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ASEAN-5 bond market development: Where does it stand? Where is it going?

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Since the late 1990s' Asian crisis, ASEAN-5 countries have expended considerable effort in developing their bond markets. However, the size of these markets relative to GDP has hardly changed. Can we explain this? And does it mean that domestic markets have not, in fact, developed? The article argues that bond market growth has been held back by a sharp fall in business investment, which has left firms with little need for bond borrowing. Even so, markets have developed in other ways, to such an extent that substantial amounts of foreign portfolio investment have begun to flow into ASEAN-5 bonds. These developments have important ramifications. With the investor base growing and infrastructure investment likely to rise, ASEAN-5 bond markets could expand rapidly, holding out the prospect that the region could finally achieve 'twin engine' financial systems in the near future.

Introduction

It has now been more than a decade since ASEAN launched a major effort to develop its domestic bond markets,[1] which makes it a good time to take stock, to see what has been accomplished, and what remains to be done. This article attempts to do just that. Although several authors have undertaken such an effort, there are large differences in perspective between this article and most other studies. First, most of the other studies cast a much wider net, focusing either on bond markets in emerging Asia at large, or on the ASEAN+3. This study focuses exclusively on the ASEAN-5, which comprises Indonesia, Malaysia, Philippines, Singapore, and Thailand. Second, most other articles come to relatively pessimistic conclusions. For instance, Mieno et al. (2009) assert that the failure of corporate bond markets to expand relative to GDP means

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1 ASEAN refers to the Association of Southeast Asian Nations. ASEAN+3 includes P.R. China, Japan, and Korea.

that the reforms have had little impact. Spiegel (2009) goes even further, expressing doubts about some of the premises underlying the reforms, including the argument propounded by Greenspan (1999) that capital markets can act as a 'spare tyre' in case the banking system becomes impaired.

This article reaches very different conclusions. It argues that ASEAN-5 bond markets have undergone a 'quality transition,' becoming a more mature channel of funding, with lower barriers to entry. As a result, two critical changes have taken place. Bond markets have indeed begun to serve as a 'spare tyre' in case other parts of the financial system are impaired; and they have begun to receive copious foreign inflows. These developments have important ramifications. With the investor base likely to expand as foreign investors devote an increasing portion of their portfolios to emerging market (EM) assets, ASEAN-5 bond markets could grow much more rapidly over the coming decade, to the point where ASEAN-5 could finally develop 'twin engine' financial systems. To seize this opportunity, however, proactive policies will be necessary to smooth the development path, unlock existing supply-side constraints, and minimise the attendant risks such as market volatility.

The plan of the article is as follows. The next section recalls why this initiative was so important to ASEAN, and outlines the sweeping reforms that countries have introduced. Section 'Why have corporate bond markets not expanded?' addresses the puzzle of why, despite these efforts, ASEAN-5 bond markets have not grown relative to changes in GDP. Section 'A fundamental transformation' focuses on other metrics of development, arguing that these suggest that a remarkable transformation of ASEAN bond markets is indeed underway, especially if firm-level data are examined in greater detail. Section 'The shape of things to come' considers some of the implications of this transformation. The final section concludes.

Why develop bond markets?

Across the globe, EMs have placed great emphasis on developing their bond markets in recent years. Why have they done so? In large part, it is because EMs have heavy investment requirements and bond markets play an important role in financing large investment projects. Such projects tend to be risky and take time before they yield returns; risks that bond markets can spread over a large number of holders of securities. Moreover, because bond contracts (unlike loans) are designed to be traded, they allow investors to transfer credit risks to others, even before the projects are completed. The combination of these characteristics—the scope for risk-sharing and risk-shedding, both within and across national boundaries—means that bond markets complement banks, which are constrained by limits on the scope of their cross-border activities and the extent to which they can transform maturities.

Beyond these general principles, there are particular reasons why ASEAN-5 countries have put so much emphasis on developing bond markets since the Asian crisis. These reasons stem from the consensus diagnosis of what happened in 1997. According to this view, the Asian crisis can be traced in large part to several underlying problems in national financial systems:[2]

- *Dependence on bank funding.* Financial systems were extremely bank centric, which meant that most of the risks were being concentrated in the banking system—and there was no alternate channel of intermediation.
- *Maturity and currency mismatches.* Borrowing had suffered from a double mismatch, since long-term, domestically oriented investment projects were being funded through short-term, foreign currency borrowing.

2 See, for example, Eichengreen (2006).

- *Capital account vulnerabilities.* Countries in the region were perceived to be excessively dependent on volatile capital inflows; a situation that struck many observers as ironic because the region had an abundance of domestic savings.

Observers argued that all three of these problems could be solved by developing domestic bond markets. Vibrant bond markets would create another funding channel, a spare tyre that firms could use in case banks once again encountered lending difficulties. Domestic bonds would likely be issued over longer term maturities and in local currencies, which would eliminate the double mismatch problem. Finally, with greater domestic bond markets, firms could reduce their dependence on foreign capital markets.

Based on this diagnosis, ASEAN has put considerable effort into developing its bond markets. For example, the ASEAN+3 created the Asian Bond Market Initiative, which established working groups to study the issues and make recommendations, many of which have been adopted by individual countries. The Asian Development Bank also initiated a study program and created the Asia Bonds Online database so that researchers and market participants could easily find key information about local currency markets.[3] Meanwhile, the Executives' Meeting of East Asia Pacific Central Banks created pan-Asian bond funds to facilitate regional investment.

Despite these sweeping reforms, ASEAN-5 bond markets have not grown, measured as relative to GDP (IMF 2010a). For most of the past decade the average stock of local currency bonds outstanding has fluctuated around fifty to fifty-five per cent of GDP.[4] As a result, ASEAN-5 has not been able to expand its share in the EM bond universe. A decade ago, ASEAN-5's domestic debt accounted for about one-fifth of total EM domestic debt securities, excluding those from China; today, the fraction is the same. If the rapidly developing bond market in China were to be included among the EM total, ASEAN-5's share would have fallen, to about one tenth.

Why have ASEAN-5 bond markets not grown? In part, it is because the bulk of ASEAN-5 bonds—around thirty-five to forty 40 per cent of GDP—are issued by governments. Because budget deficits have remained low for most of the past decade, there was little need for them to issue additional debt. But even the size of the corporate bond markets has remained remarkably stable, hovering until very recently around just fifteen to eighteen per cent of GDP (Figure 1). This presents a profound puzzle. Why have corporate debt markets not expanded? And does that mean they have not really developed? Let us take these questions in turn.

Why have corporate bond markets not expanded?

