

# Global imbalances and the development of capital flows among Asian countries

by  
Naoyuki Yoshino\*

*During the current global crisis, capital inflows into Asian countries have increased, leading to excess liquidity and the risk of potential asset bubbles. A sudden reversal of these inflows would have negative effects on the economies in question. Given the impact of global capital movements on domestic financial systems and thereby on domestic economies, in several Asian countries certain macro-prudential regulations have been put in place, and capital controls and micro-prudential regulations have re-emerged as important tools to handle the issues related to capital inflows from outside of the region. It is important to ensure that global imbalances do not become a source of instability. The issue, thoroughly discussed after the Asian crisis a decade ago, is “using Asian savings for Asian investments” through the development of bond markets and SME’s financial inclusion. Against the backdrop of huge potential demands for infrastructure investment in the Asian region, this note proposes the issuance of “infrastructure revenue bonds” to help develop bond markets in Asia. To facilitate financial inclusion of SMEs, which outnumber other types of business in Asia, this note also proposes creating an SME database and developing regional trust funds.*

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## I. Summary and overview

The subprime loan crisis brought various issues to the attention of financial policymakers, and caused a re-think about the measures introduced to address it. Some analysts have argued that among the factors contributing to the build-up of excess exposures was a narrow focus on inflation by major central banks, with too little attention paid to asset price developments. Others contend that problems were more the result of weak management of risks on the part of financial institutions with inadequate supervision, rather than a result of excess liquidity per se. Financial innovation has also received considerable attention, as new securitised instruments featured prominently in the problems, raising questions regarding the role of credit rating agencies.

On many of these points, the jury is still out and final conclusions have yet to be drawn. But some other aspects of the evolving financial landscape are more straightforward, though perhaps still somewhat controversial. It is clear, for example, that as the global economy has become more interconnected and integrated the size and volatility of capital flows has increased significantly. In Asian countries, during the current global crisis, capital inflows have increased, leading to excess liquidity and the risk of potential asset bubbles. A sudden reversal of these inflows would have negative effects on the economies in question. Given the impact of global capital movements on domestic financial systems and thereby on domestic economies, in several Asian countries certain macro-prudential regulations have been put in place, and capital controls and micro-prudential regulations have re-emerged as important tools to handle the issues related to capital inflows from outside of the region.

In as much as capital flows are an integral component of international finance, which allows for savings to be channelled from surplus countries to deficit countries, it is important to ensure that global imbalances do not become a source of instability. For Asia, the issue – which was thoroughly discussed after the Asian crisis a decade ago – is once again emerging as a hot topic. The issue is “using Asian savings for Asian investments” through the development of bond markets and SME’s financial inclusion. Against the backdrop of huge potential demands for infrastructure investment in the Asian region, this note will propose the issuance of “infrastructure revenue bonds” to help develop bond markets in Asia. Then, to facilitate financial inclusion of SMEs, which outnumber other types of business in Asia, this note will also propose creating an SME database and developing regional trust funds.

In the subsequent sections, this article will touch on the following issues: II. Characteristics of Asian economies; III. Global imbalances and capital inflows to Asia; IV. Proposals for Asian financial markets; and V. Remaining Challenges.

## II. Characteristics of Asian economies

### 1. High potential growth

Asian economies have had relatively high economic growth rates in recent years and further strong growth in Asia is expected in the next several years due to the growth of middle income classes. Populations are young in most of Asia. If Asian economies continue to expand, the rate of return in the Asian region will be higher than other regions. There is a huge potential for Asian growth and there are huge opportunities for financial investment in the Asian region.

### 2. High savings rate and low capital flows among Asian region

Asia has shown a very high savings rate. Yet, most of these savings are invested in the USA and Europe. They are not directly invested in the Asian region due to a lack of financial products and a lack of transparency. But at the same time, it is clear that additional long-term investment in the Asian region will be required.

### 3. Where do Asian savings go?

Emerging economies in Asia have very high savings rates, as shown in Table 1. It should be possible to direct some portion of these accumulated high savings toward infrastructure investments in the region. However, high savings in East Asian countries are not well distributed among Asian countries. Rather, the accumulated high savings are invested typically in domestic deposits, domestic stocks, and overseas government bonds such as US treasury securities.

Table 1. Savings and investment ratios in Asia

Country	Savings/GDP Ratio (%)			Investment/GDP ratio (%)		
	2007	2010	2011	2007	2010	2011
China Mainland	51.9	53.4	53.8	41.7	48.2	48.7
Hong Kong, China	33.3	29.9	29.2	20.9	23.7	23.8
Indonesia	27.3	33.3	31.1	24.9	32.5	32.9
Japan	28.5	23.8	23.9	23.7	20.2	21.4
Malaysia	37.5	32.9	33.1	21.6	21.4	21.8
Philippines	22.1	24.8	22.3	16.9	20.5	20.5
Singapore	48.4	46.0	45.8	21.1	23.8	26.0
South Korea	31.5	31.9	29.6	29.4	29.2	28.2
Thailand	32.8	30.6	30.4	26.4	25.9	25.6

Note: Savings rate = gross national saving/GDP; Investment rate = Gross capital formation/GDP.

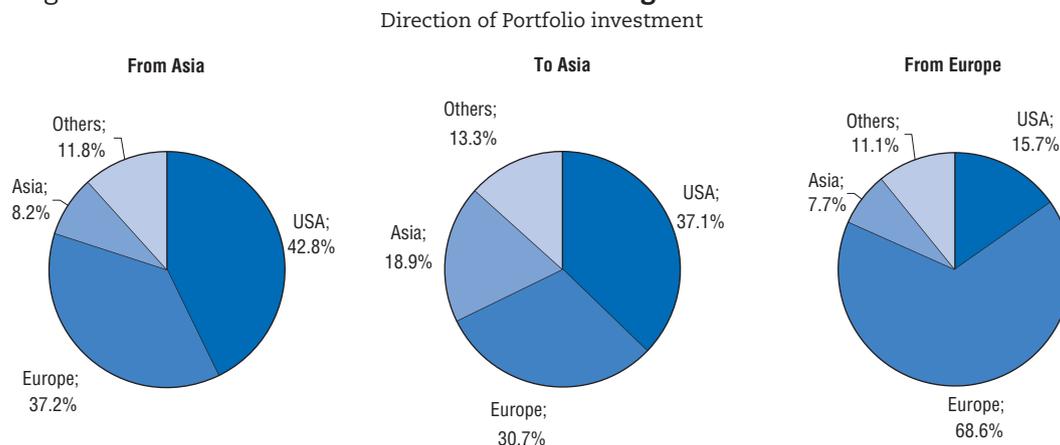
Source: IMF, World Economic Outlook Database.

Figure 1 shows three pie charts. The left pie chart shows where Asians are investing. 42.8% are invested in US securities and stocks. Another 37.2% are invested in European financial instruments, while only 8.2% are invested in the Asian region. These investments tend to be longer term such as long-term government securities.

The middle pie chart of Figure 1 shows that 37% of the money flowing into Asia is coming from the USA and 30% comes from Europe. These funds are short-term oriented. Only 18% of funds come from within Asia. Thus, Asia's high savings are directed to the United States and Europe for long-term investments. By contrast, the portfolio investment that comes from overseas is short term in nature and is unstable. This lack of stability

was one of the causes of the 1977 Asian financial crisis. Unfortunately, the situation has not improved. The right hand pie chart in Figure 1 shows the case of Europe. There, 65% of funds invested externally are invested within the region.

Figure 1. **Portfolio investment from the Asian region to the world and vice versa**

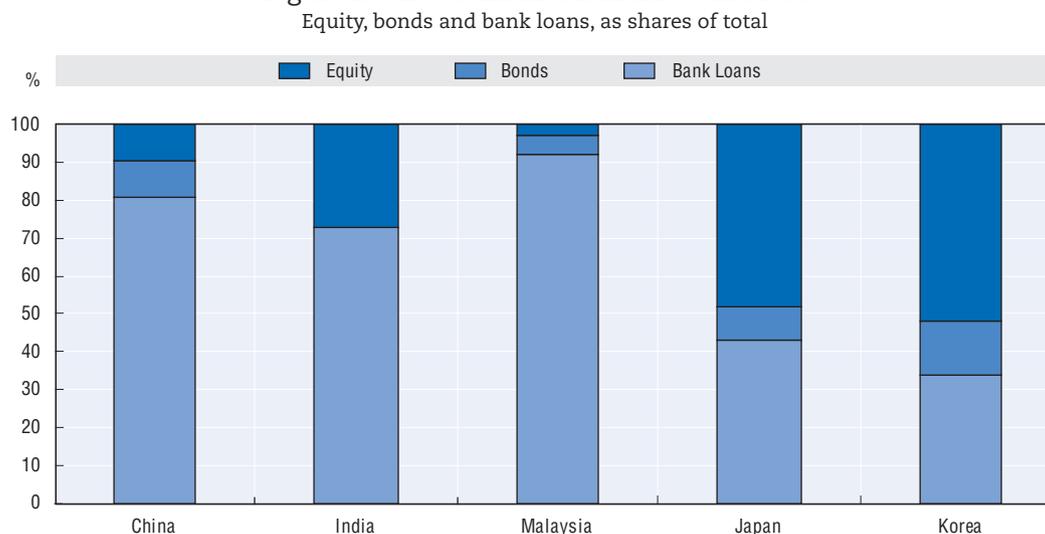


Source: IMF, Coordinated Portfolio Investment Survey (CIPS).

#### 4. Bank dominated financial system and large share of SMEs

Asian economies are often characterised as having bank-dominated financial systems and the bond market has developed only slowly (Figure 2). Even though the soundness of the banking system has improved significantly since the Asian crisis, the banking sector has been cautious to lend to SMEs, even though such enterprises account for a large share in many dimensions of economic activity. Start-up companies, in particular, are finding it increasingly difficult to borrow money from banks due to strict Basel capital requirements. Riskier SMEs will also face difficulty in borrowing money from banks.

