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Corporate bond markets in Asia[1]

Corporate bond markets in Asia differ widely in size. Some primary markets have opened up to foreign issuers while others have relied on quasi-government issuers. Secondary markets often suffer from illiquidity, due in varying degrees to narrow investor bases, inadequate microstructures and a lack of timely information about issuers.

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Since the 1997 Asian financial crisis, bond market development has become a high priority for Asian policymakers. The development of local currency bond markets has often been seen as a way to avoid crisis, with these markets helping reduce potential currency and maturity mismatches in the economy. Indeed, several Asian economies have succeeded in developing fairly active primary and secondary markets in domestic government bonds.

In recent years, policymakers in many Asian economies have started to turn their attention to local currency non-government ("corporate") bond markets. They recognise that a robust financial system requires multiple channels of financing, in which banks and other types of investor compete for borrowers. As the Asian financial crisis itself demonstrated, short-term credit markets are prone to creditor runs, and a corporate bond market can provide an economy with an important source of long-term finance.[2]

While the primary markets for corporate bonds in Asia have grown significantly, the growth in some cases seems to have been driven largely by quasi-government issuers or issuers with some form of credit guarantee. These markets may have developed in this way because investors have had little access to the kind of information that would allow them to adequately evaluate

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[2] In Greenspan's (2000) words, a functioning capital market might have provided the Asian countries with a "spare tire" and made the crisis more benign. Diamond (2004) shows formally why it is in the nature of short-term credit markets to be prone to creditor runs.

the credit risks of other potential issuers. The secondary markets have developed less, with relatively little trading activity to be seen in many markets. Here we suggest that this inactivity may stem from a combination of a lack of investor diversity, inadequate market microstructures, market opaqueness and insufficient flows of timely information to creditors.

In what follows, we first describe primary corporate bond markets in Asia-Pacific in terms of their size and issuer composition. We then characterise the secondary markets and suggest reasons for the lack of liquidity in some of these markets.

Primary markets: size and composition

Relying on statistics from the BIS as well as data from Dealogic Bondware, we characterise the size and composition of the markets for local currency corporate bonds in Asia-Pacific. These markets include the currencies of Australia, China, Hong Kong SAR, India, Indonesia, Japan, Korea, Malaysia, New Zealand, the Philippines, Singapore and Thailand. We define "corporate bonds" to include all non-government long-term debt issues in a given currency. We include quasi-government issuers, financial and non-financial issuers and both resident and non-resident issuers.

Market size, liquidity thresholds and crowding-out

At the end of 2004, the 12 local currency markets included in this study had corporate bonds outstanding of almost $3 trillion. The Japanese market alone is $2 trillion in size, accounting for two thirds of the total (Table 1). Behind Japan are three markets that can still be considered relatively large: Korea with $355 billion, China with $196 billion and Australia with $188 billion. These four markets are "large" in the sense that they exceed the $100 billion threshold estimated by McCauley and Remolona (2000) as the size that would tend to be required for a deep and liquid government bond market.[3] Because corporate bond issues are by definition more heterogeneous than those of government bonds and issue sizes smaller, such a threshold for corporate bond markets would tend to be much higher. Factors other than size that would affect liquidity are discussed in the second part of this special feature.

Four markets qualify as large

Whatever the actual liquidity threshold, the remaining corporate bond markets would seem to have far to go to reach it. The next largest market is Hong Kong with $62 billion, followed by Malaysia with $50 billion, Thailand with $32 billion, New Zealand with $30 billion, India with $24 billion and Singapore with $22 billion. Two other economies – Indonesia and the Philippines – have even smaller markets. As discussed below, opening up to foreign issuers and investors may help a market overcome the disadvantages of a small size.

Crowding-out of issuers or investors

The size of the market would depend not only on the size of the economy but on the level of its development. In addition, market size may be affected by

[3] This is, of course, only a rough threshold and it does not take into account a number of other factors that would affect liquidity.

