have an adverse impact on the flows of international bank lending into the SEACEN region. This finding strongly suggests that global/external factors have a role to play in determining bank flows from developed to emerging economies. The balance of the evidence also appears to suggest that greater exposure on the part of major foreign banks in these selected SEACEN economies fulfill a stabilising or crisis-mitigating role of international bank lending during periods of financial distress such as that of the 1997 East Asian financial crisis. However, the study also finds the opposite case for the recent subprime crisis. In short, for capital flows in general, we find the impacts and roles of international bank lending in the local economy can be a two-edged sword. In good times, the flows contribute positively to the financing of economic activities. However, during times of uncertainties in the local and external markets, international bank lending can amplify the severity of volatilities and hence the vulnerability risks of the local economy.

4. Economic Consequences of Flows and Policy Dilemma Facing the Local Authorities

While inflows have largely been attracted by returns and strong prospects of the region, they have, nonetheless, benefited the economies on many fronts. Given the liquid financial markets, a higher rate of investment has, in general, been recorded across all SEACEN economies. As mentioned earlier, for some economies such as Australia and Mongolia in particular, these funding enabled them to place substantial investments in the highly profitable mining and energy sectors. In general, the liquidity in the market has also

led to a deepening of the financial markets in both capital and banking sectors, and a lowering of the cost of capital domestically in many SEACEN economies.

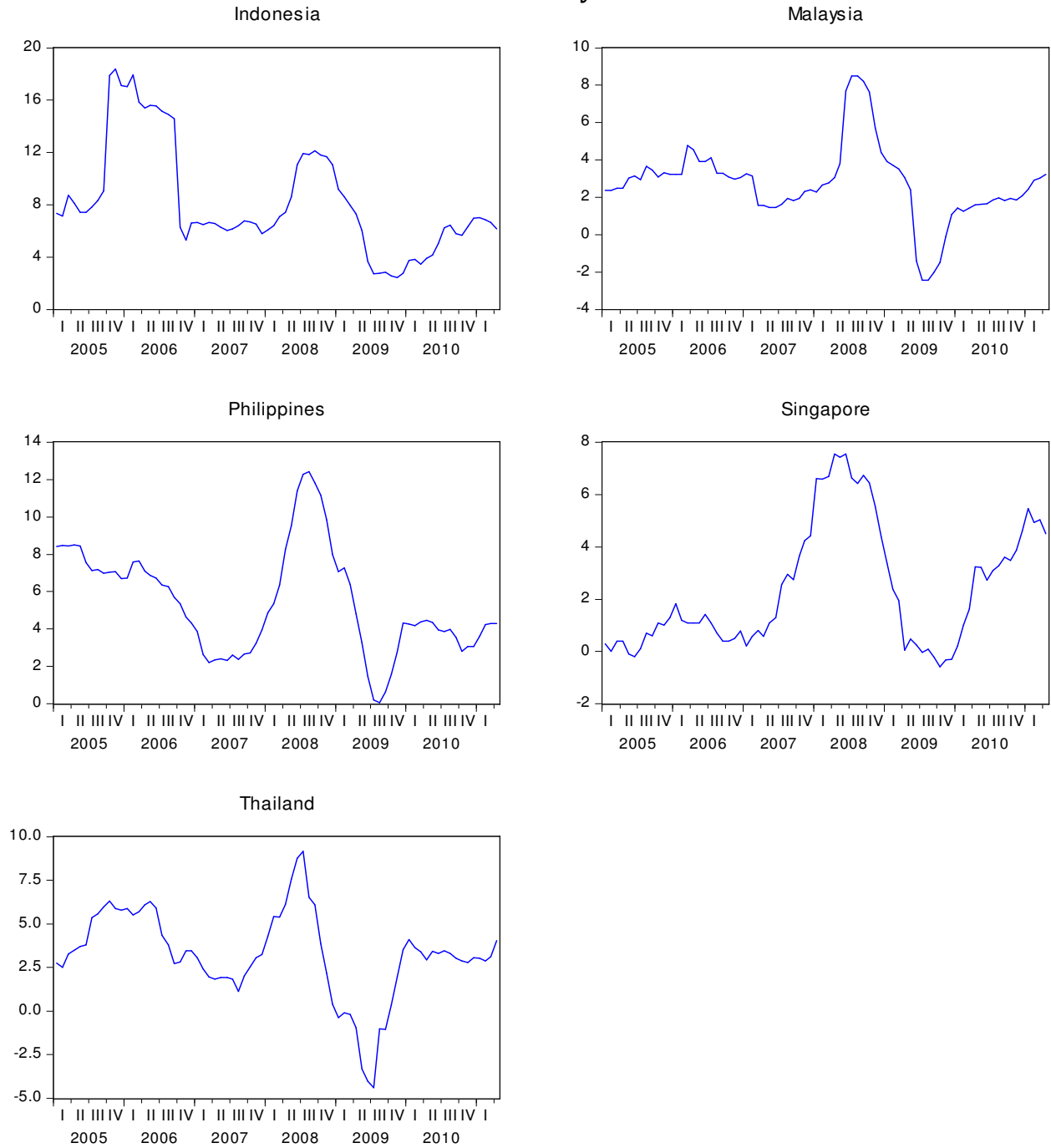
While there are benefits to be reaped from capital inflows, excessive, persistent and potentially unsustainable inflows could also lead to disruptions in the domestic economies. The old fear associated with 'hot money' flows has amplified in recent months. The surge of capital inflows, dominated by the portfolio flows, has accelerated growth in credit, appreciated local currencies and potentially fuelled asset-price bubbles in securities and housing markets. As a caution, these inflows have long been known to have the potential to abruptly stop and reverse, triggering a sudden drying up of domestic liquidity. The pressures on the local currencies and domestic price levels have made the management of macroeconomic policies in general and monetary policy in particular more challenging. The next two sub-sections will further elaborate the consequences of these inflows for local currencies and asset prices.

4.1 Domestic Inflation

While deflation was the source of distress among policy makers in early 2009, the rising price level has taken over the driver seat in regional policy debates, especially since the first half of 2010, with very few exceptions such as Japan (Figure 9). The latest trends reported in May 2011 capture the consistent messages of enduring inflationary pressures across the SEACEN economies. Indonesia and China experienced relatively higher rates of annualised inflation of around 5.5 per cent in May 2011. Notable inflation rates were also reported in Korea, Singapore and Thailand, in the range of 4-4.5 per cent by May 2011. Natural resource abundant economies such as Mongolia, reported double digit and escalating inflationary pressure until the first quarter of 2011.

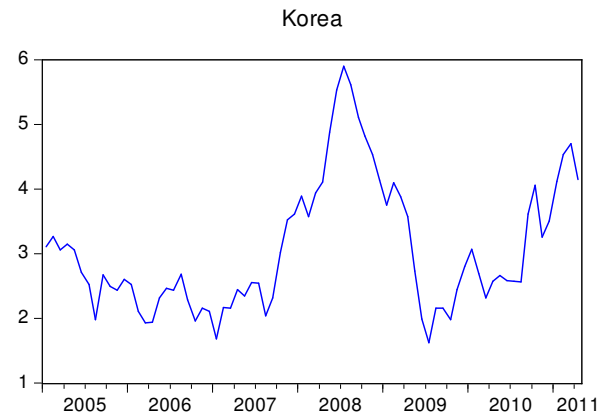
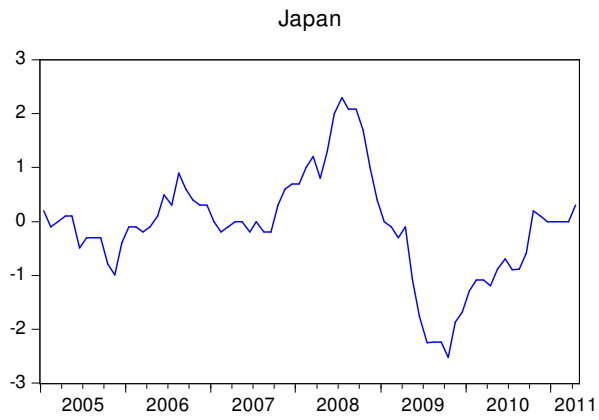
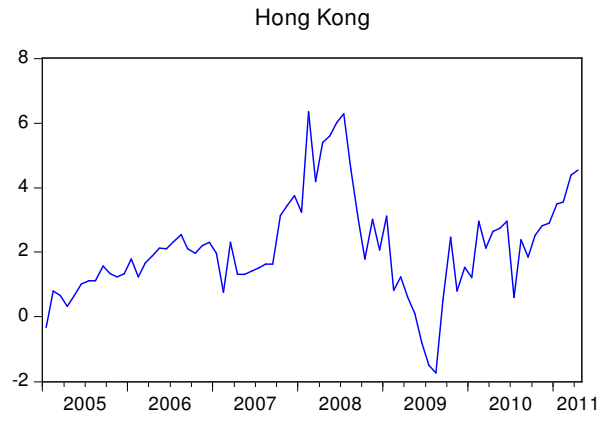
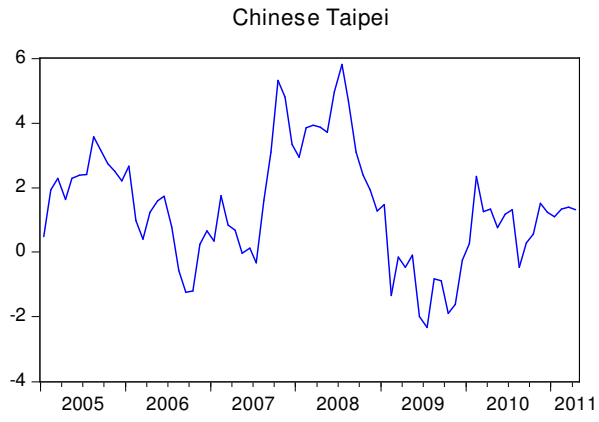
The relentless rise of food and energy prices since 2010 played a major factor in explaining the strength of inflationary pressures in almost all SEACEN economies. The Economist Food Commodity-price Index in July 2011 has increased by about 37 per cent from a year ago. At the same time, the West-Texas intermediate price index, reported a similar increase of just slightly less than 35 per cent. The impacts of these increases on the global market were compounded also by the efforts of governments to reduce subsidies and allow the prices of a number of key commodities to increase, absorbing the general price increase of these goods in the international market. The rise in the price of fuel, for instance, has significant and wide pass-through impacts on transportation costs and food prices. The strong surge of capital inflows has also translated into rising core inflation in some economies.

