

Local currency bond markets and the Asian Bond Fund 2 Initiative¹

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Abstract

Liquidity in the eight government bond markets in which the ABF2 invests has improved significantly since the fund's inception in 2005. These improvements may be traced to the consolidation of issuance in a few benchmark maturities, an increase in market making activity, and the lowering of barriers to participation by non-resident investors. In each of these factors, the ABF2 project played an important catalytic role. But there remains work to be done. Local-currency corporate bond markets have yet to develop active secondary markets. These markets would benefit from more effective market making arrangements and the introduction of certain types of derivatives.

JEL classification: E43, F21, G12, G18

Keywords: Bond markets, yield curve, derivatives, market liquidity

1. Introduction

In December 2004, the EMEAP central banks launched the second stage of the Asian Bond Fund. The ABF2, as this initiative is called, would invest \$2 billion in domestic currency bonds issued by sovereign and quasi-sovereign issuers in the eight EMEAP markets other than Australia, Japan and New Zealand. Its initial objective was to provide an innovative, low-cost and efficient product in the form of passively managed index bond funds, so as to broaden investor participation, identify impediments to bond market development in EMEAP economies, and act as a catalyst for regulatory reforms and improvements to market infrastructure. Five years on, the EMEAP Working Group on Financial Markets, under the chairmanship of the then Assistant Governor of the Bank of Japan, Mr Akinari Horii, asked the BIS Representative Office for Asia and the Pacific to prepare a third-party review of the local currency bond markets. One aim of the review is to examine the extent to which the ABF2 initiative has stimulated the development of domestic bond markets as a source of

¹ This paper was prepared at the request of Mr Akinari Horii, former Assistant Governor of the Bank of Japan and Chair of the EMEAP Working Group on Financial Markets. It draws heavily from interviews with asset managers, investment strategists, interdealer brokers and central bank staff in several of the EMEAP economies. Eli Remolona is Chief Representative and Frank Packer Head of Financial Stability and Markets at the Representative Office for Asia and the Pacific, Bank for International Settlements. Eric Chan and Michael Chui, who worked at the Bank for International Settlements at the time of the writing of this paper, are currently affiliated with Bester Paper Products, and China International Capital Corporation, respectively. The views expressed in this paper are those of the authors and do not necessarily reflect those of the Bank for International Settlements.

long-term funding for Asian borrowers and promoted local currency bonds as a new asset class for both resident and non-resident investors.

Over the past five years, the ABF2 has invested in eight local currency bond markets, and authorities of the EMEAP economies have continued to implement various measures to promote local currency bond markets. During this period, most of these government bond markets have made significant strides. Liquidity has improved considerably and yield curves have become more reliable. These improvements may be attributed to three factors: (a) the growth of bond issuance in general and the consolidation of issuance in a few benchmark maturities; (b) the increase in market making activity, as reflected in the development of interdealer markets and the newly active role of interdealer brokers; and (c) the reduction of barriers to entry of non-resident investors. In each of these factors, the ABF2 project seemed to play an important catalytic role, although the significance of this role is hard to quantify.

The ABF2's catalytic role included accelerating tax reforms to exempt withholding tax of non-resident investors; enhancing the regulatory framework for exchange traded funds (ETFs); further liberalising foreign exchange administration rules; improving regional market infrastructure and reducing cross-border settlement risk; promoting adoption of documentation in line with international best practices; and introducing a set of credible, representative and transparent bond indices. Nonetheless there remains work to be done. The government bond markets can benefit from opening up the markets further to non-resident investors. Although there has been a surge of issuance in the local currency corporate bond markets, these markets have remained largely illiquid.

The ABF2 is not the only policy initiative taken over the past five years to encourage the development of local currency bond markets in the region. Another prominent example is the Asia Bond Market Initiative (ABMI), which was launched in 2002 under the ASEAN+3 framework, with technical support from the Asian Development Bank (ASEAN+3 (2009)). Shortly after, a number of working groups were formed to focus on specific topics, including the creation of new securitised debt instruments; credit guarantees and investment facility, the development of rating systems, the fostering of bond issuance by multinational financial institutions in regional currencies; and foreign exchange transactions and settlements issues.²

While both the ABF2 and the ABMI aimed to develop local currency markets, there have been subtle differences in their means to achieve the goal. The ABMI, at least in its early years, focused more on the issuer perspective, aiming to foster an increased diversity of bonds and issuers, not least small and medium sized firms. On the other hand, as stated above, mitigating impediments to investors and improving liquidity in the major government bond markets have been the principal objectives of the ABF2 from the start.

In the next section, the paper begins with a review of the performance of the ABF2 funds, assessing their role as an investment product for investors. Section 3 discusses the development of the local currency bond markets over the past five years, characterising especially the growth of the primary government bond markets, the issuance of benchmarks and the role of corporate bond markets as "spare tyres" in times of stress. Section 4 examines how secondary markets have fared in terms of liquidity, attributing much of the improvement to the increase in market making activity. Against this backdrop of maturation in both the primary and secondary markets, Section 5 then reviews the status of the impediments to market development identified by the ABF2 proponents, with a view towards assessing the significance of their decline. Section 6 concludes.

² It may also be noted that, similar to the ABF2 and the Asian Bond Market Initiative, ASEAN financial integration initiatives have likewise contributed in mobilising government efforts to reduce barriers and impediments to the flow of funds (foreign direct, portfolio and other investments) and financial services.

2. Performance of ABF2 funds

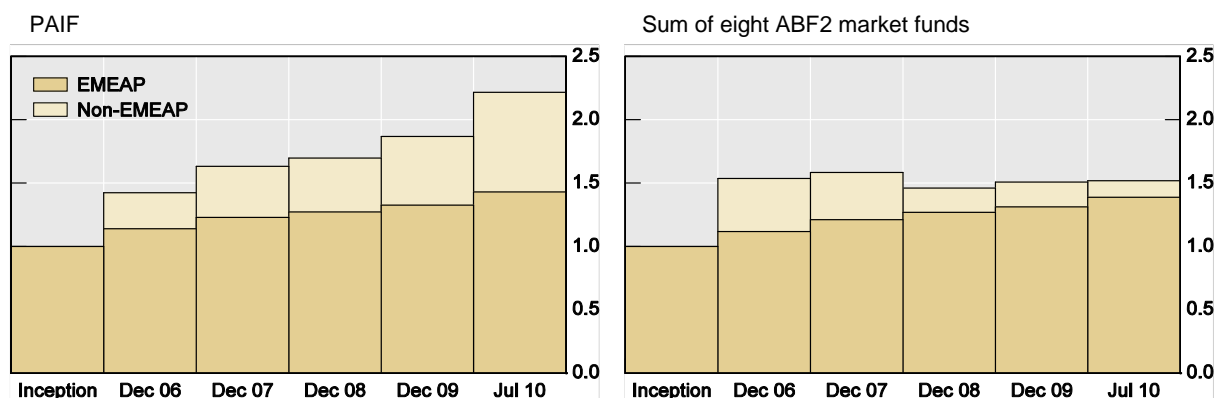
One of the key objectives of the ABF2 initiative is to provide an innovative, low-cost and efficient investment product to broaden investor participation. As investment vehicles, the ABF2 funds have performed well over the past few years, and represent the successful introduction of a new asset class in Asia, laying the foundation for broader investor participation in bond markets. Since inception up to end-April 2010, the Pan Asia Bond Index Fund (PAIF) gained cumulatively 40% in local currency terms. The best performing funds have been the ABF Indonesia Fund, returning 86% and the ABF Philippines Fund, returning 51%. In each of three years to end-2008, all but the ABF China Fund recorded positive annual returns. The China Fund fell by 2% in 2007 before gaining 13% in the following year. Performance of the funds, however, was mixed in the immediate aftermath of the Lehman bankruptcy. In 2009, the best performer was the ABF Indonesia Fund, gaining 22%. The ABF Thailand Fund, which declined by 3% in 2009, was the worst performer. The ABF China and Hong Kong SAR (henceforth Hong Kong) Funds also fell slightly.

Despite their good performance, the success of these ABF2 funds in attracting investors other than EMEAP central banks has been mixed. The left-hand panel of Graph 1 shows that the size of non-EMEAP central bank investment (“non-EMEAP investment”) in the PAIF has increased steadily since its inception. By contrast, the initial strong increase in non-EMEAP investment in the eight market funds was followed by a gradual redemption (Graph 1, right-hand panel).³ By the end of July 2010, total non-EMEAP investment in the ABF2 market funds was \$129 million, compared with \$716 million in the PAIF fund.

Graph 1

Size of the ABF2 market funds and PAIF by investor

In billions of US dollars



Source: BIS.

³ However, it should be noted that the single market funds were designed to target resident investors while non-resident investors are expected to gain exposures to individual markets through the Pan Asia Bond Index Fund. That might help explain the higher proportion of non-EMEAP investment in the latter.

3. Growth of the local currency bond markets

The ABF2 was planned to help raise investor awareness and interest in Asian bonds. It is believed that it has served to further broaden and deepen the domestic and regional bond markets and hence contributed to more efficient financial intermediation in Asia. The size of local currency bond markets has grown significantly in the eight ABF2 economies since 2005, with China, Korea, Malaysia and Singapore registering the strongest growth (Table 1). In most markets, the government sector continues to dominate, except in Hong Kong, Korea, Malaysia and Singapore, where the amounts of corporate bonds outstanding are also considerable. In Hong Kong, corporate bonds used to have a larger share than government bonds. However, following the marked increase in the issuance of Exchange Fund paper in 2009, the amounts outstanding of government debt securities and private sector debt securities are broadly the same.⁴ The size of the corporate bond markets has also increased significantly in China, Malaysia and Thailand. In spite of a recent surge in issuance, the corporate bond markets remain rather small in Indonesia and the Philippines.