Size of corporate bond markets and other channels of local currency funding At end-2004					
	Corporate bonds[1]		Other channels as a percentage of GDP		
	Amounts outstanding (USD billions)	As a percentage of GDP	Domestic credit	Stock market capitalisation	Government bonds outstanding
Australia	187.5	27.1	185.4	111.5	13.8
China	195.9	10.6	154.4	33.4	18.0
Hong Kong SAR	61.9	35.8	148.9	547.7	5.0
India	24.5	3.3	60.2	56.8	29.9
Indonesia	6.8	2.4	42.6	24.5	15.2
Japan	2,002.0	41.7	146.9	76.9	117.2
Korea	355.6	49.3	104.2	74.7	23.7
Malaysia	49.7	38.8	113.9	140.8	36.1
New Zealand	29.9	27.8	245.5	41.1	19.9
Philippines	0.2	0.2	49.8	37.5	21.8
Singapore	21.7	18.6	70.1	211.4	27.6
Thailand	31.9	18.3	84.9	67.1	18.5
Memo: United States	*15,116.6*	*128.8*	*89.0*	*138.4*	*42.5*

[1] Defined as bonds and notes issued in the country's currency by either residents or non-residents, in both domestic and international markets.

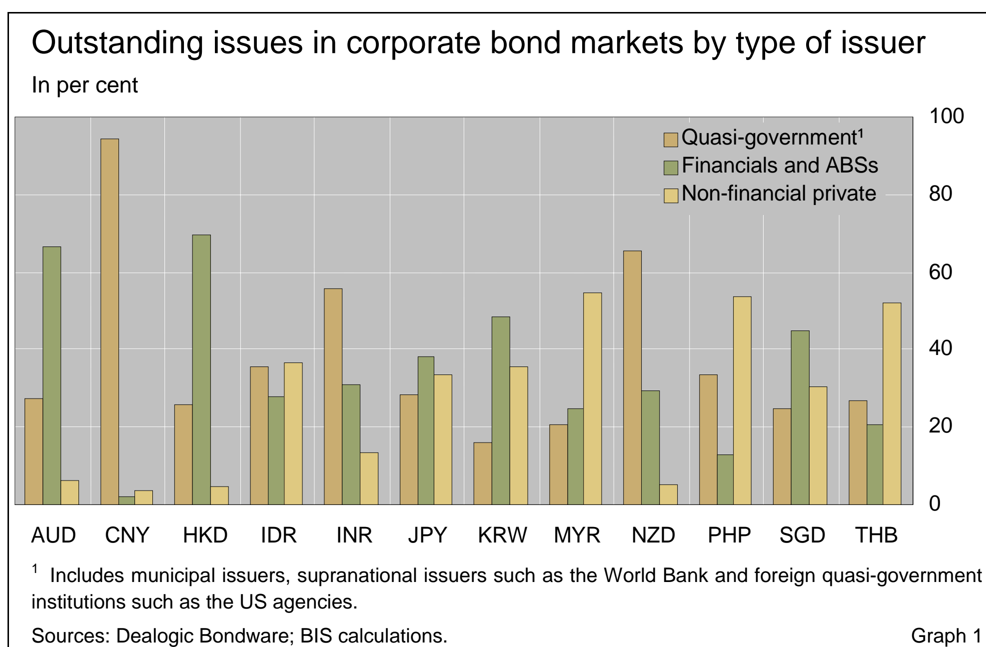
Sources: IMF; World Federation of Exchanges; Dealogic Bondware; national data; BIS. Table 1

competition among financing alternatives on either the issuer or investor side. While a banking sector or equity market would compete with the debt securities market for the same potential corporate issuers, the financing of large government budget deficits may crowd out potential investors. Still, it is not surprising that the deepest corporate bond markets are those of the higher-income economies of Australia, Hong Kong, Japan, Korea, Malaysia and New Zealand. In each of these cases, as shown in Table 1, the size of the market exceeds 25% of GDP. It is also unsurprising that the shallow markets relative to GDP are those of the lower-income economies of China, India, Indonesia and the Philippines.

Composition of issuers

The types of issuer we find in a given market may give us a sense of how well developed the markets are in the 12 currencies. The natural issuers in a corporate bond market are the large firms, for which investors would find it worthwhile to evaluate their credit quality based on publicly available information. Hence, beyond the size of a market, a measure of its development would be the range of credit quality of the borrowers that come to the market. At the same time, the presence of non-resident issuers may represent a vote of confidence, indicating a market that is able to provide funds on terms that are competitive with those available in other currencies.

In Asia, issuers in some markets still seem to be concentrated near the high end of the credit quality spectrum. In Malaysia, about 40% of the market consists of issuers with the local ratings of triple-A and another 40% of issuers



[1] Includes municipal issuers, supranational issuers such as the World Bank and foreign quasi-government institutions such as the US agencies.