Figure 9
Annualised Monthly Inflation



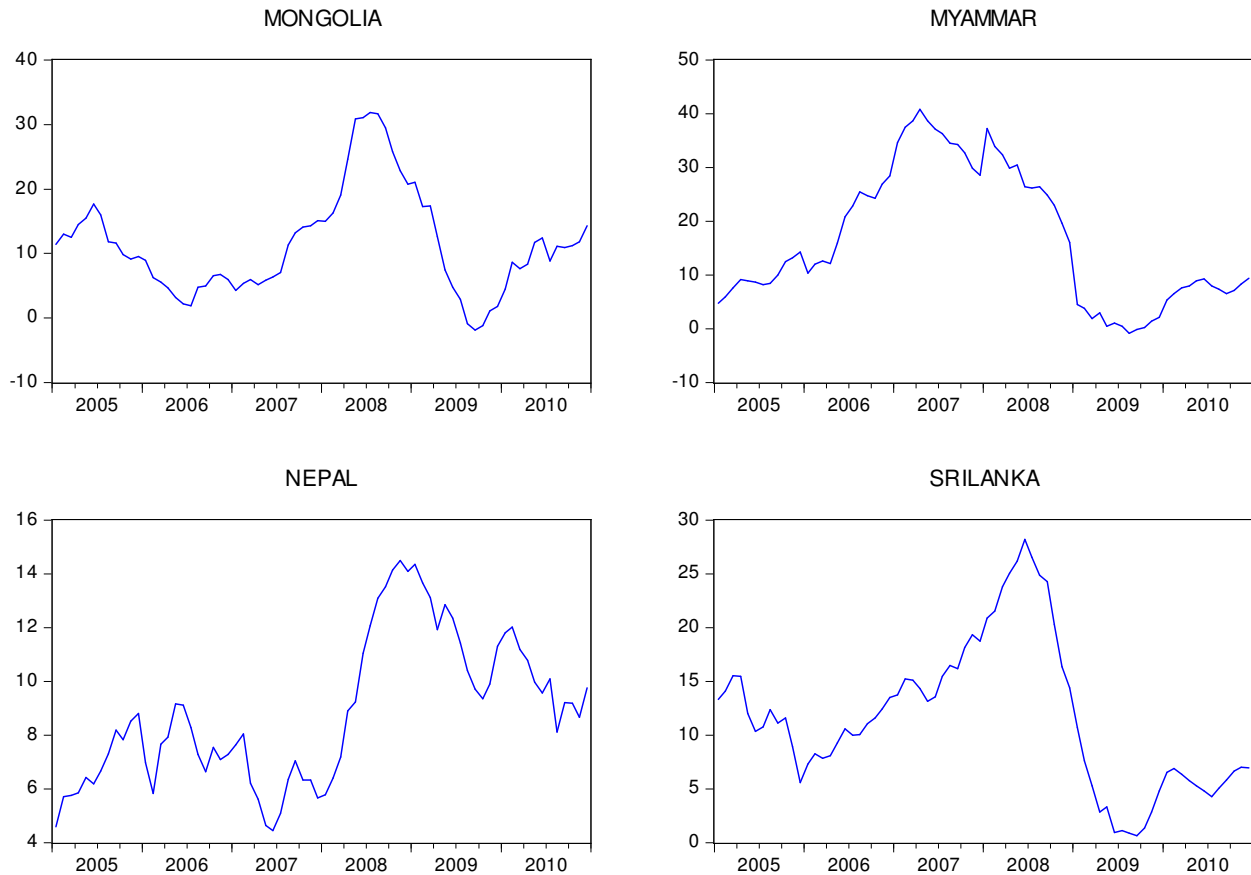
Source: CEIC Database.

Figure 9
Annualised Monthly Inflation (cont'd)



Source: CEIC Database.

Figure 9
Annualised Monthly Inflation (cont'd)

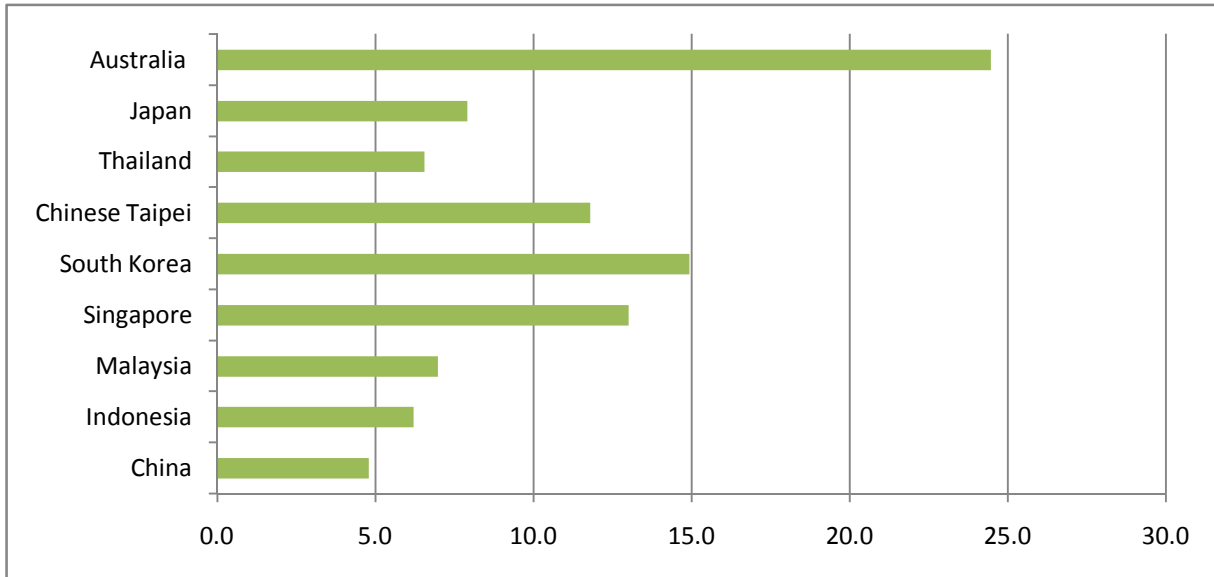


Source: CEIC Database.

4.2 Exchange Rate and Exchange Market Pressure Index

With the rise in volatility and the size of capital flows affecting economies in the region, especially since the collapse of the Lehman Brothers, the foreign exchange market is one of the key markets to be monitored closely. For most parts of 2010, appreciation trends, albeit in varying degrees, were reported for all SEACEN currencies. In many cases, this has in turn, attracted more speculative inflows in anticipation of further exchange rate appreciations, resulting in a vicious cycle of speculative inflows and exchange rate appreciations. Some notable appreciating currencies against the US dollar are illustrated in Figure 10. The Australian dollar has appreciated against the US dollar by around 24.5 per cent by July 2011. Other SEACEN currencies that have strengthened against the US dollar by more than 10 per cent include those of Korea, Singapore and Chinese Taipei. The yen has also appreciated by around 8 per cent in July 2011 from last year, despite the earthquake disaster in early 2011. The rapid appreciation and increased volatility of the yen in recent months prompted the authorities to intervene in foreign exchange markets in September 2010, the first time since 2004.

Figure 10
Selected Annualised Exchange Rate Appreciation against the US dollar in July 2011



Source: The Economist.

With the combination of appreciating nominal exchange rate and relatively higher domestic inflationary pressure, the Indonesian rupiah, Malaysian ringgit, and Thailand baht for instance, experienced the strongest real effective exchange rate appreciations, with their currencies close to 10-year highs in August 2010. The Singapore dollar also appreciated to reach a 10-year high in real effective terms in August 2010, following the authorities' move in April 2010 to tighten policy stance by re-centering the policy band upwards and returning to a modest, gradual appreciation of the nominal effective exchange rate.

To better assess the pressures in the foreign exchange market, in a recent SEG Report produced by The SEACEN Centre, a biannual analysis of the exchange market pressure (EMP) index of the SEG currencies was included. However, before we report the update of the EMP index, it is worthwhile to briefly revisit the underlying concept of the EMP (Siregar, Mohd. Hussain and Pontines (2010)). To manage exchange rate volatility, central banks have often resorted to multiple policy instruments. Buying and selling foreign exchange reserves and policy rate adjustments are arguably two of the most frequently adopted instruments. Any excess demand for foreign exchange, responsible for the volatility, can be fulfilled through non-mutually exclusive conduits. If the market or currency pressure is successful, there is a sharp depreciation of the domestic currency. However, at other times, the market pressure can be repelled or warded off through raising interest rates and/or running down their foreign exchange reserves. Combining the information on exchange rate fluctuation, interest rate adjustment and reserve movement, should convey a more informative and reasonable measure of the extent of pressures on a currency, or referred to as the index of exchange market pressure (EMP).

We construct the EMP index by applying the Kaminsky, Lizondo, and Reinhart (KLR, 1998) smoothing method to weigh the three components of the index of speculative pressure. The exchange market pressure index of KLR is expressed as follows:

$$EMP_t = \frac{\Delta e_t}{e_t} - \frac{\sigma_e}{\sigma_R} \left(\frac{\Delta R_t}{R_t} \right) + \frac{\sigma_e}{\sigma_i} (\Delta i_t)$$

Where EMP_t is the exchange rate market pressure index for the economy in period t ; e_t the units of economy's currency per U.S. dollars in period (t); R_t is gross foreign reserves of the economy in period (t); i_t is the nominal interest rate for the economy in period t , σ_e is the standard deviation of the rate of change in the exchange rate $\left(\frac{\Delta e_t}{e_t} \right)$, σ_R is the standard deviation of the rate of change in reserves $\left(\frac{\Delta R_t}{R_t} \right)$, and σ_i is the standard deviation of the rate of change in the nominal interest rate Δi . By construction, a positive (negative) EMP index implies a selling (buying) pressure in the foreign exchange market.

From our first report of the exchange market pressure index released in May 2010, a number of observations are worth revisiting. To start with, prior to 2008, the Malaysian ringgit, Thai baht, Korean won, NT dollar, Singapore dollar and Japanese yen, have actually been under buying pressure for a couple of years or more. In contrast, the EMPs for Hong Kong, Sri Lanka and Australia have, in general, been at positive levels prior to 2008, suggesting that these economies' currencies had experienced selling pressures. Nonetheless, it is clear that the year 2008 marked the period of heavy selling pressures for all the currencies of the economies included in our study. Furthermore, the EMP series, on average, peaked around the final quarter of 2008 --- around the period of the Lehman Brothers' collapse. In 2009, the EMP levels have turned negative, suggesting that the SEACEN currencies have largely been under buying pressure. The buying/appreciation pressure continued during most parts of 2010 and early 2011, as shown by the persistence of negative EMP levels for the SEACEN economies (Figures 11).