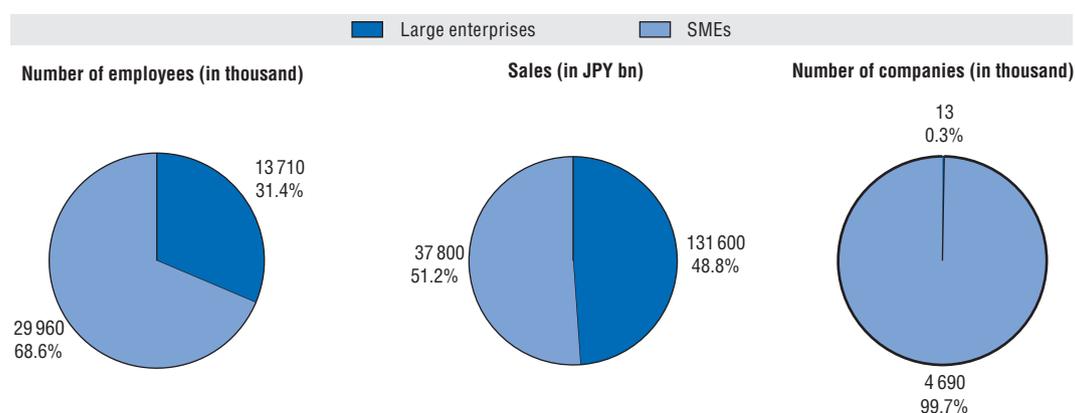
Figure 2. **Size of financial markets in Asia**



Source: Shigesuke kashiwagi, Nomura Holdings Inc., FSA Financial Research Center International Conference, Japan, Tokyo, February 2011.

Figure 3, Table 2 and Figure 4 show the shares of SMEs in the economies of Japan, Thailand and China. In all three countries, in terms of the number of firms and the share of employment, SMEs dominate the economy. Thus, it is quite important to find ways to provide stable finance to SME sectors. In Figure 5, two lines show how difficult or how easy it is to raise money from the markets. One line shows the difficulty faced by large companies and the other shows the same for SME companies. Data points below zero indicate that companies are finding it difficult to raise money from banks or the capital markets. SMEs appear to face difficulties most of the time in observation period covered.

Figure 3. **Share of SMEs in Japan**



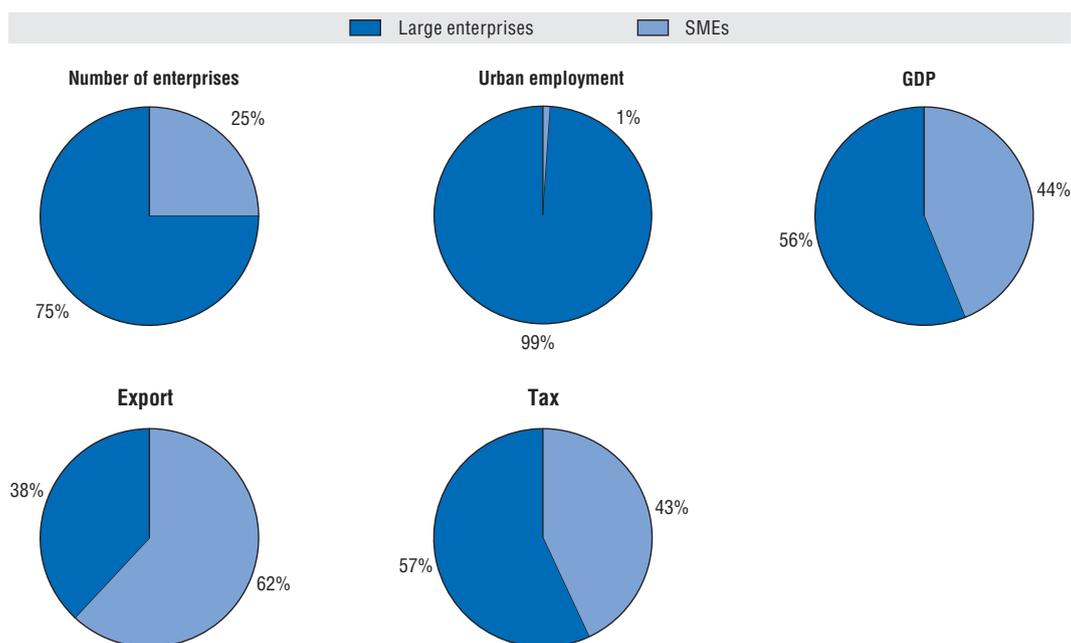
Source: White paper on SMEs, Japanese government, METI, 2011.

Table 2. **Share of SMEs in Thailand**

Type of enterprise	No. of enterprises (% of total)	No. of employees (% of total)	GDP contr. in mill. Baht (% of total)
SMEs	2 366 227 (99.6%)	8 900 567 (76.0%)	3 244 974 (38.2%)
Large enterprises and others	9 141 (0.4%)	2 810 767 (24.0%)	5 239 226 (61.8%)
Total	2 375 368 (100.0%)	11 711 334 (100.0%)	8 484 200 (100.0%)

Source: Yoshino, Suzuki, Maehara and Abe (2009), Development of Corporate Credit Information Database and Credit Guarantee System, ASEAN Secretariat, Feb. 2009.

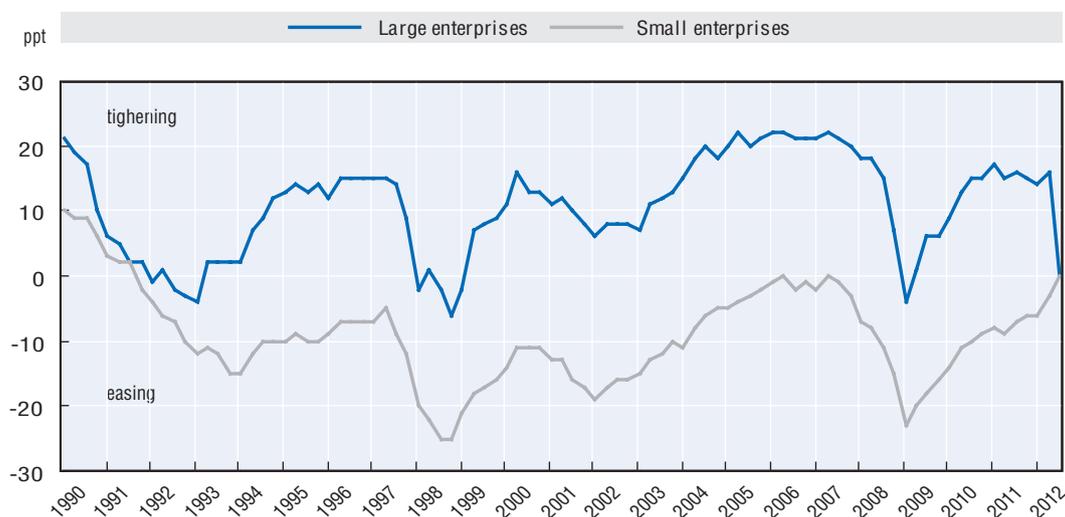
Figure 4. Share of SMEs in China



Source: Department of SMEs, China National Development and Reform Commission, June 2004.

Figure 5. Financial position

Financing conditions of large versus small enterprises, in percentage points (ppt)



Source: Bank of Japan, Short-term Economic Survey of Enterprises in Japan (TANKAN).

### 5. Asian bond markets and Asian capital markets

The 1997 financial crisis in Asia substantially emphasised the need for debt markets in Asia to channel regional savings into regional investments. Therefore, to support the development of the market infrastructure of the bond market, the supply side of the

market, the Asian Bond Markets Initiative (ABMI) promotes the development of an Asian regional bond market to circulate inter-regionally the highly accumulated savings in Asia.

The Executives' Meeting of EastAsia Pacific Central Banks (EMEAP) is a forum of central banks and monetary authorities in the East Asia and Pacific region set up for strengthening cooperation among its members. From the demand side, EMEAP already established the Asian Bond Funds (ABF1 & 2) to purchase government bonds issued in the region in order to promote the development of regional bond markets and to circulate the accumulated funds within the region. However, the capital transactions in the region are not so active while the size of the trade of goods is very large and GDP growth is also brisk compared with that of the US and the EU.

At the initial stage of ABMI, the governments in the region have been endeavoring to nurture and develop the domestic market in order to create benchmark yield curves. Thus, it has been supply-driven growth by the governments.

However, Asian countries are confronting difficulties such as differing stages of development of the region's financial markets and heterogeneous legal and institutional systems. Additionally, the needs of continually issuing government bonds are very limited, owing in part to very large holdings of foreign exchange reserves by virtue of the current account surplus and the fiscal surplus of the governments in some countries.

The current situation in Asia is that Asian countries accumulated foreign exchange reserves to guard against the recurrence of a future financial crisis and they invested their savings in the US in the form of US government bonds and in Europe rather than in Asia. Therefore, for the next stage of ABMI, the growth of the bond market should be driven by the investment demands and financing needs of market participants.<sup>1</sup>

## **6. Foreign exchange holdings in Asia since the crisis**

In 2006, China held USD 877.6 billion and Japan held USD 837.7 billion in foreign exchange reserves, and ASEAN+3 countries held USD 2.25 trillion in foreign exchange reserves (Table 3). The share of foreign exchange holdings by Asian countries has been rapidly increasing especially since the crisis. This excessive dependence on the US dollar exposes them to risks of a sudden reversal of foreign capital flows and the recurrence of a currency crisis. It also raises the possibility that Asian countries may face losses from any weakening of the dollar, because most Asian countries hold their foreign exchange reserves in the form of US dollars.

Central banks in the region have endeavored to sterilise the potential expansionary effects of increasing foreign reserves on their domestic money supply and credit mainly through open market operations or reserve requirements in order to stabilise the exchange rates as well as to retain control over monetary policy. China, Malaysia and Thailand have depended heavily on this sterilisation policy (World Bank, 2008). The excessive current account surplus has resulted in a marked increase in liquidity, which has consequently spurred an overheating of the economy and an investment boom. But the sterilisation policy tends to make domestic interest rates higher than otherwise, which serves to attract more capital inflows. It also causes the central banks to pay the opportunity cost by holding the reserves as well as the loss from paying interest on the liabilities issued to sterilise the capital inflows.

Table 3. **Foreign exchange reserves of ASEAN+3 countries**

As of March 2006

Country	US dollar (in thousand)
China	877 637 000
Japan	837 712 000
South Korea	217 271 000
Singapore	121 412 000
Malaysia	73 097 100
Thailand	53 709 300
Indonesia	38 172 300
Philippines	17 848 000
Vietnam	10 742 000
Cambodia	1 007 340
Myanmar	890 021
Brunei	480 349
Lao PDR	249 478
Total	2 250 227 888

Source: IMF, International Financial Statistics.