Sources: Dealogic Bondware; BIS calculations. Graph 1

with double-A ratings. In Korea, some 80% are single-A or above.[4] In the absence of more systematic data on the credit quality of issuers in the different markets, we can turn to indirect evidence in the form of the division of issuers into quasi-government issuers, financial institutions and non-financial issuers. Quasi-government issuers are likely to borrow with government guarantees, whether explicit or implicit.[5] Hence, they are likely to have the highest credit quality available in the country. As shown in Graph 1, quasi-government issuers dominate three of the markets: China, India and New Zealand. It should be noted that since the Asian crisis, the Korean market has graduated from one dominated by issues backed by credit guarantees to one in which such issues are a negligible fraction.

Quasi-government issuers dominate three markets

While financial institutions often have implicit guarantees, this does not seem to be the case in the markets dominated by such institutions: Australia, Hong Kong, Korea and Singapore. In fact, the pattern of financial issues making up the larger part of the market is no different from that in European markets, and at least in the case of Australia many of the financial issues are in fact asset-backed securities.

A further indication of the importance of quasi-government issuers in Asian corporate bond markets is the composition of the HSBC Asian Local Bond Index (ALBI). The index is designed to track the performance of liquid local currency bonds in China, Hong Kong, India, Indonesia, Malaysia, the Philippines, Singapore, Taiwan (China) and Thailand. It has a large number of

[4] Ratings composition estimates based on information provided by Bank Negara Malaysia and the Bank of Korea. For comparison, the US market has its highest concentration of corporate issuers in the single-A grade category, followed by the triple-B grade category.

[5] Here we include in our quasi-government categories supranational issuers such as the Asian Development Bank (ADB) and the International Bank for Reconstruction and Development (IBRD), municipal bonds and a number of foreign quasi-government financial institutions such as the US agencies.

constituent issues and includes non-government ones. Significantly, however, these "non-government" constituent issues are restricted to those by quasi-government borrowers.

Is the available public information inadequate?

The evidence presented above is incomplete and indirect, but it does give a strong sense that issuance in at least a few of our 12 markets is dominated by issuers with high credit quality. In the markets where this pattern persists, it is likely that institutional investors have internal guidelines that limit them to investing only in highly rated securities. Nonetheless, such guidelines may merely reflect the fact that the publicly available information may not be adequate for investors to assess the creditworthiness of potential issuers with significant default risk. Indeed, this possibility is supported by Bhattacharya et al (2003), who report measures of the opacity of earnings releases that tend to be higher for Asian countries. Moreover, Fan and Wong (2002) argue that such releases in Asia tend to be less informative because of cross-holdings and pyramid ownership structures.

Foreign issuers a vote of confidence

As discussed earlier, the presence of foreign issuers may indicate how well developed a market is. It may also reflect the efforts of policymakers in a small economy to find ways to enlarge their market and make it more viable. As shown in Table 2, the New Zealand, Hong Kong and Singapore dollar markets host the highest proportions of non-resident issuers, with these issuers comprising 86%, 56% and 36% of the market respectively. The Australian dollar market also has a relatively high proportion of 28%. These proportions include non-residents who issue local currency bonds offshore, in London for example. Also, data on onshore and offshore issuance are not fully comparable and so these proportions might overstate the non-resident share. Nevertheless, they suggest that, by this metric, these four markets may be the best developed in the region.

Local currency corporate bonds by residence of issuer[1]

At end-2004

	Residents (USD billions)	As a percentage of total	Non-residents (USD billions)	As a percentage of total
Australia	134.0	71.5	53.5	28.5
China	195.9	100.0	0.0	0.0
Hong Kong SAR	27.3	44.1	34.6	55.9
India	24.5	100.0	0.0	0.0
Indonesia	6.8	99.8	0.0	0.2
Japan	1,646.1	82.2	355.9	17.8
Korea	355.2	99.9	0.4	0.1
Malaysia	49.5	99.6	0.2	0.4
New Zealand	4.1	13.8	25.8	86.2
Philippines	0.2	86.8	0.0	13.2
Singapore	13.9	64.0	7.8	36.0
Thailand	31.8	99.8	0.1	0.2
Memo: United States	*13,535.9*	*89.5*	*1,580.7*	*10.5*

[1] See footnote 1 to Table 1 for definition of corporate bonds.