Table 1
Amounts of local debt securities outstanding¹
In billions of US dollars

| | 2005 | | | 2009 | | |
|---------------|------|------|------------|------|-------|--------------|
| | Corp | Govt | Total | Corp | Govt | Total |
| China | 64 | 835 | 899 | 454 | 2,113 | 2,567 |
| Hong Kong SAR | 69 | 16 | 86 | 74 | 70 | 144 |
| Indonesia | 6 | 48 | 54 | 9 | 89 | 98 |
| Korea | 361 | 393 | 754 | 575 | 446 | 1,021 |
| Malaysia | 46 | 61 | 107 | 84 | 101 | 185 |
| Philippines | 1 | 41 | 42 | 8 | 56 | 63 |
| Singapore | 36 | 47 | 83 | 62 | 88 | 150 |
| Thailand | 14 | 65 | 79 | 36 | 141 | 177 |

¹ Local debt securities outstanding are defined as long-term bonds and notes, treasury bills, commercial paper, and other short-term notes.

Source: Asianbondsonline.

3.1 Consolidation of government bonds and market liquidity

The expansion in government bond issuance is one important contributing factor to the increased liquidity in some markets. In Malaysia and Thailand, the size of the government bond market has grown to exceed \$100 billion, the rough threshold set by McCauley and Remolona (2000) as the size necessary for a deep and liquid market. While that size

⁴ The marked increase in the issuance of Exchange Fund Bills during that period was primarily to meet banks' strong demand for liquidity management purpose.

threshold suggests only the order of magnitude, it is clear that by 2005 the Chinese and Korean markets already had the size required.

Beyond the overall size of markets, the size of individual issues also matters for liquidity. Rather than trying to populate a whole yield curve with small issues in many maturities, it seems to be more effective for the authorities to choose just a few maturities and issue in size in each of them. If the objective is to provide a benchmark curve to facilitate pricing of corporate bonds, maturities beyond 10 years are not truly necessary in countries without a significant proportion of corporate bonds with maturities more than 10 years. The maturity of choice for most corporate bond issues is, after all, just five years.

Indeed, over the past few years, some ABF2 governments proactively undertook significant efforts to create and maintain benchmarks by consolidating government securities with a wide range of existing maturities into just a few benchmark securities. As shown in Table 2, countries where considerable consolidation is apparent in government securities issuance include Korea, Malaysia and the Philippines. Such consolidation has evidently allowed even such a relatively small market as that of the Philippines to develop depth and liquidity.

Table 2
Trends in Government Bond Issuance Programs

| | Korea | Malaysia | Philippines |
|-----------------------|---|-----------------------------------|--|
| Before consolidation | | | |
| Maturities (years) | As of 2005: 3, 5, 10 | As of 2007: 1, 3, 5, 10, 20 | As of 2005: 1, 2, 3, 4, 6, 7, 10, 20, 25 |
| Average issuance size | KRW 1.7 trillion | MYR 1.7 billion | PHP 10 billion |
| After consolidation | | | |
| Maturities (years) | Since 2006: 3, 5, 10, 20 | Since 2008: 1, 3, 5, 7, 10, 20 | Since 2006: 1, 3, 5, 7, 10, 20, 25 |
| Average issuance size | KRW 1.3 trillion | MYR 2.6 billion | PHP 22 billion |
| Trend | Regular issuance schedule for 3-, 5-, 10- and 20- year government bonds | Larger issuance size | Fewer maturities, larger issuance size |

Sources: Bloomberg; BIS.

In Malaysia, the financial authorities introduced Malaysian Government Securities (MGS) “switch” auctions in April 2007, which were aimed at stimulating trading of benchmark MGS by increasing their amount outstanding. These auctions involved the government redeeming off-the-run MGS and replacing it with the current benchmark MGS. In addition, “switching” allowed the authorities to maintain the flexibility to keep up their regular issuance schedule in all market conditions, and respond to investors’ demand for securities of certain duration.

In both Korea and the Philippines, the issuance process has become well-managed and disciplined. In Korea, closing and reissuing bond issues has become common and contributed to deeper on-the-run issues. In the Philippines, the government has also had a programme to consolidate many government securities into a few benchmarks. The benefits of increased liquidity in these markets are documented in Section 4.

Improving the regularity and depth of issuance schedules has not been the only measure taken with the direct intent of increasing market liquidity. In July 2005, the Malaysian authorities arranged for the provision of daily indicative yield-to-maturity quotes for government securities. In developing the longer end of the yield curve and to meet the demand from investors, the government has issued securities that are as long as 20 years.

Even with much greater consolidation of government securities issuance, there remain the problems of quasi-sovereigns, which are included in the indices of various market funds. Governments may wish to consider consolidating issuance in quasi-sovereigns so that minimum liquidity thresholds are met.

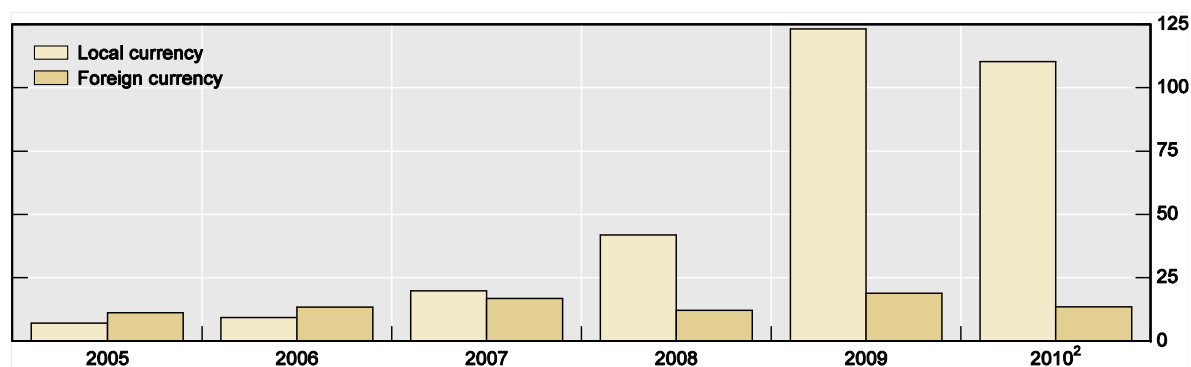
In some ABF2 economies, large amounts of securities have been issued by monetary authorities for the purpose of sterilising capital inflows. Instead of selling government bonds, central banks in recent years found themselves issuing their own securities. Since market participants tend to distinguish these securities from government bonds, these would not contribute to the size and liquidity of government bond markets. A programme to consolidate these central bank bonds into government bonds would facilitate the further development of the local bond markets, though perhaps at the cost of a diminished ability to distinguish different purposes for different securities programs.

3.2 Corporate bond markets

Recent years have seen a sharp rise in local currency corporate bond issuance in the ABF2 region. There are 52 corporate bond issuers in the region for which credit default swaps are available. In the case of these 52 firms, bond issuance since 2005 has amounted to \$413 billion. As shown in Graph 2, such issuance has surged since the onset of the international financial crisis in 2008. Of the total amount issued between January 2005 and October 2010, about \$328 billion or nearly 80% was issued after January 2008.

Graph 2
Corporate bond issuance in eight ABF2 economies¹

In billions of US dollars



¹ Sample consists of 52 (39 investment grade and 13 high yield) companies in the iTraxx Asia ex Japan CDS index. ² As of 31 August 2010.

Source: Dealogic.

Significantly, the sharp increase in corporate bond issuance since the crisis has been driven by issues in local currencies. Since 2008, \$275 billion or 86% of (financial and non-financial) corporate bond issuance was denominated in local currencies. During this period, the primary markets for corporate bonds in the region were dominated by two large financial institutions issuing in renminbi, the China Development Bank and the Export-Import Bank of China. Between them, these two Chinese banks accounted for \$214 billion of local currency

issuance. These two banks, however, are quasi-government entities and not the type of issuers one would like to encourage for the development of the corporate bond market. Nonetheless even excluding these two large issuers, the surge in local currency issuance since the start of the crisis remains evident.

The increase in local currency issuance since 2008 is significant because it indicates that local corporate bond markets can indeed play an important “spare tyre” role. In 2002, then Federal Reserve Chairman Greenspan suggested that better functioning capital markets in the late 1990s might have provided the Asian countries with a “spare tyre” in terms of an alternative source of financing and might have made the 1997–1998 Asian financial crisis more benign (Greenspan (2000)).

The experience of 2008–2009 lends support to that idea. During the recent crisis, as fund raising in the global corporate bond markets became difficult, Asian corporations turned to the local corporate bond markets to raise funds, and they were able to do so in large quantities. Although by 2007 local currency issuance by large Asian corporations had already started to exceed foreign currency issuance, the crisis of 2008–2009 accelerated this shift.