At the outset of ASEAN's push to develop bond markets, some observers hoped that the region could follow the same path as Latin America. In that region, bond markets had been propelled forward by the rapid development of contractual savings schemes, such as pension funds. As these schemes expanded, their demand for long-term domestic currency assets increased, which in turn encouraged firms to respond by issuing more bonds. But this dynamic failed to materialise in the ASEAN-5. To understand why, consider first the demand side of the market, that is to say the investor base. Has it failed to develop?

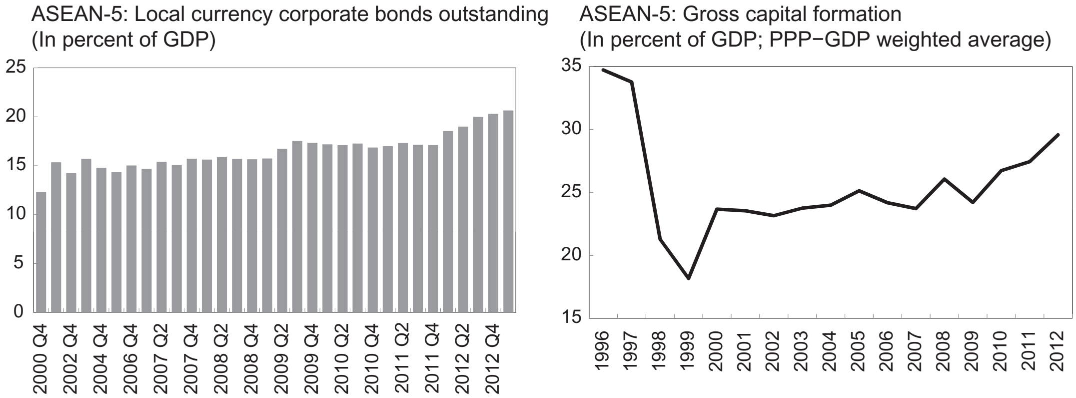
Primary market demand

In fact, the ASEAN-5 domestic investor base has expanded considerably over the past decade. But the expansion did not come from the expected source. To the contrary, contractual savings schemes have shown remarkably

3 Nonetheless, data problems remain an issue. In some cases, AsiaBondsOnline data differ widely from those available from other sources, such as the Bank for International Settlements (BIS). Also, data for some variables is not available for all countries, hindering ASEAN-wide analysis.

4 For a discussion of what happened in 2009, see section 'A fundamental transformation' below.

Figure 1
ASEAN-5: corporate bond markets and investment



Sources: *AsianBondsOnline and Asian Development Bank (2013) and IMF staff calculations* (ASEAN-5: local currency corporate bonds outstanding); *and IMF (2013b) (World Economic Outlook) and IMF staff calculations*. (ASEAN–5: gross capital formation).
PPP = purchasing power parity.

little growth. In Indonesia, Philippines, and Thailand, the assets of pension funds amounted to less than 10 per cent of GDP in 2000; and they remain around that level today. Although pension fund assets in Malaysia and Singapore are relatively high by EM standards, they have not shown any trend growth either. Meanwhile, assets of life insurance companies have stagnated at low levels in the Philippines and Indonesia, while rising by only a few percentage points in Malaysia and Thailand. As a result, the share of bonds held by contractual savings institutions has diminished considerably over time. In Malaysia, for example, nearly three quarters of government bonds were held by social security institutions in 2000. But ten years later, their share has fallen to less than one third, while domestic financial institutions now account for the bulk of the holdings.

What are these domestic financial institutions? Banks, of course, in large part; but increasingly, domestic mutual funds. A decade ago, this sector was tiny, with total assets of less than US$5 billion, accounting for less than five per cent of GDP in all five countries. But starting in the mid-2000s, they have exploded in size in every country except Indonesia, to the point where in Thailand and Malaysia their assets now amount to more than US$50 billion—around twenty and thirty per cent of GDP, respectively. Largely as a result, domestic financial institutions now hold two fifths of Malaysian government bonds, double the share they held in 2000. But this only deepens the mystery. If the investor base has expanded, why did firms not meet this increase in demand by providing more supply?

Primary market supply

The main reason firms failed to issue more bonds relates to the profound change in the macroeconomic environment after the Asian crisis. During the early 1990s, investment reached 40 per cent of GDP in some ASEAN-5 countries, as firms raced to expand their operations in booming markets. To fund their expansion projects (and the associated capital formation), firms relied increasingly on external finance, boosting their leverage ratios to exceptionally high levels. After the Asian crisis, however, this process shifted into reverse. Firms became much more cautious, reducing economy-wide investment rates to around twenty-five per cent of GDP for much of the past decade before increasing them again during the boom of the past few years.

The International Monetary Fund (IMF)'s Asia-Pacific Regional Economic Outlook (IMF 2010a) explored the roots of this fall in investment. It found that the main causes were lower returns, greater uncertainty, and altered perceptions of the ease of doing business. During the decade following the Asian crisis, growth in Asia was slower and much more volatile than earlier, reducing firms' incentive to expand capacity. At the same time, investors became more cautious in extending funds to businesses, as perceptions of the business climate deteriorated in the wake of the problems that the crisis revealed. In other words, causation has gone both ways: the decline in investment has reduced the demand for finance, while financial constraints have also discouraged investment.

At the same time, firms found alternative ways to fund their investment projects. As part of the post-Asian crisis changes, firms strove to increase their profitability and succeeded in doing so. Consequently, they were able to fund a much larger portion of their diminished investment needs from internal cash generation. The crisis also led to a shift in the type of investment, away from construction, which is typically financed by borrowing; and towards manufacturing for export, which is financed in a much wider variety of ways. In particular, ASEAN manufacturing companies tend to finance themselves through equity, including direct equity investments. Teranishi et al. (2007) found that companies from Thailand, Malaysia, and Indonesia rely for their long-term funding much more heavily on equity finance, and, strikingly, much less on banks than do corporations in advanced countries. According to Mieno (2009), firm capital represented 53 per cent of the average balance sheet for listed Malaysian corporations, while bank borrowing accounted for only 14 per cent; the figures for Thai corporations were similar. Unsurprisingly, then, aggregate figures for the ASEAN-5 show that equities account for nearly two thirds of corporate domestic financing, with bank credit and bonds splitting the remainder.[5]

Summing up, the expansion of the domestic investor base created an opening for ASEAN-5 corporate bond markets. But firms failed to seize this opportunity because they had little need to issue over the past decade. Does this failure to expand means that markets have not developed? Not at all. Development has many dimensions and, on many of these metrics, progress is clear. In fact, ASEAN-5 markets have been fundamentally transformed.