Sources: Dealogic Bondware; BIS. Table 2

Secondary markets

Liquidity in corporate bond markets

Even the largest markets are not perfectly liquid

Before considering the problems of liquidity in the Asian markets, it is worth keeping in mind that even a large market such as that of the United States is not perfectly liquid either. There, liquidity is concentrated in the so-called "benchmark" bonds. Most other corporate bonds are traded actively only in the first few weeks after issuance as part of the "allocation process". After this period, liquidity is typically low, with two-way pricing provided by a few market-makers, primarily the lead underwriters of the issue. Whereas bid-ask spreads in the inter-dealer market for US Treasury securities are less than 1 basis point, bid-ask spreads in the corporate bond market are about 3 to 5 basis points.[6] In recent years, the introduction of standardised credit default swap (CDS) indices in North America has added greatly to the liquidity of the underlying names.[7] Still, these indices are limited to only 125 names each. This experience demonstrates how challenging it is to create liquidity even in very developed corporate bond markets.

Corporate bond markets in Asia relatively illiquid

The secondary markets for local currency corporate bonds in Asia have also lagged behind their government bond counterparts. While in the last few years government bond markets and in some cases swap markets have become reasonably liquid, corporate bond markets remain relatively illiquid in Asia. The turnover ratios in most Asian corporate bond markets are typically a smaller fraction of that of their government counterparts than is the case in the United States (Graph 2).

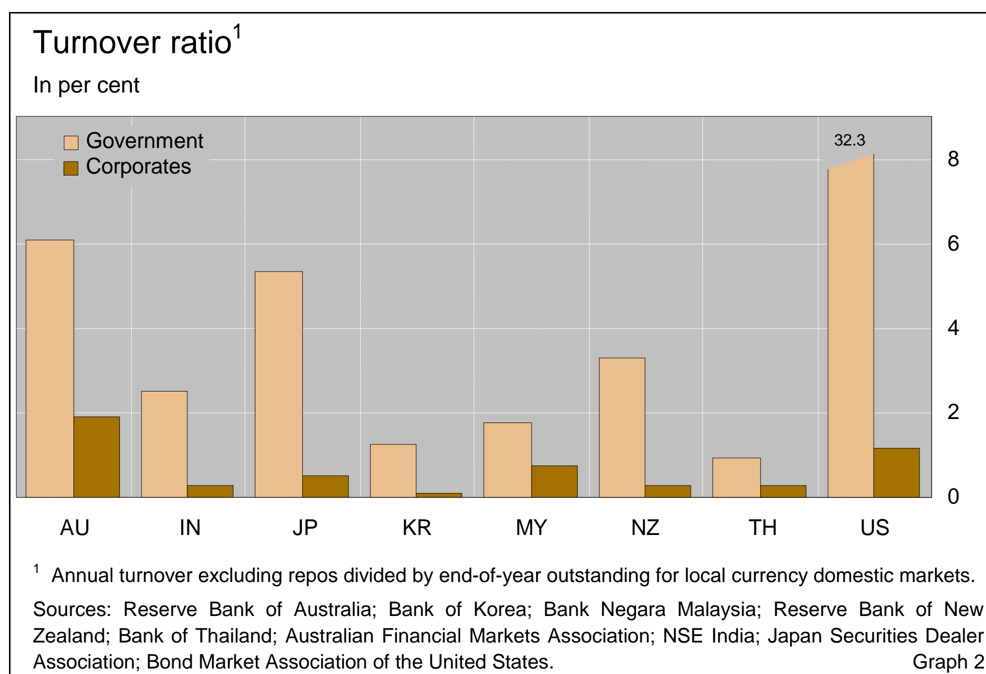
Four salient factors appear to be keeping liquidity low in the Asian corporate bond markets: a lack of diversity in the investor base, inadequate market microstructures, market opaqueness and a limited flow of timely information about issuers to creditors. We discuss each of these factors below.

Diversity of investor base

A diversity of investors fosters trading activity. With such diversity, it becomes less likely that different investors will find themselves on the same side of the market, either as sellers or buyers. They are more likely to disagree on the credit quality of an issuer and thus be more willing to trade, and they are less likely to need liquidity at the same time. In Asia, such diversity seems to be rather limited. Here the investor base for corporate bonds tends to be dominated by government-controlled provident funds, insurance companies and banks. Once a bond is issued, it normally disappears into the portfolios of buy-and-hold investors. Those who might trade more actively, such as fixed

[6] Fleming and Remolona (1999) calculate the bid-ask spread for US Treasury securities to be between a sixth and a third of a basis point on the yield. Chakravarty and Sarkar (2004) estimate the average bid-ask spread of corporates to be about 21 cents per $100. For a five-year bond, this amounts to about a 4 basis point bid-ask spread on the yield.

[7] These indices include the DJ CDX Index in North America. See Amato and Gyntelberg (2005).



