Choice of currency by East Asia bond issuers

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Introduction

In discussing bond markets in Asia, academics and policymakers typically begin by noting that the Asian crisis of 1997-98 in part resulted from the underdevelopment of the region's domestic bond markets and the resultant currency and duration mismatches. When assessing the progress made in developing these markets in the post-crisis years, academics and policymakers usually observe that, while several domestic currency government bond markets have moved ahead, corporate bond markets have lagged (Asian Development Bank (2002), Reserve Bank of Australia (2003)). The policy conclusion is therefore often drawn: to prevent another Asian crisis, Asian bond markets must be further developed.

This paper has two objectives, one straightforward and factual, the other more speculative. First, we let the data on Asian bond issuance speak for themselves, finding that since 2000, primary issuance by Asian corporates in local currency has far eclipsed US dollar-denominated paper. We conclude that the post-crisis growth of the domestic currency corporate market is underappreciated (this section expands on points made in Fernandez and Klassen (2003)). We comb through the data on issuance to point out cross-country, cross-sector and duration differences, but the overall message is that corporate issuance, per se, has grown significantly. Second, looking forward, we argue that the problem of Asia's corporate bond market development will not be one of the supply of domestic currency obligations. Rather, it will have more to do with demand: demand side factors that lead to the contrast between a liquid US dollar bond market in Asia and the relatively illiquid local markets. The difference is a by-product of financial market globalisation generally and is one that has drawn investors in Asia towards structured products and away from "plain vanilla" local currency issues.

About the data

The focus of this paper is on Asian corporate, financial and quasi-sovereign issuance data from BondWare, a database compiled by Dealogic, an independent data distributor. The data start in 1980 and cover an extensive range: 10,157 individual bond issues by a total of 2,388 issuers, for a total issuance amount of USD 667 billion. We look at the issuance patterns in 10 Asian economies excluding Japan - China, India, Indonesia, Hong Kong SAR, Korea, Malaysia, the Philippines, Singapore, Taiwan (China)[1] and Thailand - and focus on the data after 1998, when local currency issuance first started to capture the market's attention.

Restricting ourselves to this data source when looking at Asian corporate bond issuance introduces a bias into our analysis. One of the purposes of BondWare data is to permit the ranking of bookrunners (the lead underwriters controlling the distribution of paper) by amount

1 Hereinafter Taiwan.

or number of deals underwritten); indeed, the data are effectively provided by the bookrunners. For this reason, BondWare only captures those issues that the bookrunner wants to advertise. This means that small-sized bonds, reverse inquiries (investor-driven deals) under private placement and the like may be underrepresented in our sample. In addition, we suspect that BondWare's historical closeness to the US dollar market and developed markets generally skews its coverage away from local currency bond markets. This sounds like a serious problem, but in fact this is a bias that serves our purpose well.

We are interested in documenting the current development of the region's local currency corporate debt market. Issuance that goes unadvertised, is placed directly in a limited number of hands, and hence is hidden from the BondWare database is likely similarly to be hidden from the wider investor base. The bonds captured in BondWare therefore represent the state of internationalised corporate bond issuance - the ideal case.

For comparable data on government issuance, we use our own data compilation, based on the respective national treasuries. Issuance that is the direct result of sterilisation of central bank purchases of foreign exchange is excluded (though McCauley (2003) makes interesting points about the potential synergies between the two markets).

Government issuance has led the way for local bond market development

Issuance of local currency government bonds has grown substantially since the Asian crisis (Klassen (2004)). Taking two snapshots of issuance, one in 1999 and one in 2003, shows that government issuance has grown roughly 40% over that period (Table 1). The amount of renminbi-denominated bonds issued by the Chinese government remains the largest in non-Japan Asia, but considerable increases in issuance have come out of other economies that have run substantial fiscal deficits, such as Malaysia, the Philippines, India and Taiwan. Korean issuance to refinance financial sector restructuring and for other needs has also risen.

Table 1

Government gross bond issuance

In billions of US dollars

Country	Local 2003	Local 1999	USD 2003	USD 1999
China	45.5	48.6	1.0	–
Hong Kong SAR	1.7	0.8	–	–
India	31.1	19.6	–	–
Indonesia	1.4	–	–	–
Korea	28.8	15.8	1.0	–
Malaysia	12.6	3.7	–	1.0
Philippines	17.0	1.5	2.7	3.7
Singapore	4.9	3.7	–	–
Taiwan, China	13.3	8.8	–	–
Thailand	1.4	10.7	–	–
Total	**157.7**	**113.2**	**4.7**	**4.7**

Source: National data compiled by JPMorgan Chase.

These snapshots of government issuance also show that sovereign funding done in US dollars has risen. With the exception of the Philippines (which in certain years, such as 1999, actually issued more in dollars than it did in pesos), the Asian sovereign financing mix is very skewed towards local currency bonds. Sovereign dollar issuance from China and Korea in 2003 was clearly for benchmarking and profile purposes.

So, not only have local currency government bond markets grown in size over the past several years, but sovereigns in Asia have displayed a clear preference for local currency over US dollar funding. The mix between local and foreign funding by sovereigns in Asia over the period 1998 to 2003 can be seen in Graph 1. First, there is a group of governments that issue exclusively in local currency (Hong Kong, India, Singapore and Taiwan) and another group that does so almost exclusively (China, Indonesia and Thailand). In the middle are Korea and Malaysia, whose government issuance is still skewed towards local funding, but who tend to have a more balanced mix. And, finally, there is the Philippines exception, which was referred to above. Finally, we take note of the maturity of government issuance, because it will be echoed in the next section on corporate issuance. For governments and quasi-government entities that issue in both local and foreign currency, their issuance in US dollars tends to be further along the yield curve, especially in the Philippines and Malaysia. In the case of Thailand, dollar funding, like baht funding, tends to be of short maturity.

