Korea's Economy

Korea's Economic Achievements and Prospects

The Graying of Korea: Addressing the Challenges of Aging

Financial Asia Rising: Asian Stock Markets in the New Millenium

Korea's Money Market

Ingredients for a Well-functioning Capital Market

The Capital Market Consolidation Act and the Korean Financial Market

Progress in Corporate Governance

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U.S.-Korea Economic Relations: View from Seoul

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Peering into the Future: Korea's Response to the New Trading Landscape

North Korea's External Resources and Constraints

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Realistic Expectations of the Future Role of the IFIs on the Peninsula

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INGREDIENTS FOR A WELL-FUNCTIONING CAPITAL MARKET

By John D. Burger, Francis E. Warnock, and Veronica Cacdac Warnock

Well-functioning capital markets should encourage private saving and investment by channeling surplus funds to reach their most productive uses. In the process, well-functioning capital markets create a diverse menu of saving and investment options: some at higher risk, some at lower risk, some shorter term, some longer term. A fully developed market will facilitate the financial interactions of households, corporations, banks, and governments.

In advanced economies, banks and capital markets often provide complementary services. Economies with sizable capital markets (which are less reliant on banks) benefit from the discipline of market forces on credit decisions and risk assessment, which not only increases the efficiency of financial intermediation but may also reduce the likelihood of financial crises. In many developing countries, however, banks are dominant. Excessive reliance on bank finance can create a suboptimal situation in which a potentially small number of decision makers are controlling the allocation of capital.¹

A well-functioning capital market also contributes to economic growth.² It is intuitive that better-developed capital markets are more efficient at channeling savings to its most productive uses and thereby boost economic growth. Moreover, recent studies conclude that financial development disproportionately helps the poor.³ These studies find not just that the rising tide lifts all boats, but that financial development reduces poverty and inequality independent of its impact on the economy's growth rate.

In this article we explore the characteristics of well-functioning capital markets by first describing and discussing the current state of markets around the world. Our international comparisons indicate a wide disparity in countries' development of private bond markets. We then present case studies of three emerging Asian markets—one small, one large but volatile, and one deep and well-functioning—to illuminate best practices, challenges, and pitfalls in the development of corporate bond markets. One challenge faced by countries all over the world is expanding the investor base by attracting foreign investors; we conclude with some evidence on foreign participation in local bond markets based on a recently released comprehensive survey of U.S. investors.

A Comparison of Capital Markets

As *Table 1* shows, the size and composition of capital markets vary greatly around the world. Data are obtained from the World Bank Financial Structure database and, for the currency composition of each country's bonds, from the authors' calculations of data from the Bank for International Settlements (BIS).

As one might expect, there is a sharp contrast between developed and emerging economies. Developed countries tend to have much larger banking systems (as measured by private credit to GDP) and larger equity markets. They also have much larger government and private (financial institutions and other corporations) bond markets, recent growth in emerging economies'

^{1.} Excellent discussions of capital markets are in David O. Beim and Charles W. Calomiris, *Emerging Financial Markets*, Boston: McGraw-Hill/Irwin, 2001); Asli Demirgüç-Kunt and Ross Levine, eds., *Financial Structure and Economic Growth: A Cross-Country Comparison of Banks, Markets, and Development* (Cambridge: MIT Press, 2004); and Franklin Allen and Douglas Gale, *Comparing Financial Systems* (Cambridge: MIT Press, 2000).

^{2.} See Ross Levine's survey, "Finance and Growth: Theory and Evidence," in *Handbook of Economic Growth*, ed. Philippe Aghion and Steven N. Durlauf (Amsterdam: Elsevier, 2005).

^{3.} The studies are summarized by Ross Levine in "Finance and the Poor" (Maxwell Fry Global Finance Lecture, Birmingham Business School, 14 September 2007), www.business.bham.ac.uk/events/papers/Ross-Levine -finance-and-the-poor.pdf.

bond markets notwithstanding.⁴ The Financial Structures database does not differentiate between local currency—denominated debt and foreign currency—denominated debt, so in the last column we utilize data on currency composition from BIS. Developed countries tend to issue bonds almost solely in their own currency (and much less in foreign currencies), whereas emerging economies, particularly those in Latin America, tend to issue a sizable proportion in foreign currencies.