Figure 11
Exchange Market Pressure Index

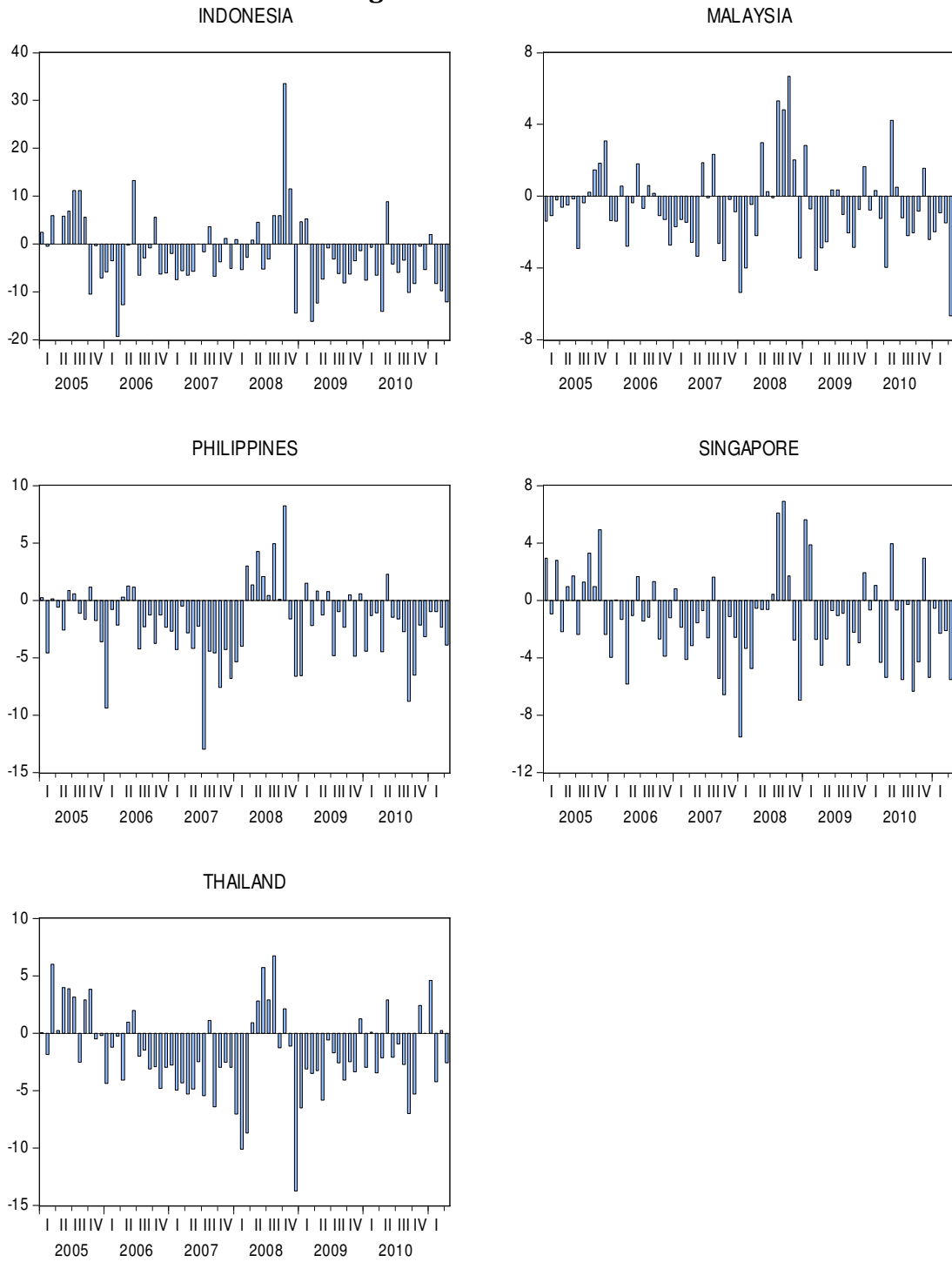
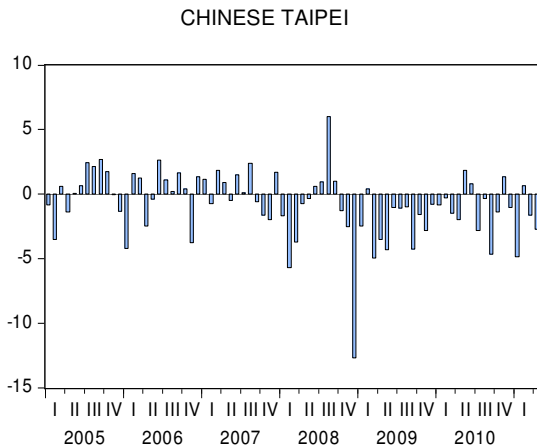
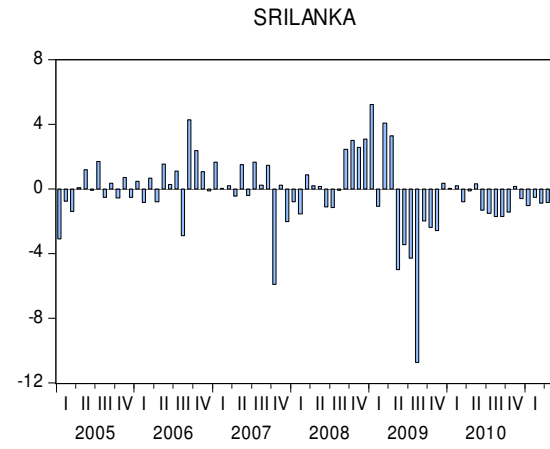
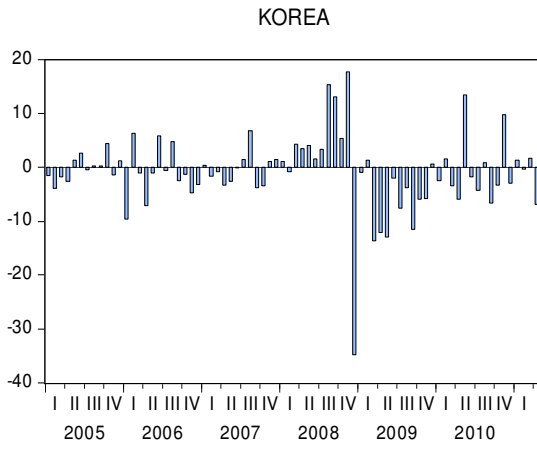
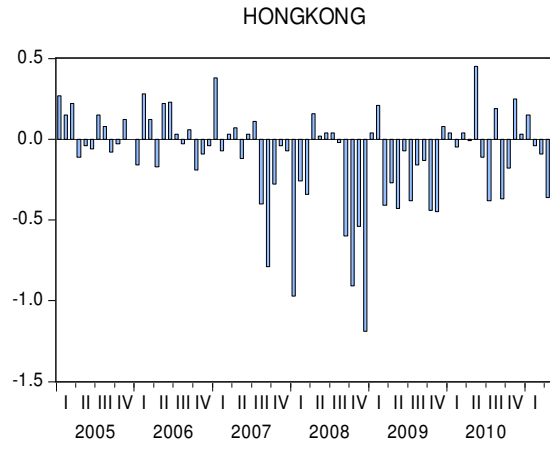
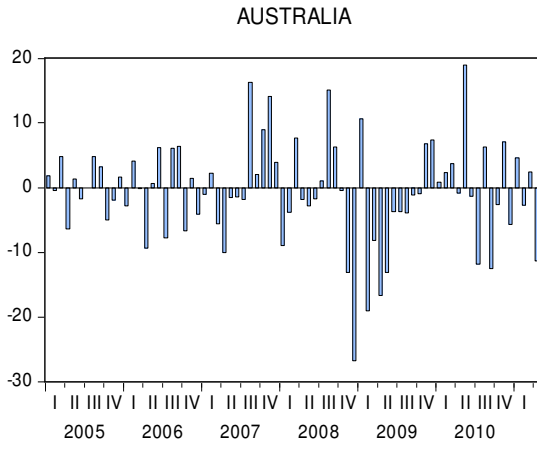


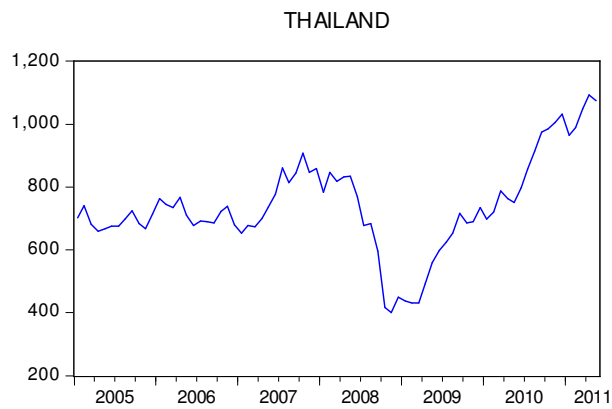
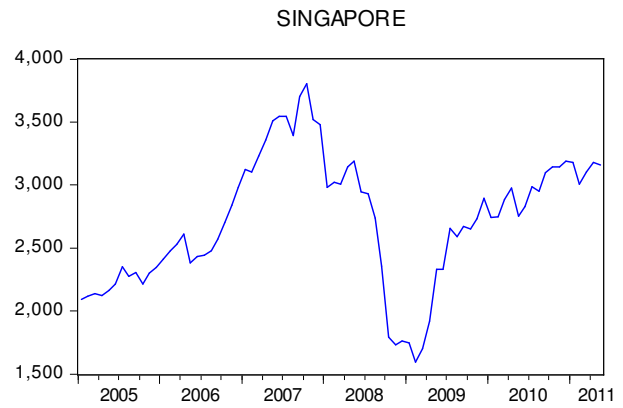
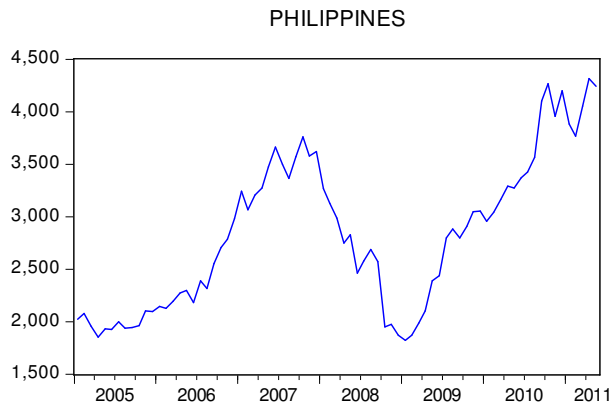
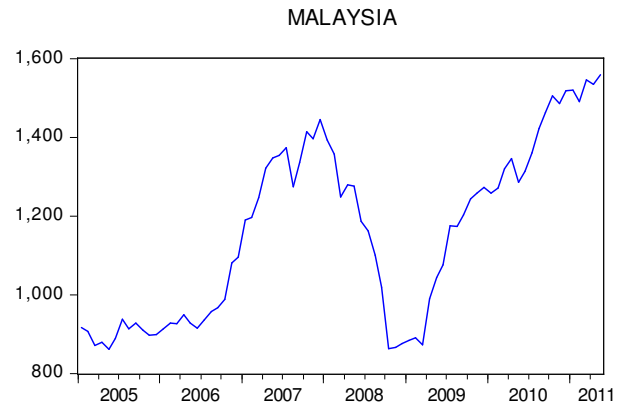
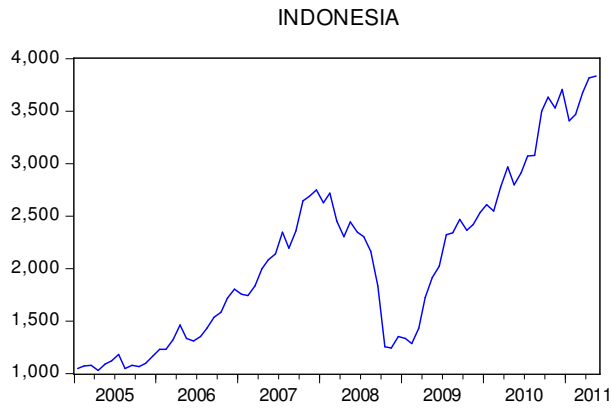
Figure 11
Exchange Market Pressure Index (cont'd)