Among the various other characteristics necessary to make government bond markets effective is liquidity. McCauley and Remolona (2000) show that, with respect to government bond markets, larger size tends to lead to more trading and greater liquidity. When it comes to the Asian government bond markets, it seems fair to conclude that size itself is not the limiting factor in market development.

Size matters and Asia has it: domestic corporate bond markets have grown considerably

Before the Asian crisis, the words “liquid” and “internationalised” could not have been used to describe any of the corporate, local currency debt markets in non-Japan Asia. The BondWare data (recalling the biases cited earlier) show that in 1998 corporations in Asia excluding Japan issued a paltry USD 222 million-equivalent of local currency bonds (Graph 2, with amounts converted at prevailing exchange rates). What is effectively a zero line for corporate, local currency issuance across the region continued through the 1997-98 regional crisis. On the other hand, the same graph shows that there was some foreign currency issuance before the crisis, though it largely came from one entity: the Singapore-headquartered Asia Pulp and Paper. By the end of 1998, total US dollar corporate issuance out of the region stood at USD 8.8 billion.

Another way to think about this very skewed currency composition of debt issuance is that local currency bonds made up less than 2% of total corporate issuance before the Asian crisis and a mere 6% during the crisis period. So, the problem of Asia’s corporate, local currency bond markets before the regional financial crisis could not have been more basic - they almost did not exist but for a few examples in Hong Kong SAR, Singapore and possibly Korea. The obvious first step towards creating markets that could ameliorate the double mismatch of currency and duration was for the domestic, corporate bond markets to grow from their paltry size.

Looking at the data, it is immediately apparent that the growth in the size and the shift in the composition of Asia’s corporate bond markets has been even more striking than those of Asia’s government bond markets. Since the Asian crisis, local currency bond issuance by corporations has soared: Graph 2 shows that, by 1999, corporate issuance in local currency surpassed that in US dollars, and since then the race has not been a contest. Total local currency bond issuance in non-Japan Asia was over 10 times higher in 2000 than it was just two years earlier. This is not to say that US dollar debt issuance from corporations has stood still since the crisis. Indeed, this asset class has expanded to such an extent that dedicated indices, such as the JPMorgan Asia Credit Index (JACI), have been developed as benchmarks for the investor base. Nevertheless, the growth story since the crisis is clearly in the local corporate bond markets, with over 70% of bonds in non-Japan Asia issued in domestic currencies since 1998 - a vast improvement from the single digit percentages cited earlier (Graph 3).

Corporate issuance tends to mirror sovereign's currency choices

Just as we have seen in the case of Asian governments, Asian corporations vary in their choice of currency mix across economies. Like governments, Asia corporations in most of the 10 economies show a clear preference for issuing in their own currencies. Indeed, there is a striking similarity between government and corporate behaviour: the currency choice by corporations tends to closely mirror that of their respective sovereigns (Graph 4).

For Thailand, Taiwan (China), India, Korea, Malaysia and the Philippines, the choice of currency for bond issuance by sovereigns and corporations is very similar. At one extreme, Thai and Taiwanese firms effectively issue all of their debt in local currency (just like their sovereigns), while at the other extreme, Philippine firms raise most of their funding from the US dollar market (just like their sovereign).

The exceptions are worth noting. Clearly, in the cases of Hong Kong and Singapore, the local multinational firms have a natural need for some US dollar funding. In addition, the fixed exchange rate policies of Hong Kong and Malaysia, and to a lesser extent Singapore, create a natural tendency for firms to rely on US dollar financing. We would also recognise the biases of the BondWare data in the case of China, where corporate funding in renminbi may be a higher proportion than that shown if many issues occur "under the radar" in the sense that they are placed with local banks and are not accessible to investors generally. In addition, until recently, tax incentives actually encouraged Chinese issuers to borrow in US dollars. Finally, for Indonesia, note that the numbers in dollar terms are very small and that government issuance in local currencies has only just resumed, while small dollar issuance by corporations became possible only in 2002.

This post-crisis transition to a preference for local currency funding by Asian corporations also varies across countries. To highlight the variation, Graphs 5 and 6 display the dollar amounts of domestic and foreign currency issuance by firms from Thailand and Singapore, respectively, from 1994 to 2003. In the case of Thailand, the switch was dramatic. Pre-crisis, the exchange rate stability, the interest rate premium on baht and other factors led Thai corporations to fund themselves in US dollars. That funding source evaporated during the crisis and since then almost all issuance has been in local currency, including substantial amounts issued to repay foreign currency-denominated debts. In the case of Singapore, the transition by firms was much more gradual and the outcome more balanced. Nevertheless, the pattern of increasing amounts of issuance in local currency is also apparent.

Other characteristics of Asian corporate local bond issuance: maturity, size, sectors

Along with overall market size, there are a host of other characteristics that are associated with a well functioning corporate bond market: issuance across the yield curve, large individual issuance size, and issuance from a variety of sectors, to name a few. We take a last look at the BondWare data on Asian corporations and highlight these patterns. While the amount of local currency issuance has clearly grown in many Asian countries, there are other dimensions in which this supply could still develop.

Maturity: Graph 7 shows that the maturity of local currency corporate issuance is similar to that seen in government bonds. That is, corporate issuance in local currency is heavily skewed to the very short end. For issuance above five years, foreign currency bonds are favoured over local bonds.

Size: Graph 8 shows that, in general, issuance in local currency tends to be done in smaller sized bonds. On average, issue size for local currency issuance is less than half that for foreign currency issuance. It should be noted that, over time, especially in the past two years, that size gap is narrowing.

Sector: Graphs 9 and 10 show that, in both local and foreign currency bond markets, issuance from financials dominates.