When it comes to the choice between raising funds in the local corporate bond market and raising funds in the global market, the eight ABF2 jurisdictions reveal strikingly different patterns. These patterns reflect the degree to which the capital accounts are open. As shown in Table 3, which reports the issuance of companies in the iTraxx Asia ex-Japan CDS index, in the largest borrowing jurisdiction, China, the big corporate issuers rely almost exclusively on the renminbi market. By contrast, in the second largest borrowing jurisdiction, Korea, corporate issuers rely somewhat more heavily on the global market. This difference between China and Korea is due in part to the availability in Korea of currency swaps that allow borrowers in the global markets to switch back into the Korean won. The availability of such swaps is not necessarily bad for the local market, because it allows foreign issuers to enter the market (See Munro and Wooldridge (2010)).

Hong Kong stands out as a jurisdiction where a relatively small fraction of corporate issuance is done in the local currency market. The heavy reliance on the foreign currency market may be due in part to the issuers’ desire to reach a broader investor base. At the other extreme, over our sample period, corporate borrowers in Indonesia and the Philippines seemed to borrow only in local currencies. This may be due in part to the countries’ non-investment grade rating. Nonetheless, as in the case of China, this may also be due to the lack of currency swaps that would allow corporations to borrow abroad and switch back into Indonesian rupiahs or Philippine pesos. Making such swaps available may mean allowing non-resident firms to borrow locally so that they may become the natural counterparties in the swaps.

For the most part, the secondary markets for corporate bonds in the region have yet to develop adequate depth and liquidity. Typically, a large new corporate issue would be traded only for a few days after issuance, with the underwriter of the issue serving as the only market maker until its inventory runs out. Compared to government bonds, it is much more difficult to provide liquidity for corporate bonds because of the highly heterogeneous nature of the borrowers and the many special covenants that typically characterise individual bond contracts. Liquidity would arise more easily in a market with large issues, credible credit ratings and a degree of standardisation with respect to bond covenants. It also helps liquidity to have a system for post-trade transparency, in which the price, quantity and parties to a trade are quickly revealed to the market at large. With the notable exception of Malaysia’s

Electronic Trading Platform (ETP) such post-trade transparency is missing in the region (see Gyntelberg et al (2005)).⁵

Table 3

Credit ratings and benchmark corporate bond issuance in ABF2 economies¹

| | Average long-term foreign currency sovereign rating | Weighted average rating on foreign currency issuance | Local currency issuance (\$, million) | Foreign currency issuance (\$, million) | Local currency denominated issuance as % of total |
|---------------|--|---|--|--|--|
| China | A | BBB– | 248,987 | 6,475 | 98 |
| Hong Kong SAR | AA | BBB+ | 2,781 | 17,777 | 14 |
| Indonesia | BB– | ... | 678 | 0 | 100 |
| Korea | A | A | 50,878 | 70,580 | 42 |
| Malaysia | A– | A– | 3,344 | 440 | 88 |
| Philippines | BB– | ... | 151 | 0 | 100 |
| Singapore | AAA | A– | 4,065 | 4,943 | 45 |
| Thailand | BBB+ | A– | 3,477 | 640 | 85 |

¹ Sample consists of 52 (39 investment grade and 13 high yield) companies in the iTraxx Asia ex-Japan CDS index, and in the case of Hong Kong SAR their special purpose vehicles, subsidiaries and related companies. The sample covers the period between January 2005 and August 2010. In calculating average ratings, the ratings are assigned numbers as follows AAA = 16, AA+ = 15, AA = 14, ..., B+ = 3, B = 2, and B– = 1. The average long-term foreign currency sovereign rating is calculated as the average of the end-of-year long-term foreign currency ratings of Standard & Poor's for each sovereign over the period. The weighted average rating is calculated for the entire time period for each market, in which the rating is the Standard and Poor's rating on each foreign currency bond issued during the period by sample companies at time of issue, and the weights for determining the average rating are the fractions of the volume of each issue in the total foreign currency bond issuance of sample companies during the 2005–2010 period. It should be noted that a significant proportion of corporate bond issuance in international financial centres such as Hong Kong SAR and Singapore is conducted by non-residents. These transactions, however, are not included in this table.

Source: Dealogic.

4. Development of the secondary markets

Liquidity in secondary markets is an important aspect of the development of local currency bond markets. There are two markets to consider: the government bond market and the corporate bond market. First, a deep and liquid government bond market would allow the fiscal authority to raise funds while keeping to a minimum the crowding out of borrowing by the private sector. It would also provide a market that would allow the monetary authority to add or drain liquidity and serve as part of the transmission mechanism for monetary policy. Second, a deep and liquid corporate bond market would allow businesses and financial

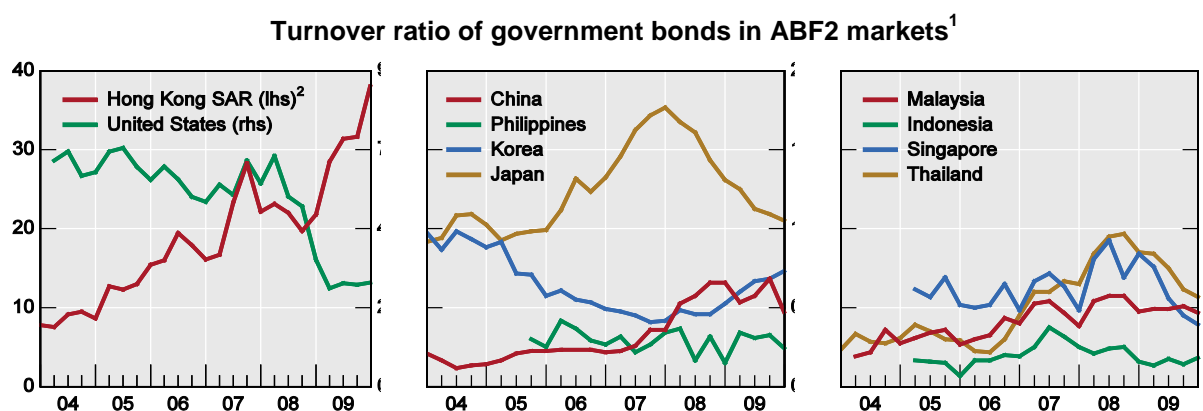
⁵ Malaysia has introduced a Bond Pricing Agency to provide daily independent fair value quotations for all ringgit denominated bond to facilitate daily mark-to-market valuation of bond portfolios. The Thai Bond Market Association and the Korea Security Dealers Association also provide post-trade information, albeit with a lag.

institutions to raise long-term funds in a way that lets bond prices provide signals to guide the economy in allocating resources over time and among investment activities of different risks.

4.1 Liquidity in ABF2 secondary markets

In the absence of reliable data on bid-ask spreads, the price impact of trades or the responsiveness of markets to the arrival of public information, turnover ratios provide a rough indicator of the liquidity of government bonds in the ABF2 markets. As shown in Graph 3, the turnover ratio shows a dramatic decline in the liquidity of the US Treasury market. While the graph also shows a rise in the liquidity of the Hong Kong market, the data here includes short-term instruments. Turnover in the Seoul market had deteriorated between 2004 and 2007 but started to improve in more recent periods. With the development of the interbank market and a growing diversity of available financial products, the turnover ratio in China has improved since 2007. Turnover ratios in Thailand and Singapore rose to high levels in 2008 but have now settled back down to previous levels. The turnover ratio in the Malaysian market has shown a steady increase over the years.

Graph 3



¹ Calculated as the value of bonds traded divided by amount of bonds outstanding. ² Includes Exchange Fund Bills and Notes.

Source: Asianbondsonline; central banks; BIS calculations.

4.2 Market making in the government bond markets

Size in terms of issuance does not by itself lead to liquidity in fixed-income markets. The experience of deep and liquid government bond markets in the United States and Europe shows that the provision of liquidity in these markets requires an active role for market makers. These market makers do not just arise from nowhere. They are often designated by the government and are obliged to make markets by providing two-way quotes on benchmark issues in exchange for certain privileges, such as being able to trade with the central bank. To be effective, these market makers often trade among themselves in an interdealer market with the help of interdealer brokers. Indeed, the interdealer market is often the most active part of the government bond market, and it is often where most of the price discovery takes place.

4.2.1 Market making in US and European bond markets

In the US Treasury market, the market makers are the primary dealers. In exchange for a counterparty relationship with the Federal Reserve Bank of New York (FRBNY), primary dealers are obliged to participate in auctions of government securities and to make markets

in securities in which the FRBNY conducts open market operations. As of April 2010, for example, there were 18 designated primary dealers, including banks and securities firms. The UK gilts market has a similar mechanism. In exchange for a counterparty relationship with the Bank of England, gilt-edged market makers are obliged to provide effective two-way prices in gilts.

In Europe, an important breakthrough in market making was the creation of EuroMTS, an interdealer electronic trading platform for European benchmark bonds. EuroMTS has played the role that the FRBNY plays in the United States and the Bank of England in the United Kingdom. To participate in the EuroMTS trading platform, dealers commit to a liquidity pact in which they must continuously offer two-way firm quotes with a maximum spread. To participate in the same mechanism, issuers commit to listing issues of at least EUR 5 billion for benchmark bonds and allocating the bonds among dealers randomly. For its part, EuroMTS ensures ex ante anonymity and post-trade transparency in the interdealer market.⁶

While EuroMTS dominates the trading of benchmark issues in most of the euro area, it is dwarfed by the trading of futures contracts on Eurex. Trading activity on interest futures at Eurex has risen from \$20 trillion in the fourth quarter of 1999 to \$121 trillion in the fourth quarter of 2009, a six-fold increase over a decade.