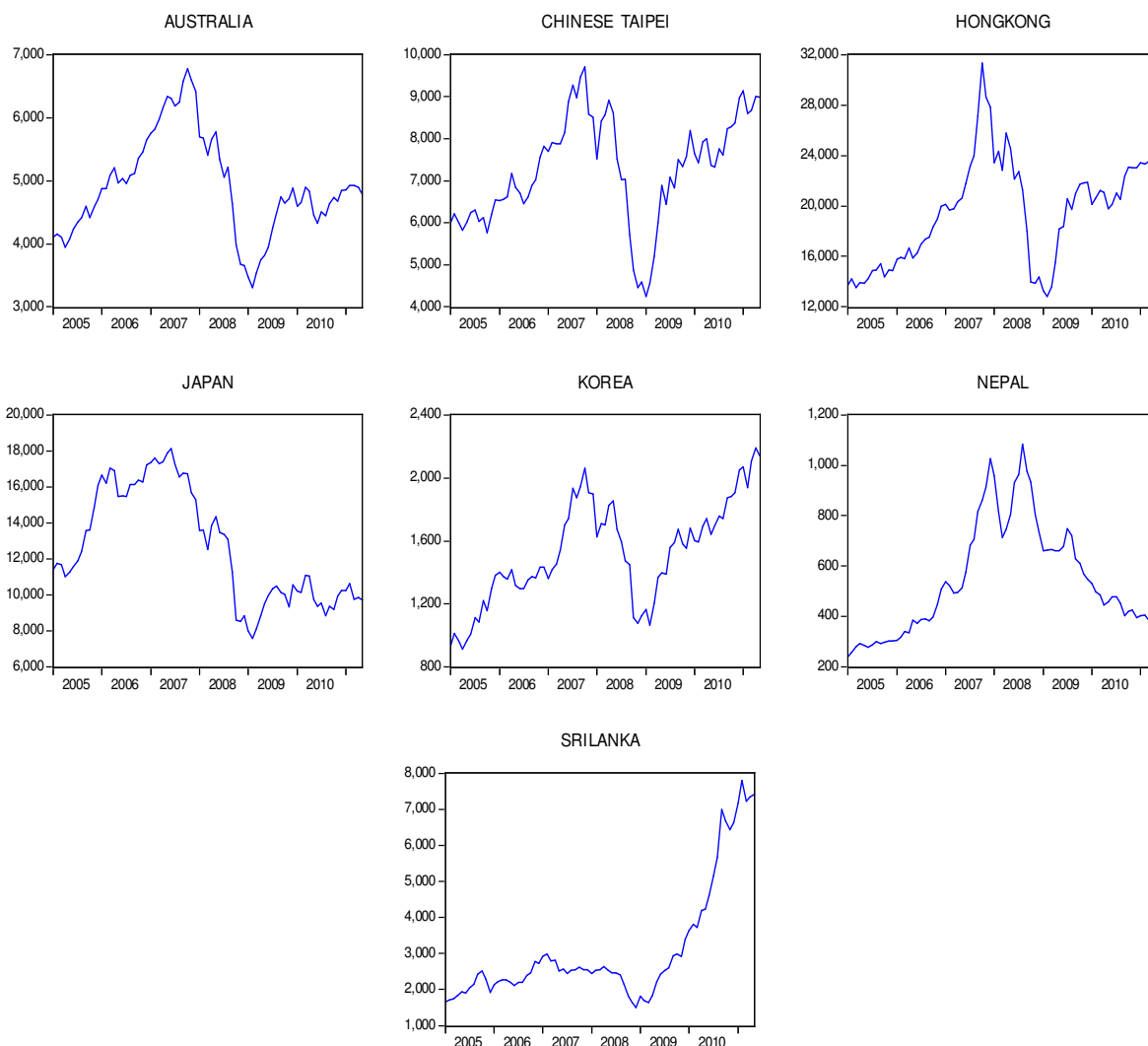


4.3 Stock Exchange Index

The rapid rise of the stock market indices of SEACEN economies, particularly in Indonesia, Thailand and Sri Lanka has also induced anxiety over the return of an asset price bubble in the region (Figure 12). By December 2010, the annualised returns of the Indonesian and Thai stock exchanges reached a staggering rate of around 50 per cent. Bursa Malaysia (formerly known as Kuala Lumpur Stock Exchange (KLSE)) has also reported strong market capitalisation with an annual return of close to 27 per cent. The return of political stability has brought about market confidence in the local capital market of Sri Lanka and this can be seen from the steep rising trend in the stock exchange index. From the collapse of Lehman Brothers to early 2011, the index of Sri Lanka's stock exchange experienced a 400 per cent increase. Strong gains have also been reported in the stock exchanges of Korea and Chinese Taipei. In contrast, there have been much more subdued profit-taking activities in the stock exchanges of developed economies such as US, UK and Japan. The UK FTSE 100 only increased, in US dollar terms, by a mere 0.5 per cent in December 2010 from the level in December 2009. Nepal was the only economy that reported a bearish trend in the domestic stock exchange market. In general, the strong returns in the stock markets continued to be felt during the first quarter of 2011, albeit at a relatively modest rate.

Figure 12
Monthly Regional Stock Market Index (January 2005 – May 2011)





Source: CEIC Database.

4.4 House Prices

Another frequently debated concern associated with the strong capital inflows is the potential bubble in housing price. In its recent survey of 50 economies around the globe, Knight Frank (2011) found that the global house price increased by only less than 2 per cent annually in the first quarter of 2011. In regional terms, the same survey has found that Asia experienced the most drastic rise in housing prices during the first three months of 2011 (Table 5). The region recorded an 8.4 per cent growth over the last twelve months, down from the 17.8 per cent reported a year earlier. The weakest region was North America which saw a fall of 0.4 per cent in value, largely driven by a contraction of almost 5 per cent in the US housing price index.

The same survey by Knight Frank (2011) has also listed Hong Kong as the economy experiencing the highest annual rate of price increase during the first quarter of 2011. House prices in Hong Kong have risen by more than 24 per cent within a year. Government officials including Chief Executive Donald Tsang had warned of an asset bubble in Hong Kong, where home prices have surged more than 70 per cent since the beginning of 2009 (Balfour (2011)). In the most recent measures to curb prices, announced in 10 June 2011, the government raised up-front payments for properties costing more than HK\$6 million (\$770,000) and required borrowers, whose income is primarily from outside Hong Kong, to deposit an extra 10 per cent when they buy properties unless they can demonstrate a “close connection” to the city. As a result, the Hang Seng Property Index has declined 12 per cent in June 2011, while the benchmark Hang Seng Index is down 6.2 per cent (Balfour (2011)).

Of the 50 listed economies, four Asian economies were among the top 5 experiencing the most price increases in their housing markets. Overall, 6 Asian economies were among the top 15 economies in the Knight Frank House Price List. In addition to Hong Kong, other Asian economies experiencing significant house price increases are Chinese Taipei, Singapore, China, Malaysia and Indonesia. It should also be noted that recently, house prices in Hong Kong, Chinese Taipei and China continue to experience strong growths, despite the significant increases that had already taken place in 2010. This is in direct contrast to Europe where Portugal, Ireland, Greece and Spain continue to struggle to contain the downward spiral in the domestic housing prices.

Table 5
Knight Frank Housing Price Index

Rank	Economies		Annual % Change	Six-Monthly % Change	Latest Data if not Q1 2011
1	Hong Kong	Asia Pacific	24.2%	14.1%	
2	India	Asia Pacific	21.9%	14.1%	Q4 2010
3	Chinese Taipei	Asia Pacific	14.3%	6.9%	
4	Israel	Middle East	12.1%	5.3%	
5	Singapore	Asia Pacific	10.5%	3.5%	
6	France	Europe	8.7%	1.7%	
7	Poland	Europe	8.5%	0.2%	
8	China*	Asia Pacific	8.4%	6.8%	
9	Norway	Europe	8.2%	4.9%	
10	Malaysia	Asia Pacific	6.4%	1.4%	
11	Belgium	Europe	5.9%	5.6%	Q4 2010
12	Switzerland	Europe	5.1%	3.3%	
13	Latvia	Europe	5.1%	-2.1%	
14	Indonesia	Asia Pacific	4.5%	2.9%	
15	Slovenia	Europe	4.3%	6.1%	
16	Denmark	Europe	4.1%	-1.1%	Q4 2010
17	Canada	North America	4.1%	0.7%	
18	Finland	Europe	3.9%	1.3%	
19	Turkey	Europe	3.5%	2.8%	
20	Iceland	Europe	3.4%	2.1%	
21	Colombia	South America	3.3%	5.4%	Q4 2010
22	Jersey	Europe	2.9%	-1.6%	
23	Luxembourg	Europe	2.6%	0.1%	Q4 2010
24	Austria	Europe	2.4%	2.9%	
25	Estonia	Europe	2.1%	2.7%	
26	Sweden	Europe	2.1%	-0.7%	
27	Germany	Europe	1.3%	-0.1%	
28	Australia	Asia Pacific	-0.2%	-0.9%	
29	United Kingdom	Europe	-0.2%	-0.5%	
30	South Africa	Africa	-1.3%	1.9%	
31	Italy	Europe	-1.4%	-0.6%	Q4 2010
32	Portugal	Europe	-1.8%	1.0%	
33	New Zealand	Asia Pacific	-1.8%	0.6%	
34	Malta	Europe	-2.0%	-2.5%	Q4 2010

Table 5
Knight Frank Global House Price Index, Q1 2011 Results (cont'd)

Rank	Economies	Region	Annual % Change	Six-Monthly % Change	Latest Data if not Q1 2011
35	Slovak Republic	Europe	-2.5%	-3.1%	
36	Netherlands	Europe	-2.6%	-2.2%	
37	Hungary	Europe	-2.7%	-4.5%	Q4 2010
38	Czech Republic	Europe	-3.5%	-2.6%	
39	Japan	Asia Pacific	-3.6%	-1.6%	Q3 2010
40	Croatia	Europe	-3.8%	-1.0%	Q4 2010
41	Lithuania	Europe	-4.0%	-0.2%	Q4 2010
42	Spain	Europe	-4.6%	-2.8%	
43	United States	North America	-4.9%	-3.7%	
44	Bulgaria	Europe	-5.6%	-3.8%	
45	Greece	Europe	-5.7%	-0.4%	
46	Ukraine	Europe	-7.5%	-1.6%	Q3 2010
47	Dubai, UAE	Middle East	-8.2%	2.1%	
48	Ireland	Europe	-11.9%	-6.9%	
49	Russia	Europe	-13.9%	-13.6%	
50	Cyprus**	Europe	NA	-4.4%	Q4 2010

Source: Knight Frank (2011).

4.5 Undue Concern of the Financial Sector

Based on the survey conducted for the SEACEN member banks, it was inferred that the volatile and strong surge of capital movements has raised concerns on the stability and strength of the financial sector. Selected key financial indicators that we have gathered, however, do not seem to corroborate the fear. Looking at Table 6 on the capital adequacy ratio, the banking system of the reporting economies continue to be well above the Basel III requirements, even during the peak of the sub-prime financial crisis. In general, the ratios improved in 2009 and were well maintained in 2010. By the end of 2010, the capital adequacy ratio was averaging around 15 per cent, substantially above the proposed Basel III regime of 10.5 per cent, which is to be fully enforced by 2019.

Table 6
Bank Regulatory Capital to Risk-Weighted Assets

(In percent)

	2005	2006	2007	2008	2009	2010	Q12011
Australia	10.2	10.3	10.1	11.3	11.9	11.4	11.5
Hong Kong	14.8	14.9	13.4	14.8	16.9	15.9	-
Indonesia	20.5	21.5	20.2	17.5	17.8	16.2	-
Japan	12.5	13.3	12.3	12.4	15.8	16.7Sep/	-
Korea	13.0	12.8	12.3	12.3	14.4	14.6	-
Malaysia	15.1	14.7	14.8	16.1	18.2	17.5	16.3
Philippines	17.7	17.6	15.7	14.6	15.4	16.7	16.7
Singapore	15.8	15.4	13.5	14.7	17.3	18.6	17.8
Thailand	13.2	13.6	14.8	13.9	15.8	16.0	-

Source: Financial Soundness Indicators, IMF

Profitability of financial industries of the SEACEN economies, particularly the banking sector, has indeed taken a beating during the peak of the global financial crisis in 2007-2008 (Table 7). However, the financial firms continued to report relatively robust profitability, except for Japan. This is a sharp contrast to the experience of the 1997 East Asian financial crisis for some of the SEACEN economies. General strengthening in profitability rate took place in 2009 and 2010. Similarly, the quality of loans remained high and did not seem to be affected by the global financial crisis of 2007-2008 (Table 8). Even at the peak of the sub-prime global financial crisis, the non-performing loans did not go beyond 5 per cent of total loans.

Table 7
Return on Equity of Selected SEG Economies

(In percent)

	2005	2006	2007	2008	2009	2010	Q12011
Australia ¹	25.6	27.8	30.2	18.9	17.4	20.5	-
Hong Kong	19.1	19.8	25.1	13.9	16.7	16.7	-
Indonesia	23.1	27.1	27.8	23.9	26.3	26.1	-
						8.3Sep	
Japan ²	10.9	8.5	6.1	-6.9	4.7	/	-
Korea ³	18.4	14.6	14.6	7.2	5.8	7.3	-
Malaysia	15.7	16.9	19.2	17.6	13.4	16.3	19.0
Philippine s	8.8	10.6	10.7	10.0	15.4	16.7	14.2
Singapore	11.2	13.7	12.9	11.7	10.8	15.5	17.2
Thailand ³	14.7	8.2	1.2	9.7	8.5	10.0	-

Sources: Financial Soundness Indicators, IMF

Note: Data definitions follow, to the extent possible, the methodology of the *Financial Soundness Indicators Compilation Guide*. Major deviations from this methodology are indicated in economy specific footnotes. Due to differences in consolidation methods, national accounting, taxation, and supervisory regimes, data are not strictly comparable across economies.

Numerator: Annualised net income before extraordinary items and taxes, from the beginning of the year until the reporting month.

Denominator: Average value of capital over the same period.

- 1 Accumulated income of the last 12 months.
- 2 Unless otherwise indicated, data refer to the end of the fiscal year, i.e., March of the next calendar year.
- 3 After extraordinary items and taxes.