### 7. Biased securities investment in Asia

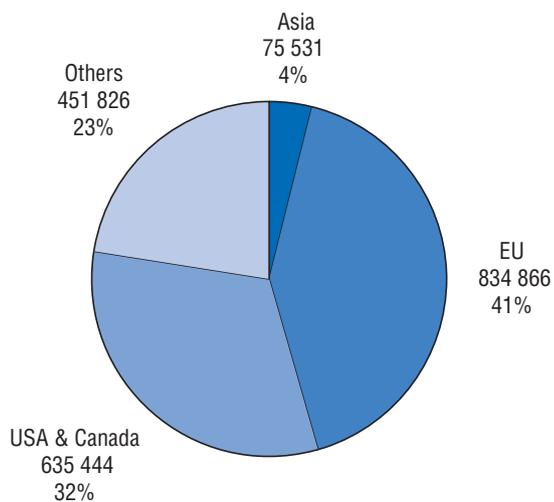
In recent years, a high percentage of the US current account deficit has been supplemented by investments into US government bonds and foreign exchange holdings of Asian countries. The funds accumulated in Asia flow into the US and European countries and a large proportion of these funds return to Asia in the form of US investment or by hedge funds. It is worth noting that this intermediation of funds is largely handled by financial institutions and settlement systems outside the Asian region. This situation might lead to a hollowing-out of financial intermediary functions in Asia.

Most Asian countries invest their high savings mainly in Europe (41%), the US and Canada (32%) and only 4% of debt securities investment is made in Asia (Figure 6). Looking at the investment pattern of debt securities in Asian countries, 56% of total debt securities investment in Asia is made by the EU, the US & Canada. And Asian countries' investment in Asia amounts to only 17% of total debt securities investment (Figure 7). These statistics show the bias and sluggishness of Asian countries' investments into the Asian region compared with those into the EU and the US, even though there is relatively less financial information and there are fewer financial products in Asia than in the EU or the US.

One of the lessons drawn from the financial crisis of 1997 was that alternative intermediary mechanisms to lower the excessive dependence on bank financing and to provide long-term local currency funding need to be established. To this end, the development of efficient and systematic cross-border intermediation of regional surplus savings and foreign exchange holdings through regional bond markets is important.

**Figure 6. Debt securities investment from Asia**

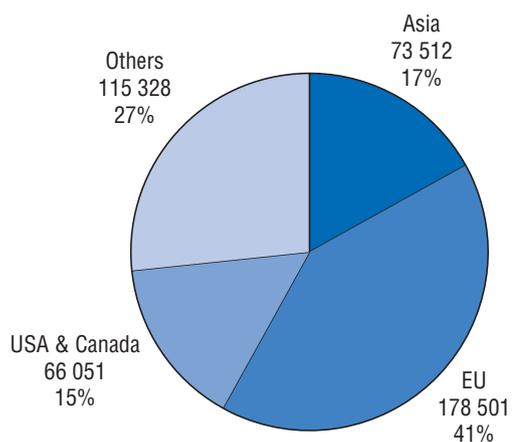
In millions of uS dollar and as share of total, 2004



Source: IMF, Portfolio Investment: Coordinated Portfolio Investment Survey (CPIS).

**Figure 7. Debt securities investment in Asia**

In millions of uS dollar and as share of total, 2004



Source: IMF, Portfolio Investment: Coordinated Portfolio Investment Survey (CPIS).

### III. Global imbalances and capital inflows to Asia

#### 1. Global imbalance and excess supply of US dollars

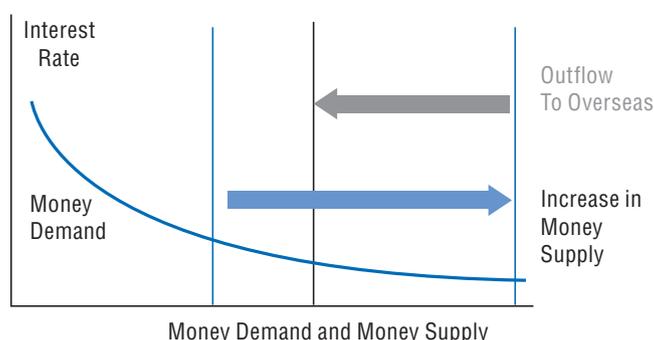
When a currency is used extensively in international transactions, such as British pounds in the early 1900s and the US dollar in recent decades, the country can in effect “print money” to cope with current account deficits. British pounds had been printed to cope with current account deficits in the 1950s, but the value of British pounds kept falling and eventually it lost its status as an international means of transaction and as a store of value. British pounds were replaced by US dollars.

If the currency is used as a means of transaction, a government can print money even if it is faced with current account deficits. However, the value of the key currency gradually depreciates due to excess supply. Other currencies start to appreciate against the key currency.

Investors in the key currency country will experience massive liquidity infusion due to an excessive creation of the key currency to cope with current account deficits. This huge volume of liquidity starts to look for investment opportunities (Figure 8). Some Asian countries have become the target of portfolio investment by investors in the key currency country. Short-term capital flows to some Asian economies have increased.

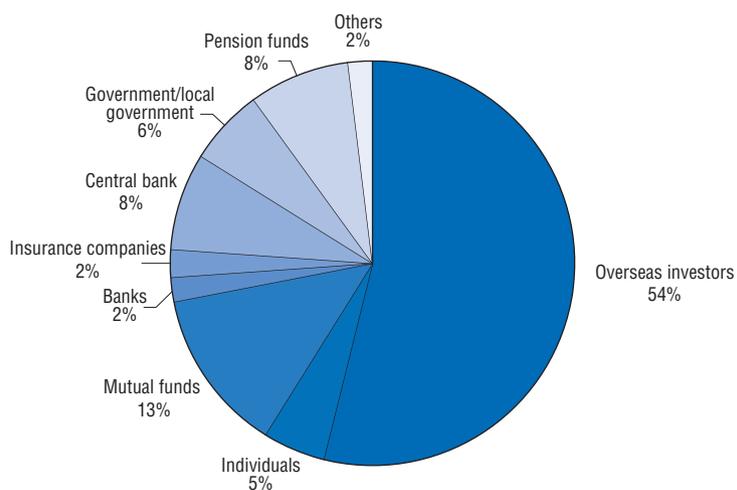
Countries that have current account surpluses, such as China, Korea, and Japan, have tended to accumulate US dollars as foreign reserves at their central bank. The central banks of surplus countries buy US Treasury securities as the best investment since the accumulated foreign reserves are US dollars and their investments are also denominated in the US dollar (i.e. US Treasury securities; see Figures 9 and 10). This will continue until the value of the US dollar is expected to depreciate substantially. As a matter of fact, China seems to have started to diversify its central bank’s foreign reserves from US dollar to euro, Japanese yen and other currencies. Yet, Asian investors are inclined to look for safer assets abroad and they have tended to invest in US treasury securities. Tables 4 and 5 provide details on cross-border portfolio investment by and in Asian countries.

Figure 8. **Excess liquidity created by huge money supply**



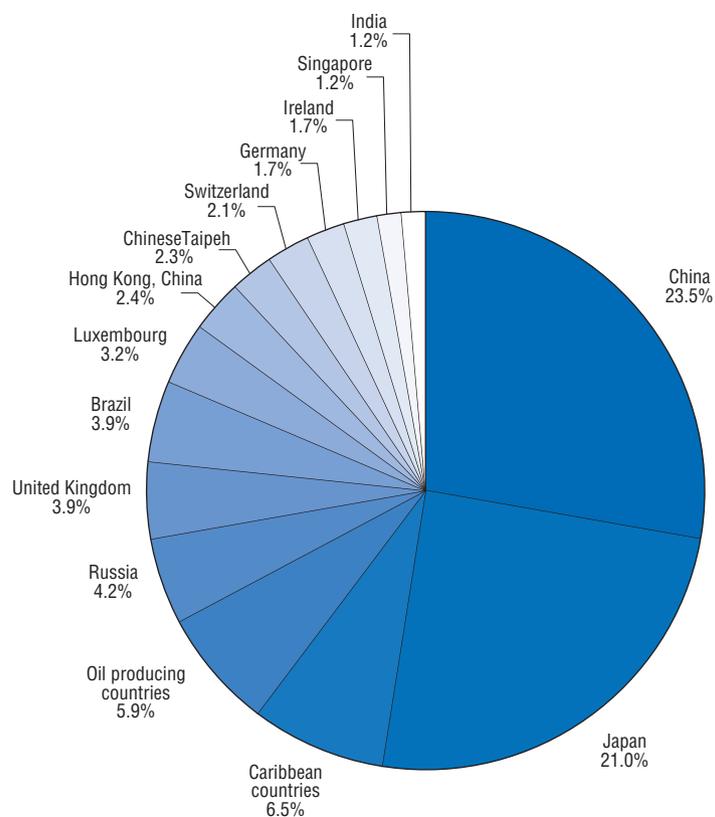
Source: Author.

Figure 9. US Treasury bond holdings by type of investor



Source: uS Treasury.

Figure 10. US Treasury bond holdings by country



Source: uS Treasury.

Table 4. **Where are Asian countries investing?**

In billions of uS dollar, 2005

Country	Target country	Totals	EU		
			UK	Euro area	Other Europe
<b>Thailand</b> Total=402.83	No1 EU	110.85	39.44	67.57	3.84
	No2 USA	105.98			
	No3 Singapore	44.76			
	No4 Hong Kong, China	22.19			
	No5 Japan	7.46			
<b>Malaysia</b> Total=496.67	No1 EU	145.28	66.95	73.23	5.11
	No2 Singapore	81.74			
	No3 USA	52.25			
	No4 Hong Kong, China	22.75			
	No5 Switzerland	5.64			
<b>Singapore</b> Total=812.3	No1 USA	363.61	107.21	119.91	8.85
	No2 EU	235.98			
	No3 Hong Kong, China	70.97			
	No4 Japan	44.51			
	No5 Switzerland	9.32			
<b>Hong Kong, China</b> Total=1 374.93	No1 EU	538.10	289.94	225.19	22.97
	No2 USA	462.25			
	No3 Singapore	137.46			
	No4 Japan	82.94			
	No5 Bermuda	46.52			
<b>Indonesia</b> Total=291.53	No1 USA	90.25	30.66	45.66	2.95
	No2 EU	79.27			
	No3 Singapore	63.32			
	No4 Mauritius	38.23			
	No5 Japan	5.73			
<b>South Korea</b> Total=2390.96	No1 EU	744.6	346.56	364.03	33.87
	No2 Hong Kong, China	95.53			
	No3 USA	82.43			
	No4 Japan	53.91			
	No5 Singapore	45.62			
<b>Philippines</b> Total=219.85	No1 EU	101.45	33.60	61.66	6.19
	No2 USA	71.79			
	No3 Japan	13.82			
	No4 Hong Kong, China	11.19			
	No5 Singapore	9.48			
<b>Japan</b> Total=15 424.21	No1 EU	5 287.05	1 959.36	2 751.79	575.90
	No2 USA	5 200.84			
	No3 Canada	339.04			
	No4 Norway	211.47			
	No5 Switzerland	185.58			

Source: IMF, Portfolio Investment: Coordinated Portfolio Investment Survey (CPIS).