4.2.2 Market making in ABF2 government bond markets

Market making structures are a strong suit of government bond markets in the ABF2 economies. The nature of market making in these markets has tended to follow the example of the US Treasury market and the UK gilts market. Each of the ABF2 markets has between 10 and 50 designated market makers. Each market has at least a few interdealer voice brokers, suggesting the existence of a fairly active interdealer market.

Market liquidity does not seem to require many designated market makers. In the more liquid ABF2 markets, there tends to be only 10 to 20 designated market makers. As shown in Table 4, Hong Kong has designated 12 primary dealers for government bonds (although 23 more market makers have been designated for Exchange Fund Bills and Notes), Indonesia 18 primary dealers, Korea 20 primary dealers, Malaysia 12 principal dealers, Singapore 13 principal dealers and Thailand 9 primary dealers. China and the Philippines rely on the most number of market makers. The People's Bank of China has designated 50 primary dealers as counterparties for its open market operations and 23 market dealers in the interbank bond market. The Bureau of the Treasury of the Philippines has designated 42 government securities dealers.

The presence of foreign market makers could be even more important than just having many designated market makers. The foreign market makers are more likely to provide access to non-resident investors, who are often a significant source of the diversity required for market liquidity. In Singapore, for example, the majority of designated market makers are foreign. In Malaysia and Thailand, half of them are foreign.

Interdealer voice brokers operate in all eight ABF2 markets. Such brokers have played critical roles in the fixed-income markets of the United States and the United Kingdom by ensuring ex ante anonymity and ex post transparency in bringing counterparties together. The leading global interdealer brokers include BGC, ICAP, Tullett Prebon, GFI and Tradition. At least one or two of them operate in the more liquid of the ABF2 markets. Some of the

⁶ Ex ante anonymity means that the counterparties to a trade would not know each other before the deal is completed, except that the other party is on a list of pre-qualified counterparties. Ex post transparency means that once a deal is completed, the terms of the transactions become known to the market as a whole. Both ex ante anonymity and ex post transparency have been essential for liquidity in interdealer markets.

markets rely largely on local interdealer brokers. This is especially the case in Indonesia and Malaysia.

Table 4
Market making in ABF2 government bond markets

| Jurisdictions | Market makers | Interdealer brokers |
|---------------|--|---|
| China | As of September 2010: 50 primary dealers for PBOC's Open Market Operations (2 foreign banks); 23 market dealers in the interbank bond market (3 foreign banks); and 3 money broking companies providing broking business for the interbank bond market. | As of September 2010: Shanghai CFETS-ICAP, Tullet Prebon SITICO (China) Ltd, Pingan Tradition International Money Broking Co Ltd |
| Hong Kong SAR | As of end-April 2010: 12 primary dealers for government bonds (7 foreign banks) 23 market makers for exchange fund bills and notes (10 foreign banks) | As of end-April 2010: Associated Capital Ltd, BGC Capital Markets (HK) Ltd, GFI (HK) Brokers Ltd, ICAP (HK) Ltd, iMarkets Ltd, Nittan Capital Asia Ltd, SMBC Capital Markets Ltd, Tradition (Asia) Ltd, Tullett Prebon (HK) Ltd. |
| Indonesia | 18 primary dealers (5 foreign banks) | BNI Securities, Danareksa Sekuritas, Mega Capital Indonesia, OSK Nusadana Securities, Reliance Securities, Trimegah Securities Tbk |
| Korea | As of March 2010: 20 primary dealers (2 foreign banks) | As of March 2010: Korea Interdealer Broker Corporation (KIDB), Korea Money Brokerage Corporation (KMB) |
| Malaysia | As of February 2010: 12 principal dealers (6 locally incorporated foreign banks) | As of February 2010: Affin (Tullett Prebon), Amanah Butler Malaysia Sdn Bhd, First TAZ Tradition Sdn Bhd, Harlow's & MGI Sdn Bhd, Forex Enterprise Sdn Bhd, KAF-Astley & Pearce Sdn Bhd. |
| Philippines | As of February 2011: 42 government securities dealers (9 foreign banks and financial institutions) | As of February 2011 : AFS Philippines Inc, ICAP Philippines Inc, Tradition Financial Services, Tullett Prebon Philippines Inc |
| Singapore | As of February 2011: 13 principal dealers (10 foreign banks) | As of February 2011: ICAP, Tullett Prebon, Tradition |
| Thailand | 9 primary dealers (4 foreign banks) | ICAP, Wallstreet Tullett Prebon |

Sources: National authorities; Asianbondsonline; BIS.

4.3 Repo markets

If the strong suit of the ABF2 markets is market making, their weak suit is the repo markets. A well developed repo market can serve to enhance liquidity in the bond markets in two ways: (a) by allowing short positions through securities lending; and (b) by providing a market in which market makers can finance their positions. The growth of repo markets in ABF2 markets has certainly lagged far behind that of unsecured money markets. In some cases, borrowers face a significantly higher interest rate in the repo market than in the

unsecured interbank market. As explained below, this suggests that for various reasons the use of collateral is not seen as truly providing security. In most other cases, activity in repo markets has been limited to transactions between financial institutions and the central bank.⁷

One problem of repo markets in ABF2 economies may be the lack of an appropriate legal apparatus.⁸ When financial institutions engage in repos with each other, lenders often impose rather strict credit limits on their counterparties, thus behaving as if the transactions were not truly secured. This phenomenon seems to arise from master agreements and legal frameworks that fail to ensure that the lender will in fact be able to take possession of the collateral in the event of default.

Another problem of repo markets may be the lack of suitable collateral.⁹ The collateral of choice is naturally government bonds. Since these bonds are considered to be virtually immune to default risk, haircuts need to take account only of price volatility and not of credit quality. These bonds are also now book-entry securities that are easily transferred between counterparties through the books of the central bank. In some markets, however, there is not enough such collateral to go around. To the extent that fiscal surpluses have depleted the available pool of government securities, some governments have resorted to overfunding just to make such securities continue to be available. To indicate what forms of collateral are eligible for repo transactions, Table 5 shows what instruments are eligible for open market operations by the central bank. In all ABF2 markets central banks generally do not accept corporate and asset-backed instruments as collateral for repo transactions.¹⁰ However, in the case of China, Indonesia, Korea, Malaysia and Thailand, paper issued by the central bank itself, often for purposes of sterilising capital inflows, may be eligible as collateral for repo transactions.

Partly reflecting the underdevelopment of the repo markets, many participants in ABF2 markets now resort to FX swaps as a way to obtain secured financing. In effect, however, such swaps require collateral in the form of foreign currency. While domestic banks in need of short-term funds can easily turn to the unsecured interbank markets, foreign banks find themselves having to rely on the FX swaps market. In the Philippines, the FX swaps market has become so important that the nascent interest rate swap market uses as its benchmark short-term interest rate the implied peso interest rate in peso-dollar FX swaps.

An important innovation that has yet to find its way to ABF2 economies may provide a solution to the problems of repo markets. This innovation is the tri-party repo agreement (which has been extensively used in the United States since the early 1990s), in which a clearing bank serves as a third party between a lender and borrower. This clearing bank would serve as a centralised custodian of collateral, and any form of collateral the clearing bank is willing to hold would be eligible for repo transactions. In the United States, the repo market is now dominated by transactions in tri-party repos with two major clearing banks.

⁷ This is not to say the central bank cannot play a role facilitating market development. Bank Negara Malaysia (BNM) established a web-based custodian system called the Institutional Securities Custodian Program (ISCAP), which allows BNM to borrow securities and thus “free” the captive market from major institutional investors by circulating or lending the securities to market players via repo. This facilitates market making activities as the market maker can borrow securities from BNM to cover their short positions.

⁸ See Loretan and Wooldridge (2008). Here as well, the role of the central bank as facilitator is evident in Malaysia, where BNM has taken the initiative to sign GMRA with all the financial institutions and initiated a market-wide standard local annex. More financial institutions including non-banks such as insurance companies and pensions funds have signed GMRA with each other using similar standardised documents.

⁹ See CPSS (2010) for a discussion of the efficient use of collateral in repo markets.

¹⁰ During the global financial crisis, the Bank of Korea announced that it would accept for the period of one year bank debentures and some Korean government agency securities, including mortgage-backed securities as collateral for repo transactions. This temporarily measure expired on 6 November 2009.

Table 5
Eligible collateral for ABF2 central banks' open market operations

As of 30 April 2010

| | PBOC | BI | BOK | BNM | BSP | MAS | BOT |
|--|-------------|-----------|------------------|------------------|-----------------|------------|------------|
| Government securities | Yes | Yes | Yes | Yes | No ¹ | Yes | Yes |
| State-government, agencies, quasi-government, government-guaranteed securities | Yes | No | Yes ³ | Yes | No ¹ | No | Yes |
| Supranational / foreign government securities | No | No | No | Yes ² | No | No | No |
| Central bank securities | Yes | Yes | Yes | Yes | No ¹ | NA | Yes |
| Corporate bonds/bills/CPs | No | No | No | No | No | No | No |
| Bank bills/CDs/bonds | No | No | No | No | No | No | No |
| ABS/RMBS/ABCPs | No | No | No | No | No | No | No |

¹ These securities are not considered as eligible collateral for Bangko Sentral ng Pilipinas' open market operations here because the central bank's repurchase and reverse repurchase windows are classified as standing facilities. ² But BNM does not accept foreign government securities for its open market operations. ³ Government-guaranteed securities only.

