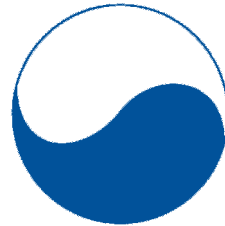


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## FOREIGN PARTICIPATION IN EMERGING ASIAN BOND MARKETS

by John D. Burger and Francis E. Warnock

Developing countries have small local-currency bond markets that make it a struggle to attract global investors. One way to attract foreign participation is to issue debt denominated in foreign currency (for example, in U.S. dollars), but this practice could lead to a currency mismatch problem that itself increases the likelihood of a currency crisis. From the perspective of global investors—and in sharp contrast with developed country bond markets—small developing country domestic bond markets also have the unsavory risk attributes of high volatility and negative skewness (that is, a high probability of a really bad outcome). The solution is clear: countries need to put in place creditor-friendly policies and laws that encourage borrowing and lending within the economy. Conditions that enable domestic residents and firms to lend and borrow will also attract foreign investors.

### Local Bond Markets around the World

The \$42 trillion global bond market (as of end 2003) is dominated by bonds issued by developed countries (*Table 1*). The bulk of outstanding bonds (94 percent) were issued by developed countries, led by the United States (42 percent), the euro area (27 percent), and Japan (16 percent). Emerging-market issuance comprised the other 6 percent of the global bond market, with issuance much greater in emerging Asia (3.7 percent of the global market) than in Latin America (1.4 percent). In terms of currency composition, most bonds are issued in the currency of the issuer. Indeed, local-currency bond markets make up the bulk of the global bond market, totaling \$38,346 billion, or 92 percent of all bonds; the other 8 percent of outstanding bonds were issued in foreign currencies, primarily the dollar, euro, and sterling.

### Size and Currency Composition of Bond Markets

Developed-country bond markets not only make up a large portion of the global bond market but also are large relative to the size of their economies (column 2 of *Table 1*). Most developed countries have outstand-

ing bonds that are approximately equal in magnitude to the size of annual gross domestic product (GDP). For example, the bonds-to-GDP ratio is 121 percent in Germany, 141 percent in Japan, and 154 percent in the United States. Bond markets in developing countries are much smaller, averaging just 38 percent of annual GDP.

Most important is the final column in *Table 1*, which provides data on the extent of local-currency bond market development. Local-currency bonds are those issued by residents of a particular country (for example, Chile) in that country's currency (Chilean pesos), regardless of whether the bond was placed in the domestic market or offshore. It is abundantly clear from the table that local-currency bond markets in emerging economies tend to be very small—much

*Table 1: Selected Bond Markets, 2003*

Areas and countries	Total bonds outstanding		Local-currency bonds outstanding	
	Billions of dollars	Percent of GDP	Billions of dollars	Percent of GDP
World	41,767	115	38,346	106
Developed countries	39,114	134	36,299	124
United States	17,393	154	16,916	150
Euro area	11,271	129	10,337	118
Japan	6,473	141	6,416	139
Emerging markets	2,653	38	2,047	29
Latin America	567	34	256	15
Emerging Asia	1,552	43	1,406	39
China	453	31	440	30
India	190	35	187	35
Indonesia	56	26	53	24
Korea	470	74	415	66
Malaysia	107	99	86	79
Pakistan	22	26	22	26
Philippines	45	56	20	24
Thailand	63	40	57	36
Taiwan	146	50	127	43

Source: Authors' calculations as specified in John Burger and Francis Warnock, "Local Currency Bond Markets," IMF Staff Papers (Washington, D.C.: IMF, forthcoming).

smaller than those in their industrial country counterparts. There is, however, wide variation across countries. For example, although far below industrial country standards, the development of local bond markets in emerging Asia (39 percent of GDP) outpaces that in Latin America (15 percent of GDP).