[1] Annual turnover excluding repos divided by end-of-year outstanding for local currency domestic markets.

Sources: Reserve Bank of Australia; Bank of Korea; Bank Negara Malaysia; Reserve Bank of New Zealand; Bank of Thailand; Australian Financial Markets Association; NSE India; Japan Securities Dealer Association; Bond Market Association of the United States. Graph 2

income funds and hedge funds, are typically missing from these markets or are only allowed very limited credit risk exposures.

Important class of investors missing

An important class of investors that is missing from some Asian markets is foreign investors, including global financial intermediaries. In general, myriad market impediments discourage them from participating in the local markets. Among the impediments are withholding taxes and the lack of a market for hedging instruments, such as currency swaps. Policymakers in Asia are aware of these. In setting up the Asian Bond Fund 2 (ABF2), as Ma and Remolona (2005) explain, central banks in Asia were able to reduce some of these impediments. The Philippines, for example, recently removed documentary stamp taxes on the secondary trading of fixed income securities, which had discouraged foreign investors from participating in its local market.

Market type

Government has role in setting up microstructures

Fixed income debt securities tend to trade more actively on over-the-counter (OTC) markets than on exchanges.[8] The most liquid OTC markets are those for government securities, which tend to rely on designated market-makers, as discussed by Sundaresan (2002). Inter-dealer brokers allow dealers to trade with each other anonymously. Such microstructures have often required government encouragement to establish. In China, India, Japan, Korea, Malaysia, Singapore and Thailand, as in the United States, such primary dealers and market-makers for government securities are appointed by the authorities and required to make markets for government securities. Compared to government bonds, corporate bonds are handicapped by the fact that issues tend to be rather heterogeneous and issue sizes to be smaller. Hence, they

[8] OTC markets are said to be “quote-driven” markets requiring dealers willing to maintain inventories, while exchanges are often “order-driven” markets requiring a continuous flow of buy and sell orders.

may require even more help from the authorities in removing obstacles to the provision of liquidity as well as setting up microstructures.

In Asia, efforts to foster liquidity in corporate bonds have included having them listed on existing stock exchanges or even the setting-up of exchanges devoted to fixed income securities. Such measures are often also aimed at improving transparency. However, trading so far remains concentrated in the OTC market. In Seoul, for instance, over 90% of the secondary trading in corporate bonds still takes place in the OTC market and only 10% on the exchange. In Thailand, the turnover ratio has been 30% in the OTC market and only 1% on the local exchange. In China, because of regulatory fragmentation, financial issues have been traded only on the local interbank OTC market, while non-financial names have been traded either on the two domestic stock exchanges or on the interbank OTC market.

Several of the Asian secondary markets for corporate bonds tend to be less competitive, resulting in wide bid-ask spreads that discourage trading. Market participants suggest that bid-ask spreads in many of the Asian markets are about 5 to 10 basis points even for the most liquid issues (Table 3). In a number of markets, there tend to be one or two dealers for a single issue, often the lead underwriters. In addition, while indicative quotes from dealers are sometimes available on Bloomberg, in many markets ex ante transparency consists of different dealers faxing quote sheets to potential investors, which often contain only a limited and non-comparable subset of the names in the corporate universe. Formal inter-dealer markets or inter-dealer brokers who specialise in corporate bonds have a significant presence only in the more developed markets.

Post-trade transparency

A third and related factor affecting liquidity is transparency about trades. Such ex post transparency encourages competitive pricing and makes investors confident that they are getting good prices. The US experience helps highlight its relevance. Until about two years ago, trading in US corporate bonds had been lacklustre. Since July 2002, however, dealers in corporate bonds have been required to report OTC trades to the Trade Reporting and Compliance

Selected secondary corporate bond markets

	Market type	Bid-offer spread[1] (basis points)	Ex-post transparency
Australia	OTC/Exchange	2–10	…
China	OTC/Exchange	5–10	…
Hong Kong SAR	OTC	10–15	…
Korea	OTC/Exchange	2–5	Yes (KSDA)
Malaysia	OTC	5–10	Yes (BIDS)
New Zealand	OTC	5–15	…
Singapore	OTC	10–15	…
Thailand	OTC	5–10	Yes (ThaiBMA)

[1] Bid-offer quotes of bonds on the countries' local currency domestic bond markets (exchange or OTC).