Prospects for the issuance of Asian local currency corporate bonds are bright

So, the overall message regarding the supply of local currency corporate bonds in Asia is that the situation today is already very positive. Governments had taken the lead after the Asian crisis and corporates have followed.

And the future of corporate bond supply looks even brighter. Simply looking at scheduled redemptions (Graph 11), reflecting the short-dated characteristic of local bonds pointed out above, there is more issuance in the pipeline. Once the stock of debt has been built up, as it has over the past several years, issuance tends to be perpetuated: supply begets more supply.

Thoughts about the demand side of the market

In closing, we turn our thoughts to the much-neglected demand side of the equation with respect to Asian corporate bond market development. In our view, the benefits of this fast-growing local currency bond market that we have documented have not been spread evenly. Much attention has rightly been paid to the importance of building a primary bond market for Asia's corporate issuers. But let us spare a moment to think about investors' needs. Indeed, even though significant progress has been made on the supply front over the past several years, the constraint on developing Asian secondary bond markets looks likely to come from issues on the demand side.

In general, the relationship between issuer and investors is not necessarily a zero-sum game. True, for each issue, a lower coupon benefits the issuer at the direct expense of the investor, but lower debt service costs for a firm reduce the likelihood of default, which benefits both. There is also a virtuous cycle in which the lower cost of capital reduces inflation pressures; lower inflation reduces financial volatility; lower volatility is rewarded through lower borrowing costs. Many of these factors have been at work in Asia.

Another area of obvious benefit for both lenders and borrowers is the development of secondary market liquidity. Investors benefit from the flexibility of being able to transfer risk before maturity - they are prepared to pay a premium for this which then lowers the interest costs for issuers. However, a different kind of liquidity - the excess deposit liquidity in the Asian banking sector - already benefits issuers and, as such, the lack of secondary market liquidity is primarily disadvantaging investors. Indeed, the clearest benefits for issuers have come from more traditional demand side pressures: viz the excess liquidity in the region's banks (Graph 12). Comparing this increase in excess liquidity with the growth in issuance, it can be seen that issuers have benefited through the increased demand.

The result has been a shrinking of credit spreads on Asian dollar bonds (Graph 13). While the exact determinants of this spread tightening are difficult to pin down, we would certainly attach significant importance to the excess liquidity in the banking sector that has prompted the so-called “Asian bid”. Whatever the causes, lower spreads have reduced the opportunity for investors to earn yield by taking credit exposure.

Ideally, this imbalance should be corrected as new issuers enter the market and widen spreads. But the low yields have not enticed enough new entrants. One reason is that that the universe of issuers in Asia is very narrow and issuers lack diversity. Additionally, low bond yields have also had to compete with another form of capital-raising - equity financing. With a high demand for global diversity in equity portfolios and the low actual supply, Asian equities are arguably even more mispriced than credit spreads. Accordingly, firms find equity issuance more attractive than bond issuance.

Investors, recognising the supply imbalance, have instead shifted the focus of their demand away from “plain vanilla” corporate issuance. As an alternative, investors have set their sights on structured products. Effectively, investors do not believe that current yields adequately compensate them for taking the credit risk entailed in buying corporate bonds and accepting the lack of secondary market liquidity. Instead, structured products which offer principal protection and leverage market risk (either yield curve shape or volatility), are perceived to offer a higher yield for the same liquidity constraints. In essence, structured products work through taking leveraged bets on observable market prices.

Examples of structured products offered to Asian investors are now numerous:

- Convertible bonds: these pay coupons like a regular bond but the principal is redeemed in equity subject to the performance of the stock and at the discretion of the issuer.
- Cover call selling: the investor buys a standard bond but sells potential upside to lock in a higher up-front yield.
- “Quanto” structures: the principal is issued and redeemed in one currency but the coupon is indexed off another, higher-yielding, currency yield curve.
- Range accrual notes: these pay twice the current market coupon if an observable market interest rate stays been two agreed levels, but half the coupon if the interest rate moves outside the agreed range.
- Target redemption notes: these guarantee principal protection and a higher than market yield but the redemption date is not fixed at issuance.
- Collateralised debt obligations: these tier both the returns and the risks of standard bonds into low-risk and low-return tranches, on the one hand, and high-return, high-risk tranches on the other, and may use derivative products to tailor characteristics to demand.

A common trait across all of these products is that, so long as the investor holds it to maturity, the principal is protected. Of course, this is the same as with a standard bond, barring default. In contrast to the credit risk of direct lending to corporations, however, with market-linked structures the investor limits credit exposure to the default risk of the issuing or arranging banks and even this risk is sometimes reduced by a special-purpose vehicle that segregates the original capital. These products’ returns can also be guaranteed in the currency of the investor, meaning the risk of the currency mismatch between investor and issuer is borne by the arranger or passed onto the market. And, although structured products are often thought of as complex and confusing, they are indexed off tradable market prices, and so could be considered more transparent than the domestic credit market, with its lack of market standards and, by global standards, poor disclosure.

At this point it is worth discussing whether Asia is any worse off in the current situation: issuers fund cheaply in the credit market, investors in structured products have their principal protected and earn their target yield. The benefits of structured products are clear, they are tailored to meet both sides' cash flow requirements subject to their return and risk profiles. Structured products can be designed to embody yield curve risk, option risk or direct credit risk, alone or in combination. Although the risks are more complex, they are not necessarily higher than the naked credit exposure of owning corporate paper.

Tellingly, just as the demand for corporate bonds pushed down credit spreads, buying of structured products has flattened yield curves and lowered the premiums on financial options, so the attraction of earning income through structured products is waning compared with owning simple credit. Another concern is that, although we argued that credit spreads are too tight and do not compensate for the illiquidity (cost of transferring the risk to someone before maturity), structured products are even less liquid. A holder of a publicly tradable corporate bond can sell it to any other investor in the market. Due to the customised nature of structured products, the buyer's recourse is to the original arranger, so the cost of unwinding is much more than even the wide bid-offer spread on Asia corporate paper.