A fundamental transformation

To track this transformation, we undertake a firm-level analysis, which reveals that in a well-defined sense, it has become easier for firms to access ASEAN-5 corporate bond markets. Then, we consider two of the more dramatic manifestations of the transformation. Specifically, the corporate bond market has developed into a spare tyre that corporates can use when other parts of the financial system come under stress; while foreign investors have become eager to purchase domestic bonds.

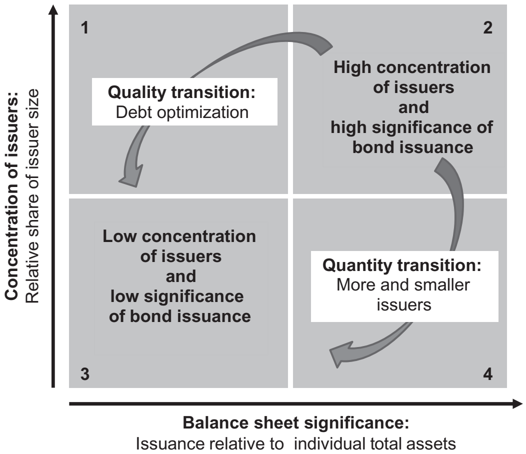
Firm-level analysis

There are many ways to assess the quality of a bond market. But perhaps the most important metric is its usefulness to potential borrowers in terms of accessibility and price competition. For example, a bond market may be irrelevant to most firms because it is highly concentrated, dominated by a handful of large firms or large issues. Or its usefulness could be limited because firms' issuances need to be very high, accounting for a large proportion of their balance sheets, in order to overcome barriers to entry (in the form of high transaction costs).

Measured in this way, bond market development can be conceived as following a certain pattern. Initially, when the market is at a very early stage, only a few firms will be large enough or financially well-regarded enough

5 A further important structural factor is the large role played, within the manufacturing sector, by foreign-invested companies. In a series of studies, Mieno and others (Mieno 2008; Mieno et al. 2009) have argued that since the mid-1980s, when ASEAN became an increasingly important base for multinational manufacturing production, foreign corporations have become an increasingly important funding channel for local companies.

Figure 2
Bond market development



(with a long track record and audited public accounts) to issue. Moreover, because there are sizeable fixed costs to issuing bonds and because firms want to establish liquid benchmark issues, the size of these initial issues is normally large relative to firm balance sheets. But over time, as markets mature and economies develop, concentration ratios and the relative significance of issuance tend to decline.

Markets will no longer be dominated by a few large issuers, or a few large bond issues, because more and more firms are able to issue ('quantity transition', Figure 2 above). That said, the extent to which new firms enter the market is inhibited by the cost of monitoring borrowers. Clearly, banks are better placed to engage in information-intense monitoring of many (relatively small) borrowers, which would be quite costly for typical public market investors.

As bond markets mature, the economic significance of individual bond issues will also tend to decline, partly because as issuance becomes routine, firms issue smaller amounts frequently rather than occasional large amounts; and because these minimum amounts will become small relative to the size of growing balance sheets ('quality transition'). Conversely, however, large issuers might be inclined to consolidate different issues to concentrate and enhance liquidity in some limited and important benchmarks, which could limit the extent to which the relative importance of issuances declines in maturing bond markets as a result of increasing economies of scale.

Initially, without considering strategic issuer behaviour and other factors, the market starts off in the second quadrant, with high concentrations and high significance. But gradually, as the market develops, it moves into the third quadrant, with low concentration and low significance.

So much for theory. What is the evidence for the ASEAN-5? Some key indicators are provided in Table 1 below, based on local currency issuance by the nonfinancial private sector. Because the sample sizes for Philippines, Singapore, and Indonesia are very small, it is perhaps best to focus on Malaysia and Thailand.[6] In these two markets, one can see some clear progress: the amount of issuance has been increasing steadily; the number of issues and issuers has increased sharply; and with the influx of new issues, the average maturity has shortened.

At the same time, progress in reducing concentration and significance (of individual issues) has been mixed. On the positive side, concentration—whether measured by issuance (for example, a few large bonds) or by issuers (for example, a few large companies)—in Malaysia, and to a lesser extent in Thailand, is now down to the levels of Brazil and Korea. But concentration in other ASEAN-5 countries remains high. Similarly, the significance of new issues (issuance relative to balance sheet size) has diminished in Malaysia to the levels of the most advanced EMs, but remains high in other countries.

6 Bond issuance and balance sheet information (total assets)) data were obtained for five ASEAN countries as well as two emerging market comparator countries (Brazil and Korea). Bond issuance data include all local currency-denominated, non-financial, private sector transactions during each sample year (2000, 2005, 2009, and the first two quarters of 2010). Note that issues by financial companies and special purpose vehicles (SPVs) were excluded; in the latter case because these entities are levered financing vehicles, rather than operating companies. As a result, the sample size for Singapore is too small to be reliable.

Table 1
ASEAN-5 and selected emerging market countries: characteristics of local currency corporate bond issuance (2000–2010)

Local currency (LCY) non-financial corporate bond issuance: sample analysis

	Issuance (in USD billions)							Issuance/total assets ratio (median, in percent)						
	IDN	MYS	PHL	THA	SGP	*BRA*	*KOR*	IDN	MYS	PHL	THA	SGP	*BRA*	*KOR*
2000	. .	0.9	. .	. .	1.2	. .	*18.8*	. .	36.7	. .	. .	10.4	. .	*3.9*
2005	0.7	4.3	1.1	2.6	. .	*1.2*	*20.5*	6.7	11.0	18.2	6.3	. .	*2.5*	*5.6*
2009	1.5	5.7	2.2	8.1	0.1	*12.6*	*47.8*	3.5	5.6	4.9	9.0	7.6	*5.4*	*5.8*
2010	1.1	2.4	1.0	3.0	0.2	*11.8*	*19.5*	3.1	5.3	9.0	8.6	17.6	*8.0*	*4.9*
	Average maturity (in years)							Number of issues/issuers						
	IDN	MYS	PHL	THA	SGP	*BRA*	*KOR*	IDN	MYS	PHL	THA	SGP	*BRA*	*KOR*
2000	. .	13.5	. .	. .	4.5	. .	*3.0*	. .	54/6	. .	. .	19/12	. .	*970/189*
2005	6.0	9.2	5.8	9.2	. .	*7.4*	*2.5*	6/6	198/38	6/6	16/6	. .	*13/11*	*1160/206*
2009	3.9	6.6	5.2	4.6	4.6	*5.0*	*2.4*	45/20	158/50	23/11	83/36	14/5	*73/52*	*2068/504*
2010	5.6	2.1	6.0	4.3	5.7	*5.1*	*2.6*	23/9	175/70	4/3	71/30	8/5	*87/49*	*670/188*
	Concentration of issuance volume 1/							Concentration of issuer assets 1/						
	IDN	MYS	PHL	THA	SGP	*BRA*	*KOR*	IDN	MYS	PHL	THA	SGP	*BRA*	*KOR*
2000	. .	0.08	. .	. .	0.10	. .	*0.04*	. .	0.01	. .	. .	0.99	. .	*0.04*
2005	0.59	0.04	0.43	0.19	. .	*0.11*	*0.02*	0.26	0.03	0.16	0.14	. .	*0.05*	*0.05*
2009	0.12	0.06	0.11	0.06	0.51	*0.03*	*0.02*	0.12	0.07	0.03	0.03	0.52	*0.03*	*0.02*
2010	0.08	0.04	0.26	0.10	0.15	*0.03*	*0.04*	0.12	0.09	0.16	0.13	0.03	*0.07*	*0.03*

