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Jonathan A. Batten,
Graduate School of Management,
Macquarie University, Sydney

Peter G. Szilagyi
Department of Finance, Tilburg University

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Jonathan A. Batten [a] and Peter G. Szilagyi [b]

(a) Graduate School of Management
Macquarie University
CBD Campus Level 6, 51-57 Pitt St
Sydney, NSW 2000
Australia
Phone: ++61-2-8274-8344
Fax: ++61-2-8274-8370
Email: jonathan.batten@mgsm.edu.au

(b) Department of Finance
Tilburg University
Warandelaan 2, B928; PO Box 90153
5000 LE Tilburg
Netherlands
Phone: ++31-13-466-8056
Fax: ++31-13-466-2875
Email: p.g.szilagyi@uvt.nl

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Developing Foreign Bond Markets:

The Arirang Bond Experience in Korea

This study investigates the development of Korea's foreign bond (Arirang) market for won-denominated foreign bonds. We provide an institutional perspective and discuss the problems, concerns and key issues related to the development of this market. We find no evidence that Arirang issuance either crowded out local debt or had exchange rate implications. Overall, the Korean experience provides valuable lessons for other emerging nations seeking to build bond markets for local and foreign issuers. Instigating market development demands an enabling infrastructure, the nurturing of local and international demand and the deregulation of capital flows. This process is demanding, as the sophistication of the local bond market does not make it appealing to foreign borrowers *per se*.

Keywords:
Arirang bonds; foreign bonds; bond market development

JEL: F34, G18

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1. Introduction

The 1997 financial crisis gave a major boost to regional and domestic bond markets across East Asia as alternatives to bank intermediation. Market volumes have increased two-fold or more, and corporate issuance has expanded hand-in-hand with the government bond market. In several countries, including Korea and Malaysia, the size of the corporate bond market has even caught up with that in the US as a percentage of GDP. Nonetheless, the development of local markets remains modest by the standards of those in more developed countries. There also remains considerable variation in the scale and scope of financial markets more generally within the region.

One critical market segment already present in a small group of advanced financial markets remains largely overlooked: the presence of foreign bond issuers. High credit quality borrowers such as banks, prime name corporations (e.g. IBM, Disney and GE Finance) and supranational organizations (e.g. Asian Development Bank and the World Bank) are well-known for the diversity of their international bond offerings and issue actively in many countries. Those countries in the Asia-Pacific region with developed foreign bond markets are the financial centres of Singapore and Hong Kong, and the developed countries of Japan and Australia. Of the crisis economies that implemented radical regulatory change, only Korea has made some progress in instigating issuance by foreign borrowers.

The objective of this paper is to provide an insight into bond market development by considering the case of Korea's foreign bond market[1]. Korea has actively pursued the expansion of its domestic market both in the corporate and government segments, while also trying to encourage non-resident issuance by way of won (₩) denominated Arirang bonds. The Arirang market nonetheless remains small, constituting less than 0.2% of corporate issuance, or around US$250 million. The Korean experience holds

[1] Also see Hoschka (2005) for further discussion on the importance of the role of Multilateral Development Banks (MDBs).

important policy lessons for other emerging countries that intend to or have already set out to develop their local markets, and demands the attention of issuers, investors and regulators alike.

Why should the development of foreign bond markets be such a key issue? Initially, it can be regarded as a barometer of general development in the respective local markets. Consensus is now uniform that banks and markets can co-exist efficiently even in otherwise bank-oriented financial systems (Levine, 1997; Boyd and Smith, 1998; Bolton and Freixas, 2000; Ongena and Smith, 2000; Allen and Santomero, 2001). The benefits of a competitive bond market are abundant. It may lead to lower funding costs, improved resource allocation, more efficient corporate capital structures and better encouragement of innovation (Takagi, 2002). Crucially for the post-crisis economies of East Asia, competition for borrowers reduces the dependence of firms on banking relationships (Weinstein and Yafeh, 1998) and induces banks to lend to lower quality borrowers they would otherwise refuse (Dinc, 2000). On the whole, better market mechanisms should aid risk sharing in the financial system, improving its ability to withstand prolonged volatility shocks.