Table 5. **Where are investors into Asian countries based?**

In billions of uS dollar, 2005

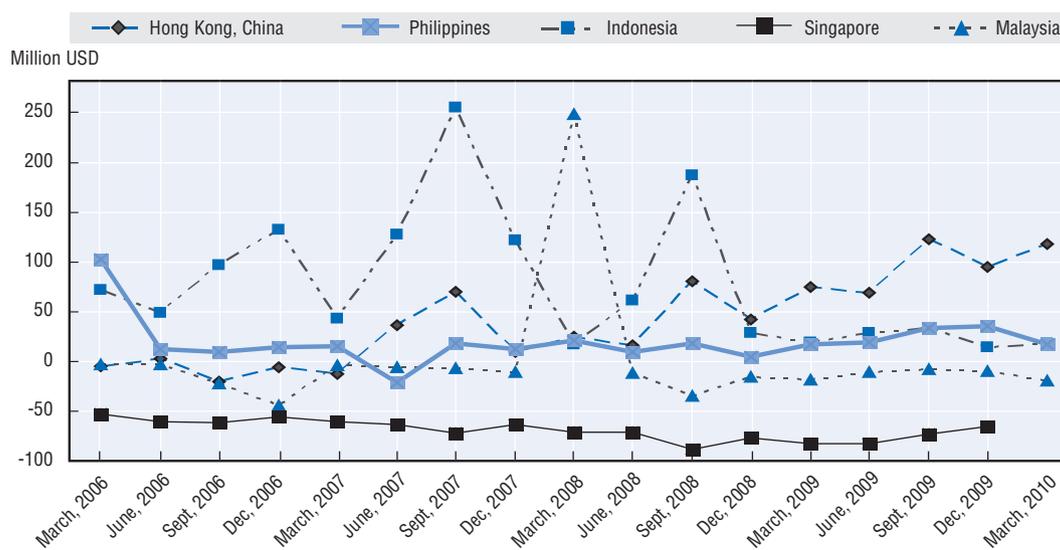
Country	Country	Billion US dollars	EU countries		
			UK	Euro area	Other Europe
<b>Thailand</b> Total=3 108	No1 EU	10.33	4.57	5.67	0.09
	No2 US	8.88			
	No3 Singapore	1.80			
	No4 Indonesia	1.57			
	No5 Hong Kong, China	1.55			
<b>Malaysia</b> Total=3 781	No1 EU	13.18	5.57	7.54	0.07
	No2 Singapore	7.51			
	No3 USA	5.67			
	No4 Hong Kong, China	1.96			
	No5 Australia	1.43			
<b>Singapore</b> Total=2 016.86	No1 EU	629.28	356.82	260.54	11.91
	No2 USA	290.31			
	No3 Australia	169.66			
	No4 Malaysia	167.83			
	No5 South Korea	90.30			
<b>Hong Kong, China</b> Total=4 365.57	No1 EU	1 291.81	695.14	552.09	0.00
	No2 USA	581.56			
	No3 Cayman Islands	548.15			
	No4 Bermuda	450.65			
	No5 China P.R.	412.99			
<b>Indonesia</b> Total=11.66	No1 EU	3.87	2.19	1.68	0.00
	No2 Singapore	2.17			
	No3 Australia	2.03			
	No4 USA	1.12			
	No5 China P.R.	1.02			
<b>South Korea</b> Total=436.65	No1 USA	196.68	24.04	113.64	1.54
	No2 EU	139.19			
	No3 Cayman Islands	36.84			
	No4 Japan	14.63			
	No5 Hong Kong, China	10.18			
<b>Philippines</b> Total=48.51	No1 USA	21.15	10.30	7.44	0.30
	No2 EU	18.04			
	No3 Singapore	1.63			
	No4 Australia	1.10			
	No5 Russia	0.98			
<b>Japan</b> Total=21 148.88	No1 EU	7 549.64	1 139.91	6 012.74	396.99
	No2 USA	7 477.47			
	No3 Cayman Islands	2 976.69			
	No4 Australia	449.53			
	No5 Canada	415.53			

Source: IMF, Portfolio Investment: Coordinated Portfolio Investment Survey (CPIS).

## 2. Capital Inflows to Asia

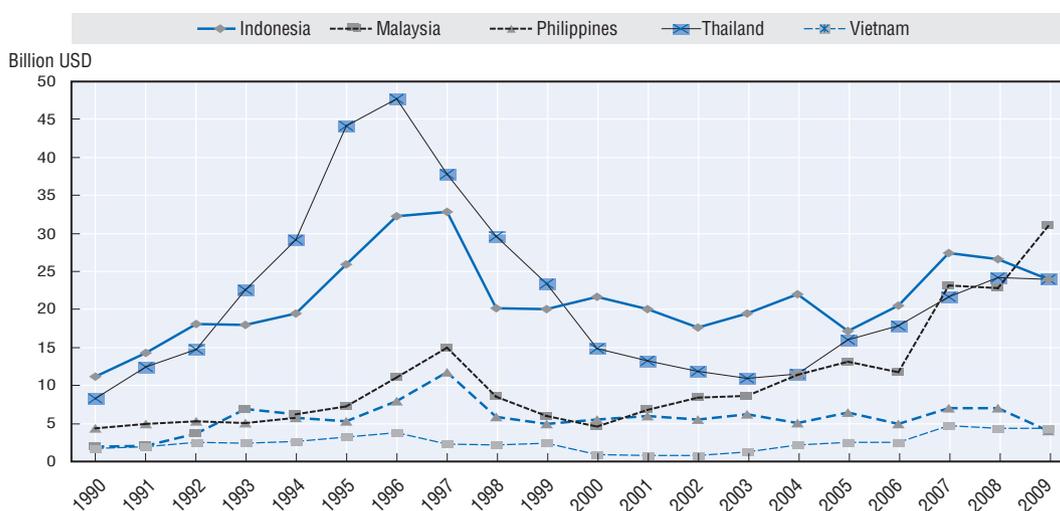
Under the structure mentioned above, the relatively high growth rates of Asian economies, along with their relatively high interest rates, have been attracting foreign investors. This has resulted in huge capital inflows, leading to excess liquidity and increasing the risk of asset bubbles building up (Figures 11 and 12). A sudden reversal of these inflows would render the impact of any bubble-bursting more severe.

Figure 11. Net capital inflows, quarterly



Source: CEIC; Shimada and Yang (2010).

Figure 12. External short-term debt, annual



Sources: World Bank, BSP, SINGSTAT, BNM, JEDH; Shimada and Yang (2010).

The early stages of recovery from the current crisis have seen global imbalances widening once again, with an increase in underlying deficits and surpluses. This tendency might continue for the time being. At the same time, economic growth of most developed countries has been slowing, despite their loose monetary policies. This contrasts with the higher economic growth of emerging economies and their tighter monetary policy stances. This is fostering capital flows from developed to emerging economies.

These investments are not only coming from the so-called ‘carry traders’. Even institutional investors from developed countries are searching for yield in emerging countries. These inflows create upward pressure on the property and stock markets, as well as on the currencies of emerging economies, or, where the latter is resisted, lead to expanding official reserve positions.

To reduce market turbulences caused by such capital movements, several Asian economies have also adopted specific macro-prudential or capital-control measures (see Box 1, which discusses the case of real estate market turbulence).

### Box 1. **Slow adjustment of property markets and bubble indicators**

1. (Subprime) mortgage loan crises and other bubbles are often initiated by easy monetary policy. When the economy is facing a downturn, the central bank tries to help boost its economy. It introduces an easy monetary policy by lowering interest rates and increasing the money supply. The stock market often reacts to this easy monetary policy and stock prices are gradually going up.

2. Rising stock prices lead to an increase of consumption through the wealth effect. Higher stock prices lead corporations to take optimistic views of the economy. Companies are faced with rising demand for their products. Sales will be increasing and the business conditions look very good. Corporations start to expand their production and real economic growth starts to rise. Corporate investments will increase and consumers enjoy rising incomes. Everybody seems to welcome the loose monetary policy (Fed Chairman Greenspan was highly appraised for his “excellent” monetary policy).

3. Housing markets are booming and banks started to lend their money to lower income individuals since the value of their collateral, i.e. house prices, is increasing. This could be observed in Japan’s asset price bubble as well as the recent US subprime loan crisis.

4. The real estate market is very slow in its adjustment in the sense that housing starts are increasing only after several quarters. When one bank increases its housing loans to low-income individuals, given the rising housing prices, i.e. collateral values, its behaviour is rational: the overall housing prices are scarcely affected by a few (small) banks’ aggressive property lending.

5. However, if many banks follow the same behaviour increasing their (subprime) housing loans assuming that the collateral value of the housing price will keep on going up, the market price of housing will start to decline as the aggregate supply curve of housing starts shifting to the right, lowering the market clearing price of housing.

6. Furthermore, an increase of the housing loan supply can be accelerated by securitisation of mortgage loans, enhanced by high credit ratings by internationally renowned credit rating agencies.

7. Ratings given for securitised subprime housing loans tend to be too high given the assumption and believe that house prices will keep on going up. It was exactly the same phenomenon that was observed in the Japanese asset price bubbles.

8. The governor of the concerned central bank would like to stop the overheating of the economy in advance of a real estate market collapse. However, people appreciate the “excellent” monetary policy as long as housing prices keep on rising and the economic conditions are good.

9. The real estate market is very slow to adjust to market conditions. There is always a delay to adjust to the changes in house prices. As long as they are increasing, many banks would like to lend money for housing construction. This creates excess supply of housing since there are always time lags in the real estate market. When the market realises the excess supply of housing construction reflected in a falling housing price, it is too late.