Within emerging economies, Asian markets (even excluding the financial centers of Hong Kong and Singapore, as we do) are better developed than their Latin American counterparts in almost every dimension presented in Table 1. They have larger banking systems, larger equity markets, and larger private bond markets, and they rely much less on foreign currency debt.

Private Bond Market Development

Economic theory suggests an important role for corporate bonds within a well-functioning capital market. Relative to government-directed industrial policies

or highly concentrated banking sectors, private bond markets potentially offer a more efficient market-disciplined form of channeling funds from savers to investors. Given the sharp contrast in the size of private bond markets displayed in Table 1, it is natural to ask what conditions are necessary to facilitate further development and what factors impede private bond issuance.

Factors that can affect the size of corporate bond markets include inflation volatility, inflationary budget deficits, and anticompetitive behavior by banks. Factors that can impede the liquidity of corporate bond markets include a concentrated investor base, inadequate microstructure, opaqueness, and insufficient information flow.

Burger and Warnock demonstrated the importance of creditor-friendly policies and institutional arrangements for fostering development of private bond markets.⁵ They found that historically high and volatile inflation retards the development of private bond markets, thus suggesting the importance of credible anti-inflationary monetary policy. Creditor-friendly institutions, such as enforcement of rule of law, were

Table 1: Selected Capital Markets, 2005-06

Regions	Private bank credit/GDP	Stock market cap/GDP	Government bonds/GDP	Private bonds/GDP	Local currency share (percentage of total bonds)	
Developed countries						
Euro area	1.056	0.669	0.533	0.402	90	
Japan	0.976	0.932	1.494	0.421	99	
United States	0.555	1.350	0.464	1.144	97	
Emerging markets						
Latin America	0.220	0.375	0.301	0.120	67	
Asia	0.603	0.477	0.293	0.175	92	

Sources: The ratios in the first four columns are from the World Bank Financial Structure database as of the end of 2005; regional averages are GDP-weighted averages. The final column contains authors' calculations using data from the Bank for International Settlements as of the end of 2006.

^{4.} According to the World Bank Financial Structure database, in 2001 Asian and Latin American bond markets were 35 and 34 percent of GDP, respectively; by 2005, as Table 1 shows, those figures rose to 47 and 42 percent of GDP, respectively.

^{5.} See John D. Burger and Francis E. Warnock, "Local Currency Bond Markets," *IMF Staff Papers* 53 (special issue, 2006): 133–146, www.imf.org/External/Pubs/FT/staffp/2006/03/pdf/burger.pdf.

found to exert a positive impact on bond market development. Although some authors have suggested the importance of government bond markets as a precursor to private markets, they failed to find any significant relationship between the sizes of the two markets.

Table 2 presents AsianBondsOnline data on the breakdown of emerging Asian private bond markets into their two components: bonds issued by financial institutions and those issued by corporations. Note the considerable variation in the size of corporate bond markets, ranging from near zero in the Philippines to 35 percent of GDP in Malaysia. The table also shows a measure of macroeconomic instability (average annual inflation rates) as well as two measures of the quality of institutions (legal rights and credit info) that are taken from the World Bank's Doing Business reports.6 "Legal rights" is an index ranging from zero to 10 that indicates the strength of legal rights for borrowers and lenders; the index focuses on collateral and bankruptcy laws. "Credit info" is an index ranging from zero to 6 to indicate the depth of credit information. For both indices, higher scores are considered better (in other words, higher scores indicate stronger legal rights or deeper credit information).