The obvious obstacles that need to be overcome to build bond markets are identified by a range of studies, including Benzie (1992), Emery (1997), Schinasi and Todd-Smith (1998), Kim (1999) and Batten and Kim (2001). Issues and impediments are recounted in terms of supply (providing an enabling environment, maintaining the reform of corporate governance), demand (strengthening the role of institutional investors, considering private placement as a short-term option) as well as infrastructural development (better information disclosure, reliable credit ratings, robust benchmark yield curves, quality settlement and risk management systems). The building of bond markets also demands a strong legal and regulatory framework, and better property rights and bankruptcy laws in particular (Beck, Levine and Loayza, 2000). The shared characteristic of the four major bond markets in the Asia-Pacific region is the presence and complex interplay of these factors.

Ultimately, foreign bond markets only emerge when local market conditions are otherwise highly evolved. Accordingly, when taken from a regional perspective there is apparent correlation between bond market development and issuance by foreign borrowers. It is thus striking that the sophisticated Korean bond market developed with minimal foreign involvement. The benefits of an evolved Arirang market are potentially vast. It should help foreign borrowers to currency-match foreign assets, or simply provide an alternative source of funds that can be swapped into the currency of choice when windows of opportunity appear. Foreign bonds could ultimately be an important vehicle to promote cross-border investment, but also make the local Korean bond market larger, more liquid and more resilient to the recent occurrence of continual boom and bust cycles. The present conditions discourage such activity, amplified by cumbersome access, weaknesses in institutional arrangements and governance concerns. This is despite no systematic or institutional discrimination against foreign bond issues. Potential concerns voiced over the expansion of Arirang issuance are also unfounded; foreign bonds neither crowd out local offerings nor have destabilizing exchange rate effects.

The remainder of this paper is as follows. In Section 2 we review the key features of Korea's bond market with focus mainly on the corporate segment Arirang bonds also belong to from a regulatory perspective. In Section 3 we discuss the problems, concerns and key issues related specifically to the Arirang market, and strategies directed at further development are considered. The final section allows for conclusions and lessons that may be applied to other financial markets.

2. The Korean bond market

The foundations of the Korean government bond market were laid in the early 1950s. Corporate bonds appeared in 1963, but issuance was repressed, restricted to short maturities and effectively dependent on bank guarantees. Not until the mid-1990s did prospects for development strengthen, as the market started opening up to foreign investors in 1994 and was later fully liberalized in 1997[2]. The real trigger to market development and liberalization was the currency crisis of the same year. From the late 1980s, the government bond market had been hampered by continual current account surpluses, and the Treasury market never really took off as a result. Instead, quasi-government securities dominated to assist monetary and exchange rate stability and

[2] The evolution of regulatory control over the Korean bond market is described by Noland (2005).

housing development. At this stage, chaebol-issued corporate bonds constituted by far the largest segment of the Korean bond market, but the thin Treasury segment meant that these were priced using the three-year corporate yield as the benchmark.

The currency crisis brought about fundamental changes in the market. The government had to raise huge funds for fiscal stimulation and financial restructuring, which induced rapid expansion in all segments of the public bond market. In 1998, the issuance of Treasuries alone increased six-fold to ₩ 12.5 trillion. Corporate issuance also jumped to a staggering ₩ 56 trillion but underwent an altogether different transformation. Namely, firms had to shift borrowing to non-guaranteed securities, as troubled financial institutions were reluctant to extend credit lines or provide credit guarantees. Large quantities of asset-backed securities (ABSs) were simultaneously issued to securitize non-performing loans and credit card receivables, creating one of the most sophisticated structured finance markets in the region. The huge surge of fund inflows to investment trust companies (ITCs) secured ample demand for these securities.