Table 8
Non-performing Loans to Total Loans (in %)

(In percent)

	2005	2006	2007	2008	2009	2010	Q12011
Australia ¹	0.6	0.6	0.6	1.3	2.0	2.2	2.2
Hong Kong ²	1.4	1.1	0.8	1.2	1.6	0.8	-
Indonesia	7.6	6.1	4.1	3.2	3.3	2.5	-
Japan ³	1.8	1.5	1.4	1.6	1.7	1.8Sep/	-
Korea ⁴	1.2	0.8	0.7	1.1	1.2	1.9	-
Malaysia ⁵	9.4	8.5	6.5	4.8	3.6	3.4	3.2
Philippines ^{6,7}	10.0	7.5	5.8	3.9	3.5	3.4	3.5
Singapore ⁸	3.8	2.8	1.5	1.4	2.0	1.4	1.3
Thailand	9.1	8.1	7.9	5.7	5.3	3.9	-

Sources: Financial Soundness Indicators, IMF

Note: Data definitions follow, to the extent possible, the methodology of the *Financial Soundness Indicators Compilation Guide*. Major deviations from this methodology are indicated in economy specific footnotes. Due to differences in consolidation methods, national accounting, taxation, and supervisory regimes, data are not strictly comparable across economies.

Numerator: Gross value of loans on which (1) payments of principal and interest is past due by 90 days or more, or (2) interest payments equal to 90 days interest or more have been capitalized, refinanced, or rolled over, and (3) loans less than 90 days past due, that are recognized as nonperforming under national supervisory guidance.

Denominator: The total value of the loan portfolio (including nonperforming loans, and before the deduction of specific loan loss provisions).

- 1 Includes both impaired and past due items.
- 2 Loans classified as substandard, doubtful, and loss; not necessarily linked to a 90-day criterion.
- 3 For 9 major banks only. Unless otherwise indicated, data refer to the end of the fiscal year, i.e., March of the next calendar year.
- 4 Loans classified as substandard, doubtful, and loss; not necessarily linked to a 90-day criterion.
- 5 Loans with principal and/or interest past over 180 days; credit card debt and bankers' acceptances past over 90 days; loans secured by cash and cash substitutes past 365 days.
- 6 Thirty days for loans payable in lump sum or payable in quarterly, semi-annual, or annual installments; 90 days for loans payable in monthly installments;
- 7 Interbank loans are excluded.
- 8 Other characteristics may be considered beyond the 90-day past-due criterion to classify a loan as nonperforming.

5. Policy Measures

With the strong surges in capital flows into most SEACEN economies, the main challenge for the central bank is to remain consistent with its mandates of price and financial stability while being mindful of the opportunities as well as the risks accompanying these flows, especially with the mounting excess liquidity in the domestic market. Obviously, this is easier said than done. The task of policy tightening has been complicated by the strong and persistent surge of capital inflows. A number of common and overriding objectives of these policies can be summarised as follows. To start with, policy makers are aware of the benefits and the need to attract these flows and convert

them into stable sources of funding with manageable levels of risk. In most, if not all of the SEACEN economies, these funding are urgently needed to finance the much-needed infrastructure projects to support overall development programs in the economy. Hence, converting capital into a more medium-to-long term financing is a challenge shared by most of the SEACEN economies.

In a more short-term perspective, one key consideration in the face of strong capital flows would be their implications on asset prices, inflation and inflation expectations. A surge in capital inflows may lead to liquidity expansion which could have inflationary consequences. Similarly, these inflows could also affect the exchange rate which, in turn, affects the prices of commodities. Hence, balancing long-term objectives with short-term concerns have been the principle challenges. The next several sub-sections summarize and highlight major strategies and corresponding policy measures implemented during the past two years by the central banks and monetary authorities of the SEACEN economies. More importantly, more often than not, each of the policy measures come with trade-offs or potential cost that must be weighed in.

5.1 Balancing Objectives and Trade-offs: Managing the Impossible Trinity

Strong and persistent surge of capital inflows have undoubtedly complicated the conventional monetary and exchange rate policy. As the following sub-sections will demonstrate, the authorities of the SEACEN economies had to resort to all types of policy measures, both macro and micro policies, and balance the trade-offs. These difficult policy choices and trade-offs are driven by one of the key principles of international macro-finance: the Impossible Trinity. This principle basically argues that if policy makers want to maintain monetary independence while managing exchange rate movements, they need to sacrifice capital mobility.

5.1.1 Interest Rate Adjustments

Interest rate policy has remained one of the primary policy instrument choices to manage price and financial stability in the domestic economies. With the return of capital surges, all SEG economies have resorted to a number of interest rate hikes in 2010 and 2011. Frequent interest rate adjustments have, in fact, been more of a norm than an exception since 2010. People's Bank of China, for instance, has raised interest rates several times during the first half of 2011 alone (Table 9). Similarly, Bank of Thailand, considered among the more hawkish central banks in the region, increased its benchmark interest rate by about 25 basis points to 3.25 per cent in July 2011. This latest adjustment was the sixth hike announced by Bank of Thailand from mid of 2010 to July 2011. Yet, as discussed before, inflationary pressure remains relentless. In May 2011, the annual inflation in China has already reached around 5.5 per cent, the highest annualised inflation in 34 months. Interest rate adjustment has proven to have limited effectiveness, especially in addressing excess liquidity and potential asset price bubbles in various sectors of the economies, such as the property and stock markets as elaborated earlier.

Table 9
Recent Interest Rate Adjustments

Mar-11	Policy Rate	%	Hold	Increase	Decrease	% Increase (BP)	Remarks
SEACEN CB							
BI	benchmark reference rate	6.75	*				
CBSL	repurchase rate	7.0	*				
BOT	1-day repurchase bond	2.5		*		25	anchoring inflationary pressure
BOK	7-day repurchase rate	3.0		*		25	
SBV	rediscount rate	12.0		*		500	
	rate of recapitalizing banks	12.0		*		100	Two-year high Inflation
PBC	required reserve ratio	20.0		*		50	3rd increase of the year
BSP	reverse repurchase facility	4.25		*		25	inflationary pressure
	repurchase facility rate	6.25		*		25	
CBC	discount rate	1.75		*		12.5	inflationary pressure
	secure loan rate	2.125		*		12.5	
	unsecured loan	4.0	*			12.5	
Others							
RBA	cash rate	4.75	*				
BOJ	overnight call rate	0.1	*				expansion of asset purchase program of 5 trillion yen
HKMA	base rate	0.5					
FED Res	interest rate	0-2.5	*				no change in QEII at US\$600 billion
Apr-11	Policy Rate	%	Hold	Increase	Decrease	% Increase (BP)	Remarks
SEACEN CB							
PBC	1 year lending rate	6.31		*		25	inflationary pressure
	1 year deposit rate	3.25		*		25	
SBV	reserve ratio on USD deposits	3-6		*		200	Inflation rate was 13.9% in March
	reserve ratio for non-term US\$ deposit	6.0		*		200	
	refinance rate	14.0		*		100	
	discount rate	13.0		*		100	annual inflation was 17.51 % in April
	refinance rate	15.0		*		100	
BOK	7-day repurchase rate	3.0	*				
BI	key interest rate	6.75	*				
CBSL	statutory reserve ratio (rupee)	8.0		*		100	inflation was 8.6% in March
	repurchase rate	7.0	*				
	reverse repurchase rate	8.5	*				
PBC	required reserve ratio	20.5		*		50	average for larger banks; report of higher inflation
BOT	1-day bond repurchase rate	2.75		*		25	inflationary concerns
Others							
US Fed	Fed Fund	0-0.25	*				
HKMA	base rate	0.5	*				
RBA	cash rate	4.75	*				
BOJ	overnight call rate	0-0.1	*				one trillion yen package towards FIs affected by the earthquake

Mar-11	Policy Rate	%	Hold	Increase	Decrease	% Increase (BP)	Remarks
SEACEN CB							
BI	benchmark reference rate	6.75	*				
CBSL	repurchase rate	7.0	*				
BOT	1-day repurchase bond	2.5		*		25	anchoring inflationary pressure
BOK	7-day repurchase rate	3.0		*		25	
SBV	rediscount rate	12.0		*		500	
	rate of recapitalizing banks	12.0		*		100	Two-year high Inflation
PBC	required reserve ratio	20.0		*		50	3rd increase of the year
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	repurchase facility rate	6.25		*		25	
CBC	discount rate	1.75		*		12.5	inflationary pressure
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	unsecured loan	4.0	*			12.5	
Others							
RBA	cash rate	4.75	*				
BOJ	overnight call rate	0.1	*				expansion of asset purchase program of 5 trillion yen
HKMA	base rate	0.5					
FED Res	interest rate	0-2.5	*				no change in QEII at US\$600 billion

Apr-11	Policy Rate	%	Hold	Increase	Decrease	% Increase (BP)	Remarks
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PBC	1 year lending rate	6.31		*		25	inflationary pressure
	1 year deposit rate	3.25		*		25	
SBV	reserve ratio on USD deposits	3-6		*		200	Inflation rate was 13.9% in March
	reserve ratio for non-term US\$ deposit	6.0		*		200	
	refinance rate	14.0		*		100	
	discount rate	13.0		*		100	annual inflation was 17.51 % in April
	refinance rate	15.0		*		100	
BOK	7-day repurchase rate	3.0	*				
BI	key interest rate	6.75	*				
CBSL	statutory reserve ratio (rupee)	8.0		*		100	inflation was 8.6% in March
	repurchase rate	7.0	*				
	reverse repurchase rate	8.5	*				
PBC	required reserve ratio	20.5		*		50	average for larger banks; report of higher inflation
BOT	1-day bond repurchase rate	2.75		*		25	inflationary concerns
Others							
US Fed	Fed Fund	0-0.25	*				
HKMA	base rate	0.5	*				
RBA	cash rate	4.75	*				
BOJ	overnight call rate	0-0.1	*				one trillion yen package towards FIs affected by the earthquake

May-11	Policy Rate	%	Hold	Increase	Decrease	% Increase (BP)	Remarks
SEACEN CB							
BSP	overnight borrowing rate	4.5		*		25	
	overnight lending rate	6.5		*		25	
BNM	overnight policy rate	3.0		*		25	
	statutory reserve ratio	3.0		*		100	
BI	Benchmark rate	6.75	*				
PBC	statutory reserve ratio	21.0		*		50	21% for large banks and 19% for smaller bank
BOK	7-day repurchase rate	3.0	*				
CBSL	repurchase rate	7.0	*				
	reverse repurchase	8.0	*				
	reserve ratio	0.5	*				
Others							
RBA	cash rate	4.75	*				
Boj	overnight call rate	0-0.1	*				
Jun-11	Policy Rate	%	Hold	Increase	Decrease	% Increase (BP)	Remarks
SEACEN CB							
SBV	reverse repo	15		*		100	Inflation was 17.51 % in April
BOT	1-day bond repurchase rate	3	*				
BI	benchmark rate	6.75	*				
BOK	7-day repurchase rate	3.25		*		25	inflationary expectation
CBSL	repurchase rate	7	*				
	Reverse repo	8.5	*				
PBC	reserve requirement	21.5		*		50	inflation expectation
BSP	overnight borrowing rate	4.5	*				
	overnight lending rate	6.5	*				
CBC	discount rate	1.875		*		25	
	collateralized loan rate	2.25		*		12.5	
	unsecured loan rate	4.125		*		12.5	
Others							
RBA	cash rate	4.75	*				
BOJ	overnight call rate	0-0.1	*				extended loan program, a new 500 billion yen lending facility
HKMA	base interest rate	0.5	*				