Sources: Citigroup (2005); Bloomberg; informal discussions with market participants. Table 3

Engine (TRACE) of the National Association of Securities Dealers (NASD). TRACE then publicly disseminates the trade data. Though some market participants argue that immediate disclosure reduces the liquidity available for large trades, Edwards et al (2005) find that such transparency has reduced bid-ask spreads by an average of 5 basis points.

Malaysian BIDS as good as TRACE

In recent years, some Asian markets have started to enact reporting requirements similar to or even surpassing that of TRACE. Much of this transparency, however, has been limited to dealers. Malaysia has the Bond Information Dissemination System (BIDS), in which dealers are required to enter trades (price and volume information) into the system within 10 minutes of a trade. (The public receives summary information with a 10-minute delay.) This information then becomes available to the BIDS screen subscribers, which tend to be the participants on the "sell" side of the market. At least for those with access to BIDS, this system seems to provide better ex post transparency than even TRACE. The Thai Bond Market Association (ThaiBMA) requires traders to report OTC trades within 30 minutes and distributes the trade information to ThaiBMA members four times a day.[9] The Korea Security Dealers Association (KSDA) requires dealers to report their transactions within 15 minutes via its information distribution system, which disseminates the information to the public on a website the same day. Even greater ex post transparency may be required if the markets are to become more liquid.

Flow of timely information

Trading thrives on disagreement

The fourth limiting factor is perhaps the most critical one. Many corporate bond markets in Asia seem to have a limited flow of timely information about issuers. In markets such as those for corporate bonds, much liquidity can be generated by the activity of investors who disagree about fundamentals. Such information-based trading provides spillover benefits to those who are in the market for purely liquidity reasons. And such trading tends to be active when there is a significant flow of information about the credit quality of issuers, with every new piece of information creating a new reason to disagree.

In the United States, the flow of market-relevant information takes various forms. Issuers themselves provide quarterly financial reports and profit warnings, the financial press and information services report on major transactions and important corporate events, and credit rating agencies make various announcements about changes in their views about rated companies. Trading in corporate bonds tends to pick up around these information events.

"Reviews" most timely agency announcement

The market reactions to rating agency announcements illustrate the importance of timely information. Rating agencies have chosen to be very careful and deliberate about changing a credit rating, and hence rating changes tend to lag significantly the arrival of the relevant information in the markets. In their effort to be timely, rating agencies have devised "review" announcements – "Watchlist" in the case of Moody's and "CreditWatch" in the case of Standard & Poor's. These announcements are made immediately after

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[9] This information is made available to the public at the end of the day. The ThaiBMA also publishes price quotes by its members on a biweekly basis.

the arrival of significant information, and they signal the possibility of a rating change within a few months. Micu et al (2004) have documented that price reactions to rating agency announcements are strongest for these review announcements.

Such information flows are often more limited in Asian markets. A large number of issues carry one form of government guarantee or another, making the credit quality of the issuer on a standalone basis less relevant. In addition, Ball et al (2003) find a pattern in which financial reporting in some Asian markets tends not to recognise losses in a timely way. One reason given for this is the lack of incentives for timely reporting in the Asian context where personal networks in business are so important. Local credit rating agencies do exist in Asia, and often ratings are mandatory for bond issues. Many such rating agencies, however, are quite new and need more time to develop a historical record on which to build a reputation. While a handful of foreign agencies are active in Asian markets, they often do not provide ratings across the full array of bond issuers in individual countries.

Local rating agencies still too young

Conclusion

In their effort to develop their local currency corporate bond markets, policymakers in Asia face fundamental dilemmas. In the case of the primary markets, should they emphasise further growth even if issuance remains concentrated in quasi-government issuers or in issuers with explicit or implicit credit guarantees? Or should they focus their efforts on disclosure rules, accounting standards and transparency so that investors may have the information for assessing credit risk for a broader class of potential issuers? While the former approach may be good way to start, Asian authorities may have reached the stage where they are doing one at the expense of the other. If the least risky issuers saturate the market with their bonds, this may crowd out the riskier ones and retard the development in the market of a culture of credit assessment and pricing of credit risk.

In the case of the secondary markets, the policy dilemma is whether to focus on developing market microstructures, on diversifying the investor base or on strengthening the institutions that foster flows of market-relevant information. These approaches are not necessarily substitutes and may be pursued together for greater effectiveness. In practice, however, developing market structures – for example, setting up fixed income exchanges – appears to be the most straightforward approach while the two others appear more complex and their payoffs more long-term. Nonetheless, diversifying the investor base and improving the flow of credit risk-relevant information are perhaps more important in the longer run.

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