The infrastructure surrounding the market was built up gradually. Market operations are overseen by the Ministry of Finance and Economy (MOFE) and the Financial Supervisory Commission (FSC). Since 1998, the Bank of Korea holds only indirect and limited powers through the supervision of payment and settlement systems and foreign exchange reserves. Organizations such as the Korea Securities Dealers Association (KSDA), the Korea Exchange (KRX) and the Korea Securities Depository (KSD) are entitled to self-regulate the securities market. Credit ratings are now assigned by four local agencies, including Korea Investor Service (KIS, a Moody's affiliate), Korea Ratings (KR, a Fitch affiliate), National Information & Credit Evaluation (NICE) and Seoul Credit Rating & Information (SCI). The underwriting market has also grown competitive, with Dealogic data showing ten bookrunners with a market share of at least 3.5%.[3].

(Insert Table 1)

[3] The two largest underwriters are the Korea Development Bank and Woori Finance, a subsidiary of Woori Bank.

Today, Korea's bond market is the second largest in East Asia (Table 1). In dollar terms, the market was valued at US$ 599.8 billion or 81% of GDP in June 2005, a nearly five-fold increase over 1997. It is also certainly the most diverse in the region, with 26% of its volume comprised by corporate securities and another 44% by financial institution bonds. These figures do not account for non-Treasury public bonds and ABSs, which add almost US$ 400 billion to the value of the market. Quasi-government securities include vast volumes of Monetary Stabilization Bonds, Foreign Exchange Stabilization Bonds, National Housing Bonds and special public bonds issued largely to finance infrastructural improvements in transport, electricity and telecommunications.

(Insert Table 2)

The growth in the corporate bond market has been similarly astounding despite coming to a halt in recent years. The market is unconcentrated but remains moderately diverse, as issuance is dominated by chaebols and their subsidiaries. Accordingly, credit quality in the market is very high and increasing in local terms, where the government is rated AAA[4] (see Table 2). The bonds issued tend to be straight, unsecured and now almost exclusively non-guaranteed. Equity-linked instruments, predominantly convertibles, are relatively rare, with only 42 listed on the KRX. In total, the KRX lists over 2,400 corporate bonds, of which more than 90% are unsecured straight issues. Most securities are in fact listed, but this is largely a formality induced by restrictions on institutional investors investing in unlisted bonds. As in the public market, corporate issuance continues to be concentrated at the shorter end of the maturity spectrum, with three-year bonds remaining the most popular.

(Insert Table 3)

The low concentration of issuance limits liquidity in the market to some extent. In 2005, the average issue size was about US$ 40 million. Turnover is still relatively high at 3.3 in government bonds and 1.0 in corporate securities, the latter being the

[4] Korea sovereign rating in local currency is AA at Fitch Ratings and A+ at Standard and Poor's. Both agencies apply a country ceiling of AA- to Korean issuers. Korea's foreign currency rating is A+ and Fitch, A at Standard and Poor's and A3 at Moody's.

highest in East Asia. Table 3 nonetheless shows that trading in corporate bonds has declined by nearly 75% since 1999. As in most countries, the vast majority of corporate bond trades take place over-the-counter (OTC), administered largely through the KSDA Free Board. Only 1.6% of trades are accounted for by the KRX, which reflects the low standardizability of corporate issues.

The remarkable reduction in corporate bond trading is deceptive, as it simply reflects turnover settling down after a series of runs between 1999 and 2003. Ferocious trading in the market was fed by three major shocks. Each of these was triggered by a sudden downgrade (Daewoo, Hyundai, SK Group and LG Card), a run on ITCs by households and firms, distress sales of bonds and eventually government intervention (Jiang and McCauley, 2004). Corporate issuance has never really recovered since then, as firms could no longer delay a much-needed process of deleveraging. At least, this encourages hope that future growth in the market will be underpinned by much healthier conditions.