Source: national authorities.

4.4 Role of benchmark indices

A benchmark index serves an important role in portfolio investments. Not only does a benchmark index provide a basis for an asset manager to construct a portfolio, it also allows investors to gauge the performance of a "passively" managed portfolio against other portfolios that are actively managed. The launch of the ABF2 was accompanied by the introduction of the iBoxx ABF Indices. Although a number of proprietary indices existed at the time, it was hoped that a new set of credible, representative and transparent bond indices would enable fund managers to replicate the performance of the indices with little difficulty. In this aspect, the iBoxx indices have been quite successful. While initially large, the tracking errors – the differences between the performance of the funds and their respective benchmark indices – have been reduced as the indices became easier to replicate. In some countries (eg Korea and the Philippines), replication was made easier by the governments' consolidation programmes. Not only have the government bond markets become more liquid as a result of these programmes, but there are also now leaving fewer and larger issues. The number of bonds included in the iBoxx ABF Korea index, for example, fell from 87 in March 2007 to 38 in August 2010.

Nonetheless, the family of iBoxx ABF indices has been less successful in establishing themselves as industry benchmarks, even though they perform relatively well in comparison to other indices (see Box A). Discussions with asset managers and investment bankers reveal that indices created by large broker-dealers such as the HSBC ALBI, the JPMorgan Government Bond Index (GBI) and Citigroup's World Government Bond Index (WGBI) continue to attract much greater market recognition. In part, the greater recognition of the broker-dealers' index families might be a result of their longer history. It could also reflect the

complementarities for banks in marketing their own indices and other business, as well as their ability to tailor the indices to the demand of market participants.

Nevertheless, there are signs that these iBoxx indices have slowly gained popularity among investors. According to Markit, a small number of funds now use the iBoxx indices or derivatives of them as benchmarks. The company also compiles several customised versions of the indices (such as excluding specific countries) for a number of asset managers. More recently, Deutsche Bank has introduced two exchange traded funds tracking the iBoxx ABF Korea and Singapore indices in the Singapore Stock Exchange.

Box A

The iBoxx ABF2 and HSBC ALBI indices

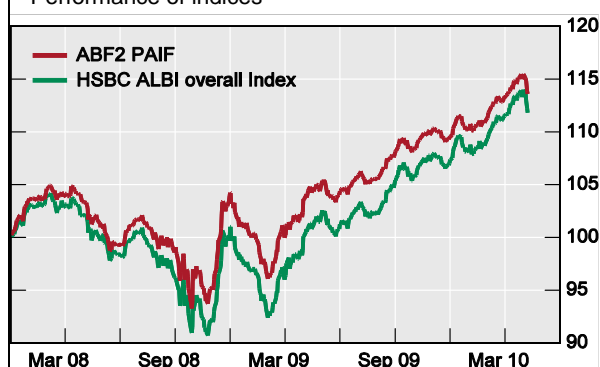
The ABF2 and ALBI indices are developed to track the performance of local currency bonds in emerging Asia. The construction criteria for the two indices are very similar: they use market capitalisation, turnover ratio and market openness/market impediments to determine the country weights, but the ABF2 index provider also considers the sovereign credit rating. The market openness/impediment factor is subjective and based on proprietary information, yet the rankings of the economies are broadly similar.

The performance of the two indices is broadly similar (Graph A1, left-hand panel). However, the PAIF fared better than the ALBI during the global financial crisis. In 2008, the PAIF increased by 4%, 3 percentage points higher than the HSBC ALBI overall index. The difference in performance could be attributed to the composition of the underlying portfolio they are tracking. Apart from the government bonds of the ABF2 economies, the ALBI overall index also includes Indian and Chinese Taipei local currency government securities. In addition, the ALBI tracks the performance of quasi-government issues in Malaysia and Thailand; and quasi-government and corporate bonds in Hong Kong and Singapore (Graph A1, right-hand panel). Since the ALBI India and Chinese Taipei subindices recorded above average returns for 2008, the ALBI's inclusion of large number of non-government issues (quasi-government and private debt securities) was therefore a more likely cause for its relatively low return in 2008.

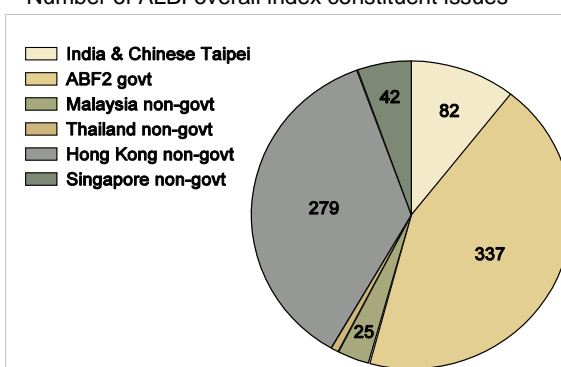
Graph A1

ABF2 and HSBC ALBI local currency bond indices

Performance of indices¹



Number of ALBI overall index constituent issues²



¹ 1 January 2008 = 100. ² As of 1 May 2010.

Source: Bloomberg.

4.5 Participation of non-resident investors

A diversity of investors, one of the objectives of the establishment of ABF2, is also important for liquidity. Foreign investors can often contribute greatly to this diversity. Cross-country

portfolio debt investment data from the IMF's Coordinated Portfolio Investment Survey (CPIS) are often used as a proxy measure of foreign participation in the EMEAP local currency bond markets. The left-hand panel of Table 6 shows that the amounts of debt securities held by foreign investors in the ABF2 markets in 2009 are generally greater than the levels in 2005. Still, foreign holdings represent no more than 25% of the respective size of the total bond markets (Table 6, centre panel), and are a relatively small share of total bonds outstanding, especially in the cases of China and Thailand.

Table 6
Size of foreign debt securities investment in ABF2 bond markets

| | Foreign debt securities investment | | | | Local currency bonds as % of total bond outstanding | |
|---------------|--|-------|---|------|---|------|
| | In billions of US dollars ¹ | | As % of total bond outstanding ² | | | |
| | 2005 | 2009 | 2005 | 2009 | 2005 | 2009 |
| China | 15.7 | 26.6 | 1.7 | 1.0 | 98.2 | 99.0 |
| Hong Kong SAR | 16.7 | 12.8 | 16.9 | 8.8 | 50.3 | 68.7 |
| Indonesia | 12.2 | 26.8 | 20.2 | 23.0 | 89.1 | 83.7 |
| Korea | 46.1 | 117.0 | 5.2 | 9.7 | 91.6 | 89.7 |
| Malaysia | 25.8 | 32.2 | 19.6 | 15.1 | 82.0 | 88.5 |
| Philippines | 16.9 | 17.6 | 24.1 | 19.4 | 58.9 | 60.4 |
| Singapore | 27.4 | 29.5 | 25.4 | 17.7 | 63.2 | 69.2 |
| Thailand | 5.2 | 6.1 | 5.8 | 3.2 | 88.1 | 95.5 |

¹ Data from the IMF *Coordinated Portfolio Investment Survey*. ² Defined as the ratio of figures in the left-hand panel to the total outstanding amounts of debt securities from the BIS *Debt Securities Statistics*.

Sources: national authorities; IMF *Coordinated Portfolio Investment Survey*; BIS.

Note that these percentages may not give a fair picture of the foreign participation in the local currency markets as the CPIS figures include debt issued by residents in all currency denominations. In Hong Kong, the Philippines and Singapore, the proportion of foreign currency denominated debts issued by the country's borrowers is rather significant.

5. Market impediments

5.1 Impediments to cross-border investment

One objective of the ABF2 has been to broaden the investor base of domestic bond markets. As mentioned in Section 2, the PAIF has been more successful than the single-market funds in attracting capital from investors other than non-EMEAP central banks. One possible reason is that the PAIF is more accessible to foreign investors as it is domiciled in Singapore and listed on the Hong Kong Stock Exchange and the Tokyo Stock Exchange. By

comparison, there remain some cross-border investment barriers in the other ABF2 economies. EMEAP (2006) discusses a number of cross-border investment barriers and how their removal could be stimulated by the ABF2 initiative.¹¹ This section surveys the changes to these impediments since the launch of the ABF2 and examines in what ways these adjustments could have stimulated the participation of non-resident investors and issuers.¹² Two examples will be used to illustrate the arguments for each case.

At the same time, it must be admitted that the elimination of barriers to cross-border investment – while beneficial to local bond market development – may at times run counter to policymakers' objective of stabilising the financial system and macroeconomy when capital inflows are significant and volatile. While policy-makers may on occasion feel compelled to address such concerns, they should remain aware of the trade-offs involved.

5.1.1 Withholding taxes

Withholding taxes reduce the investment yield, and the attractiveness of the investment in local currency securities for non-residents. Four months prior to the announcement of the ABF2, only Hong Kong and Singapore exempted non-residents from the withholding tax. As for the other economies, withholding taxes served as an effective impediment to increasing the participation of foreign investors in local currency bond markets.