The other side of structured product buying is structured issuance. Similar to the zero-sum nature of setting a coupon for issuer and investor, a structured product issuer is taking the risks of intermediating between wholesale markets and buyers trying to achieve higher returns. However, taking advantage of this potentially much cheaper funding alternative requires from the issuer an appetite for risk and the sophistication to manage the yield curve, option or credit risks.[2]

And here is the kicker: regardless of what the threshold requirements of sophistication for issuers to participate in this market might be, at the moment fully understanding structured products appears beyond the scope of most Asian financial institutions. To date, only a handful, helped by foreign banks, have issued structured products. So, it is fair to say, structured products currently sold to Asian investors almost entirely benefit issuers headquartered outside Asia. This is obviously not the ideal case, and brings us back to the original problem of Asian savings exiting the region and Asian issuers being disadvantaged.

An obvious solution to this might be to encourage the region's institutions to issue their own structured products. Indeed, foreign expertise has already transferred pricing skills to the region's banks, which have then used their networks to market structured products to their customers. But for all the merits of structured products, they do not represent the ideal solution. They are designed to be customised for counterparties, not commoditised for liquidity. Straight bonds are still needed for corporate benchmarking - as a derivative, some structured products are meant to derive their value from the very cash bonds that they are currently replacing.

So, indeed, Asia corporate bond markets have come a long way. The primary market is now liquid and deep enough to cover most of the needs of the current issuer base. But imbalances, especially the excess liquidity in the banking sector, have benefited issuers, the supply side of the equation. In the future, the market's success for issuers may be constrained by the costs to investors. Investors, seeking alternatives to raise yields, are increasingly turning away from standard corporate fixed income instruments and towards investments such as structured products. Clearly this is not ideal as, collectively, the myriad

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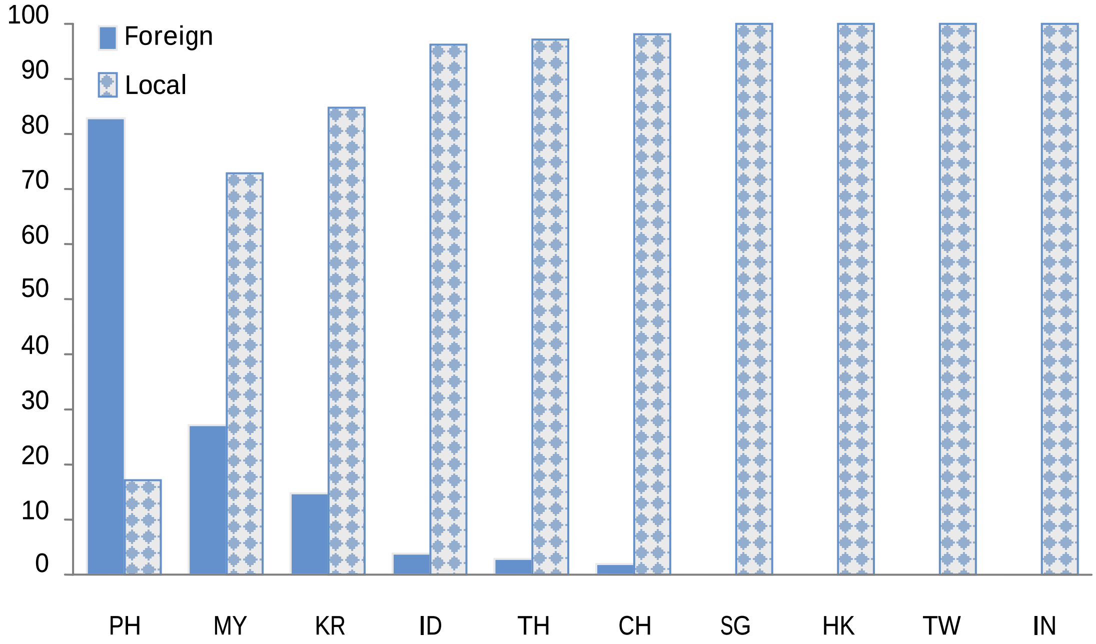
[2] Although arguably, given the zero-sum nature of derivatives, the same level of sophistication should be required for the Asian buyers of structural products.

risks involved are more complex than simple credit risks, and at the margin the benefits accrue to the structured product arrangers at the expense of both issuers and investors. Efforts are needed to restore the balance between supply and demand in Asia's corporate bond markets, primarily now helping investors though increasing the diversity and scope of issuer alternatives.