Jul-11	Policy Rate	%	Hold	Increase	Decrease	% Increase (BP)	Remarks
SEACEN CB							
SBV	OMO interest rate	15		*		100	
PBC	1-year benchmark	6.31		*		25	
	1-year deposit rate	3.25		*		25	
BNM	overnight policy rate	3	*				
	Statutory Reserve Requirement	4		*		100	
CBSL	repurchase rate	7	*				
BI	Reference rate	6.75	*				
BOT	1-day bond repurchase	3.25		*		25	
BOK	7-day repurchase rate	3.25	*				
CBC	minimum liquidity ratio	10		*		300	(effective oct 2011): strengthen risk management
BSP	Overnight borrowing rate	4.5	*				
	overnight lending rate	6.5	*				
	reserve requirement	21		*		100	effective 5 August 2011
Aug-11	Policy Rate	%	Hold	Increase	Decrease	% Increase (BP)	Remarks
SEACEN CB							
PBC							ban on mainland-based companies directly borrowing renminbi-denominated loans from foreign banks
RBA	cash rate	4.75	*				
BOJ	overnight call rate	0-0.1	*				extended loan program, a new 500 billion yen lending facility
BI	reference rate	6.75	*				
BOK	7-day repurchase Rate	3.25	*				
CBSL	benchmark repurchase rate	7	*				
	reverse repurchase	8.5	*				
	statutory reserve ratio	8	*				
BOT	1-day bond repurchase	3.5	*			25	
SBV	non term foreign currency deposit and deposit less than 12 months	8		*		100	for most state-owned commercial banks, joint stock banks, 100 percent foreign owned banks, joint venture banks, and foreign bank branches. Ratio also increased for other institutions.
Others							
US Fed	fed funds\ rate	0-0.25	*				August 5, US downgraded to AA+ from AAA by Standard & Poor's
HKMA	base interest rate	0.5	*				

Source: www.centralbanknews.info

Table 9 also clearly demonstrates the set of balancing acts that the monetary authorities must consider when implementing the rate adjustments. Absorbing liquidity to manage inflationary pressure on the one hand, while at the same time maintaining a growth conducive environment, had been the core objectives of these measures. In

addition, ranges of liquidity management instruments have been adopted, both market rates and direct instruments, such as reserve requirement. Managing monetary aggregate stability in a volatile and liquid market has also been a challenge for most of SEACEN central banks/monetary authorities. This is particularly true for some of these economies that adopt a monetary targeting regime. It has often been the case that the central banks have to actively conduct open market operations, including in the overnight market, to absorb the excess liquidity. In Sri Lanka, the central bank has also engaged in foreign exchange swap agreements with the commercial banks to mop the excess liquidity.

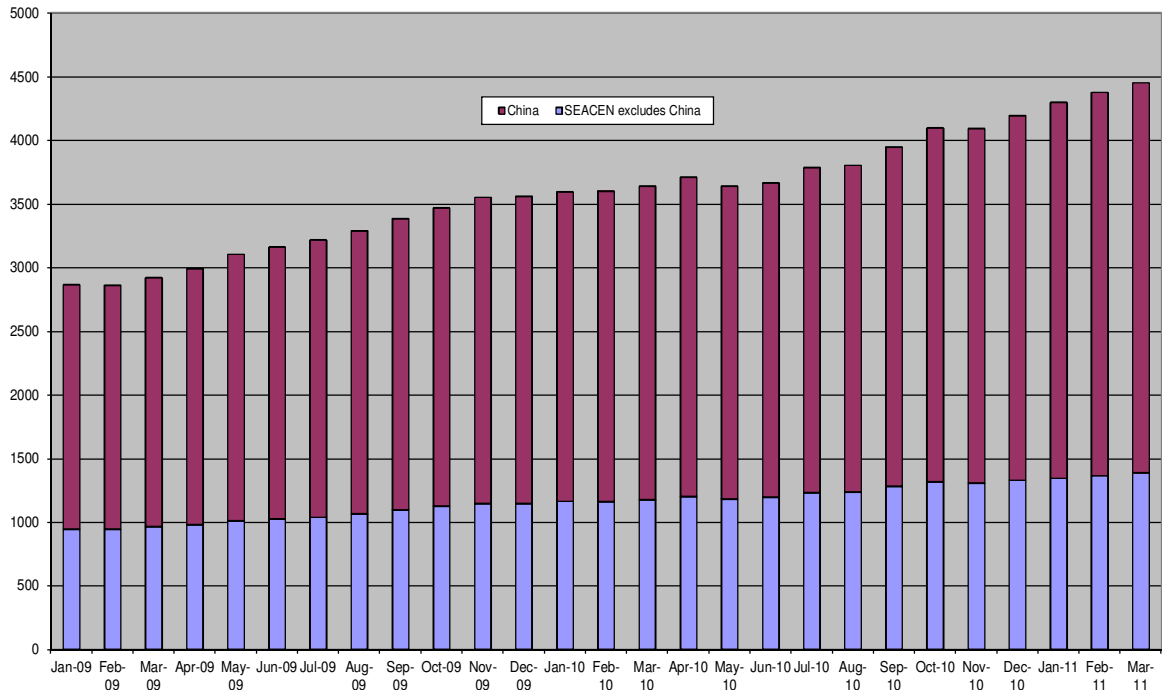
Similar issues are also faced by the inflation targeting economies. While they remain strong advocates of the inflation targeting policy, the central banks of Australia, Indonesia, Korea, Philippines and Thailand have given heightened attention to asset price movements, beyond just headline and core inflation, by tracking various financial and asset price indicators to ensure that they can spot the emergence of medium-term risks to macroeconomic stability, and act preemptively to ward off potential threats to price stability.

5.1.2 Foreign Exchange Market Intervention

The challenge of dealing with the impossible trinity under strong surges of capital flows is most felt in the foreign exchange market. Under buying/appreciation pressures, central banks around the world have been actively implementing varying degrees of intervention in the foreign exchange markets to dampen rapid appreciations of the local currency. Traditionally, among the emerging markets, including SEACEN economies, foreign exchange intervention is sterilised. This sterilisation effort is needed to manage the level of excess liquidity and domestic money supply. Hence, potential sterilised intervention could reduce the appreciation pressure on the exchange rate and in some parts help manage overheating of the economy that unsterilised intervention may induce.

Active sterilised foreign exchange interventions have been evidently illustrated by the strong reserve accumulations reported by a number of SEACEN central banks/monetary authorities (Figure 13). Indonesia and Thailand, among economies that have experienced strong surges of portfolio capital since the second half 2009, accumulated foreign exchange reserves averaging around US\$28 billion in 2010. In fact, Bank Indonesia accumulated an estimated US\$18.5 billion in foreign reserves from February to April 2011, a three-month record that put total reserves at an all-time high of US\$113.8 billion. Similar trends are also reported in a number of emerging SEACEN markets. Mongolia, driven largely by the commodity boom, has seen its foreign exchange reserve position almost triple from January 2009 to end of 2010. With the return of political stability and security, Sri Lanka has seen its reserves triple within a period of less than 2 years.

Figure 13
Accumulated International Reserves of the SEG Economies
(US\$ billion)



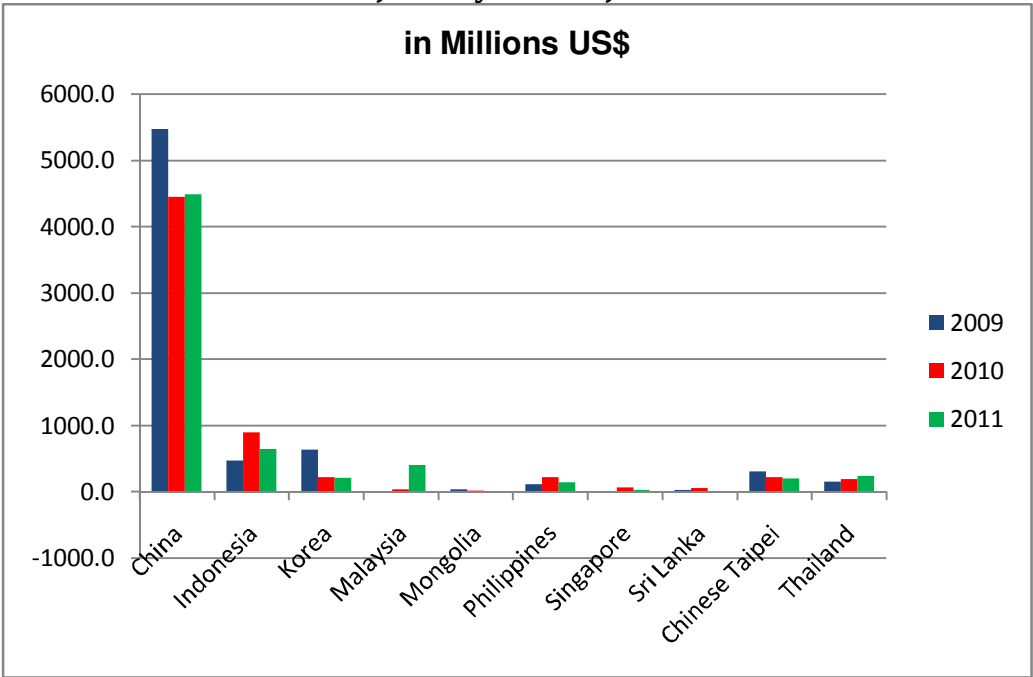
Source: IMF CDRom, July 2011 and CEIC Database
 1/ Include Indonesia, Korea, Malaysia, Mongolia, Nepal, Philippines, Singapore, Sri Lanka, Chines Taipei and Thailand.

Sterilised intervention has, in general, been found to be fiscally very expensive as the domestic central banks/monetary authorities are forced to earn a lower interest rate on the foreign currency reserves that it purchases than it pays on the sterilised bonds of central bank securities issued in the sterilisation process. These quasi-fiscal costs (roughly equal to the interest rate differential between domestic and foreign economies multiplied by the rise in foreign exchange reserves) can be quite high and damaging to the balance sheet of the central bank. The magnitude of these quasi-fiscal costs can vary from as high as an average of around US\$4.8 billion in the case of China for the period of 2009 to mid-2011 to an average of US\$22 million in the case of Mongolia for the same period. In between these respective upper-and lower bound estimates are quasi-fiscal costs that reached as high on average of around US\$677 million, US\$359 million and US\$248 million in the case of Indonesia, Korea and Chinese Taipei, respectively (Figure 14).