There has been some progress on this front since work began on the formation of ABF2. In Malaysia, the creation of the ABF2 hastened the process of review of withholding taxes by the National Bond Market Committee, and exemption for investment income for all government and corporate bonds approved by the Securities Commission was announced in September 2004. Thailand followed by granting withholding tax exemption to all foreign investors in 2005 for both interest and capital gains arisen from government, state agency and state enterprise bonds. In both these cases, the formation of ABF2 was viewed as a catalyst for the governments' actions (EMEAP (2006)). More recently, in 2009, Korea also removed the withholding tax on interest income on government securities for foreign investors, which stimulated investment inflows not least from other Asian countries (see Box B).

That said, there is at present no exemption of withholding taxes in four of the relevant jurisdictions (Table 7). Interviews with market participants suggest that this deters foreign investor participation in government bond markets in those countries. In the case of Indonesia, however, an alleviating factor is that withholding tax can be reduced for residents of countries which have a bilateral tax treaty with Indonesia.

To be sure, as mentioned above, policymakers can face competing financial stability objectives. In October 2010, in response to a surge of capital inflows that were perceived to be destabilising, Thailand reestablished the withholding tax on capital gains and interest payments for government bonds. For similar reasons, Korea reimposed a withholding tax on the interest payments of foreign investors' holdings on government bonds and monetary stabilisation bonds in January 2011.

¹¹ For a comprehensive study of the impediments to cross-border bond investment and issuance in Asian countries prior to the launch of the ABF2, see Takeuchi (2006).

¹² However, it should be noted that some of these impediments also hinder the participation of domestic investors.

Box B

Korean debt securities: reforms and recent cross-border inflows

The recent Korean experience illustrates how reforms can be useful in attracting new investment from the region. At the end of 2007, listed bond holdings of Korean debt securities by non-Korean Asian nationals registered just short of 6.6 trillion won, or around 17% of total foreign holdings (Table B1). By end 2008, Asian holdings had risen sharply to 13.3 trillion won, or more than one-third of all foreign investors' listed bond holdings. They had advanced to 27.9 trillion won (nearly one-half) by end 2009 and continued to increase significantly through the first quarter of 2010. It is of interest to note that the lion's share of the increase over this period was due to purchases by Thai investors, and the waiving of the withholding tax was mentioned in Thai news reports as an important factor.

Table B1

Foreign investors' listed bond holdings in Korea

In trillions of won

| | Dec 2007 | Dec 2008 | Jun 2009 | Dec 2009 |
|----------|----------|----------|----------|----------|
| Total | 38.4 | 37.5 | 41.2 | 56.5 |
| Asia | 6.6 | 13.3 | 15.4 | 27.9 |
| Thailand | 0.9 | 9.0 | 8.6 | 16.7 |

Source: Financial Supervisory Service, Korea.

Table 7

Tax treatment on returns from foreign investors' holdings of local currency government bonds¹

As of September 2010

| | Withholding tax on interest income | Capital gains tax |
|---------------|--|---|
| China | No withholding tax | No capital gains tax |
| Hong Kong SAR | No withholding tax | No capital gains tax |
| Indonesia | 15–20%, lower if from a country that has a tax treaty with Indonesia | No capital gains tax |
| Korea | No withholding tax (2009) ² | No capital gains tax (2009) |
| Malaysia | No withholding tax (2004) | No capital gains tax |
| Philippines | 20% of income earned | No capital gains tax |
| Singapore | No withholding tax | No capital gains tax |
| Thailand | No withholding tax (2005) ³ | No capital gain tax (2005) ³ |

¹ A year is entered in parenthesis if the tax was removed subsequent or shortly prior to the announcement of the ABF2 in December 2004. ² Withholding tax on foreign investors' interest income on government bonds and monetary stabilisation bonds was reimposed in January 2011. ³ The exemption of withholding tax on interest income and capital gains on foreign holdings of government bonds was withdrawn in October 2010.

Sources: Deloitte Touche Tohmatsu; PricewaterhouseCoopers; national sources.

5.1.2 Restrictions on the convertibility of local currency

Restrictions on the convertibility of local currency raise the riskiness of investment by making it more difficult for investors to hedge the foreign exchange risk or to repatriate local currency

returns on short notice. In a number of jurisdictions under review, conditions of local currency convertibility have improved considerably over the past five years (Table 8). In Malaysia, in April 2005, non-resident investors were allowed to sell forward FX contracts against ringgit to hedge receipts as well as committed outflows for divestments in ringgit assets. In Korea, the real demand principle for purchases of Korean won was eliminated in December 2007, meaning that there was no longer any need to document an underlying securities trade. In addition, foreign investors are now allowed to engage in forward FX transactions on an unrestricted basis with local counterparty banks. Other jurisdictions, however, have advanced less far. In some cases, forward FX transactions are only permitted to foreign investors if they can document an underlying transaction.

Table 8
Overview of currency risk hedging instruments

| | Onshore FX forward | Non-resident access to onshore FX forwards | Offshore market |
|---------------|----------------------------------|---|--|
| China | Not as liquid as offshore market | Not allowed | NDF liquid (avg daily turnover over USD 1bn) |
| Hong Kong SAR | Liquid | No restriction | None |
| Indonesia | Liquid | Only when supported by underlying trade or investment transactions | NDF liquid (avg daily turnover around USD 400mn) |
| Korea | Liquid | No restriction with licensed onshore financial institutions. Other institutions need to notify the central bank | NDF liquid (avg daily turnover around USD 3bn) |
| Malaysia | Not as liquid as spot market | No restriction with licensed onshore banks | NDF illiquid (avg daily turnover about USD 100mn) |
| Philippines | Liquid | No restriction except for onshore bank selling USD/PHP to non-residents on forward date. Such transactions require prior approval | NDF liquid (avg daily turnover about USD 450mn) |
| Singapore | Liquid | No restriction | Deliverable forward liquid (avg daily turnover over USD 1bn) |
| Thailand | Liquid | Restrictions apply | Deliverable forward illiquid (avg daily turnover around USD 300mn) |

Sources: ANZ; Barclays Capital (2003b); Deutsche Bank.

5.1.3 Ability of non-residents to borrow in the local currency to fund investments

The ability of non-residents to borrow in the local currency to fund investments is another aspect of FX regime that affects the attractiveness of local currency bonds (ABMI Group of Experts (2010)). The more readily available the local credit for the foreign investors, the lower the funding costs and hence the higher returns for them. In Malaysia, in April 2004, the

limit for overdraft facilities extended to non-resident stockbrokers or custodian banks from authorised dealers for the settlement of the purchase of listed securities was extended from RM 10 to 20 million. In April 2007, the limit was abolished altogether and the scope on the utilisation of overdraft facilities was expanded to include instruments settled through Malaysia's real-time electronic transfer system. Registration requirements on ringgit-denominated loans to non-residents were abolished in October that same year.

In some countries, there are still some significant restrictions. Credit to non-residents is not allowed for "speculative purposes" in securities or commodities in one jurisdiction; in another, overdrafts and loans to non-residents are not permitted, which means that foreign investors must ensure they have enough cash in their account prior to settlement. One other country permits financial institutions to provide overdraft facilities to non-resident entities only up to a fixed limit. Lifting these restrictions could serve to increase further foreign investor participation in local bond markets.

5.2 Transaction costs and settlement

Transaction costs increase with the difficulty in settlements. As was noted in EMEAP (2006), individual country systems for settling debt securities were already "generally efficient" in the markets under review: all had delivery versus payment as their settlement method, a significant number had linkages through local custodian banks with the international central securities depositories (ICSDs) such as Euroclear and Clearstream, which allowed clearing and settlement overseas.

There were nevertheless some added efficiencies that came about in the process of the establishment of ABF2. The global custodian for the PAIF and the eight single-market funds created a custodian network linking up all eight markets. Also, the fact that the bond ETFs were the first such product in many markets led to increased cooperation between the domestic equities and bond clearing systems, most notably in the case of Malaysia.

The effective international integration of clearing systems is greatly influenced by the ability of non-resident investors to use omnibus accounts, in which a local custodian holds the investment of many clients in one account. To the extent that omnibus accounts are restricted – eg the local custodian must handle separate accounts for individual non-resident investors rather than a single global custodian – transactions costs will tend to be higher.

There has been considerable progress over the past few years with regard to omnibus accounts and global clearing system integration in the case of Korea. From 2008, omnibus accounts in the name of international clearing and settlement depositories (ICSDs) were allowed at the Korean Securities Depository (KSD). At first, despite this approval, the ICSDs did not open an omnibus account, because of the ongoing impediment of the withholding tax. However, once Korean government securities were exempted from withholding tax as described above, formal linkages between the KSD and Euroclear were established in October 2009, and individual investors could hold Korean bonds in an ICSD subaccount.

The advantages of these new accounts are highly significant: costly investor registration certificates are no longer required, and settlement between off-shore parties can take place outside the Korean time zone. In addition, the securities held in these international accounts can be used as collateral in international tri-party repos, making it easier to finance the purchase of Korean government securities.

In all of the ABF2 economies with the exception of China, the use of omnibus accounts for non residents is not restricted. It should be kept in mind, however, that because of withholding taxes and other impediments, similar arrangements for international settlements – eg bridges between Euroclear and domestic depositories – have not been established in a number of the other seven countries.