Chart 1

Currency mix of government bonds

Per cent of total, 1998-2003

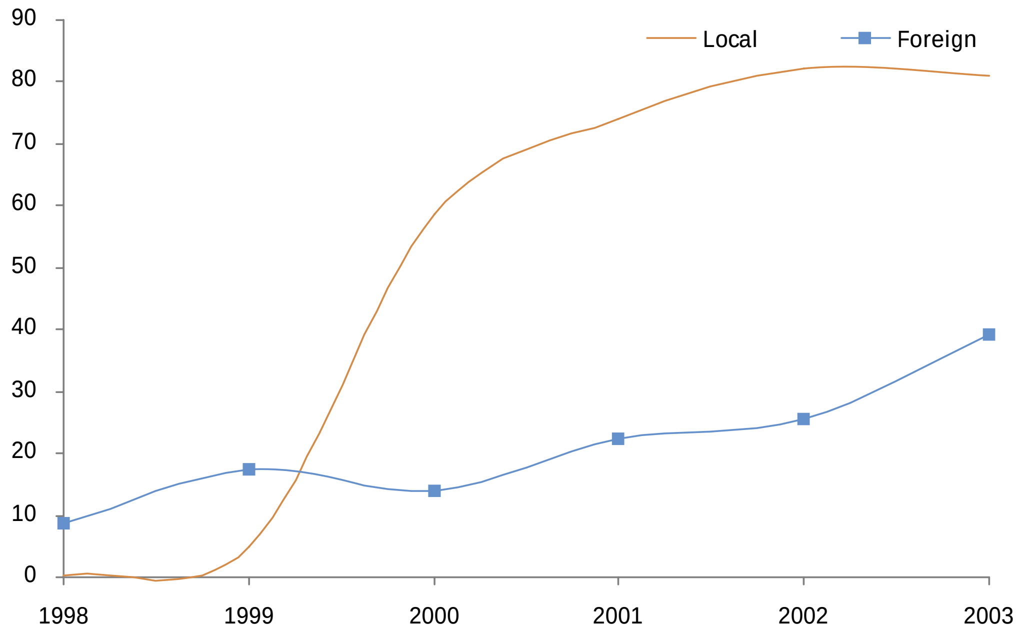


Source: BondWare, December 2003.

Chart 2

Currency mix of corporate bonds

USD billions

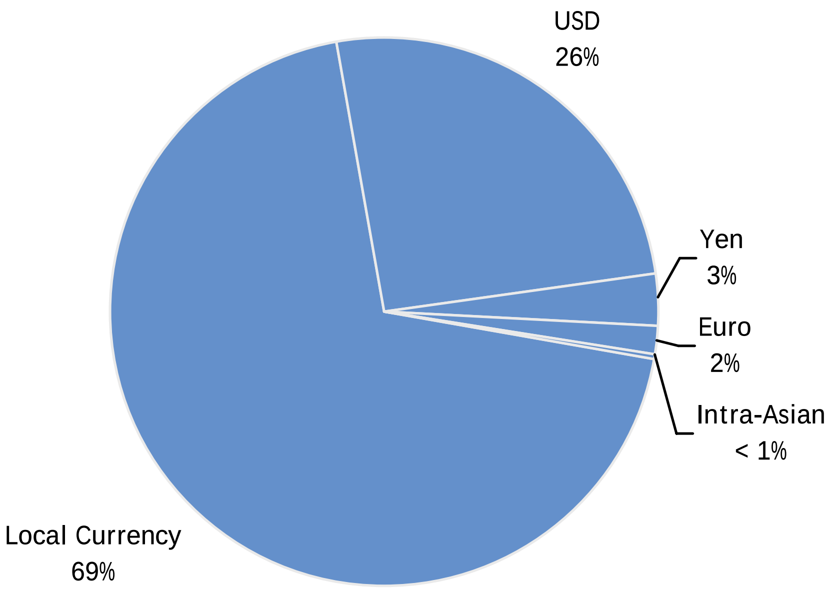


Source: BondWare, December 2003.

Chart 3

Asian corporate issuance by currency

Per cent, 1998-2003

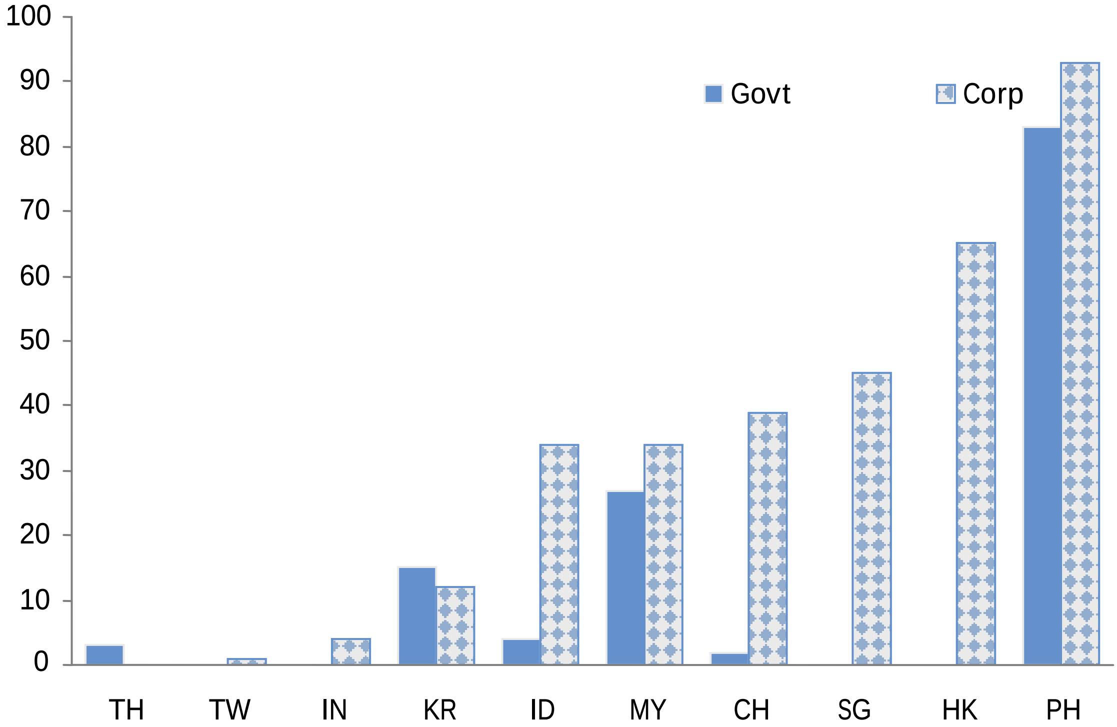


Source: BondWare, December 2003.