(Insert Table 4)

The vast changes in the corporate bond investor base are demonstrated in Table 4. In 1998, the huge rush of capital inflows helped ITCs lift their market share to 62%. By September 2005, the reversal of capital flows reduced the same to just 14%. The disposals were absorbed primarily by yield-driven investors such as small mutual savings banks and credit unions, reflecting their appetite for relatively high returns in exchange for modest default risk. The corporate bond holdings of banks and insurance firms have also increased over time.

On the whole, market conditions remain unattractive to foreign investors, which hold less than 0.5% of both corporate bonds and Treasuries. This owes only partly to the market’s vulnerability to climate changes and past capital controls. Due to withholding tax considerations, foreign participation is reduced to the futures rather than the spot market. More importantly, global portfolios stay away simply because the Korean won is not internationalized and offers no diversification benefits. As a result, even the government’s ability to borrow abroad in won remains severely limited, which Eichengreen, Hausmann and Panizza (2003) call “original sin”.

3. General conditions surrounding the Arirang market

3.1 The present and concerns over the Arirang market

Arirang bonds could be an important vehicle to promote the internationalization of Korea's capital markets and make the local bond markets larger and more liquid, thus more resilient. In a strict sense, the attractiveness of foreign-issued bonds lies with their ability to assist the currency matching of Korean assets. This should help encourage cross-border investment significantly in the medium term. However, the potential of the market is amplified further if we consider it merely an alternative channel to the vast savings accumulated in Korea's financial system. Creditworthy foreign institutions could raise cheap Korean funds via local won-denominated issuance, and then simply swap these, via cross-currency and interest rate swaps, into the currency of choice when windows of opportunity appear in domestic and international markets.

Regrettably, the Arirang market remains unable to serve the specific financing needs of foreign borrowers, and constitutes barely 0.2% of the corporate bond market it is part of from a regulatory perspective. This corresponds to the minimal cross-border appeal Korean bonds and the won already have to foreign investors. It is notable that the Arirang market faces no competition from won Eurobonds either, as is the case with Japan's Samurai market. Non-resident issuance directly in a foreign currency is also not a viable option as yet, given that the introduction of so-called Kimchi bonds, denominated in US dollars, is still at the development stage.

(Insert Table 5)

Details on all the Arirang bonds that have been issued to date are provided in Table 5. The first foreign borrower to tap Korea's domestic market was the Asian Development Bank (ADB) in 1995 with a seven-year issue serviced by the Korea

Development Bank[5]. Two more supranational organizations followed in 1997, but they have been absent from the market since then. Not until 1999 were foreign firms allowed to issue Arirang bonds, pursuant to the Foreign Exchange Market Liberalization Act of the same year.

In total, the Reuters Fixed Income Database recounts only 32 Arirang issues since their inception. The market gathered some momentum initially, but the outstanding volume quickly dropped from a high of ₩ 815.6 billion in 2001 to ₩ 235 billion in 2005. There is no evidence of any systematic or institutional discrimination against foreign bond issues. Nonetheless, issuance has been dominated by the foreign subsidiaries of Korean chaebols, which tap the already familiar market to achieve favourable funding conditions. This is in sharp contrast with other foreign bond markets in the region, where the bulk of issuance is accounted for by supranationals and genuine non-resident borrowers of typically high credit quality. Unexpectedly, Arirang bonds are also comparable to local securities. Each corporate issue was rated BBB or A by local credit rating agencies. Markey activity has been concentrated at the one- to three-year segment, and the average issue size is a modest ₩ 47 billion. Straight issues dominate, though five bonds by the US subsidiary of SKC had put features.

In the remainder of this section, we discuss the roots of underdevelopment in the Arirang market. However, we feel compelled to first emphasize that any potential concerns voiced over the expansion of Arirang issuance are largely unfounded. Despite the recent ailing of domestic issuance by Korean firms, there is no evidence that foreign bonds would crowd out local offerings. In fact, the reverse may be the case. In the yield-driven Korean market, the significant sector issues by local firms and financial institutions may inhibit price opportunities for foreign borrowers, which would typically be on the quality end of the market. This problem could be mitigated in a number of ways. For example, coordinated regional central bank investment in foreign-issued securities could not only stimulate demand, but also absorb much of the US dollar-denominated reserve buildup in the region. A framework similar to the

[5] See Hoschka (2006) for further information on MDB financing (specifically Table 1, page 9)

Asia-Europe Meeting (ASEM) Trust Fund set up to assist East Asia’s post-crisis economies would probably serve this purpose well.