Another improvement in settlement processes that has occurred since the establishment of ABF2 has been with regard to FX settlement. In November 2006, the establishment of a payment versus payment infrastructure for the settlement of interbank ringgit/US dollar FX trades was viewed as helping to greatly alleviate FX settlement risk, through simultaneous settlement of ringgit in Malaysia and US dollars in Hong Kong. The degree to which the ABF2 might have served as a catalyst for these changes in FX settlement processes both in Malaysia and other countries is unclear, however.

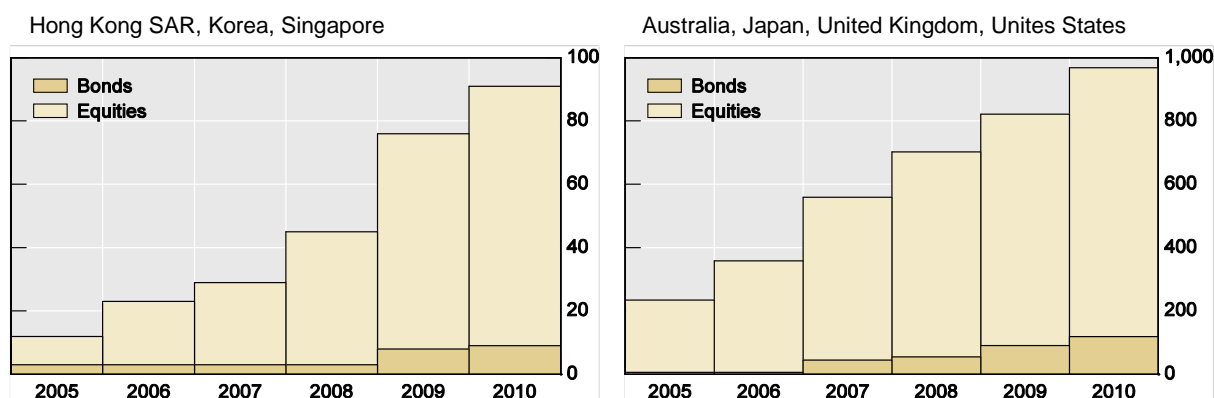
It should be remembered that the ABF initiative encourages the authorities to lower transaction costs by establishing the bond funds as ETFs of domestic bonds. The structuring of the ABF2 funds as bond ETFs raised the transparency of trading, with order flows and trade information made available to participants, the regulatory authorities and to the public. The most notable example is in Indonesia where the ABF2 initiative stimulated a transition from having no index fund into bond ETFs being traded in the exchange. In Malaysia and Thailand, there was initially no regulatory framework governing ETFs; these were instituted only in mid-2005. The Bank of Thailand has further favoured the ETF format by permitting calculation of risk weights for bank capital purposes to be based on underlying assets in the ETFs, and also allowing ETF purchases to be eligible for required capital reserve. In the Philippines, while the listing date of the ABF Philippine Fund as an ETF has yet to be scheduled, utmost efforts have been taken by the Philippine financial authorities to finalise their draft ETF guidelines. A set of draft ETF rules have been posted on the Philippine Dealing Exchange's (PDEX's) website for public consultations. Once approved by the PDEX's Market Governance Board, the draft will then be submitted to the Philippine Securities and Exchange Commission for final approval, after which the fund manager can plan for the listing of the ABF Philippine Fund as an ETF.

For those jurisdictions that have instituted the ABF single-market funds as ETFs during the early stage of the ABF2 project, there has been little progress in stimulating the growth in the number of ETF bond funds. In Singapore, there are now five other fixed-income ETFs in addition to the ABF Singapore Bond Index Fund, whereas in Hong Kong, a fund that tracks a total return index of the US Federal funds effective rate is the only ETF with bonds and money market as underlying other than the ABF Hong Kong Index and the PAIF index listed on the stock exchange. However, the lack of progress in spurring the growth of fixed income ETFs in the ABF economies might simply reflect the general preference of ETF investors for equity funds. Graph 4 shows that the dominance of equity ETFs is in fact a global observation. Furthermore, discussions with market participants suggest that the marketing of government bond ETFs to retail investors has had to cope with an unfavorable environment of low and falling interest rates, making it difficult to attract investors given transactions costs.

5.3 Governance

Improved governance and the adoption of international practice could lower foreign investors' perceived riskiness of investing in local currency bonds. At the time of the creation of the ABF2, it was hoped that the set-up of the governance structure of the fund in line with international best practice would have a demonstration effect on similar funds in the region. For instance, in Indonesia and the Philippines, the manager and trustee of the unit investment trust funds are mandated to be separate entities in the case of the ABF2. At the time of the 2006 EMEAP progress report, all future unit investment-trusts were intended to be aligned with this practice. In the case of Malaysia, guidelines were published by the Securities Commission in October 2006 in which definitions of what constituted fit and proper trustee companies, as well as fiduciary duties, were spelled out.

Graph 4

Number of exchange traded funds in selected economies

Source: Bloomberg.

To strengthen governance, the EMEAP progress report also recommended that independent supervisory committees be established for each fund. Establishment of such committees was proposed so that they could represent the interest of all unit-holders including EMEAP, in the performance of their monitoring functions. At present, most ABF 2 funds, as well as the PAIF, have indeed established such independent committees to oversee the fund manager and trustee, from which the committees are empowered to request information.

However, according to our interviews with market participants, further progress on governance in bond markets in the region is desirable. Our interviews have not yet uncovered any cases of improved governance practices at other funds in a result of the demonstration effect.

Another problem area identified by the ABF2 process had to do with valuation of securities. While in some EMEAP markets, fund managers were allowed to value assets, ABF2 insisted that valuations must be verified by trustees or third parties. It is not clear the degree which this practice has spread to other funds.

ABF2 also adopted international practices in the drafting of the trust deed and prospectus. The ABF2 trust deed imposed limits on dealings between PAIF and connected parties of the manager – so-called arms length transactions. Again, it remains to be seen the extent to which these practices will spread.

5.4 Outright barriers to entry

Outright barriers to entry of non-resident investors remain the most direct impediment to cross-border participation in regional bond markets. In the wake of ABF2, prohibitions on the investor side were lifted in some cases and most notably in China where bond market investment by foreigners was restricted to the so-called Qualified Foreign Institutional Investors in the exchange-traded market. With the launch of the ABF2 PAIF, foreign investors, who had previously not been allowed to invest in interbank traded bonds in China; could then trade in those bonds via investing in the fund.¹³ On the other hand, investment quotas still apply to the PAIF and can be binding.

¹³ In addition, in August 2010, the People's Bank of China announced a pilot program in which three types of overseas institutions could invest their RMB holdings in China's interbank bond market.

In some cases, restrictions on cross-border investment stem from the restrictions in the investor's jurisdiction. In the case of Thailand, regulations on foreign bond portfolio investment by residents were eased in 2005, when authorities extended the list of allowed foreign investments by institutional investors to include the ABF2 products.

5.5 Impediments to cross-border borrowing

Some impediments also serve to directly constrain the activity of cross-border borrowers, even though their impact works in slightly different ways. A number of such obstacles were lifted around the time of the formation of ABF2.

5.5.1 Barriers to entry

Barriers to entry have the most observable and direct impact on foreign issuers. In some markets, new foreign issuers that had previously not been allowed to issue in the local currency were brought into the market. In Malaysia, for example, the regulatory framework was liberalised in 2004 for issuance of ringgit bonds by multilateral development banks and multinational financial institutions. In Thailand as well, the government allowed foreign governments, financial institutions and corporations to issue Thai baht bonds subsequent to the launch of ABF2.

5.5.2 Foreign exchange derivatives

The lack of a liquid foreign exchange derivatives market also discourages issuers from borrowing in domestic bond markets. Very often, these foreign borrowers will wish to convert the proceeds to finance their investment project in the home currency while locking in the home currency value of interest rate payments through forward and swap markets. This highlights the importance of liquid markets for derivatives such as cross-currency swaps and interest rate swaps. Onshore markets are generally more liquid when non-residents have access as well. In Malaysia, in April 2005, non-residents were allowed to buy forward FX contracts against ringgit to hedge payment, which has stimulated foreign issuance in ringgit (see Box C).

6. Conclusions

Over the past five years, authorities of the EMEAP economies have continued to implement various measures to promote local currency bond markets. These include the ABF and ABMI initiatives. To be sure, the initiatives overlap to a certain extent. Improving the infrastructure of bond markets, including foreign exchange markets and settlements, is common to both initiatives. More recently, the new ABMI "roadmap" published in 2008 explicitly identifies the need to increase liquidity in government bond markets as had the ABF2's objectives earlier (ASEAN+3 (2008)). But in those areas where the ABF2 and the ABMI initiatives have overlapped in specific intent, the two sources of pressure for reform have been complements rather than substitutes.

Consequently, the size of the markets has grown considerably, driven by the strong increase in government debt securities. In fact, apart from Hong Kong, Korea, Malaysia and Singapore, the public sector remains the dominant issuer, with more than three-quarters of all debt securities outstanding in each of the other EMEAP jurisdictions. Government bond issuance, especially over the past few years, has reflected in large part the need to address internal monetary conditions arising from strong capital inflows and have largely taken the form of issuance by the central banks.