A casual comparison of the markets listed in Table 2 suggests that countries in which legal rights for borrowers and lenders are more clearly specified and better enforced tend to have more developed bond markets. The data also suggest a positive relationship between the depth of available credit information and the development of bond markets. Finally, the table also highlights the importance of macroeconomic policy. In line with previous research, the three countries with the highest inflation over the past five years—Indonesia, Vietnam, and Philippines—have tiny corporate bond markets. In contrast, corporate bond markets appear to be developing quite nicely in places such as South Korea, Malaysia, and Thailand, where policies have been more creditor friendly. Although the general trend is one of improved macroeconomic stability in the region, inflation picked up throughout emerging Asia in 2007 and could threaten further bond market development if not contained by policymakers.

Table 2: Bond Markets in Emerging Asia

Countries	Government 2006	Financial institutions 2006	Corporates 2006	Corporates 1997–2006	Annual inflation (percentage)	Legal rights	Credit info
South Korea	52	31	29	+16	3.02	6	5
Malaysia	38	20	35	+15	2.22	8	6
Hong Kong	10	21	4	+2	-0.72	10	4.7
Singapore	43	19	4	+1	0.75	9	3.7
Thailand	34	1	16	+11	2.88	5	4
China	31	12	3	+3	1.44	2	3
Indonesia	19	1	1	+0	9.92	5	2
Vietnam	8				6.18		
Philippines	38	0	0	+0	5.38	3	3

Sources: Bond market data, expressed as a percentage of GDP, are as of September 2006 and December 1997 as reported by AsianBondsOnline, http://asianbondsonline.adb.org/, a Web site of the Asian Development Bank. Inflation is a five-year average through May 2006. Legal rights (ranging from 0 to 10) and Credit info (ranging from 0 to 6) are taken from the World Bank's *Doing Business* reports and averaged over the periods 2004–05 and 2003–05, respectively; higher scores indicate stronger legal rights and deeper credit information.

^{6.} See "Getting Credit," at www.doingbusiness.org/MethodologySurveys/GettingCredit.aspx, for a complete description of the "Getting Credit" portion of the *Doing Business* database.

Well-functioning capital markets should include a range of maturities for bonds. Although we do not have data on the maturity spectrum available in each of these bond markets, we suspect that macroeconomic stability affects the range of maturities offered. With volatile inflation and therefore volatile interest rates, long-dated fixed-rate assets become unattractive. This affects the way banks lend in such environments. With volatile inflation, banks will tend to lend only for the short term or at floating rates, pushing the interest rate risk to borrowers, be they households or corporations. It also affects the type of bonds corporations can issue. Corporations that seek to match the maturity of their debt to the time frame of their investment projects would like to finance long-term projects with long-term fixed-rate debt, but, in markets where such long-term borrowing is not possible, firms are forced to roll over short-term borrowing and are therefore subject to interest rate risk.

The importance of price stability can also be seen from the investor's perspective. While long-term bonds might be attractive in a stable macroeconomic environment, volatile inflation rates raise the uncertainty of real bond returns and could thus drive investors away from long-term fixed-rate bonds. In a more stable economy, long-term corporate bonds become more viable as they can be attractive to, among others, pension fund managers and insurance companies seeking to match their profile of long-term obligations. Also, from the investor's perspective, the size of corporate issues will often be a factor that limits participation; few corporations are large enough to regularly issue sizable bonds.

A Tale of Three Markets: Philippines, Korea, and Malaysia

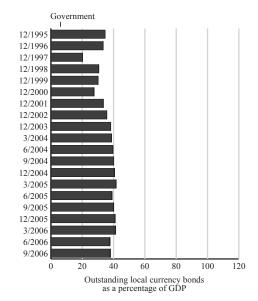
The numbers in Table 2 are telling, but a closer look at the corporate bond markets in three countries—Philippines, Korea, and Malaysia—provides further insight into the factors behind a well-functioning capital market.⁷

Philippines

The Philippine corporate bond market has yet to blossom. In fact, it is miniscule, not visible in *Figure 1*, which depicts the size of its government bond market (the entire height of each bar), the size of bonds issued by financial institutions (not visible on the graph), and the size of the corporate bond market. Below we briefly examine various factors—such as the nature of trading, market conventions, registration of debt securities, legal issues, and transparency—that are likely impeding the development of the corporate bond market in the Philippines.