10. Borrowers cannot repay their loans since the economic downturn leads to a drop in their income and the collateral value of real estate starts to go down. Sluggish adjustment of the property market leads to housing starts not responding quickly to the changes in housing markets.

- Bank Indonesia (BI) introduced policy packages in June 2010 to manage liquidity, as well as to encourage banks to conduct more transactions in the secondary market. This includes the implementation of a one-month minimum holding period for buyers of Bank Indonesia certificates in the primary and secondary markets. BI increased the primary reserve requirements on both foreign and local currency deposits to 8%, from previous levels of 1% and 5%, respectively. BI also re-imposed a limit on banks' external short-term borrowing to 30% of capital in January 2011, limiting their capacity to intermediate short-term inflows.
- Since the 1990s, Hong Kong, China, has adopted a 70% loan-to-value ratio cap for residential mortgages as part of its banking industry oversight. Hong Kong, China, has also had a 60% loan-to-value ratio cap for luxury properties since 2009.
- Singapore also has a loan-to-value limit for residential loans; in February 2010, it strengthened this measure by lowering the cap from 80% to 70% and by prohibiting "interest-only" mortgages.
- In October 2010, Thailand introduced a 15% withholding tax on interest payments and capital gains on bonds held by foreign investors.

Yet, the effects of these types of measures might not last for an extended period of time, because of potential loopholes. Considering such possibilities, it might be better to consider these measures as temporary. Treating such measures as temporary might help avoid distorting the efficiency and effectiveness of financial markets too much.<sup>2</sup> Coordinated multilateral actions are needed for a lasting solution. The next section will consider how to correct the global imbalances or mitigate their deleterious effects with focus on the practical way forward for Asian countries.

#### IV. The way ahead

Structural reforms can contribute to correct the global imbalances or mitigate their deleterious effects. These structural reforms might include the following elements:

- encouraging saving in deficit countries, by removing distortive features such as of the mortgage systems in several developing countries;
- enhancing channels of Asian saving into Asian investments. If such measures help to reorient capital flows toward the longer-term, they would have further beneficial effects.

This section will focus on the latter issues. The following discussion will take particular note of infrastructure project financing and funding for SMEs. These policies will accelerate portfolio investment into the Asian region. Furthermore, Asian investors such as pension funds and insurance companies will be growing. They will be looking for long-term portfolio investments.<sup>3</sup> Infrastructure revenue bonds will be good financial products in which they can invest.

##### 1. Infrastructure project financing

Asian countries require huge infrastructure investment in the next decade. Expanding infrastructure project financing will contribute to enhance the channelling of Asian savings into Asian investments. This discussion will begin with a review of the current state of infrastructure project financing, followed by an analysis of the options for infrastructure finance and finally by a proposal which could develop Asian bond markets.

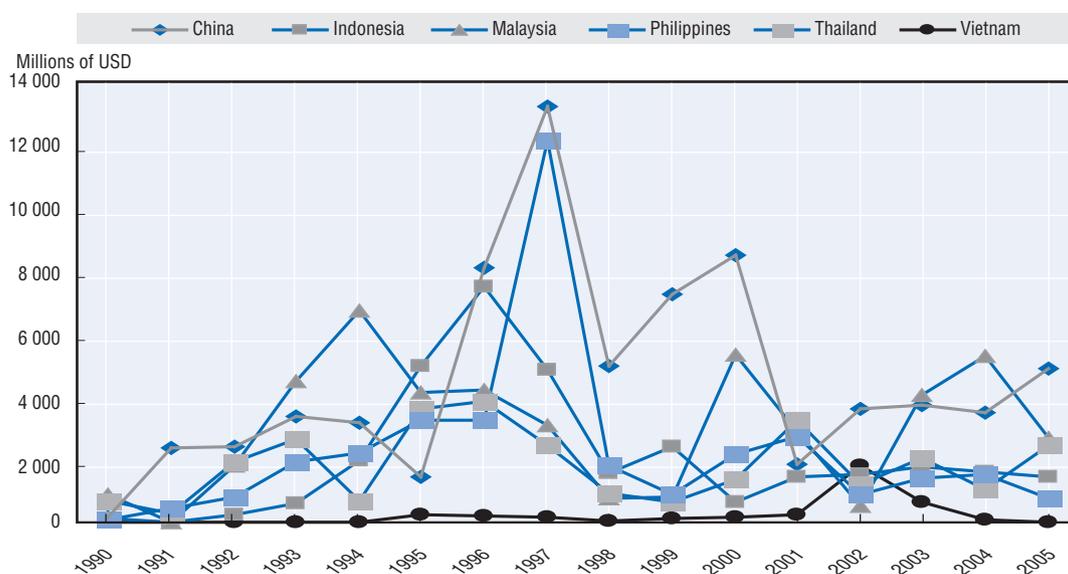
## 2. Current state of infrastructure project financing in Asia

### Private investment in infrastructure project since the crisis

Optimistic views are prevalent for the high growth potential in Asia. In particular, rapid growth of China and Southeast Asia and the development of social and economic infrastructure attracted local and international investments through increasing private sector participation until the midst of the 1990s. And local debt markets in several countries such as Malaysia, Indonesia and Thailand were emerging with financing for infrastructure projects. But these nascent debt markets suffered from a narrow investor base, limited ratings capacity, primitive and restrictive legal and regulatory frameworks, and the lack of a benchmark yield curve, especially for long-term maturities.

The financial crisis of 1997 led to a deterioration of Asian financial markets and financing conditions for private investments. As a consequence, private investment in infrastructure projects sharply declined, which had a negative impact on large-scale infrastructure project financing (Figure 13). A large share of private investments take the form of medium and long-term loans that are funded with the short-term deposits of banks. As such, given the maturity mismatch, it is not a sustainable financing vehicle, especially when banks are exposed to the systemic risk by the economic or financial crisis.

Figure 13. Trends of total private investment in infrastructure projects in Asia



Source: World Bank, <http://ppi.worldbank.org/book>.

### Financing needs and gaps

With the recovery of Asian countries from the crisis market participants expect the infrastructure sector will be promising and profitable and, accordingly, private investments should also rise. However, the Asian region faces the simultaneous challenges of huge infrastructure investment needs and vast financing gaps. A joint study of the World Bank, ADB and JBIC shows that the financing needs for infrastructure amounted to USD 228 billion per year during the 2006-2010 period, but only USD 48 billion could be raised to finance infrastructure projects (Table 6). A UN ESCAP study also shows financing needs in the Asia and Pacific region on the order of USD 608 billion per year, but a financing gap of USD 220 billion still exists.

Table 6. **Estimates of annual infrastructure financing needs**

Source	Infrastructure Needs Estimate (billion USD)	Financing Gap (billion USD)
ADB, JBIC and World Bank	228	180
Asia-Pacific Infrastructure Forum	300	
UN ESCAP	608	220

Source: UN ESCAP (2006).

### Double Mismatch Problem in Project Finance

Table 7 shows the financing composition of the infrastructure projects: bond finance (7.9%), bank finance (80.4%), and equity finance (11.8%). Seen from that table, there are two mismatches in the project financing. One is the maturity mismatch because most long-term projects are financed by transforming mostly short-term deposits into bank loans (80.4%). And the other is the currency mismatch because project revenues are generated in local currency but the projects are financed in foreign currency (72.9%). Furthermore, exchange rate fluctuations and limited convertibility and transferability of currencies impose an additional risk burden on foreign investors and financiers. Therefore, efficient long-term debt markets in the region should be developed to bridge the financing gap and to provide more stable finance for infrastructure projects. Given the vast financing needs and the sizable funding gap, and taking into account the merits of bond financing especially in the case of infrastructure projects, a regional infrastructure bond market can promote the development of Asian bond markets in the context of the ABMI.

Table 7. **Project financing by market and instruments**

In millions of uS dollar (and per cent of total)

	Bond (F)	Bond (D)	Loan (F)	Loan (D)	Equity (F)	Equity (D)	Total
Cambodia	0	0	0.75 (100)	0	0	0	0.75
China (Mainland)	1812.20 (5.0)	603.90 (1.7)	24 493.99 (67.3)	5 336.55 (14.7)	4 172.00 (11.5)	0	36 418.64
Hong Kong, China	91.72 (0.3)	38.80 (0.1)	14 885.00 (55.1)	8 758.23 (32.4)	2 790.00 (10.3)	457.89 (1.7)	27 021.64
Indonesia	1 280.00 (4.5)	0	20 985.33 (74.5)	2 523.93 (9.0)	3 314.43 (11.8)	69.49 (0.2)	28 173.18
Malaysia	528.95 (2.5)	4 783.59 (22.6)	3 229.13 (15.3)	10 396.26 (49.1)	1 147.32 (5.4)	1 077.19 (5.1)	21 162.44
Myanmar	0	0	29.80 (100)	0	0	0	29.80
Philippines	2 027.50 (14.1)	0	10 661.56 (73.9)	34.47 (0.2)	1 697.50 (11.8)	0	14 421.03
Singapore	0	0	2 027.00 (66.7)	924.26 (30.4)	0	87.33 (2.9)	3 038.59
Thailand	180.00 (1.2)	294.55 (2.0)	7 912.49 (54.7)	3 864.72 (26.7)	1 454.36 (10.0)	767.38 (5.3)	14 473.50
Vietnam	0	0	2 347.703.00 (89.9)	18.00 (0.7)	246.00 (9.4)	0	2 611.70
Total	5 920.37 (4.0)	5 720.84 (3.9)	86 572.753.00 (58.8)	31 856.42 (21.6)	14 821.61 (10.1)	2 459.28 (1.7)	147 351.273.00

Note: (D) stands for domestic currency and (F) for foreign currency.

Source: Kotecha and Sharon (2004).

### ***Bank financing versus bond financing***

In comparing bank financing with bond financing in project financing, it is worth noting that bank loans are often made via direct relationships between a lender and a borrower and can be characterised as a negotiable financing tool, with such features as flexible disbursement and rescheduling of repayment. Conditions and terms of loans can be negotiated between the contracting parties through clause amendments and waivers of loan agreements. Banks assess the creditworthiness of prospective borrowers (or projects) and discern safe borrowers from those perceived as less safe. After a loan has been extended, banks often monitor the borrower's business to guard against moral hazard. Activities such as information gathering and monitoring are conducted on a bilateral basis between the borrower and the lender.