Another potential problem relates to Korea’s relatively thin foreign exchange market. Evidence from other financial markets suggests that most foreign bond issues are swapped into foreign currencies. The same holds in Korea, where chaebol subsidiaries tap the local market and then swap the proceeds into US dollars. If these transactions are relatively large, they could strengthen exchange rate volatility and exert undesirably large downward pressure on the Korean won.

(Insert Figure 1)

To see if this is a significant issue, we conduct an econometric (event study) analysis on the impact the few Arirang issues have had on the dollar-won exchange rate. Over 0 to 30-day event windows, Arirang issuance has no apparent effect in terms of returns or volatility (Figures 1a and 1b, respectively). For example, a comparison of volatility and returns 5 days before and 5 days after issuance shows no statistically significant differences. Of course, the sample is small and the issues are small, but so too is the market, and the confidence interval at the 95% level includes most observations. In Figure 1b, there does appear a spike in returns on day 0. Also, the mean returns are negative 2 days before but positive 2 days after issuance. A 95% confidence interval again includes all these points, however (since not all bonds had the same effect). To the extent that price discovery in markets is usually associated with a spike in volatility around the event date, this simple analysis ultimately shows no evidence of such spikes when Arirang bonds are issued.

To repeat this experiment for other markets is difficult given the number of issues and their interaction with other external factors. In Singapore, institutions have been historically reluctant to short the local currency due to reporting requirements and meticulous overseeing by the Monetary Authority (MAS). Thus, it is unlikely that the liquidity effects of foreign bond issues would be arbitraged. In Hong Kong, this is an irrelevant issue altogether given the peg to the US dollar. In the case of Australia and Japan, which both have large offsetting capital and trade flows and well-developed and informed foreign exchange markets, any such effect would be hard to imagine.

3.2 Economic and financial conditions surrounding the Arirang market

The development of the Arirang market is obviously dependent upon expectations over Korea's economy as a whole. Domestic economic growth is expected to maintain a moderate rate of growth of 4 to 5%, which should underpin demand and supply both in the corporate and Treasury segments of the bond market. The overall picture of Treasury issuance is an interplay between proposed fiscal initiatives that would add to the expanding government deficit, and concerns over the current account surplus and the build-up of foreign reserves. Korea's foreign reserves are the fourth largest in the world at US$ 210.4 billion in 2005 and continue to be fed by continual current account surpluses, estimated at US$ 16.6 billion or 2.1% of GDP.

On the whole, there are visible signs of improved confidence by foreign investors. Inbound foreign direct investment (FDI) was US$ 11.6 billion in 2005, and Korea has broken into the top 20 of the global FDI attractiveness ranking[6]. Favourably, high value-added FDI dominates, and the majority of inbound investment is made through mergers and acquisitions. Coupled with foreign portfolio investment, foreign shareholdings have now risen to 45% of the KRX market capitalization. Capital inflows are only partially offset by outbound FDI, which the government continues to encourage to reduce upward pressure on the won. The government is also using Foreign Exchange Stabilization Bonds to prevent the won appreciating, but the currency now trades consistently below 1,000 against the US dollar for the first time since 1997.

To date, there is little evidence that FDI-related expenditure would be financed though Arirang issuance. But, the expected future flow of inbound FDI could provide a basis for foreign participation in the market. Regrettably, at this stage the enabling environment to do so is lacking. The evolution of the bond market in general and the Arirang market in particular is subject to a series of enabling factors and impediments.

[6] The FDI attractiveness ranking is compiled by the United Nations Conference on Trade and Development (UNCTAD).