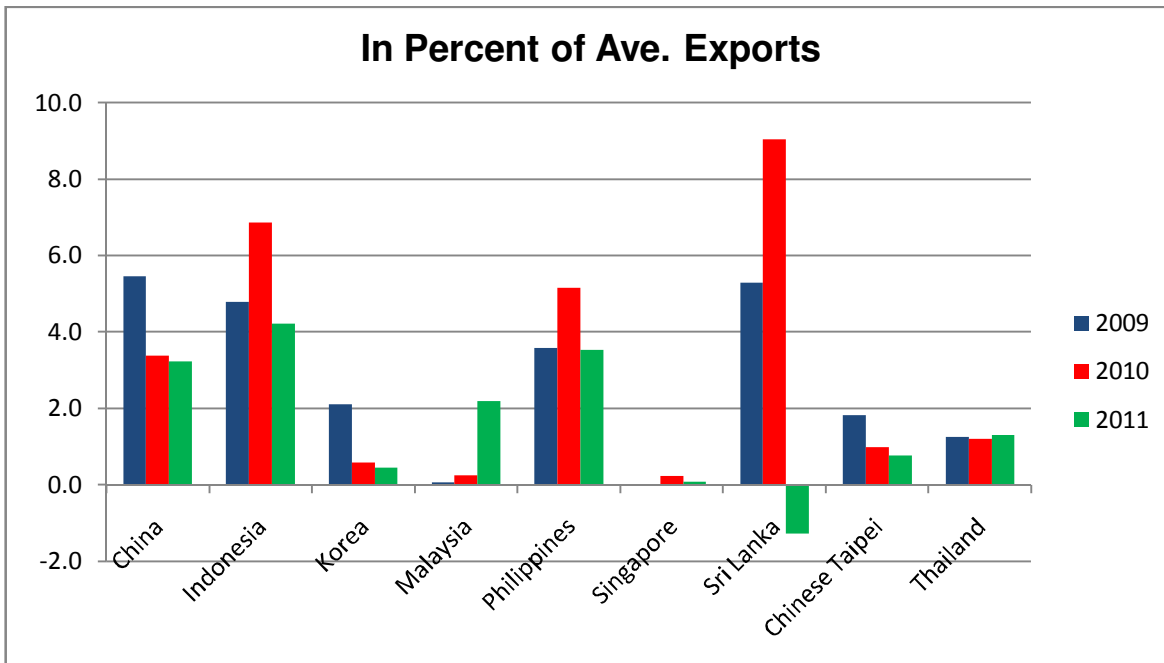
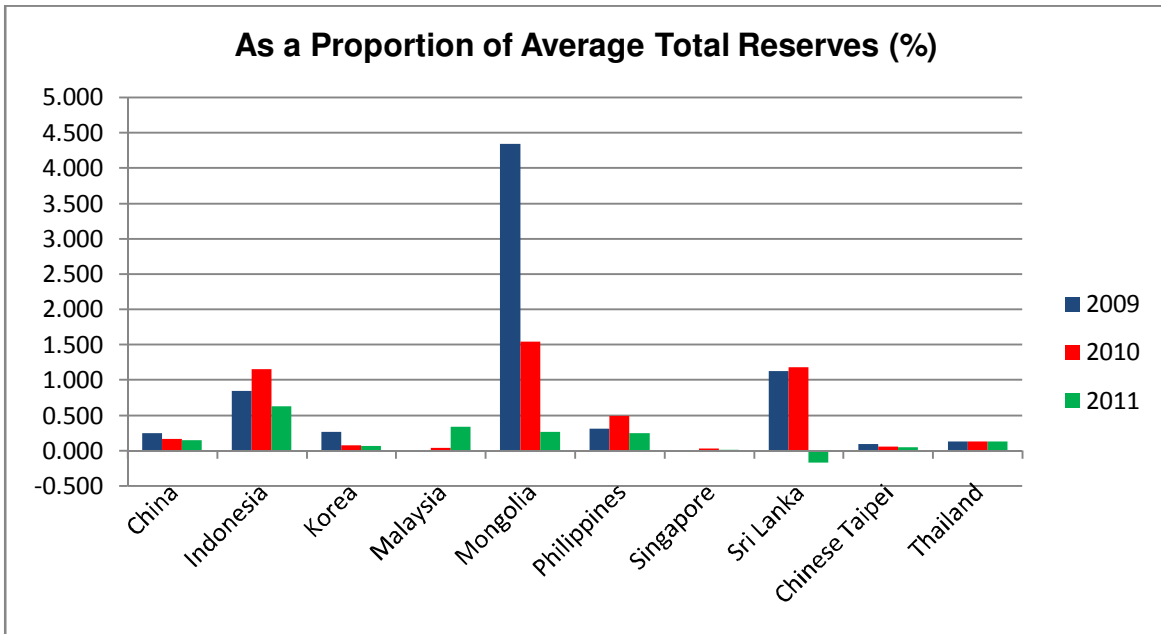
Nonetheless, due to the sheer size of international reserves accumulated by these economies prior to and over the same period, when these costs are assessed as a proportion of average total reserves, China's quasi-fiscal costs only amounted to an average of 0.19 per cent of average total reserves for the same period of 2009 to mid-2011. Moreover, the quasi-fiscal costs in the case of Indonesia, Korea and Chinese Taipei translated to averages of around 0.88 per cent, 0.14 per cent, and 0.07 per cent,

respectively. In contrast, in the particular case of Mongolia, this translated to a little higher average quasi-fiscal cost of around 2.05 per cent for the same period. The cost of holding reserves is, however, more alarming when we look at them as the share of the export revenue of the economy. For Indonesia, for instance, the cost of intervention was about 7 per cent of total export revenues in 2010. Perhaps the more important argument, however, is that in most cases, especially under the persistent and massive surge of capital inflows, central banks/monetary authorities are not in the position to fully sterilise the market let alone the capacity of fiscal and monetary authorities in Asian economies to viably absorb these estimated quasi-fiscal costs. Furthermore, sterilised intervention also does not effectively stop capital inflows.

Figure 14
Costs of Intervention
January 2009 - June 2011



Source: Estimate Conducted by the RLC Department of The SEACEN Centre.



Source: CEIC Database and Authors' Own Estimates.

In some of the SEACEN economies, such as Indonesia and Chinese Taipei, policy concerns have also been raised on the significant share of central bank securities being held by the foreign investors/banks. Since November 2010, the amount of outright purchase of Chinese Taipei government bonds by foreign investors is being counted toward the ceiling of inward remittance of portfolio investments by each foreign investor. To

reduce short-term volatility associated with the strong surges of capital flows, Bank Indonesia (BI) introduced a one-month holding period for its certificate (SBI) purchased in both primary and secondary markets in June 2010. Prior to this, BI launched a concerted effort to shift the maturity structure from one-month to 3- and 6-month tenors and from weekly to monthly auction. Longer maturity SBIs ---SBI-9 months and SBI-12 months--- are being considered in late 2010 with the purported aim of lengthening the maturity profile of investors.

Given the high cost and, non-sustainability of active intervention and sterilisation, allowing more flexibility and higher appreciation of the local currency against most major currencies has been one alternative strategy adopted by the authorities. This measure allows the exchange rate to adjust more flexibly to absorb the surge in capital inflows while reducing the need to intervene in the foreign exchange market. Singapore, for instance, has employed the trade-weighted based exchange rate policy approach as a key monetary policy tool. This exchange rate framework provides the flexibility for absorbing transient volatility associated with short-term capital flows. In addition, a number of SEACEN economies, such as Malaysia, the Philippines and Thailand, have made it easier for domestic residents to invest abroad. Easy access to foreign investments has long been one prescribed measure to mitigate the impact of capital inflows on the domestic economy.

5.2 Macro-prudential Measures

As elaborated above, the effectiveness of conventional monetary and exchange rate policies have been found to be rather limited. A clear concern is that while interest rate policy has become impotent to contain asset bubbles, it has a much wider adverse consequence on other productive sectors of the economies, such as agriculture and manufacturing. The strategies to mix conventional monetary and exchange rate policies with more micro-prudential measures targeting macroeconomic objectives, or also known as macro-prudential measures, have been widely adopted by the authorities of the SEACEN economies (Table 10). In the second half 2009 and first half 2010, these macro-prudential measures have frequently been adopted to supplement macroeconomic policy measures by the SEACEN authorities to gradually shift away from the generally expansionary policy stances during the peak of sub-prime crisis. The primary objectives of the recent macro-prudential measures are to manage pro-cyclicality, to reduce interconnectivity and systemic risks and to place “sand in the wheel” and slowdown the capital inflows.

Concerns for the persistent surges of capital inflows and too rapid increase in rates further widening interest rate disparities discussed earlier and hence attracting more inflows of capital, have forced central banks of the SEACEN economies to employ a multiple set of policies to supplement the conventional interest rate policy. In some SEACEN economies, a mix of interest rate hikes and reserve requirement has frequently been adopted. People’s Bank of China has, for instance, increased the reserve requirement ratio six times in the first half of 2011 alone. Other central banks, such as Bank Negara Malaysia, Bank Indonesia, Bank of Mongolia, Central Bank of Sri Lanka and Central Bank, Chinese

Taipei, to name a few, have also adopted a similar strategy more than once during the past 12 months.

A combination of loan to deposit ratio and reserve requirement policy has been enforced by Bank Indonesia, for instance, to manage credit growth and risk taking in the domestic banking sector. A key objective of the Singapore government, for example, is to ensure a stable and sustainable property market where prices move in line with fundamentals. In February 2010, the Loan-to-Value (LTV) limit for housing loans extended by financial institutions was lowered to 80 per cent. To discourage speculative flipping of properties, a Seller's Stamp Duty on all residential properties bought and sold within 1 year was introduced. In August 2010, the holding period for the imposition of the Seller's Stamp Duty was increased from one year to three years. The Singapore government also tightened measures to ensure public housing is utilised as intended, i.e. for owner occupation. To deal with the "hot" property sector, the Hong Kong Monetary Authority has lowered the Loan-to-Value (LTV) ratio for property mortgages and imposed different LTV ratios for residents and non-residents.

Table 10
Selected Implemented Macro-prudential Regulations

Member banks	Macroprudential policies taken (or macroprudential tools used)	Purpose of policy / tools
AMBD	Establishment of a mandatory deposit protection scheme	To restore and sustain depositor confidence in the financial system post GFC and to strengthen the financial system infrastructure.
	Establishment of a Credit Information Bureau.	<ul style="list-style-type: none"> • Strengthening of the Financial system infrastructure and enhancing credit risk assessment and management(CRM) across all banks. • To ensure greater discipline by both borrowers and banks in the disbursement of credit and contribute to the decline in household debt.
	Restrictions on credit cards and on personal/consumption financing.	<ul style="list-style-type: none"> • To reduce the incidence of household debt in the economy and to ensure more productive allocation of credit in the economy to aid the economic diversification programme of the government away from oil and gas. • To enhance the access to credit for SMEs and to foster expanded SME financing.
PBC	Adopting dynamic differentiated reserve management ratio(RRR) adjustment, namely, requesting banks to adopt differentiated RRR based on the divergence of credit to economic and price growth, and on the systemic importance and soundness of the bank.	To improve monetary policy instruments, to combine quantitative adjustment on liquidity management and counter-cyclical macro-prudential policy framework, and to enhance the flexibility and effectiveness of macro-management.
	To introduce total social financing as interim variable of monetary policy.	To cooperate with traditional management tools including credit management, and to increase the effectiveness of financial macro-management.
HKMA	<p>Measures applicable to owner occupied residential property mortgage loans only</p> <ul style="list-style-type: none"> • For properties with a value at HK\$10 million or above, the maximum LTV ratio shall be 50%; • For properties with a value at HK\$7 million or above but below HK\$10 million, the maximum LTV ratio shall be 60%, subject to a maximum loan amount of HK\$5 million; 	<p>the</p> <p>To introduce prudential measures for mortgage lending to address increasing risk to the stability of the Hong Kong banking system.</p>

	<ul style="list-style-type: none"> For properties with a value below HK\$7 million, the maximum LTV ratio shall be 70%, subject to a maximum loan amount of HK\$4.2 million. <p>Measures applicable to residential and non-residential property mortgage loans</p> <ul style="list-style-type: none"> Reducing the applicable maximum LTV ratio by 10 percentage points for all property mortgages to borrowers whose income is derived mainly from outside Hong Kong. However, borrowers who can demonstrate having a close connection with Hong Kong (e.g. those who are on secondment by a local employer to work outside Hong Kong with documentary proof provided by the employer or those who have their immediate family members residing in Hong Kong) will not be subject to the LTV reduction; and Lowering the maximum LTV ratio for property mortgage loans based on borrowers' net worth (i.e. net worth-based mortgage loans) from 50% to 40% irrespective of the value of the properties. In view of the difficulties in verifying borrowers' net worth regularly, it is considered prudent to lower the maximum LTV ratio. 	
BI	Comprehensive mix of central bank instruments including central bank bills, term deposits, and lengthening tenor of central bank facilities	To manage capital inflows and deepen financial market instruments
	LDR-linked statutory reserves	To mitigate systemic liquidity risks while stimulating bank intermediation

	LTV ratio	Leverage backstop in property markets
BNM	<p>Implementation of a maximum LTV ratio of 70%, applicable to the third house financing facility taken out by a borrower. (Nov 2010)</p> <p>Increase in risk weights for residential mortgages and personal financing under the Standardized Approach (SA) for credit risk (Feb 2011):</p> <ul style="list-style-type: none"> Risk weight for performing residential mortgages with a LTV ratio > 90% increased from 75% to 100%; <p>Risk weight for performing term loans extended for personal use with an original maturity of > 5 years increased from 75% to 100%.</p>	<ul style="list-style-type: none"> To moderate excessive investment and speculative activity in certain pockets of the residential property market which has resulted in higher than average price increases in such locations while continuing to support a stable and sustainable property market, and promote the continued affordability of homes for the general public. To ensure the capital framework better reflects the higher risk profile and actual loss experience of higher loan-to-value mortgage portfolios and longer term personal loans/financing facilities
NRB		To ensure adequacy of security
	Ceiling on Real estate exposure	To reduce sectoral concentration risk and allocate financial resources to productive sectors
	Macro stress tests	To assess the vulnerability of the financial system to possible macroeconomic shocks
MAS	Regular coordinated industry stress testing exercise with banks, finance companies and insurers.	Part of ongoing assessment of financial stability, potential risks to financial institutions' soundness and the need for measures to enhance their financial resilience.
	<ul style="list-style-type: none"> Lowering of LTV limits on residential property loans Imposition of Seller's Stamp Duty (SSD) for the sale of residential properties 	To maintain a stable and sustainable housing market.
CBSL	Limits on banks' exposure to stock market activities	to require banks to adopt appropriate risk management standards to mitigate risks arising from possible volatility and price bubbles of assets.
BOT	<p>LTV ratio for residential mortgage less than 10 million baht (12 Nov 10)</p> <ul style="list-style-type: none"> Higher risk weight for mortgage on high-rise building that has LTV greater than 	To preemptively avoid risk of asset price bubble in residential real estate markets although there is no obvious sign of asset price bubble.