Box C

Malaysia: promoting the derivatives markets and foreign issuers

The case of Malaysia is an example of how capital market reforms can prove useful in attracting non-resident borrowers to the local markets. The regulatory and foreign exchange reforms allow non-resident banks (initially applied only to multilateral development banks and other international financial institutions) to issue ringgit denominated bonds (Putra bonds) and Islamic securities (Wawasan bonds). Under the new rules, issuers of these ringgit-denominated bonds are allowed to hedge their foreign exchange and interest rate risks in the derivatives markets. In May 2005, Bank Negara Malaysia further liberalised the foreign exchange administration rules to allow other residents and non-residents to enter into hedging arrangements with licensed offshore banks.* At the same time, the publication of daily cross-currency swap fixings is available in Bloomberg to increase market transparency.

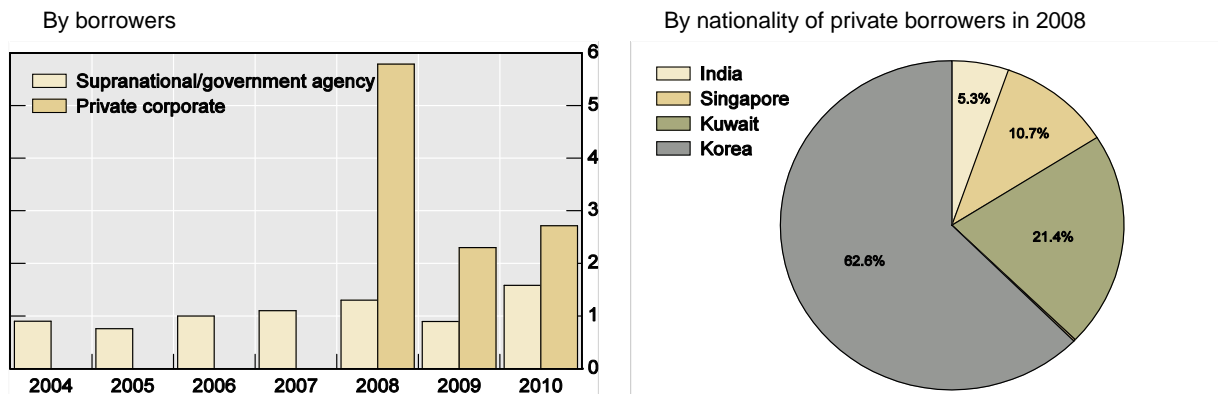
Table C1 shows that borrowers other than multilateral banks began to raise funds in the Malaysian local currency bond markets in 2008. In that year, a total of 7 firms from 4 different countries raised a total of RM 5.8 billion, compared to the total of RM 1.3 billion by the Islamic Development Bank and Korean Export-Import Bank (Graph C1). In 2009, all borrowers were from Korea, of which RM 2.3 billion were by private firms. To a certain extent, as in most cross-border debt issuance, the borrowings by the Korean corporations in Malaysia reflected differences between the two countries in macroeconomic and financial markets conditions. However, according to market participants, these non-residents would not have been able to tap the Malaysian markets a few years earlier as the local derivatives markets were not well developed enough to help them convert their proceeds back to their own currencies. Even among those bonds issued over the past two years, the later issues were more expensive as the cumulative sum started to stretch Malaysia’s still developing derivatives markets. Malaysia’s experience serves as an argument for the importance of developing other financial markets alongside the local currency bond market.

* Bank Negara Malaysia, “Liberalisation of the foreign exchange administration rules”, Press Statement, 23 March 2005.

Graph C1

Issuance of ringgit bonds by non-residents

In billions of ringgit



Source: Dealogic.

Table C1
Issuance of ringgit bonds by non-residents
 In millions of ringgit

| Year | Deal type | Issuers | Amounts (MYR, mn) |
|------|--|---|-------------------|
| 2004 | Supranational/ Government Agency | Asian Development Bank, International Finance Corp | 900 |
| 2005 | Supranational/ Government Agency | World Bank | 760 |
| 2006 | Supranational/ Government Agency | Asian Development Bank, Kreditanstalt für Wiederaufbau | 1,000 |
| 2007 | Supranational/ Government Agency | Kreditanstalt für Wiederaufbau, Asian Development Bank | 1,100 |
| 2008 | Supranational/ Government Agency | Export-Import Bank of Korea, Islamic Development Bank | 1,300 |
| | Corporate | India: State Bank of India; Korea: Hyundai Capital Services; Industrial Bank of Korea, National Agricultural Cooperative Federation, Woori Bank; Kuwait: Gulf Investment Corporation; Singapore: Overseas-Chinese Banking Corporation | 5,785 |
| 2009 | Supranational/ Government Agency | Export-Import Bank of Korea | 895 |
| | Corporate | Korea: Hana Bank, Industrial Bank of Korea, National Agricultural Cooperative Federation | 2,300 |
| 2010 | Supranational/ Government Agency | Export-Import Bank of Korea, National Bank Abu Dhabi | 1,580 |
| | Corporate | Korea: Hyundai Capital Services, Woori Bank, Industrial Bank of Korea; UAE: Abu Dhabi Commercial Bank Finance Ltd. | 2,716 |

The authorities have also played an active role in improving the liquidity of the government bond markets. The growth of bond issuance in general and the consolidation of issuance in a few benchmark maturities have allowed governments to take advantage of economies of scale in market making. However, other private sector elements – especially the development of interdealer markets and the advent of interdealer brokers – have also contributed to the increase in market making activity and hence boost overall market liquidity.

The ABF2 initiative has acted as a catalyst for regulatory reforms and improvements in market practices and infrastructure in the region. However, it is difficult to know what the counterfactual would have been. Restrictions to the convertibility of local currency have in many cases been gradually dismantled, and in a number of jurisdictions they are under review. Local currencies have become more convertible over the past 5 years. Liberalisation of foreign exchange administration rules have facilitated the entering into hedging arrangements by resident and non-resident investors. Meanwhile, the lowering of barriers to

the development of FX swap or derivatives markets, which allows foreign borrowers wishing to convert proceeds to finance their project in the home currency, has been a boon to issuance in some local currency jurisdictions.

Regulatory frameworks in the region have been enhanced to facilitate the listing of ETFs. Provisions of the PAIF trust deed and prospectus were used as models for the documentation of the single-market funds, and have contributed in promoting the adoption of best international practices and harmonisation of fund documentation across the ABF2 markets, while allowing for regional diversity. At the same time, interviews with market participants suggest that the marketing of government bond ETFs to retail investors has had to cope with an unfavorable environment of low and falling interest rates, making it difficult to attract investors given transactions costs.

While the above regulatory reforms and improvements in market practices have done much to bring depth and liquidity to the government bond markets, the corporate bond markets have remained poorly served. One measure that is potentially useful for the development of the latter markets is the introduction of a set of credible, representative and transparent bond indices. In the form of the iBoxx ABF Indices, these have enabled private sector investors to adopt and customise the indices as benchmarks for other fixed income or derivative products in the region. That said, many private sector indices have much greater market recognition, which is perhaps inevitable given the complementarities to the marketing of private sector indices and other banking business, as well as the ability to tailor the indices to the demand of market participants.

More importantly, EMEAP authorities continue to lower barriers to entry for foreign participation. Foreign investors are now exempt from withholding taxes in a few more economies than before 2005; though the risks of destabilising capital inflows led Thailand to reimpose these taxes in October 2010. Conditions of local currency convertibility have improved notably, as has the ease with which foreign investors can finance purchases in the local currency. Transactions costs associated with settlements and clearing has improved, as has the ability to hedge local currency receipts. In each of these cases, it can be argued that the ABF2 played an important catalytic role, though the significance of that role relative to other general factors is hard to quantify.

References

ABMI Group of Experts (2010): "Barriers to cross-border investment and settlement in ASEAN+3 bond markets," April (revised, July).

ASEAN+3 (2008): "Joint ministerial statement of the 11th ASEAN plus Three ASEAN Ministers Meeting," Madrid, Spain, 4 May 2008, (<http://www.aseansec.org/21502.htm>).

ASEAN+3 (2009): "The joint media statement of the 12th ASEAN plus Three Finance Ministers' Meeting, Bali, Indonesia, 3 May 2009, (<http://www.aseansec.org/22536.htm>).

CGFS (2007): "Financial stability and local currency bond markets," *CGFS papers*, no 28.

CPSS (2010): "Strengthening repo clearing and settlement arrangements," (September).

EMEAP (2006): "Review of the Asian Bond Fund 2 Initiative," EMEAP Working Group on Financial Markets, June.

Greenspan, A (2000): "Global challenges", remarks at the Financial Crisis Conference, Council on Foreign Relations, New York, 12 July.

Gyntelberg, J, G Ma and E Remolona (2005): "Corporate bond markets in Asia," *BIS Quarterly Review* (December).

Holland, A (2001): "The development of alternative trading systems in the UK gilt market: lessons and implications," UK Debt Management Office, <http://www.dmo.uk/docs/research/alternativetrading.pdf>.

Loretan, M and P Wooldridge (2008): "The development of money markets in Asia," *BIS Quarterly Review* (September).

McCauley, R and E Remolona (2000): "Size and liquidity of government bond markets," *BIS Quarterly Review* (November), pp 52–60.

Munro, A and P Wooldridge (2010): "Motivations for swap-covered borrowing and foreign-currency borrowing," in *The international financial crisis and policy challenges in Asia and the Pacific*, *BIS Papers*, no 52 (July).

Takeuchi, A (2006): "Identifying impediments to cross-border bond investment and issuance in Asian countries," in *Asian bond markets: issues and prospects*, *BIS papers*, no 30 (November).

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