On the other hand, bond issuance could be described as the direct financing via financial markets from a broad base of investors. In order to issue bonds, a firm's financial conditions are scrutinised and rated and the information gathered in the process is open to the public if necessary. Underwriting is important for the dissemination of a debtor's information to the public as well as for the treatment of risks related to public offers. Bonds are standardised financial vehicles and, most importantly, financing tools transferable through capital markets. This kind of bond financing is especially suited to the financing needs of infrastructure projects that have long gestation periods and need large amount of funds for construction and maintenance of social infrastructures. Given this inherent nature of infrastructure projects, bond financing is a better alternative since bank financing cannot match the long gestation periods and large funds required in an industry that is characterised by capital intensity. In this vein, bank lending is also less suited for infrastructure projects because of single lending limits and large credit control and concentration risks.

### **3. Source of financing infrastructure investment: pros and cons**

How to finance infrastructure is crucial for supporting stable economic development in Asia. Infrastructure construction can be financed by the following four financing methods:

- i) by using tax payers' money;
- ii) by using national savings such as those collected via national savings banks (or postal savings);
- iii) by issuance of government bonds to construct infrastructures;
- iv) by using both public money and private sector money, i.e. Public-Private-Partnerships.

#### ***By tax payers' money***

One of the ways to finance infrastructure investment is by the use of tax revenues. Use of tax payers' money may provide stable funding for an infrastructure investment. Yet, if tax revenues are used for infrastructure investments, the allocation of money into hard infrastructure becomes politically determined. The distortion of budget allocation might result in an inefficient allocation of capital in an economy. These risks would tend to be greater in an emerging economy. Political powers tend to construct infrastructure to satisfy their own constituencies to benefit their voters rather than meet criteria for economic priorities. In addition, some emerging economies are often faced with a lack of adequate tax collection. Sometimes, loopholes in tax collection are seen in emerging economies.

Thus, some emerging economies lack a sufficient amount of tax revenues to finance their infrastructure needs.

### ***Use of national savings such as national savings banks (or postal savings)***

If domestically collected savings could be channelled into infrastructure investment, the amount of savings available would be enough to finance infrastructure in the Asian region. Infrastructure investments are longer term oriented and the economic growth expected in many emerging South East Asian economies would produce higher yields for investors in the region. Long-term investments into infrastructure would match the needs of pension funds and life insurance companies, which are expected to be growing in the East Asian region.

However, the allocation of national savings into infrastructure investments often suffers from a lack of transparency. Some infrastructure investments are implemented in certain regions where political power is strong, or unnecessary infrastructure is constructed due to political reasons. The reasons for a distortion of infrastructure investment comes from the non-transparency of decision making for infrastructure investments and a lack of ex-post performance data regarding infrastructure.

### ***Issuance of government bonds to construct infrastructures***

If a government wants to finance infrastructure by issuing government bonds, the maturity of the bond has to be long term so that it matches the infrastructure needs, even if the bond market is not well developed. The priorities of an infrastructure investment often depend entirely on the political process, which lacks transparency. In such circumstances, issuing government bonds might not attract rational investors.

### ***Public-Private-Partnership***

Having infrastructure investment financed by public-private partnership through the use of revenue bonds for a specific infrastructure project would make the performance of the infrastructure investments more transparent, as judged by their rates of return. If sufficient interest rates cannot be paid to the investors, it could be possible to compensate them with a minimum rate of return guaranteed by the government, which will be discussed in a later section of this paper. Government loans often obscure the soft budget problem due to a lack of transparency regarding of the rates of return on infrastructure investments. In order to avoid these deficiencies, it is required to disclose the reasons why a specific infrastructure is chosen for construction and its expected rate of return and the ex-post rate of return has to be revealed to the public.

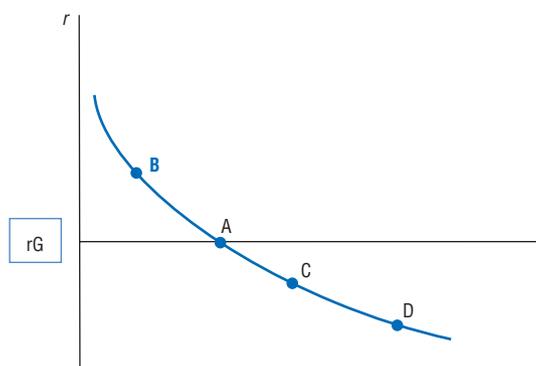
With infrastructure revenue bonds, it is possible to make ex-post performance data available to the public. Even if national savings are used for infrastructure investments through the issuance of infrastructure revenue bonds (IRBs) proposed in this paper, the rate of return on IRBs is determined by the performance of the infrastructure projects they finance. Suppose a toll road constructed and financed by an IRB has a high usage, the rate of return on the IRB will be high. Investors can compare various IRBs and can watch their performance. If some toll highway does not perform well and its rate of return is lower than originally expected, there will be pressure by the IRB investors to explain why the rate of return is low. This may be due to bad management of the project and there will be pressure by investors to improve the project's use in order to raise its rate of return. Transparency

of the rates of return on each toll road should eventually lead to an improvement in the management of the toll highway corporation in charge.

The selection of infrastructure investments is in many countries decided through a political process. For example, it is politically determined whether an urban or an inter-city highway is being constructed first. Should roads in rural region be constructed first? Should ports have priority compared with roads? All of these priorities are not market-based but are based on political decisions. However, an IRB will provide an economic basis for deciding on priorities based on its expected future rate of return.

As illustrated in Figure 14, the priority for an investment is evident in the case where the rate of return  $r$  on an infrastructure investment is expected to be at point B. At this point, the expected rate of return is higher than the yield on a government benchmark bond  $r_G$ , and it is also higher than those of various alternative projects depicted by points A, C and D. The latter two are also below the benchmark yield. Therefore, private investors would not want to invest in project C or D, but rather in project B or, at the limit, in project A, depending on these projects' risk-return characteristics. Given such expected rates of return there is no need to rely on a political decision to establish investment priorities.

Figure 14. **Expected rates of return on project bonds vs. benchmark yield**



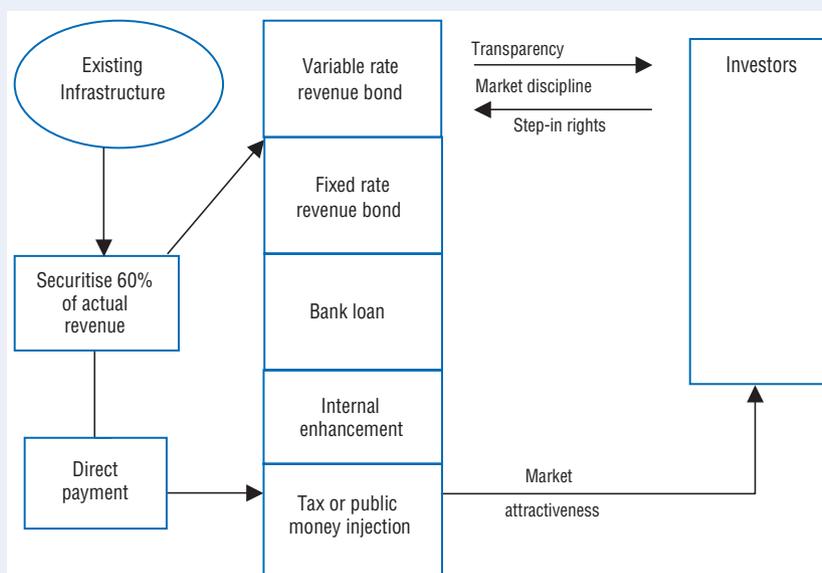
Source: Author.

Revenue bonds can help to promote the development of bond markets in Asia. At present, within the current financial systems in Asia, infrastructure construction depends heavily on bank finance and foreign borrowing, as mentioned above. Local currency denominated revenue bonds can mitigate the double mismatch problems and moral hazard problem caused by government bonds or guarantees that secure principal and interest payments even when projects fail, since the revenue bonds are secured only by future cash flows (revenues) generated by the projects they finance. Revenue bonds also help diversifying project financing and lowering the over-dependence on bank loans.

In most Asian countries it is difficult to issue revenue bonds, like municipal bonds in the United States, because of a lack of institutional factors such as (regional) monoline insurance companies, bankruptcy law with appropriate bankruptcy procedures, and credible regional rating agencies. Thus a framework for revenue bonds needs to be carefully designed (see Box 2 for such a proposal).

**Box 2. Proposal for the development of a revenue bond scheme**

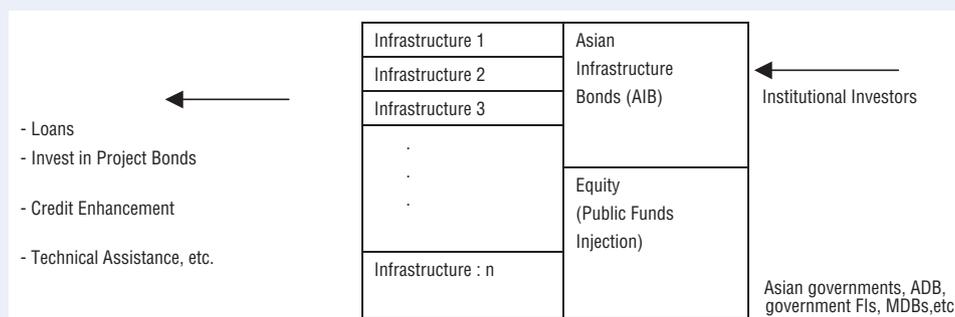
**Revenue Bond Scheme in Asia**



From the perspective of market attractiveness, Asia does not have regional monoline insurance companies to provide credit guarantees for revenue bonds as is the case in the United States. So a fixed portion of public (or tax) money is injected by governments at the initial stage and direct payments which are made under the pre-determined conditions<sup>a</sup> will function as internal enhancement which consequently can enhance the credit rating of the project. The amount of this public injection can be adjusted to achieve an appropriate market interest rate of the issued revenue bond for investors.

From the perspective of market discipline, the returns on variable rate revenue bonds (revenue-linked bonds) are linked directly to the future cash flows generated by the projects making the performance of the infrastructure projects more transparent. Furthermore, bonuses or incentives can be given to the operators of the project so that they are managed and operated more efficiently. Consequently, variable rate revenue infrastructure bonds enable investors to monitor their projects with step-in rights while revealing the generating mechanism of the project revenue.