	<p>90% (effective on Jan 2011)</p> <ul style="list-style-type: none"> • Higher risk weight for mortgage on low-rise building that has LTV greater than 95% (to be effective on Jan 2012) <p>Note: For high value real estate (condominiums, lands, and houses for residence valued 10 million baht and over), BOT set the LTV limit at 70% in 2003, and subsequently increased to 80% and impose higher risk weight capital charge for loan with LTV greater than 80% in 2009</p>	
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Source: Survey Conducted by The SEACEN Centre, June 2011.

Bangko Sentral ng Pilipinas has also enforced the Loan-to-Value ratio requirement as a tool to limit risk exposure of the banking sector to the real estate sector during the current year. To moderate any excessive investments and speculative activity in the residential property market; effective from 3 November 2010, new housing loans approved by financial institutions and development financial institutions to borrowers who already hold two outstanding housing loan accounts, will be subject to a maximum Loan-to-Value (LTV) ratio of 70 per cent. The Adjustment LTV cap has also been pursued by the Bank of Thailand in recent years.

To manage interconnectivity and risk exposure, Bank Indonesia, on the other hand, monitors daily liquidity positions of banks, especially those institutions that are expected to have more systemic implications. Commercial banks in Indonesia are also prohibited from extending loans to a single affiliated party by more than 10 per cent of the capital. Prohibition on complex derivative asset trading has also been enforced by a number of SEG central banks and monetary authorities. Nepal Rastra Bank, for instance, imposes limits on investments, except for government and central bank securities. Another typical prudential measure to manage interconnectivity is limiting sector credit, including inter-bank placements. The Central Bank of Sri Lanka introduced the “Direction on Maximum Amount of Accommodation” regulation in 2007 with the main objective of limiting a bank’s credit exposure to any single individual or company or to any groups of individuals or companies.

In November 2009, authorities in Korea imposed a set of tighter regulations on currency trading, including new standards for foreign exchange liquidity risk management, restrictions on currency forward transactions of non-financial companies, and mandatory minimum holdings of safe foreign currency assets by domestic banks. This set of policies followed an earlier move to curb speculative foreign exchange transactions. In July 2010, the minimum amount of deposits for foreign currency margin trade was raised to 5 per cent of transaction value from 2 per cent in an effort to clampdown on speculative foreign exchange trading by individual investors. Central Bank, Chinese Taipei have banned foreign investors from holding NT\$ time deposits with domestic financial institutions since November 2009. In addition, on 1 January 2011, the Central Bank, Chinese Taipei has also increased the required reserve ratio (RRR) of foreigners’ NT\$ demand deposits from 9.775 per cent to 90 per cent, if the outstanding balance of foreigners’ demand deposit exceeds that of 30 December 2010. Otherwise the RRR is increased to 25 per cent.

5.3 Stepping up to Regional and Global Cooperation

5.3.1 Blanket Guarantee Coordination

Past and recent crisis have again demonstrated that policy cooperation across different jurisdictions are also critical to enhance the effectiveness of various monetary, exchange rate and prudential measures in mitigating the impacts of the crisis and more importantly, position the economy into a stable economic recovery stage. In July 2009, the Hong Kong Monetary Authority, Bank Negara Malaysia and the Monetary Authority of

Singapore announced the establishment of a tripartite working group to map out a coordinated strategy for the scheduled exit from the full deposit guarantee of the banking system by the end of 2010 in their respective jurisdictions.

5.3.2 Cross-border Supervision of Globalised Banking System

Despite the growth of capital markets, the financial sector of the SEACEN region is dominated by the banking sector. As discussed in Section 2.3, foreign banks' operations in emerging markets across the global banking system, including those of the Asian economies, increased dramatically starting the second half of the 1990s. In addition, a recent survey carried out by The SEACEN Centre has identified a number of regional and global banks that have strong presence in major Asian economies (Siregar & Lim (2010)). The Hong Kong Shanghai Banking Corporation (HSBC), Citibank and the Standard Chartered Bank are among the three major international banks that have wide and extensive branch networks in the Asian region. In addition to these three international powerhouses, the region has also witnessed the emergence of its own multinational banks. In Malaysia, banks such as the Malayan Banking Berhad (Maybank), Commerce International Merchant Bankers Berhad (CIMB) and Rashid Hussain Berhad (RHB) have expanded their networks into Southeast Asian and beyond. A number of Singaporean banks, namely the Development Bank of Singapore (DBS), the United Overseas Bank (UOB), and the Overseas Chinese Bank Corporation (OCBC) have achieved similar success in their efforts to become regional banks.

Studies such as Cetorelli and Goldberg (2008 and 2010) illustrated the role of global banking system in transmitting monetary policy adjustments and adverse balance shocks across borders. In their 2008 study, Cetorelli and Goldberg demonstrate that the globalisation of banking in the United States is influencing the monetary transmission mechanism both domestically and externally. Furthermore, global banks played a significant role in the transmission of the 2007 to 2009 crisis to emerging market economies. Cetorelli and Goldberg (2010) examine the relationships between adverse liquidity shocks on main advanced-country banking systems to emerging markets across Europe, Asia, and Latin America, isolating loan supply from loan demand effects. Loan supply in emerging markets was significantly affected through three separate channels: a contraction in cross-border lending by foreign banks; a contraction in local lending by foreign banks' affiliates in emerging markets; and a contraction in loan supply by domestic banks resulting from the funding shock to their balance sheet induced by the decline in interbank, cross-border lending.

A vital area of policy cooperation, therefore, is on the supervision of the increasingly globalised banking systems and markets. The annual gathering of the Deputy Governors of the SEACEN Central Banks in-charge of Financial Stability has been initiated in Bali, Indonesia in 2010. The second annual meeting took place in October 2011 in the Philippines. At the initial stage, the focus has largely been on identifying the issues and challenges facing the global banking system in the region. The ASEAN central banks responsible for banking supervision have, in general, committed to bilateral memorandums

of understanding (MOUs) with each other and central banks from other parts of the world. These bilateral MOUs usually at the very least entails information and data sharing, and joint onsite examination on banks that have offices in both jurisdictions. In addition, a number of monetary authorities/central banks of major ASEAN economies have also participated in colleges of supervisors following the recent global financial crisis since 2009/2010. The colleges of supervisors are permanent, although flexible, structures for cooperation and coordination among the authorities responsible for and involved in the supervision of the different components of cross-border groups, specifically large groups. For Hong Kong Shanghai Banking Corporation Ltd (HSBC) and Standard Chartered Bank for instance, Bank Indonesia, Monetary Authority of Singapore, Bank Negara Malaysia, Bank Sentral ng Pilipinas and Bank of Thailand are among the ASEAN Central Banks who are directly participating in the colleges of supervisors together with the home supervisors of these banks. A more concrete step has also been taken to form a college of supervisors to coordinate the supervision of a regional bank. This effort should further enhance closer cooperation among the supervisors in the regions.

5.3.3 Chiang Mai Initiative (CMI) and Chiang Mai Initiative Multilateralization

The Chiang Mai Initiative (CMI) was launched at a meeting of ASEAN+3 Finance Ministers in Thailand in May 2000. This initiative has a broad set of objectives for financial cooperation, involving policy dialogue, monitoring of capital flows, and reform of international financial institutions. However, the series of bilateral swaps under CMI were found to be cumbersome and ineffective and it was, therefore, necessary to move from a bilateral to multilateral approach. In May 2009, the Chiang Mai Initiative Multilateralization (CMIM) was announced. Under the CMIM, the members of ASEAN+3 agree to a self managed reserve pooling arrangements governed by a single contractual agreement. The reserve would be held by national central banks. The disposition of those reserves, however, would be subjected to a single agreement.

The CMI and CMIM are, indeed, milestones for regional cooperation for ASEAN-plus 3 economies. The recent sub-prime crisis showed that in spite of large foreign reserves, liquidity shortage could still rapidly emerge. In its initial stage, the total size of the reserve pooling under CMIM is about USD120 billion, a significant rise from the USD90 billion under the CMI arrangement. Table 11 provides details of the CMIM contributions, purchasing multiples and swap facilities. Each of the five major ASEAN-5 (Indonesia, Malaysia, Philippines, Thailand and Singapore) economies, for instance, contributes around USD4.5 billion and can draw around USD11.4 billion of swap facility support.

Table 11
CMIM Contribution, Purchasing Multiplier and Swap Facility

Country	Contribution (US\$ billion) (a)	Purchasing Multiple (b)	Total Swap Facility (in US\$ billion) (a) * (b)
Brunei	0.03	5.0	0.15
Cambodia	0.12	5.0	0.6
PRC (and Hong Kong, China)	38.4	0.5	19.2
Indonesia	4.552	2.5	11.38
Japan	38.4	0.5	19.2
Korea	19.2	1.0	19.2
Lao PDR	0.03	5.0	0.15
Malaysia	4.552	2.5	11.38
Myanmar	0.06	5.0	0.3
Philippines	4.552	2.5	11.38
Singapore	4.552	2.5	11.38
Thailand	4.552	2.5	11.38
Viet Nam	1.00	5.0	5.0

Source: The Joint Ministerial Statement of the 13th ASEAN+3 Finance Ministers' Meeting, Tashkent, Uzbekistan, 2 May 2010.

6. Going Forward and Concluding Remarks

The two speed economic recoveries of the advanced and developing markets in the global economy are expected to continue in 2011 and 2012, albeit with the expected narrowing of the gap in the growth rates. Concerns remain with the risks arising from the problems in the sovereign debt markets and banking sectors in the Euro area, on-going geopolitical tensions in the Middle East, as well as less than encouraging news with the US economy. Going forward, initiatives taken by the advanced economies in dealing with their fiscal sustainability issues are also expected to influence the global economic outlook beyond 2012. For commodity-dependent economies, such as Mongolia and Australia, the terms of trade condition is likely to be favourable in the coming years.

Consequently, the emerging markets in Asia are forecasted to continue receiving an average of around 45 per cent of total capital flows to the emerging markets in the world (Table 1). In addition, barring major upheavals in the global and regional financial markets, the overall broad components of these flows in 2011 and 2012 are expected to exhibit similar trends. This means that market volatilities are also expected to remain. For most of the SEACEN economies, a fair share of these flows is in the forms of portfolio and banking flows. The challenges facing the monetary authorities and policy makers of the SEACEN economies this year and the next, are therefore, likely to be a continuation of those in 2010.

Hence, the discussions in this paper on the consequences of these flows and the policy options and trade-offs will remain relevant for the near term.

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