### **Why Small Bond Markets May Be Problematic**

The currency-crisis literature has recently focused on the importance of developing local-currency bond markets in order to avoid the financial fragility associated with a currency mismatch. Such a mismatch arises if, for example, a firm's assets are in the local currency but it borrows in a foreign currency. Absent a currency mismatch, a negative shock in, for example, Thailand that would cause investors to sell Thai assets would naturally correct itself; the baht would depreciate, and, in the normal course of events, the depreciation would be expansionary and would improve Thailand's external balances (as its products became more competitive and foreign goods became expensive). But if Thailand had borrowed heavily in foreign-currency-denominated debt—perhaps because of an underdeveloped local-currency bond market—the depreciation would immediately and severely worsen government and private balance sheets and greatly increase debt repayment burdens. Firms would in turn reduce investment and push the country into a recession, generating pressure for further currency depreciation.<sup>1</sup>

### **Is There a Solution?**

If underdeveloped local-currency markets are linked to financial instability, we should aim to determine the source of this emerging-market affliction. Some suggest that emerging markets suffer from “original sin”

and are inherently dependent on foreign-currency-denominated debt through no fault of their own.<sup>2</sup> This rather pessimistic prognosis suggests that emerging economies are unable to solve the currency mismatch problem on their own and, therefore, that an international effort is required. Others studying the issue suggest that policymakers in emerging markets are not truly blameless for their fallen state.

One might intuitively expect that countries with a history of high and volatile inflation rates would have a tough time developing local-currency bond markets. We are therefore not surprised to find that Latin American countries, which have suffered many hyperinflationary episodes, tend to have very small local-currency bond markets. However, within Latin America there is also reason for hope: Chile, the country in the region that has pursued the most impressive institutional and macroeconomic reforms, has developed a local bond market equal to 50 percent of GDP.

In emerging Asia, local bond markets are on average much larger than those in Latin America, but Table 1 reveals significant cross-sectional variation within Asia. Casual empiricism once again highlights the importance of inflation. Korea and Malaysia have developed sizable local bond markets (66 percent and 79 percent of GDP, respectively), thanks in part to their low and stable inflation rates. Indonesia, Pakistan, and the Philippines have experienced relatively high inflation rates in recent years and continue to suffer from underdeveloped local bond markets.

Elsewhere we have performed a rigorous analysis of the factors associated with local-currency bond market development, and our results indicate a robust and intuitive relationship: countries with stable inflation rates and strong creditor rights are better able to develop local-currency bond markets.<sup>3</sup> Our analysis therefore

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1. The link between this downward spiral of a currency crisis and the initial currency mismatch has been emphasized in the theoretical and empirical literature. See, for example, Morris Goldstein and Philip Turner, *Controlling Currency Mismatches in Emerging Markets* (Washington, D.C.: Institute for International Economics, 2004).

2. See, for example, Barry Eichengreen and Ricardo Hausmann, eds., *Other People's Money: Debt Denomination and Financial Instability in Emerging Market Economies* (Chicago: University of Chicago Press, 2005).

3. For the formal investigation, see John Burger and Francis Warnock, “Local Currency Bond Markets,” IMF Staff Papers (Washington, D.C.: IMF, forthcoming).

suggests that original sin is a misnomer. By improving policy performance and strengthening institutions, emerging economies can better develop local-currency bond markets and reduce the problems associated with a currency mismatch.

### **Foreign Participation in Local Bond Markets**

Before turning to actual data on foreign participation in local-currency bond markets, we note two reasons why countries with less-developed bond markets are likely to have greater difficulties attracting foreign investment. First, smaller bond markets are likely to have less liquidity, which might deter relatively large global investors. Second, the poor inflation performance that hinders bond market development is, by purchasing power parity, also likely to translate into poor performance for the currency. Poor currency performance means that the returns earned by global investors in smaller bond markets, when converted back into their home currencies, are more likely to disappoint.

### **The Less-Than-Savory>Returns Characteristics of Small Bond Markets**

Investors are often willing to accept lower expected returns if an asset has risk attributes that benefit the rest of the portfolio. (Think of, for example, homeowners' insurance against fire. By itself the insurance has a negative expected return, but within one's real estate portfolio, it fits quite nicely.) From the perspective of a global investor, however, smaller bond markets have the less-than-desirable risk attributes of high volatility and negative skewness.<sup>4</sup>

The role played by volatility and skewness of bond returns is worth further exploration. Recall that a security with a negatively skewed return has a relatively high probability of an isolated but very bad outcome. In contrast, the normal case is that, from the per-

spective of global investors, returns on foreign bonds are positively skewed. We showed that dollar returns of every developed-country bond market (except Sweden's) exhibited positive skewness.<sup>5</sup> A plausible explanation of this relationship is that in months when developed-country bonds experience a large negative return, the currency appreciates and eliminates the infrequent bad outcome for a U.S.-based investor.