Data excludes issuance by state-owned enterprises, all financial institutions and international organizations. 2010 information includes Q1 and Q2 available data. 1/ logarithmic and re-scaled, standardized Herfindahl–Hirschman index (HHI): issuance concentration = log [min (HHI_i,HHI_i – min (HHI_N)] ∈ (0,1), where HHI_i = [Σ(share of issuance amount by issuer *i* in a given year)^2 – 1/total number *N* of issuers *i*] / (1 – 1/total number *N* of issuers *i*). The closer the value to zero, the less concentrated the annual issuance of corporate bonds; 1/ logarithmic and re-scaled, standardized HHI: issuer concentration = [min(HHI_i,HHI_i-min(HHI_N) / (max (HHI_N)-min (HHI_N))] ϵ (0,1), where HHI_i = [Σ(balance sheet assets of issuer *i* relative to total balance sheet assets of all issuers in a given year)^2- 1/total number *N* of issuers *i*] / (1-1/total number *N* of issuers *i*). The closer the value to zero, the less concentrated the issuer size.
Sources: Bloomberg, Worldscope, Moody's KMV as well as national stock exchanges.
BRA = Brazil, IDN = Indonesia, KO = Korea, MYS = Malaysia, PHL = Philippines, SGP = Singapore, THA = Thailand.

Over the past decade, ASEAN-5 countries—and EMs in general—have developed, in the sense of moving towards the third quadrant ('low concentration–low significance'). After controlling for concentration, Philippines and Malaysia tend to have higher levels of significance. That is to say, the average issuance volume relative to issuer balance sheets is higher in countries with less developed bond markets, as the theory would predict. Currently, the state of development in Malaysia and Thailand is not all that far from Korea and Brazil—at least as measured by these dimensions. The concentration has declined despite continued issuance by larger issuers that dominated the primary market during the nascent stages of development. Even so, none of the ASEAN-5 countries has firmly entered the third quadrant. So, more progress needs to be made in diversifying the issuer base and ensuring that issuance becomes a more routine method of financing operations.

The conclusions of the firm-level analysis can be summed up simply. Firms' access to bond markets has improved considerably in recent years. A decade ago, only the largest and best-known firms were able to issue bonds, so their issues dominated local markets. Gradually, however, more and more firms have been able to issue, creating broader markets than before. This qualitative progress has culminated in two critical developments.

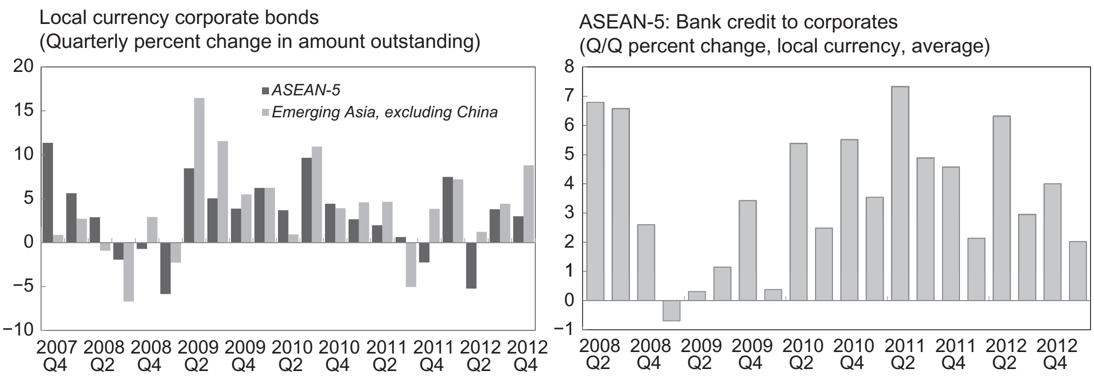
The new 'spare tyre'

Amid the depths of the global financial crisis between 2007 and 2009, there was a sudden surge in domestic bond issuance by emerging Asian corporates. For years, the stock of emerging Asian corporate bonds outstanding had been stagnating as a percentage of GDP. But in the second quarter of 2009, the stock increased by nearly ten per cent quarter-on-quarter in the ASEAN-5 and more than 20 per cent quarter-on-quarter in emerging Asia excluding China. In the third quarter, there was a further large increase. By the end of the year, ASEAN-5 local currency corporate bond issuance had reached a US$58 billion, higher than the previous peak, reached in 2007, and roughly double the normal level.

This surge was striking for a number of reasons. To begin with, as noted in section 'Why have corporate bond markets not expanded?', ASEAN-5 corporates typically do not rely much on bond issuance for funding. Moreover, the surge took place in the middle of a severe recession, when private sector investment had fallen sharply. So, firms had little need to issue bonds in order to finance investment projects—they were not initiating new ones and they were slowing down the ones that were already underway. Nor were firms forced to issue bonds just to sustain themselves; corporate profitability actually held up reasonably well during the recession.

So, what explains the issuance boom? The primary factor appears to have been a reaction to changes in bank behaviour. Normally, bank-centred financial systems maintain their lending ties to their clients, even during difficult times—but this was not a normal downturn. Even though liquidity in the Asian banking systems was ample and capital adequacy was never in doubt, Asian banks nonetheless followed their Western peers and became more cautious after Lehman's bankruptcy. They tightened their lending standards and reduced their prime lending rates much more slowly and partially than the decline in policy and bond interest rates. Both measures encouraged firms to turn to the capital markets, while reducing their use of bank credit (Figure 3). In fact, adding the two sources of funding together, total credit to the corporate sector declined in the first half of 2009 in the ASEAN-5 countries. So, the bond issuance was not 'additional'—corporates were substituting one form of financing for another. In other words, the domestic bond market acted precisely as reformers had originally

Figure 3
ASEAN-5 countries: local currency corporate bond issuance and corporate lending (2007–2012)



Sources: *Bank for International Settlements (2013) and IMF staff estimates* (for Local currency corporate bonds); and *CEIC Data Co. Ltd (2013); Haver Analytics (2013); and IMF staff estimates* (for ASEAN-5: bank credit to corporates).

hoped it would; it became the 'spare tyre' that corporations could use if the bank-financing channel were to be impaired.