However, as it is very difficult to precisely forecast the future cash flows of a project it would be a good and feasible approach to securitise existing infrastructures that have enough historical data (track records) for making stable and reliable revenue forecasts in order to issue revenue bonds in Asia.<sup>b</sup> It also can secure investors if a part (for example, 60%) of actual revenues would be securitised, as investors will bear the risk only when the revenues fall below 60% of the future cash flows.

**Box 2. Proposal for the development of a revenue bond scheme (cont.)**


The liabilities side of this infrastructure fund consists of mainly two parts, bond and equity. The bond part consists mainly of Asian Infrastructure Bonds (AIB) which can be purchased by regional institutional investors. The equity part is made up by injections of public funds by governments, other government financial institutions (FIs), multilateral development banks (MDBs) and professional market players in the region.

The asset side of this infrastructure fund would mainly make low-interest rate (below the market rate) loans for building and maintaining the infrastructures and invest in infrastructure bonds (project bonds or revenue bonds) in the region. This institutionalised fund is expected to enable regional investors to invest in projects which are inherently risky owing to the long gestation period and uncertainty about future cash flows and it would fill the existing financing gap by facilitating the development of an Asian infrastructure bond market.

**Conceptual framework of an Asian Infrastructure Bond Fund**

This institutionalised fund would be established through the participation and cooperation of governments, financial authorities, government financial institutions and professional market players in Asia. This paper attempts to propose the basic concepts and the necessity of an infrastructure bond fund in Asia. There are still many remaining issues to be discussed further with the future co-founding members such as the set-up of a preparatory committee and a professional investment committee which could be organised to select the feasible infrastructures and decide on investments in infrastructure bonds and loans for building infrastructures.

a) Direct payment might be made by 1) business interruption events, 2) toll adjustment events, and 3) operator services events. The payable direct payments are calculated as the difference between the net toll revenues after the event and the net toll revenues in the same period of the previous year.

b) See Hong Kong Link 2004 for more details.

At the ASEAN+3 Finance Ministers' Meeting in May 2009, the Ministers agreed to establish the Credit Guarantee and Investment Facility (CGIF), which would provide local currency-denominated bonds with a guarantee in order to promote bond issuance by addressing the following issues: (i) Even quality companies, such as those rated single A by local credit rating agencies, have difficulties in obtaining financing through bond issuance, especially of longer-term debt; (ii) financing for SMEs and infrastructure development is vulnerable to a credit crunch since it largely depends on indirect funding sources, such as bank loans.

To enable better market access for SMEs and to enhance it for larger-sized firms, debt markets should be developed in the region. But limited access to debt markets by lower-rated issuers, limited liquidity, and limited diversity of the investor base remain as obstacles. To clear these obstacles, steadily developing the CGIF is important for the issuance of local bonds with longer maturities.

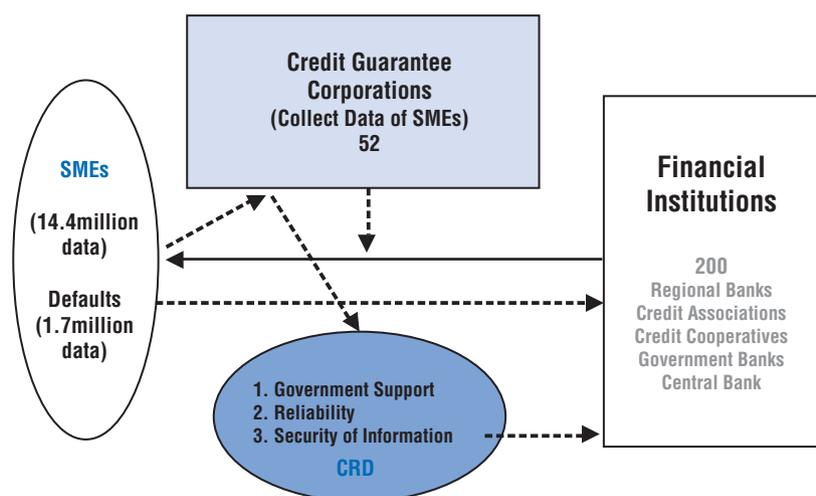
#### **4. SME database**

Considering SMEs' large share in many dimensions of Asian economic activity as discussed above, further efforts should be made in the area of SME finance. SMEs are often believed to be difficult to assess in terms of their financial and non-financial accounts. But the Credit Risk Database (CRD) of Japan is an example of how SMEs can be rated based on financial and non-financial data. The CRD made it possible to collect a huge amount of data from SMEs and rate SMEs based on a statistical analysis.

#### **5. Database provided by the Credit Risk Database (CRD)**

The CRD Association was established in 2001 at the initiative of the Japanese Ministry of Economy, Trade and Industry (METI) and the Small and Medium Enterprise Agency (SMEA) by 52 credit guarantee corporations as well as financial and non-financial institutions. Its aim was to facilitate fund-raising for SMEs and improve their operational efficiency. With the increasing importance attached to the fund-raising of SMEs, the membership increased from 73 institutions at the end of March 2002 to 200 institutions at the end of 2010.

The CRD database provided by the Association covers SMEs exclusively (Figure 15). It covered 14.37 million corporations and 1.737 million sole proprietors as of March 2010, which was more than 50% of all SMEs in Japan. The database for default covered 3 289 000 corporations and sole proprietors. It is by far the largest database for SMEs in Japan. The CRD Association received active support not only from the private sector but also from the public sector, which contributed partly to its success. For example, the SMEA nominates the representative of the CRD Association as a member of government councils. Such treatment gives the CRD Association an opportunity to promote its activity and increase its membership. Credit guarantee corporations and private financial institutions use the CRD database when they create a joint guarantee scheme. Furthermore, before the CRD database was formally established, the government invested JPY 1.3 billion from the supplementary budgets for fiscal years 1999 and 2000 to finance the setting up of CRD's computer system and other operational costs. The CRD Association provides sample data and statistical information as well as scoring services.

Figure 15. **SME Database (CRD Database)**

Source: Author.

Member financial institutions use scoring models to enhance the efficiency of credit evaluation, check the validity of internal based rating systems, and align loan pricing with credit risk. In addition, the CRD Association provides consulting services to support the management SMEs. These services have been developed based on the thinking that the improvement of SME management will contribute to the reduction of credit risk for member financial institutions and to strengthening the business operation of SMEs. They have also been offered to member financial institutions to help them promote the implementations of Basel II.

If such kinds of systems could be established in other parts of Asia to accumulate and analyse credit risk data, and measure each SME's credit risk accurately under the same criteria, SMEs would not only be able to raise funds from the banking sector but also gain access to the debt market through securitisation of their claims.

## 6. The SME industry and credit information infrastructure in East Asia

Despite the improvements in financial markets that occurred after the 1997 Asian financial crisis, the trickle-down effect to the SME industry of that progress leaves a lot to be desired. Information asymmetry still exists and the type of infrastructure that could appropriately address this problem varies widely across the ASEAN region, in terms of existence and state of development. SMEs play a pivotal role in the industrial structure of ASEAN nations (in terms of contribution to output growth, value-creation and employment) and yet, as research has established, their growing demand for credit is not entirely matched by the existing credit infrastructure and credit products of banks and other lending institutions. It appears that credit infrastructures in the ASEAN region are not enough developed and must be advanced further in order to create more credit channels for SMEs and help these firms realise their full economic potential.

Meanwhile, the Asian Bond Market Initiative (ABMI) has been very keen on developing the bond markets of several countries in the region in general. However, the level of activity in the regional bond market is a function of the level of activity in the domestic bond markets of individual countries in the region which, in turn, depends on the extent to

which local firms are able to access credit from their country's capital markets. Industries that have more financing options are able to respond more actively to increasing demand and other challenges and participate in creating and sustaining an environment more conducive to business. To this end, the ABMI has recommended the following measures:

- i) the provision of credit guarantees;
- ii) the improvement of the credit rating system;
- iii) the establishment of a mechanism for disseminating information;
- iv) the improvement of settlement systems; and
- v) strengthening the legal and institutional infrastructure for bond market development.

How these recommendations may play out in supporting the Asian SME industries that underpin their respective economies is one of the aims of this research. The findings of the study will also be related to one of the sub-objectives of the new comprehensive ABMI roadmap, which is fostering a credit culture via “the development of a credit risk database and the enhancement of credibility and visibility of local credit rating agencies”.

Despite its relevance and dynamic growth, the SME sector is not immune to problems. SMEs are hardest hit by economic crises and other unfavourable market conditions, such as unfair competition. But the most persistent challenge to SMEs is inadequate access to financing, not only because the level of financing available in the developing economies in which these SMEs operate is relatively scarce to begin with, but “many financial support measures for SMEs have limited outreach at disparate costs”. It also does not help that capital markets in the region are far from adequate for SME debt and equity financing. The financing problem of SMEs is rooted in the information asymmetry problem that faces both lenders (mostly banks) and borrowers and is compounded by existing market imperfections and the nature of the financing transaction itself. As a demand and supply issue, financing may only be successfully realised if the lender finds the risk it faces acceptable subject to a given expected return to be achieved by the borrower. This acceptable level of risk depends on the accuracy and timeliness of information that the borrower is able to present or convey to the lending bank. The development of a credit infrastructure such as credit bureaus would serve both the lending banks and the borrowing SMEs by bridging the gap between these two parties. A credit information system is an indispensable infrastructure for credit market development.

The provision of credit information helps lenders understand better the risk profile of their borrower-clients and enables them to expand their credit services. Recent availability of new technologies such as credit scoring has facilitated the ability of banks to service SMEs better. The information-capture platform of a credit bureau makes it possible to measure SME borrowers in a number of ways. What gets measured gets managed, and the metrics provided by credit bureau information serve the interests of both banks and SMEs.

The foundation for improving the credit quality and risk management is better information – which a credit information system can provide. By disseminating information collected about SMEs and its suppliers, it assists SMEs in building track records. Even if these SMEs have no bank relationships, if their credit bureau records indicate a good credit standing among their suppliers, such information may be used to their favour to support financing applications when the need arises. SMEs with good track records may also be able to access credit on more favourable terms, and obtain faster decisions about their financing applications. The negative and (especially) positive data that a credit bureau has

benefit SME loan applicants by providing a more balanced view of SMEs' credit ratings and expected default rates. By knowing how the credit bureau presents information about them, SMEs (which were rejected by banks) gain a better understanding of their financial deficiencies through the credit bureau reports and ratings. As emphasised in the ABMI roadmap, these reports would also serve as "a convenient tool for SMEs to carry out a self-evaluation to identify areas that need improvement and initiate adequate remedial actions to increase their competitiveness. SMEs are thereby empowered to improve their own profile, with correspondingly enhanced prospects for the SME sector as a whole."