In December 1998, for example, following the announcement of various fiscal stimulus measures, long-term interest rates in Japan surged, and the loss on a typical *yen* bond totaled a substantial 5 percent in the month. (A 5 percent loss in a single month for a security that normally has low but positive returns is exactly the type of isolated bad outcome that produces negative skewness.) But the surge in Japanese interest rates also attracted foreign capital, which put upward pressure on the *yen*. The appreciation of the *yen* generated by the capital inflows enabled global investors who held *yen*-denominated bonds to earn a positive return in dollar terms. That is, from the perspective of global investors, developed bond markets have a natural equilibrating feature that generally rules out isolated bad outcomes. More generally, this relationship is evidence that we do not see flight from quality in developed-country capital markets. Bond returns might at times be negative, and sometimes severely so, but this does not tend to coincide with broad-based capital outflows and, hence, is not associated with currency depreciations.

But returns on emerging-market bonds—indeed, on less-developed bond markets in general, regardless of the level of economic development—are much more volatile and exhibit significantly more negative skewness than developed-country bonds. This highlights a distinct difference between emerging-market and developed-country bonds (or less-developed and more-developed bond markets): periods of negative bond returns for emerging markets do not coincide with currency appreciations. To the contrary, peri-

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4. It is how a security alters the riskiness of the entire portfolio, not the riskiness of any single security, that concerns investors. That said, emerging bond markets are too small to significantly reduce the riskiness of global investors' portfolios.

5. John D. Burger and Francis E. Warnock, "Foreign Participation in Local-Currency Bond Markets," Federal Reserve Board International Financial Discussion Paper no. 794 (Washington, D.C.: Federal Reserve Board, February 2004), [www.federalreserve.gov/pubs/ifdp/2004/794/ifdp794.pdf](http://www.federalreserve.gov/pubs/ifdp/2004/794/ifdp794.pdf).

ods of rising interest rates often occur during an episode of financial flight and currency depreciation—the makings of a currency crisis.

### Data on Foreign Participation

Much more information on the portfolios of international investors has become available recently. The International Monetary Fund, through its Coordinated Portfolio Investment Surveys (CPIs), now compiles data on the international bond portfolios of investors from roughly 70 countries.<sup>6</sup> CPIS data mark a milestone in information on cross-border holdings—never before has such a matrix been available. Combining the IMF data with our data on the size of each country’s overall bond market—more specifically, outstanding bonds issued by each country’s governments and firms, whether denominated in the local currency or in foreign currency and whether issued domestically or placed abroad—provides an indication of the extent to which countries are able to attract foreign investors.

When surveying the matrix of holdings, one finds that 20 percent seems to be the magic number. In total, foreigners tend to hold roughly 20 percent of all industrial country bonds. Similarly, foreigners hold 21 percent of all bonds issued by Latin American countries. Emerging Asia is noticeably different (*Table 2*). Only one country (Philippines) has “normal” foreign participation. Malaysia is next at 12 percent. For all other emerging Asian countries, foreign participation is sharply lower, at 5 percent (South Korea) or below.

Why are Philippine bonds so much more attractive to global investors than those of other emerging Asian markets? On many levels, one might expect the opposite, as by some measures the Philippines has become less conducive to foreign investment (more formally, the openness measure of the Philippines has

fallen), and inflation has been on the rise. But look back to Table 1: more than any other emerging Asian country, the Philippines tends to issue foreign-currency-denominated bonds. Our calculations indicate a very high bilateral correlation between foreign participation and foreign-currency issuance. Countries that issue more foreign-currency-denominated bonds attract more foreign investors because investors do not seem willing to bear the currency risk.

If investors prefer bonds issued in their own currency—and the CPIS data do not provide a currency breakout—we must be careful when we analyze the CPIS data. Unfortunately, data on foreign participation in local-currency bond markets are limited to infrequent U.S. benchmark surveys.<sup>7</sup> *Table 3* presents data on U.S. investors’ participation in the bonds of emerging Asian countries and, for comparison, Mexico.