Where was the demand for these bonds coming from? Much of the demand appears to have come from overseas, as global risk appetite began to revive with the stabilisation of advanced country financial systems and as prospects in EMs appeared better than in the West. As a result, inflows into EM debt funds resumed in May 2009, and quickly reached levels approaching the peak of the 2005–07 global boom. In short, ASEAN-5's domestic bond markets were able to become a spare tyre during the Great Recession—one of the key original objectives—because of another accomplishment. Foreigners were now willing to purchase domestic currency bonds, reducing the risk that corporates would be forced to endure a currency mismatch in order to secure bond financing. This development raises two critical questions. Were the foreign purchases during the global crisis merely a temporary phenomenon, or did they truly reflect a durable shift in foreign investor behaviour? If foreign investor behaviour has changed fundamentally, how did this happen?

The rise of foreign investment

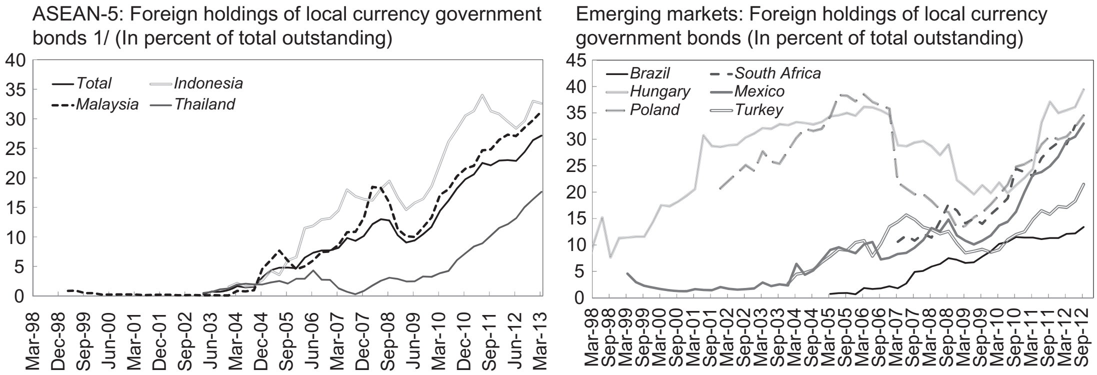
After the Asian crisis, Eichengreen and Hausmann (1999) argued that EM economies were beset by an 'original sin'. According to this theory, EMs would inevitably suffer from the double mismatch problem. Foreign investors were wary of issuers from such countries and unwilling to purchase local currency bonds. The only way to convince them to provide the needed finance was to issue global bonds, denominated in foreign currency, bearing relatively short maturities, and subject to the legal jurisdiction of an international financial centre. This model was based on the Latin American experience, and it was never entirely clear how well it applied to ASEAN-5. After all, ASEAN-5 did not have a history of hyperinflation, exchange rate instability, or defaults, which had deterred investments in Latin America. Still, it remained true that foreign investment in ASEAN-5 bonds was minimal. Even as recently as the middle of 2004, foreigners accounted for less than 2 per cent of holdings of ASEAN-5 government bonds.[7] But this situation changed markedly after the global financial crisis. Starting in 2010 (and continuing through mid-2013), bond inflows surged; during some periods, even outpacing equity flows, which had historically dominated portfolio inflows. To a certain extent, this was merely a cyclical phenomenon, a reaction to the extraordinary divergence between the bright prospects in EMs and the difficult situation in advanced countries, including the extraordinarily loose monetary policy that the latter were forced to adopt. But more long-lasting structural factors have also been at work. Foreign holdings of EM local currency bonds have been increasing for some time, starting well before the global crisis. By 2007, foreign holdings had passed 8 per cent; by 2008, they had reached 10 per cent; and after a brief dip during the global crisis, they surged, to around twenty-seven per cent by 2012 (Figure 4).

As foreign purchases of domestic bonds have increased, issuance of foreign currency bonds has receded. The high-water mark of foreign currency corporate bonds came in 2002, when the amount outstanding reached 6 per cent of ASEAN-5 GDP, implying that more than one third of total corporate bonds were denominated in foreign currency. But in subsequent years, the share of foreign bonds gradually fell; so much so that by the first quarter of 2010, it amounted to one fifth of the total.[8] (That

7 Based on available data from Indonesia, Malaysia, and Thailand. These numbers may understate foreign interest, as foreigners were also gaining exposure to local markets through 'access products'. See section 'Dealing with offshore activity'.

8 For comparison, according to the BIS, at end-2008, the outstanding stock of emerging market bonds issued in major international markets (that is, international bonds) amounted to about US$1 trillion, while bonds issued in domestic markets amounted to US$6 trillion.

Figure 4
Foreign investor participation in government bond markets



Sources: *AsianBondsOnline and Asian Development Bank (2013)* (for ASEAN-5: foreign holdings of local currency government bonds); and *Country authorities (2012); IMF Global Financial Stability Report (2013); and IMF staff estimates* (for Emerging markets: foreign holdings of local currency government bonds); 1/ includes Indonesia, Malaysia, and Thailand.

said, it should be noted that foreign currency corporate issuance, like that of domestic currency issuance, surged after 2009.)

Two factors explain these developments. One is the development of corporate bond markets themselves. As they have expanded (in nominal terms, even if not relative to GDP), and become more accessible, they have attracted liquidity-conscious foreign investors. In addition, macroeconomic fundamentals have improved. Hausmann and Panizza (2003) found that the degree of 'original sin' was positively related to the level of development (proxied by GDP per capita), the strength of macroeconomic fundamentals (inflation and government debt), exchange rate flexibility, and the size of the investor base.[9] Strikingly, ASEAN-5 countries have made considerable progress along every one of these dimensions in recent years. In particular, economic fundamentals have improved to the point where in some ways they are now much stronger than in advanced nations, whose fiscal positions have deteriorated in the wake of the financial crisis. The average ASEAN-5 government debt to GDP ratio is less than half the advanced country average, which is expected by the IMF to reach 112 per cent of GDP in 2013 (IMF 2013a).

This performance has not gone unnoticed. A decade ago, dedicated EM debt funds were almost invisibly small. By 2005, they were receiving annual inflows of around US$5 billion per year. By 2010, inflows reached US$35 billion. Even allowing for the large cyclical element in recent flows, the underlying upward trend has been persistent. What will it imply for the future of ASEAN-5's bond markets?