Chart 4

Foreign currency mix of government and corporate bonds

Per cent of total, 1998-2003

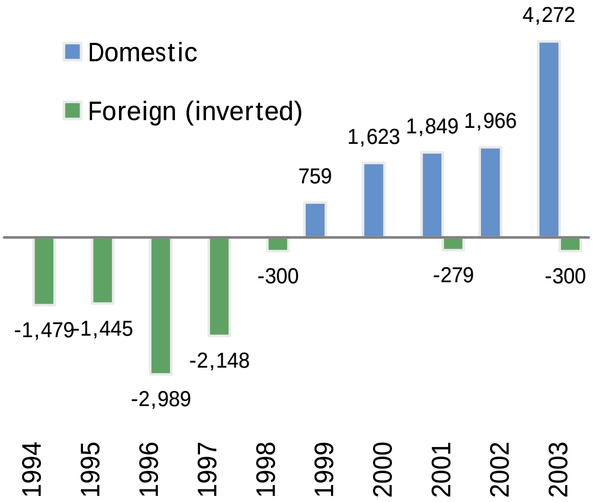


Source: BondWare, December 2003.

Chart 5

Thailand's switch to local financing was dramatic ...

USD millions

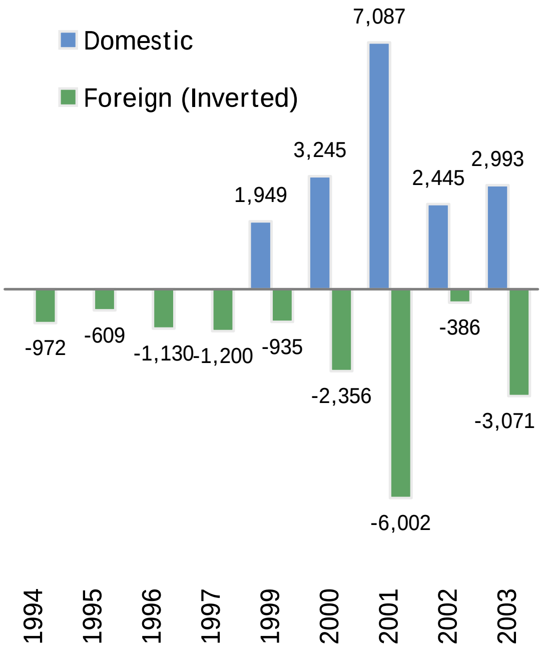


Source: BondWare, December 2003.

Chart 6

… while Singapore's was more balanced

USD millions

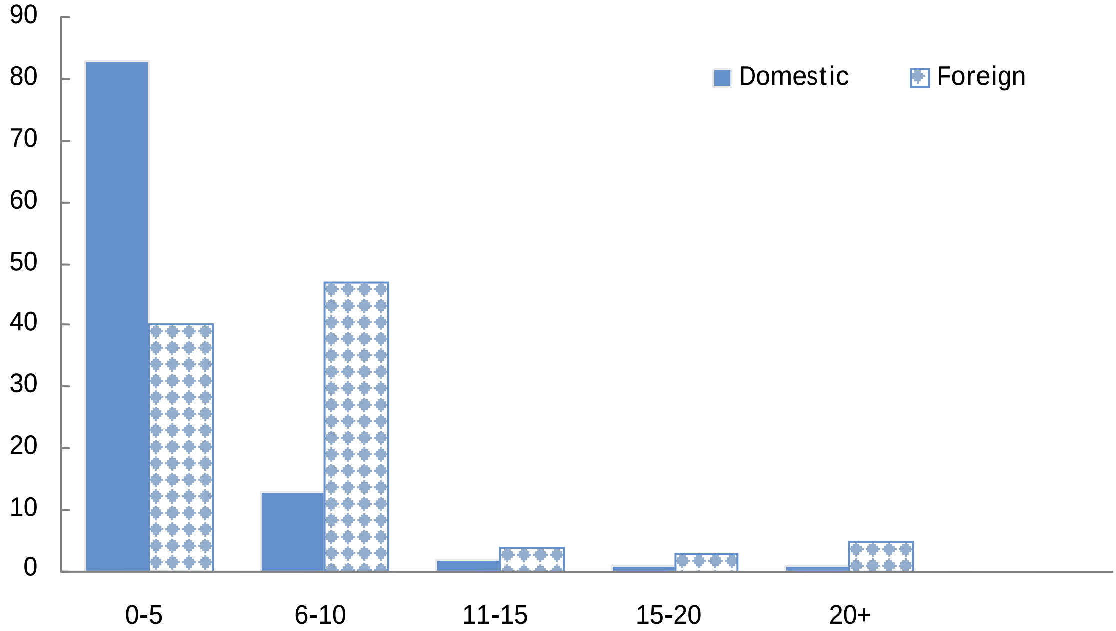


Source: BondWare, December 2003.