### **7. Creation of trust funds**

Under the bank-dominated financial systems in Asia, it would be helpful to create regional funds (or a regional trust fund) to promote lending to start-up companies and riskier borrowers such as SMEs, thereby helping to maintain the soundness of the banking sector, as banks would not be exposed to these types of risks. If these regional trust funds were sold through branch offices to regional banks, post offices, credit associations, and large banks, this would enhance opportunities for regional companies to raise funds.

However, these regional trust funds are not guaranteed by the Deposit Insurance Corporation and risks are to be borne by investors. The terms of the trust fund must be fully explained to investors, like where it is invested and the risks associated with the investment, in order to strengthen trust fund investors' confidence and help the trust fund market to grow.

Examples of regional funds in Japan are i) wind power generators, ii) musicians' funds, and iii) Japanese wine ("Japanese Sake") brewery funds. There are about 20 wind power generators. In order to construct these generators, private-public partnerships were launched. Local residents invested about USD 1 000 to 5 000 into the project. They receive dividends every year through the sales of electricity by each wind power generator invested. Musician's funds gather many small investors. Each investment unit is about USD 150 to 500. If musicians become successful and their DVDs sell well the sales will generate a higher high rate of return for the fund. There are both successful funds and failed funds.

Project evaluations are quite important in the creation of regional funds. Some of the regional funds which had invested in risky business ventures did not perform well. Banks globally are becoming much more concerned about their risks with the implementation of Basel III. This would make it even more difficult to raise venture capital and finance riskier projects in the Asian region, since it is dominated by bank loans and capital markets are not well developed.

So-called project assessors must play a key role to evaluate each project. Otherwise, non-performing investments could increase and many investors could lose their money. Some of Japan's regional funds are regarded as a charity to invest into their region to support venture businesses.

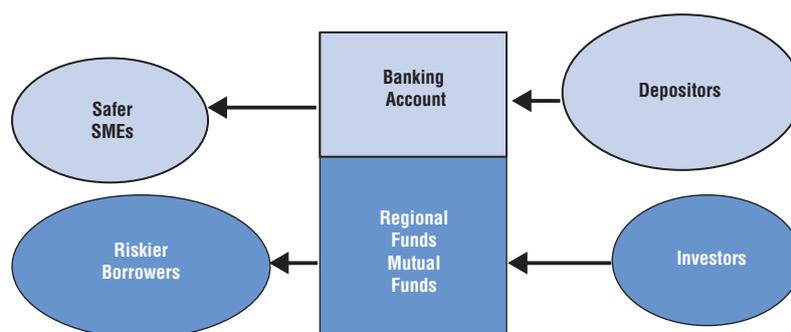
Banks face a critical challenge in the lending process when they are confronted with various projects. Some of the projects will have high expected rates of return, but high risks, that banks will not be able to finance. However, if such projects are financed by regional funds rather than by deposits transformed into bank loans, they will not create non-performing loans for banks. Banks can collect their money through sales of regional funds by their branch offices. It has to be made clear to investors in these funds that their

investment is not guaranteed, but, at the same time, they might receive a high rate of return. This would increase investment into riskier projects.

Banks can compete on the basis of successful regional funds. If some banks sell successful regional funds, they can attract many more investors in the future. On the other hand, if some banks sell bad funds, they will lose investors in future. Competition will work to improve the quality of projects and enhance the risk-adjusted returns for investors.

Infrastructure bonds may be financed by institutional investors such as pension funds and insurance companies. But regional funds, as explained above, will also be able to attract retail investors in the region (Figure 16).

Figure 16. **Bank-based SME financing and regional financing to riskier borrowers**



Source: Author.

## 8. Long-term finance in the Asian region

Japan used to have long-term credit banks. Long-term credit banks issued their bank debentures which are longer term than ordinary bank deposits. Their interest rates were higher than those on bank deposits and they attracted long-term individual investors. Corporations did not issue bonds. However, the long-term credit banks lent money to large corporations by issuing long-term bank debentures. Many Asian countries do not have substantial corporate bond markets. In developed economies, long-term credit is financed by issuance of corporate bonds. However, since the corporate bond market is limited to larger and established corporations, only those companies can issue corporate bonds; small businesses and start-up businesses cannot. How to provide long-term financing to various industrial sectors is an important policy issue. Otherwise the newly-created trust funds will be short-lived and will be unable to provide long-term funds.

Government banks provide long-term loans to industry, small businesses, the agricultural sector etc. Financing by government banks can be done in several ways. One is absorbing individual deposits such as postal savings or government bank deposits. A second way is issuance of government bonds. A third way is to use tax revenues. Government banks are often said to lack corporate governance. Government bank operations are sometimes less efficient than private banks. On the other hand, private banks and private bond markets lack liquidity when faced with a financial crisis such as the current subprime loan problem. When private financial markets are in crisis, the role of government banks in providing prompt finance is often being reconsidered. For example, after Japan's tsunami and earthquake disaster, the role of government banks was also revitalised.

Private banks and private financial institutions complain about lending by government banks even during normal economic conditions. It is often claimed that government bank loans are crowding out private bank loans. However, in the face of a financial crisis, the role of government finance has to be re-evaluated. Their loans are important to support small businesses as well as the agricultural sector where private banks become reluctant to extend loans.

The crowding out of private bank loans by government bank loans can be observed when government banks continue extending loans to the private sector even after a crisis is over. Too many loans by government banks would allow little room for private banks to make loans during normal times. A shift from government bank loans to private bank loans is needed when private financial markets regain their normal conditions. Government banks could transfer their loan contracts to private banks.

### **9. How to develop long-term investors in developing economies**

Pension funds and insurance companies are institutions to provide long-term finance for infrastructure investment, long-term corporate finance etc. As the ageing population increases, developing countries have to establish pension funds. Japanese pension funds are pay-as-you-go style and pension contributors cannot control how their funds should be invested. They let the government decide how funds should be allocated to various financial products. On the other hand, most US pensions are 401k-style and pension contributors decide what percentage can be invested into risky assets and into safe assets. The portion of pension funds that is allowed to be invested into riskier assets can obtain a higher rate of return from riskier investment products.

### **10. Pension funds and insurance for long term investment<sup>4</sup>**

Pension funds can invest in infrastructure and riskier projects for long-term purposes. Pension funds can invest in long-term trust funds since they are looking for long-term investment products. Life Insurance is another way of collecting funds for long-term investment. Many insurance products are long-term oriented. Many Asian countries are in the process of developing insurance and pension funds. Long-term investment is important for pension fund contributors and investment products. Contributors are expecting a long-term rate of return and to receive benefits in the distant future.

High national savings is one important characteristic in Asia, yet long-term funds such as pension funds and life insurance are still not well developed. Development of such finance could produce long-term financial instruments including infrastructure funds and long-term trust funds. This would not only develop long-term financial products but would also create investors in such long-term financial products by establishing pension funds and life insurance. These funds could support the ageing populations in those countries.

Better skills must be developed to invest in long-term products. Sovereign wealth funds have been created in many Asian countries. Yet their rates of return have not been good. Private-public partnerships, as explained above, are better suited for long-term project finance and could have better expected long-run returns. If a financial product is not expected to have a stable rate of return, private investors are reluctant to invest in it. At the same time, an injection of government funds could enhance a project's rate of return, as explained in Box 2 above.

## V. Remaining challenges

This overview has suggested several practical ways to correct global imbalances or mitigate the deleterious effects of volatile capital flows. Yet, this note must highlight several remaining challenges with regard to these structural issues.

To channel Asian savings into Asian investments by developing infrastructure project finance and/or promoting financial inclusion, the requirements of financial institutional factors such as regional monoline insurance companies, bankruptcy law and resolution procedures, and credible regional rating agencies need to be reconsidered, reflecting the latest discussion of the global financial reform.

Another remaining challenge is the shortage of regional institutional investors. Without regional institutional investors it might be difficult to channel Asian savings into Asian investments, because for global institutional investors searching for yield and for the banking sector it is difficult to maintain a proper balance between long-term investment and safety and soundness. Infrastructure revenue bonds are one instrument, yet various instruments are needed for the development of institutional investors such as pension funds.

Asian countries lack transparency in their tax rules, regulations etc. unified disclosure of tax rates, rules and regulations for investors will enhance cross-border portfolio investments among Asian countries. If Asian countries could harmonise their rules and regulations within the region, capital flows among Asian countries could be accelerated.

An increase in financial assets in Asia would also enhance capital flows among Asian countries. Lack of financial instruments and lack of liquidity are other reasons why Asians invest their money in the United States and Europe. If a variety of new financial instruments were created in Asian countries and if their liquidity were increased, Asian investors could find an appropriate choice of financial products in Asia in which to invest.

The measures and instruments mentioned above are needed for the development of long-term investors such as pension funds and life insurance companies. To create infrastructure investment products, trust funds for SME finance are important for the development of the economy. However, long-term investors need to increase in the Asian region. Creation of both supply of and demand for long-term investment products must be developed in the Asian region in line with the strict Basel capital requirements for banks and various new regulations for financial industries.

### Notes

1. Infrastructure bonds and securitised products for SME finance, which will be discussed below in this paper, are financial instruments to be traded in the Asian Bond Market in order to accelerate financial transactions in Asia.
2. In this respect, "The OECD Code of Liberalisation of Capital Movements" provides a framework for policy makers in designing and carrying out sound policies to facilitate the circulation of capital and investment across national frontiers. Examples of the Code's provisions include: 1) the right to proceed gradually towards liberalisation through a process of lodging and maintaining reservations; 2) the obligation not to discriminate; 3) exceptions for reasons of public order and security; 4) derogations in case of temporary economic difficulties; 5) provisions to ensure compatibility with regional arrangements such as the European Union and its special processes.
3. For further details on the OECD project on long-term investing see <http://www.oecd.org/finance/lti> and references to OECD papers in the bibliography.
4. For further information on pension funds and long-term investment please see OECD papers references in the bibliography.

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