The shape of things to come

The ramifications of growing foreign participation are difficult to predict. Precisely because there has been little foreign investment in domestic markets until recently, there is very little empirical evidence on the benefits and costs of foreign participation in bond market development (Daniel 2008).

9 Burger and Warnock (2007) have a different list. They find that countries with higher scores on capital mobility, market liquidity and efficiency, regulatory quality and creditor rights, market infrastructure, taxation on bonds, and the size of the local institutional investor base, tend to attract great cross-border participation.

Developmental benefits

Some potential benefits seem clear. To begin with, overseas firms could expand the investor base, compensating for the slow growth in traditional domestic investors such as the contractual savings schemes. Indeed, the potential impact could be quite large. A survey by the IMF (2010b) indicates that global bond funds remain underweight EMs, providing scope for a continued stock adjustment into dedicated EM funds. Because global bond and hedge funds are very large relative to local bond markets, even a marginal increase in the weight of EMs in their portfolio could lead to a significant rise in demand.[10]

Over time, the shift in demand is likely to become significant. In fact, it is possible that increasing investment in EMs is now at the beginning of a secular trend, benefitting from greater foreign demand, especially given the need of advanced country pension systems to improve their returns. In the USA, the Pew Center on the States (2010) estimated in 2010 that there was a US$1 trillion gap between the US$3.4 trillion in pension, health care, and other retirement benefits that States have promised their workers and the US$2.4 trillion that they have set aside to pay for them. The need to close this gap will put growing pressure on pension funds—which currently invest little in EM debt—to increase their allocations—especially because the yields on such debt exceed the US rates by a wide margin.

Intraregional flows are compounding flows received from outside Asia. Some regional central banks have started buying their neighbours' financial assets in a bid to diversify reserve holdings, achieve a better risk-return profile, and contain sterilisation costs. Individual investors have also been investing in Asian bonds through local mutual funds. Thai investors, for example, in recent years, have been large accumulators of Korean bonds.

Additional foreign demand could help reduce bond yields (IMF 2005). To estimate how large this effect could be, Peiris (2010) employs a panel data framework to estimate the impact of foreign participation in determining long-term, local-currency, government bond yields in a group of ten EMs between 2000 and 2009.[11] His analysis suggests that greater foreign inflows do reduce government yields, after controlling for other domestic and external factors including global interest rates and risk aversion. The effect is reasonably large, with a 10 percentage point increase in the share of bonds held by foreign investors generating a decline in yields of about 60 basis points (Figure 5).

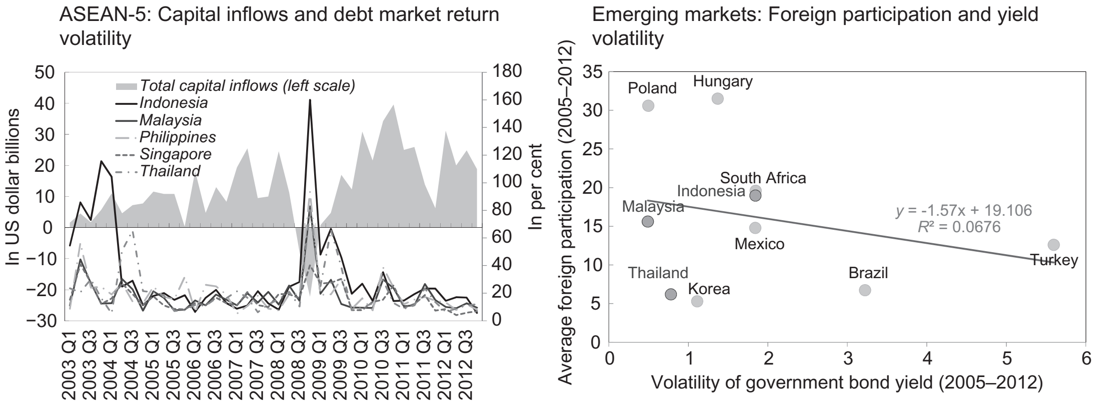
Greater foreign participation will also improve liquidity. The larger the number of participants, the greater the diversity of preferences and views; which leads to more trading, better price discovery, and more efficient markets. Foreign participants are particularly beneficial for liquidity because they are much more likely to trade domestic securities than domestic institutional investors, who typically follow buy-and-hold strategies. Case studies conducted by the World Bank and IMF (2001) on government bond markets in emerging and mature markets confirm this effect qualitatively. The relationship between greater foreign participation and liquidity appears to hold also in the ASEAN-5 region.

Finally, greater foreign participation will create a virtuous circle that will expand the size of the debt markets themselves. As interest rates fall and liquidity improves, more firms will find it attractive to issue. As more firms issue and market size grows, more investors will be enticed to participate. This will reinforce the utility of the market as a spare tyre. Because bond maturities are typically of

10 For example, IMF (2010b) estimates that a one percentage point reallocation of global equity and debt securities held by G-4 real money investors, which amounts to about US$50 trillion, would result in additional portfolio flows of US$485 billion, larger than the record annual portfolio flows to EMs of US$424 billion recorded in 2007. Assuming that half of these inflows are allocated to debt (as has been the case recently) and that the debt flows are allocated proportionately to the outstanding volume of bonds (excluding China), the ASEAN-5 countries could receive an additional US$50 billion in investments per year.

11 The ten EMs are Brazil, Czech Republic, Hungary, Indonesia, Mexico, Malaysia, Korea, Thailand, Turkey, and Poland. These countries were selected because they had significant foreign participation in their domestic markets.

Figure 5
Impact of foreign participation in bond markets



Sources: *IMF [International Financial Statistics database (BPM6) IMF 2013c], Bloomberg LP (2013), EMBIG Index, and CEMBI index* (for ASEAN-5: capital inflows and debt market return volatility); and *IMF staff estimates in standard deviations* (for Emerging markets: foreign participation and yield volatility).

longer duration than bank loans, the more ASEAN-5 corporates shift to bond finance, the better their underlying liquidity situation will be, as they will have secured financing for longer periods. It will also give corporates a spare tyre—greater liquidity—that it can use as insurance, even before crises takes place.

Potential costs

What are the potential costs to bond markets of this increased foreign participation? To begin with, inflows into the bond market can complicate the conduct of monetary policy. Some of the problems are well known, as they apply to any type of capital inflows, including the equity and bank inflows with which ASEAN-5 countries are long familiar. But some of the complications are new.