Even the deepest corporate bond markets can be opaque and somewhat illiquid. Thus, it should not be surprising that this is also true in the Philippines. Trading in the Philippine corporate bond market is not on

Figure 1: Bond Market Development in the Philippines, 1995–September 2006



Source: AsianBondsOnline, http://asianbondsonline. adb.org/, a Web site of the Asian Development Bank. Note: Data for financial institutions and corporates do not show because they are smaller that one half of 1 percent for all the years shown in the figure.

^{7.} This section is largely based on reports in *Developing Corporate Bond Markets in Asia*, BIS Papers no. 26 (proceedings of BIS/PBC seminar, Kunming, China, 17–19 November 2005), www.bis.org/publ/bppdf/bispap26.pdf; as well as data from AsianBond online.

^{8.} The data underlying the last bar (September 2006) are in Table 2.

an organized exchange but is over the counter (OTC) or privately negotiated by buyers and sellers. There is no true picture of secondary market liquidity, as trading is not transparent and there is no information available on trading volumes, turnover, or trading depth. It is not entirely clear whether there are repo or derivatives markets. Also missing are market conventions governing the issuance, pricing, distribution, trading, and settlement of commercial paper and corporate bonds. Issuance costs are high, so only top-tier corporations can issue bonds, and even in those cases stockholders can easily block corporate bond financing; and the taxation environment is unfavorable. Not surprisingly, most Philippine companies would rather obtain their funds via bank loans than through the capital markets. The registration of commercial paper (which includes bonds) has yet to be computerized, and some securities are still issued in certificate form.

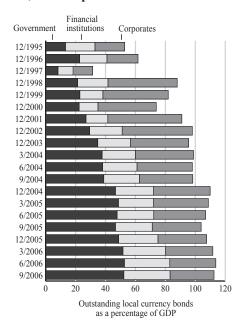
A lack of transparency and legal issues are additional impediments to corporate bond market development in the Philippines. Credit bureaus are essentially nonexistent. Exemptions from rating and listing requirements and an absence of competitive government benchmark pricing information contribute to the opacity of the Philippine market. The list goes on. Regulators do not have readily accessible monitoring and surveillance methods and tools. There are no consolidated data on completed transactions. Access to reliable information on creditworthiness of issuers is insufficient. Finally, but importantly, existing bankruptcy laws are outmoded and do not protect investors.

Korea

While the Philippine case illustrated an immature and inhibited corporate bond market, the Korean bond market began growing decades ago. As *Figure 2* shows, Korea's corporate bond market was 20 percent of GDP even as far back as 1995. A particular impetus was a lack of government deficits, so the three-year corporate bond rate became the benchmark in the 1970s. In addition, financial institutions provided guarantees, which aided the growth of the market.

The Korean corporate bond market is relatively large, but size alone does not guarantee quality. In fact, the Korean experience is best summarized as volatile, with periodic surges in issuance that, though spectacular, are often unsustainable. After the 1997 financial crisis,

Figure 2: Bond Market Development in Korea, 1995–September 2006



Source: AsianBondsOnline, http://asianbondsonline.adb.org/, a Web site of the Asian Development Bank.

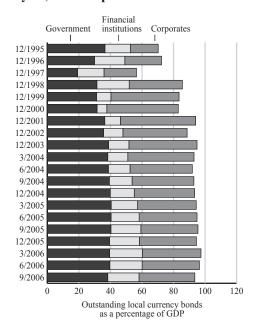
banks both retrenched (and lent less, creating more of a need for a well-functioning corporate bond market) and ceased providing guarantees. Partially offsetting these reactions were relaxed restrictions on issuance and, in an attempt to broaden the investor base, a complete removal of restrictions on foreign investment in local bonds. In 1999 the ITC (investment trust companies) deposit bubble led to a huge surge in corporate bond issuance, which was followed by Daewoo's collapse, a bust in the market, and finally official support in the form of the Bond Stabilization Fund to prevent a vicious cycle from gaining traction. In 2003, credit card insolvencies and the SK Group's accounting scandal led to additional financial assistance, this time via Bank of Korea injections.