Chart 7

Maturity structure of corporate bonds

Per cent of total

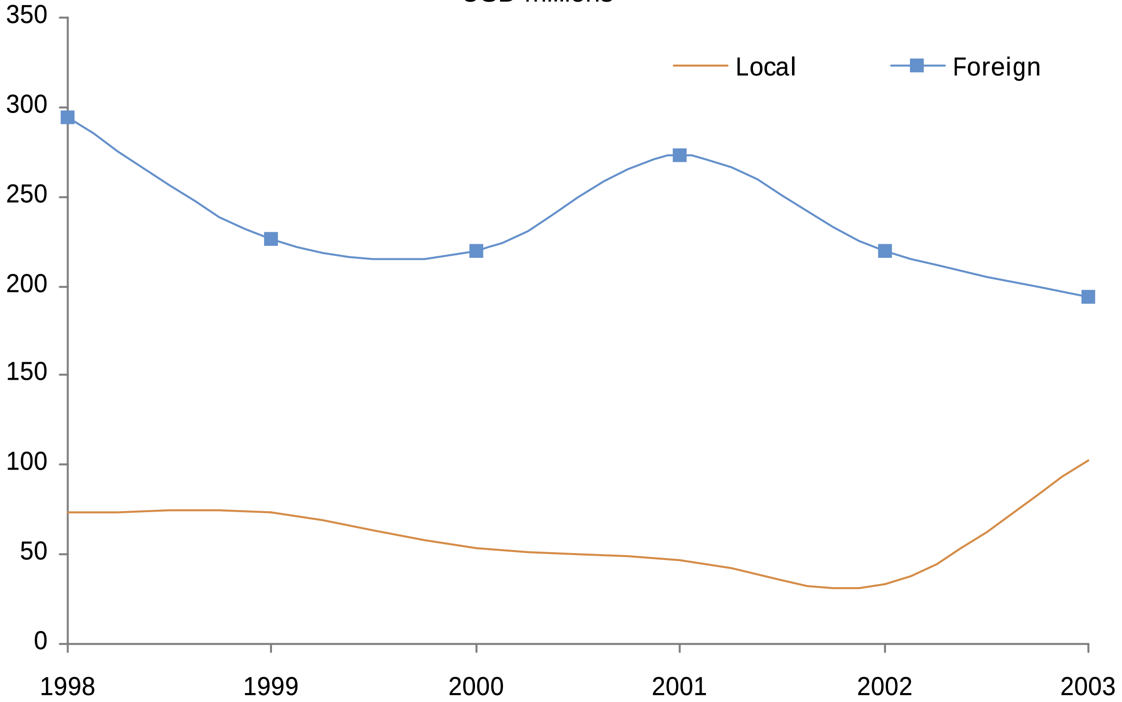


Source: BondWare, December 2003.

Chart 8

Average issue size

USD millions

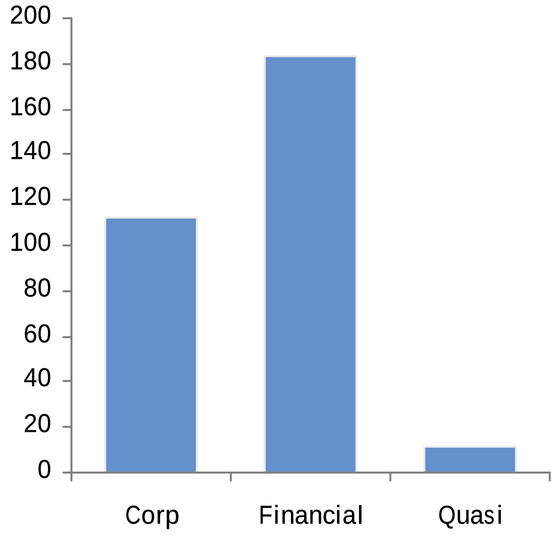


Source: BondWare, December 2003.

Chart 9

Local currency issuance

USD billions, 1998-2003

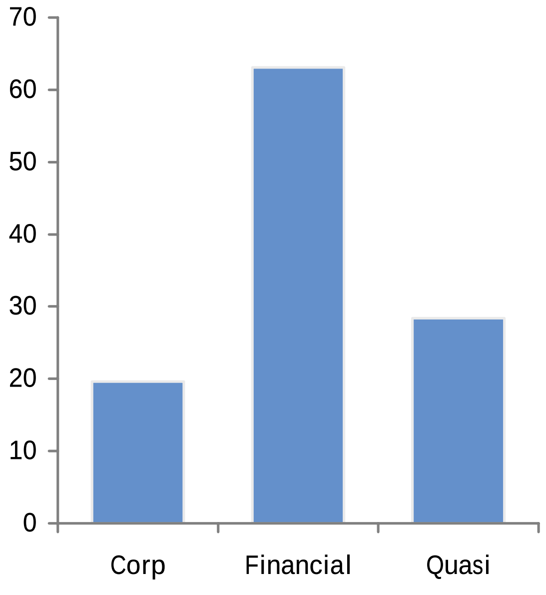


Source: BondWare, December 2003.

Chart 10

Foreign issuance

USD billions, 1998-2003

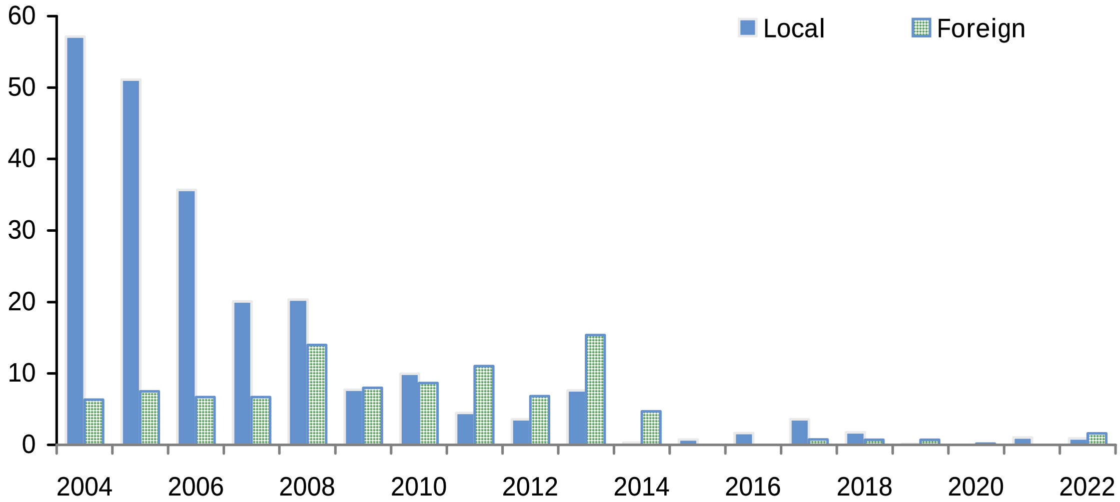


Source: BondWare, December 2003.