In particular, if inflows are channeled into domestic government bonds, long-term rates will be affected. It is difficult to say, a priori, whether this helps or hinders central bank operations. To the extent that bond markets become more liquid and attuned to central bank signals regarding future interest rates (as opposed to being dominated by institutional investors that need to buy long-term assets to match their liabilities) transmission mechanisms could be improved. However, to the extent that yield curves become dominated by developments elsewhere in the world, monetary independence will be reduced. Indeed, during 2010 ASEAN-5 countries were confronted with the same ‘Greenspan dilemma’ the USA faced in the mid-2000s. Even as some countries raised their short-term rates, foreign purchases were causing long-term rates to fall.

Another potential risk is greater interest rate volatility. Surges in foreign inflows are often followed by sudden withdrawals, as ASEAN discovered in 1997, after the collapse of Lehman Brothers in September 2008, and after the US Federal Reserve announced in May 2013 that they would be winding down their large-scale asset purchases (‘quantitative easing’).

Still, even if foreign participation and yield volatility are related in the short run, the relationship may be much weaker—or even nonexistent—over the longer term. That is because, as Prasad and Rajan (2008) have noted, foreign participation can be a stabilising force for local markets. Foreign investors frequently exert pressure for more transparency, which reduces price volatility because it improves the quality and increases the frequency of information. Such changes reduce the risk that there will be sudden disclosures of accumulated negative news. Moreover, in cases where they do occur, foreign participation attenuates the price impact, because it broadens what would otherwise have been a thinner market. The cross-sectional analysis of ten EMs with significant foreign participation in the local currency government bond market found no clear correlation between foreign participation and bond price volatility over 2000–09.[12]

Finally, there are some concerns that reversals of bond flows are more destabilising than equity outflows because the stronger domestic re-pricing of equities endogenously moderates outflow pressures. Yet the empirical evidence that bond flows are more volatile than equities is weak.

Is there a way to secure the longer-term benefits of greater foreign participation, while reducing the potential short-term volatility costs? Again, because the demise of 'original sin' is so recent, there is little international experience that can be drawn upon for lessons. One potentially significant measure was taken by Indonesia in July 2010. At that time, foreign investment had been pouring into bank securities [called Sertifikat Bank Indonesia (SBI)], in part because of carry-trade activity by hedge funds in which investors borrow in currencies such as the US dollar where interest rates are low in order to invest in currencies, such as the rupiah, where interest rates are high. To reduce the attendant risks, Indonesia imposed a one-month holding period on SBIs, applicable to domestic and foreign holders. In principle, this measure should circumscribe the scope for foreign outflows when global risk aversion rises, because investors will no longer be able to exit their SBI positions quickly. Precisely for that reason, it should also discourage short-term carry trade inflows in the first place.[13]

The question is how effective the measure will prove in practice. So far, there is no clear evidence that it has affected aggregate foreign holdings of Indonesian securities, which initially fell, then reached new heights, before falling again. Nor is it clear how well the measure will succeed in limiting outflows, because investors wishing to exit their positions could hedge them by selling other Indonesia assets.

There may also be some unanticipated side effects. For example, the associated decision to eliminate the three-month SBI appears to have impeded the development of the nascent interest rate swap market by eliminating its benchmark rate. (Central bank term deposits exist, but may not be an adequate substitute because they are not traded.) Consequently, it may take some time before the measure can be properly assessed.

Dealing with offshore activity

The rise of foreign interest in domestic bonds has another important ramification: growing offshore activity. Foreign investors are increasingly obtaining exposure to EMs by using various 'access products', such as over-the-counter (OTC) derivatives, structured securities, or offshore special purpose vehicles. Modes of access include innovative financial instruments such as nondeliverable forwards and other derivative instruments, including credit-linked notes. Partly as a result of these activities, derivatives transactions with underlying EM assets have exploded in recent years.

Aside from the obvious benefit of ensuring that counterparty risk is focused on a few familiar developed market financial institutions, investors stay offshore mainly because of impediments or costs to entering. Some of these impediments are:[14]

- Limits on access to money market or other short-term instruments;

12 Similarly, Peiris (2010) shows that foreign presence does not necessarily result in greater volatility in local government bond markets, in part because domestic markets seem to then 'import' low levels of volatility during the (much longer) periods of tranquillity in international markets.

13 Holding restrictions could also discourage investments by ordinary long-only, open-ended, mutual funds because daily redemptions require the ability to sell securities.

14 The nature and extent of impediments differ widely from country to country. For example, Malaysia has none of the impediments listed below. In fact, Malaysia has made its bond market internationally accessible via international central securities depositories (Euroclear and Clearstream) to enable foreign investors to settle securities transactions without the opening of a local custodian account.

- Clearing and settlement protocols and custody arrangements, such as custody controls, directed settlement, and rules on sub-custody;[15] and
- Minimum holding periods.

Does any of this matters? It does, for several reasons. Controls and taxes that drive activity offshore thereby reduce liquidity onshore and impair price discovery. In other words, they reduce efficiency. They also reduce transparency. For example, with much of the activity taking place beyond their jurisdiction, in relatively opaque OTC markets, national authorities will find it difficult to monitor market developments. Indeed, a significant proportion of bonds owned by the domestic financial sector may actually be held on behalf of foreign investors (typically by onshore banks) through derivative structures.

A shift towards offshore activity may also raise prudential concerns. Offshore markets may be less well regulated and, in any case, will not be regulated by home country authorities. Moreover, even though controls might exist that aim to isolate domestic markets from those offshore, inevitably firms find ways to arbitrage between the two. As a result, developments in markets offshore can be transmitted onshore. In that case, compensating policy action might prove difficult because national authorities may not have much information on the genesis or the nature of the underlying shock.

For all these reasons, over time it may be beneficial to try to bring such markets onshore. One way to do this is by reducing or eliminating withholding taxes. However, such a measure would raise difficult issues of equity and efficiency. For example, if non-residents are exempted from withholding tax, this could lead to practices such as 'coupon washing', where bonds are sold during the coupon payment period—perhaps via repo and/or securities lending—to investors paying low or zero withholding tax. Alternatively, resident investors may begin to route purchases through offshore routes to avoid or reduce the cost of withholding tax. On the other hand, if withholding tax on bonds is abolished for residents and non-residents, this might create a distortion favouring bond markets over equity markets.

Conclusion

In the decade leading up to the global financial crisis, exceptional efforts to expand ASEAN-5's bond markets were undercut by broader macroeconomic trends. Firms had little need to issue, since they were reducing their investment ratios. Meanwhile, on the demand side, foreigners remained reluctant to purchase local currency bonds.

Since 2009, however, these two trends have reversed, perhaps decisively. Unlike most other regions, ASEAN-5's growth accelerated after the crisis, underpinned by the region's strong fundamentals, low wages, and high commodity prices. Investment rates have started to rise again, spurring firms to issue debt. Meanwhile, foreigners have become increasingly willing, even enthusiastic, about buying domestic bonds. These developments hold out the prospect that ASEAN-5 bond markets could enter into a virtuous circle in which greater demand reduces interest rates and increases liquidity, encouraging firms to issue, thereby expanding the market size and attracting more investors.