While the corporate bond market in Korea is much more vibrant than in the Philippines, its boom-bust history offers important lessons. Weak institutional arrangements (poor accounting practices, insufficient investor protections, antiquated liquidation procedures) beget volatility. And the further development of the secondary market—through introduction of market making and better transparency—can help cushion the impact of external shocks on the local bond market.

Malaysia

Malaysia is in some sense a poster child for emerging economies' corporate bond market development. The Malaysian market has been sizable for years (see *Figure 3*) and has strengthened over time. Many factors were central to its success. Importantly, the Malaysian government has continued to innovate and fortify the bond market.

Figure 3: Bond Market Development in Malaysia, 1995–September 2006



Source: AsianBondsOnline, http://asianbondsonline.adb.org/, a Web site of the Asian Development Bank.

Issuance procedures have been greatly improved over time. Merit-based regulations were replaced by a disclosure-based regulatory framework, and, to introduce a more efficient issuance process, guidelines on the offering of private debt securities were issued. In the mid-1990s, the approval process for bond issuance could take from 9 to 12 months; now it takes 14 days. In addition, shelf-registration now provides issuers additional flexibility in timing.

The results are tangible: The corporate bond market is attractive for issuers. Private debt securities' share of total gross domestic funds raised via the capital market (that is, bond and equity) grew to 81 percent

in 2004 from 44 percent in 1997. Similarly, the share of the corporate bond market in total debt financing (including bank loans) has increased from 10 percent in 1997 to 25 percent more recently.

Investors have access to more value-relevant information for Malaysian corporate bonds than in most emerging-market countries. Importantly, credit ratings are readily available to investors. Investors should also be heartened by the many steps that have been taken to ensure efficiency and transparency in trading in an attempt to enhance secondary market liquidity. Efforts include the introduction of a principal dealers system and improvement of information dissemination in the OTC market. Post-trade transparency has improved greatly with the Bond Information and Dissemination System (BIDS), a central computerized database that provides information on issue terms, real-time prices. transaction details, and relevant news. Financial institutions are obliged to report details of transactions, including price and volume, and rating agencies are required to update issuers' ratings. But liquidity is hampered by a shortage of paper available for trading. small issue sizes, and the buy-and-hold investment strategy adopted by insurance companies, asset managers, and large institutional investors.

Malaysia's measures toward making its corporate bond market a viable source of financing and a destination for investors have been impressive. But issues remain. Liquidity in the secondary market needs to improve. The swap market should be deepened. Enabling the creation of additional risk management tools, such as futures and forwards, is necessary. Further diversification of the issuer and investor base, including enhanced participation by nonresidents, is desirable.

Foreign Participation

A common theme revealed by the case studies is a lack of liquidity in emerging bond markets. Market participants point to the lack of diversity in the investor base and the dominance of local institutional investors with buy-and-hold investment strategies. One potential avenue to improve liquidity and hence the functioning of local bond markets would be to broaden the investor base by attracting more foreign participation. That raises the questions: What is the current extent of foreign participation in local currency bond markets? What are the recent trends?

Unfortunately, data on this aspect of local currency bonds are scarce. A main source of data on cross-border investment is the IMF's Coordinated Portfolio Investment Survey (CPIS) data set. However, the CPIS data do not cover information on the currency denomination of the bonds being held by international investors, so the data tell us nothing about foreign participation in local currency bond markets.

A reliable but more narrow source of information on cross-border bond holdings comes from the full-blown security-level benchmark surveys conducted every five years by the U.S. Department of the Treasury and Federal Reserve Board.9 In a study that uses data from the December 2001 benchmark survey, Burger and Warnock found that U.S. investors displayed an overwhelming preference for bonds denominated in U.S. dollars and had roughly zero participation in emerging local currency bond markets.¹⁰ Attracting foreign participation by issuing bonds in foreign currency may be tempting for emerging economies. But it is a dangerous strategy. Excessive reliance on foreign currency debt leads to a currency mismatch, which increases the likelihood and severity of a currency crisis.