**Table 2: Foreign Participation in Bonds from Emerging Asia, 2003, percentage**

Areas and countries	Foreign participation in the bond market
Emerging Asia	4
China	1
India	0
Indonesia	4
South Korea	5
Malaysia	12
Pakistan	0
Philippines	22
Thailand	4
Taiwan	1

Sources: Based on data from International Monetary Fund, CPIS data, [www.imf.org/external/np/sta/pi/datarsl.htm](http://www.imf.org/external/np/sta/pi/datarsl.htm); and data from Table 1, above.

Note: Percentages represent authors’ calculations of the share of each country’s bonds held by foreign investors.

6. “Portfolio Investment: Coordinated Portfolio Investment Survey (CPIS): Background,” International Monetary Fund, [www.imf.org/external/np/sta/pi/cpis.htm](http://www.imf.org/external/np/sta/pi/cpis.htm).

7. Office of the Under Secretary, International Affairs, Department of the Treasury; Securities Reports Division, Federal Reserve Bank of New York; and Division of International Finance, Board of Governors of the Federal Reserve System, “Report on U.S. Holdings of Foreign Securities, as of December 31, 2001,” [www.treas.gov/tic/shc2001r.pdf](http://www.treas.gov/tic/shc2001r.pdf) for the 2001 survey.

The column for total U.S. investment in the selected countries is consistent with CPIS data. U.S. investors hold very few—under 2 percent—of most emerging Asian countries’ bonds, but U.S. investors hold 8 percent of bonds issued by the Philippines. By comparison, they hold 17 percent of outstanding Mexican bonds.

For dollar-denominated bonds (Table 3), U.S. participation in Philippine bonds is not an outlier. At 18 percent, it exceeds participation in other emerging Asian countries, but Indonesia is just behind at 17 percent; most others are at approximately 10 percent. (This still pales in comparison with Mexico, at 37 percent.) Thus, it appears that the Philippines attracts more foreign investment (Table 2) largely because it issues in foreign currency (Table 1).

Do we therefore advocate increased foreign-currency issuance for emerging markets? No. As explained above, relying too heavily on foreign-currency debt puts emerging markets in a precarious position, as the resulting currency mismatch increases the likelihood and severity of a currency crisis. Increasing foreign-currency issuance would be a short-sighted

strategy that would likely increase foreign participation in the short run but could be destabilizing in the long run.

A more promising strategy would be to pursue the policies associated with development of local-currency bond markets. The policies we have identified—namely, low and stable inflation rates along with enforcement of the rule of law and creditor rights—will not only help emerging economies issue local-currency bonds but also likely increase foreign participation. These policies may even induce a virtuous cycle whereby decreased reliance on foreign-currency debt helps stabilize macroeconomic performance and thereby increases the attractiveness of local-currency bonds to global investors.

In recent years, several Asian bond markets have made progress in developing local-currency markets, but we do not yet have sufficient data to see whether foreign investors have increased their participation. Data in Table 3 show that, as of 2001, U.S. participation in local-currency bonds issued in emerging Asian countries was very limited.

## Conclusion

Local-currency bond markets in Asian emerging markets and elsewhere in the developing world tend to be small. The root causes of this lack of size are policies and laws that do not adequately protect and encourage domestic creditors. The same root causes also deter foreign investors, which leads some emerging markets to borrow in foreign currency, a potentially dangerous strategy. Developing local-currency bond markets is a lengthy process that will likely take years but, unlike the quick fix of borrowing in foreign currencies, will have long-lasting benefits.

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**Table 3: U.S. Participation in Bonds from Emerging Asia, 2001, percentage**

Areas and countries	Total U.S. investment in bonds	Dollar-denominated bonds	Local-currency denominated bonds
Emerging Asia	1.2	11	0.1
China	0.1	6	0.0
India	0.2	7	0.0
Indonesia	0.6	17	0.0
Korea	1.4	12	0.1
Malaysia	1.8	12	0.0
Philippines	7.9	18	0.1
Thailand	0.7	10	0.1
Taiwan	0.3	2	0.1
Mexico	17.0	37	0.5

Source: Authors’ calculations of the share of each country’s bonds held by U.S. investors; data on U.S. investment are from Office of the Under Secretary, International Affairs, Department of the Treasury; Securities Reports Division, Federal Reserve Bank of New York; and Division of International Finance, Board of Governors of the Federal Reserve System, “Report on U.S. Holdings of Foreign Securities, as of December 31, 2001,” [www.treas.gov/tic/she2001r.pdf](http://www.treas.gov/tic/she2001r.pdf).



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