However, these new trends will bring new policy challenges in their wake. Measures will be needed to deepen local capital markets further so that financial systems can act as a better shock absorber against capital flow volatility, thereby limiting its impact on the real economy. Also, it may be worthwhile trying to bring markets onshore by removing barriers to entry, including withholding taxes.

In sum, ASEAN-5's strenuous efforts of the past decade have already succeeded in transforming its bond markets. But the developments of the past decade may well be dwarfed by changes that may take place in the years ahead. Time will tell.

15 The cost of appointing a local custodian can make cross-border investments unattractive.

References

AsianBondsOnline and Asian Development Bank (ADB), 2013. *Foreign holdings in LCY government bonds*, AsianBondsOnline, Asian Development Bank, Manila, Available at <http://asianbondsonline.adb.org/regional/data/bondmarket.php?code=Foreign_Holdings>, accessed 4 August 2013.

Bank for International Settlements, 2013. *Locational banking statistics*, International Financial Statistics, Bank for International Settlements, Basel, Available at <http://www.bis.org/statistics/bankstats.htm>, accessed 4 August 2013.

Burger, J.D. and Warnock, F.E., 2007. 'Foreign participation in local currency bond markets', *Review of Financial Economics*, 16:291–304.

Daniel, L., 2008. *Foreign Investors' Participation in Emerging Market Economies' Domestic Bond Markets*, Banque de France Bulletin Digest, Banque de France, Paris, 173:1–17.

Eichengreen, B., 2006. 'The development of Asian bond markets', in Bank for International Settlements (ed.), *Asian Bond Markets: issues and prospects*. BIS Papers 30, Bank for International Settlements, Basel:1–12.

Eichengreen, B. and Hausmann, R., 1999. 'Exchange rates and financial fragility', in Federal Reserve Bank of Kansas City (ed.), *New Challenges for Monetary Policy, Conference Proceedings.*

Greenspan, A., 1999. Do efficient financial markets mitigate financial crises? Speech before the 1999 Financial Markets Conference of the Federal Reserve Bank of Atlanta, Sea Island, Georgia, October.

Hausmann, R. and Panizza, U., 2003. 'On the determinant of original sin: an empirical investigation', *Journal of International Money and Finance*, 22(7):957–90.

International Monetary Fund (IMF), 2005. 'Global financial stability report', Chapter 4 in *Development of Corporate Bond Markets in Emerging Market Countries*, International Monetary Fund, Washington, DC, Available at <http://www.imf.org/External/Pubs/FT/GFSR/2005/02/pdf/chp4.pdf> accessed 4 August 2013.

——, 2010a. '*Asia-pacific regional economic outlook*,' in *Consolidating The Recovery and Building Sustainable Growth*, International Monetary Fund, Washington, DC, Available at <http://www.imf.org/external/pubs/ft/reo/2010/apd/eng/areo1010.htm> accessed 4 August 2013.

——, 2010b. '*Global financial stability report*', in *Sovereigns, Funding, and Systemic Liquidity*, International Monetary Fund, Washington, DC, Available at <https://www.imf.org/External/Pubs/FT/GFSR/2010/02/index.htm> accessed 4 August 2013.

——, 2013a. '*Fiscal Monitor*', in *Fiscal Adjustment in an Uncertain World*, International Monetary Fund, Washington DC, Available at <http://www.imf.org/external/pubs/ft/fm/2013/01/fmindex.htm> accessed 4 August 2013.

——, 2013b. *World economic outlook (WEO)*, World Economic and Financial Surveys (April), Research Department, International Monetary Fund, Washington, DC, Available at <http://www.imf.org/external/pubs/ft/weo/2013/01/>, accessed 4 August 2013.

——, 2013c. *Balance of payments and international investment position manual (BPM6)*, International Financial Statistics (July 13), Statistics Department, International Monetary Fund, Washington, DC, Available at <https://www.imf.org/external/pubs/ft/bop/2007/bop6comp.htm>, accessed 4 August 2013.

Mieno, F., 2008. 'Jiyuka kaikaku kara ikusei e: higashi Ajia no kin'yuushisutemu o meguru seisakuron to sono henten (From liberalization and reform to development: changes in policy discussions relating to East Asia's financial system)', in Takeda, Y., Marukawa, T. and Shanping, Y. (eds), *Gendai Ajia kenkyu gensho: seisaku hen* (Studies on Modern Asia: Policies), Keio University Press, Tokyo:115–83.

——, 2009. 'Tai, Mare-shia ni okeru kigyo no bunpu to shikinchotatsu: Jojo/hijojo, gaishikei, Nikkei kigyo o shoten ni (Corporate distribution and financing in Thailand and Malaysia: a study on corporations from the perspectives of listed and non-Listed, foreign affiliated, and Japanese affiliated)', *Journal of the Japan Bank for International Cooperation International Research Office*.

Mieno, F., Nagano, M., Takayasu, K., Takeda, M. and Nagai, S., 2009. *Developing bond markets in asia*, Study Group on the Asian Financial System Center for Monetary Cooperation in Asia, Bank of Japan, Tokyo.

Peiris, S.J., 2010. *Foreign participation in emerging markets' local currency bond markets*, IMF Working Paper WP/10/88, International Monetary Fund, Washington, DC.

Pew Center on the States, 2010, *The trillion dollar gap: underfunded state retirement systems and the road to reform*, Report, February 18, Pew Center on the

States, Washington, DC, Available at <http://www.pewstates.org/research/reports/the-trillion-dollar-gap-85899371867>, accessed 4 August 2013.

Prasad, E. and Rajan, R., 2008. ‘A pragmatic approach to capital account liberalization’, *Journal of Economic Perspectives*, 22(3):149–72.

Spiegel, M.M., 2009. *Developing Asian local currency bond markets: why and how*, ADBI Working Paper, Vol. 182, Asian Development Bank Institute, Tokyo.

Teranishi, J., Fukuda, S., and Liu, Q. 2007. Higashi Ajia no kin’yuushisutemu no chiikiteki tokushitsu (Regional features of the East Asian financial system), Chapter 7, in Teranishi, J., Fukuda, S., Okuda, H. and Mieno, F. (eds), *Ajia no keizaihatten to kin’yuushisutemu Tohokuajia hen* (*Economic development and financial system of Asia: North East Asia*), Toyo Keizai Shinposha, Tokyo.

World Bank/International Monetary Fund (IMF), 2001. *Developing Government Bond Markets: a handbook*, International Monetary Fund, Washington, DC.