Fortunately, emerging economies seem to have learned a critical lesson from the most recent round of currency crises; in recent years they have greatly reduced their reliance on foreign currency debt. Part of this likely owes to the steps made that promote local currency bond market development. But how have cross-border investors responded to this increased focus on bond market development?

Table 3 displays information on U.S. investment in local currency bonds as of December 2001 and December 2006. Participation figures are calculated as a percentage of local currency bonds outstanding. Although U.S. participation in local currency bond markets is quite small on average, the 2006 survey reveals a sharp increase in participation in emerging local currency bond markets. Participation is still very limited in Asia, at 0.35 percent overall. However, there

is significant cross-country variation within emerging Asia. Indonesia, for example, has witnessed a surge in U.S. participation, perhaps reflecting returns-chasing behavior by U.S. investors who have been attracted by the exceptional performance of rupiah-denominated bonds in recent years.

U.S. participation in local currency Latin American bonds is dramatically higher than in Asia. This, coupled with a general shift in U.S. investors' relative portfolio weights away from developed countries and toward emerging markets—U.S. investors decreased their holding of local currency bonds in the euro area (as a share of the local market)—suggests that U.S.

Table 3: U.S. Participation in Local Currency Bond Markets

	Percentage of local currency issuance held by the United States		
Regions	December 2001	December 2006	
Emerging Asia	0.06	0.35	
China	0.00	0.00	
Indonesia	0.01	2.04	
South Korea	0.06	0.25	
Malaysia	0.02	0.90	
Philippines	0.05	0.14	
Thailand	0.08	0.55	
Taiwan	0.14	0.00	
Hong Kong	0.29	0.65	
Singapore	0.13	4.42	
Latin America	0.15	2.03	
Euro area	1.37	0.71	

Sources: Authors' calculations of the share of each country's local currency bonds held by U.S. investors. Underlying data on U.S. investment are from "Report on U.S. Holdings of Foreign Securities, as of December 31, 2006" and "Report on U.S. Holdings of Foreign Securities, as of December 31, 2001," both available at http://www.treasury.gov/tic/fpis.html.

^{9.} For all U.S. surveys of cross-border portfolio holdings of securities, see "Securities Page 3: Cross-Border Portfolio Holdings of Securities," United States Department of the Treasury, www.treasury.gov/tic/fpis.html.

^{10.} John D. Burger and Francis E. Warnock, "Foreign Participation in Local-Currency Bond Markets," *Review of Financial Economics* 16 (2007): 291–304.

investors might soon turn their attention more squarely on Asian markets.

We offer two caveats. First, we conjecture, but do not attempt to prove, that U.S. participation in local currency bond markets will remain limited by the extent and availability of hedging instruments. From a foreign investor's perspective, a local currency bond looks like a currency play plus some yield. Currencies are highly volatile, so the return-risk trade-off that local currency bonds offer foreign investors will be dominated by currency movements. To the extent that liquidity is low in many emerging economies' local bond markets, there are likely less costly ways to obtain the currency exposure. The ability to differentiate the bond investment from the currency exposure may well be key to attracting foreign investors. Second, expanding the foreign investor base should not be seen as a panacea. In contrast, of primary importance is creating environments in which local residents are willing to engage in arm's length financial transactions among themselves.

Conclusion

Developed countries have larger equity markets, bond markets, and banking systems than emerging countries, and emerging Asian financial systems appear to be better developed than their Latin American counterparts. Emerging economies have witnessed an impressive period of capital market development over the past decade, demonstrating a buoyant recovery after a period of crisis. But a weakness in corporate bond market development is still particularly noticeable in most emerging economies. The academic literature highlights the importance of creditor-friendly macroeconomic policies and institutions for fostering future growth in corporate bond markets, but the case studies discussed here also indicate that substantial opportunities exist for improved microlevel policies. Finally, available data on portfolio shifts by cross-border investors suggest that emerging local bond markets may well attract increased foreign participation in the future. Indeed, the resilience of emerging bond markets during the recent period of global financial turmoil is an encouraging sign, perhaps indicating a favorable long-term view by international investors.

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