Chart 11

Redemption schedule

USD billions

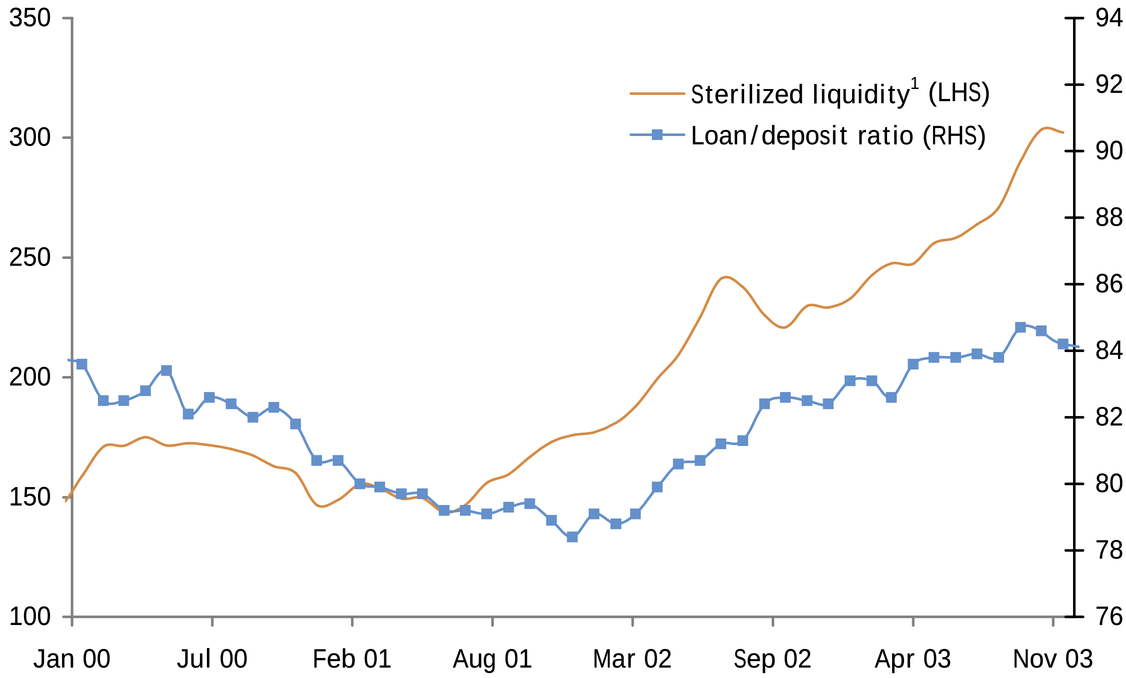


Source: BondWare, December 2003.

Chart 12

Measures of excess liquidity

USD billions/per cent



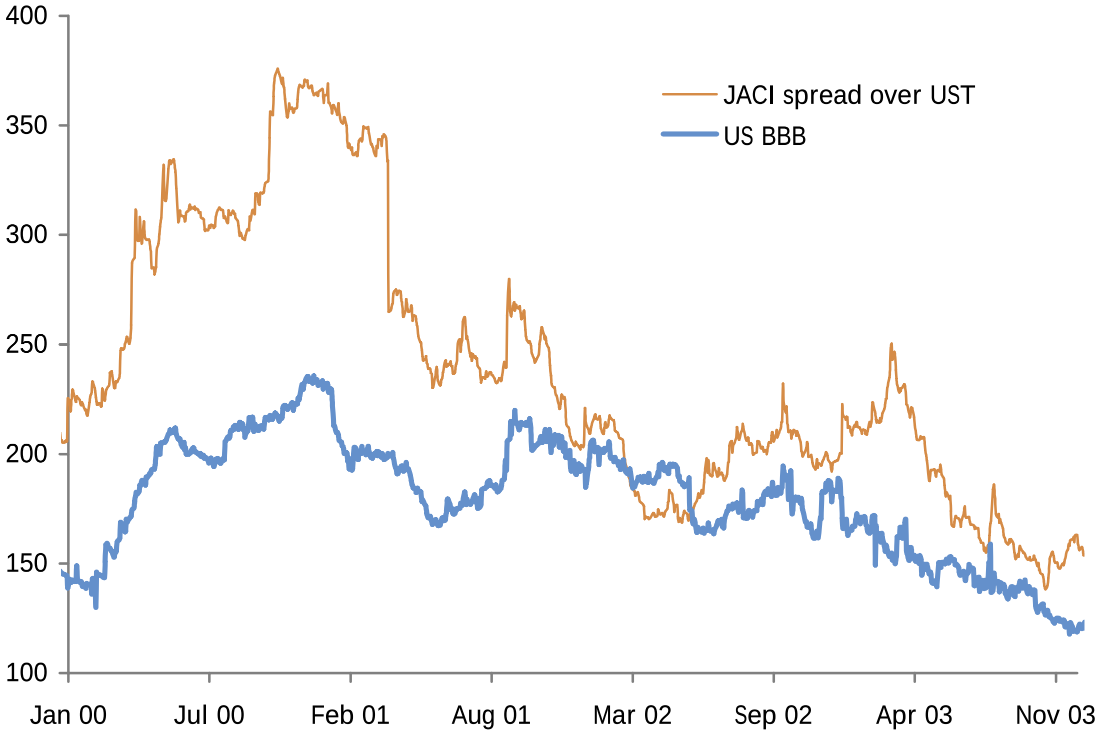
[1] Combined size of Asian central bank issuance to mop up excess liquidity.

Source: BondWare, December 2003.

Chart 13

Credit spreads

Basis points



Source: BondWare, December 2003.

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