The environmental conditions critical to encourage Arirang issuance are discussed in turn.

(a) Importance of sustainable economic growth and declining default risk

A stable economic situation matched with reduced corporate leverage creates expectations of earnings upgrades within corporate borrowers. The reduction of corporate debt to equity ratios has been remarkable, from 182% in 2001 to 104% in 2004, and the default ratio has declined to below 0.1 (Lee and Kim, 2006). Since 2004, credit spreads have remained near historical lows and narrowed spectacularly in the BBB-segment. This makes the market more attractive to both domestic and foreign issuers. However, it is likely to reduce yield-oriented investor demand for Arirang issuance by top quality international borrowers.

(b) Accommodating declining savings and high levels of consumer credit

Korea's savings rate has stabilized in recent years but is on the decline from a long-term perspective. It dropped quite dramatically between 1998 and 2002, from 38% to 30%, due to credit card abuse which triggered the collapse of LG Credit Card in 2003. To some extent, this reflects that household capacity to invest in securities other than through reinvestment or asset substitution remains limited. The same is also apparent from the relatively low level of quasi money in Korea. The supply of quasi money, which comprises currency not deposited in bank accounts and demand deposits of the central bank, continues to grow. However, at 62% of GDP in 2004 it remains well below levels seen in many other countries in the region, including China, Taiwan, Malaysia and Thailand. On the positive side, real income growth has been the highest in Korea behind China and Vietnam since 1998.

(c) Improvements in the quality of corporate governance

Korean efforts to improve corporate governance show some success but remain heavily criticized. Korea's governance practices are ranked only sixth among ten Asian countries by the Asian Corporate Governance Association (ACGA) and CLSA Asia-Pacific Markets[7]. The country complies well with international accounting and auditing standards, and was the first to pass a law allowing class action lawsuits for

[7] In 2005 the ranking was in descending order: Singapore, Hong Kong, India, Malaysia, Taiwan, Korea, Thailand, the Philippines, China and Indonesia.

securities cases. However, it fares generally badly in the passing and implementation of regulations, the quality of regulatory and market-based enforcement and the political and regulatory environment. Korea also scores lower in the World Bank Governance Indicators than do many of its regional counterparts, including Japan, Taiwan, Singapore and Hong Kong. Improvements are called for in the country's regulatory efficiency, rule of law and control of corruption in particular[8].

Reforms to the governance culture of Korean firms are also criticized as largely superficial, as ownership structures are opaque and independent institutional investors remain unorganized. Standard & Poor's has indicated that complex family-centered ownership and support to non-core subsidiaries harm corporate credit ratings. A prime case is Samsung Electronics, which is currently rated A- but could theoretically have a higher rating than does Korea as a sovereign borrower. The efforts of governance-aware professionals and academics, and retail activists such as the People's Solidarity for Participatory Democracy (PSPD) have nonetheless brought increasing attention these issues.

(d) Relative stability in monetary policy and the exchange rate

Overall, the domestic economic picture is favourable and the financial environment benign to potential issuers in the Arirang market. Price stability is also reasonable, contributing to the generally benevolent conditions. Domestic demand pressures remain slight as households are deleveraging and credit delinquency is falling. More concern is voiced over the recent appreciation of the Korean won. Unhedged foreign borrowers would be reluctant to tap Korea's domestic market if the won was likely to appreciate beyond the interest rate differential with the issuer's reporting currency. In 2005, the won traded between 1,463 and 1,209 against the euro and 1,061 and 959 against the US dollar, gaining some 2.3% against the latter year-on-year. The dollar exchange rate is nonetheless stable, with 2005 volatility the lowest in the post-crisis period. Further rises in the exchange rate are also expected to remain modest, as indicated by the small net outflow of foreign portfolio investment in 2005.

[8] The World Bank publishes six governance indicators bi-yearly for 209 countries: rule of law, voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality and control of corruption (see http://www.worldbank.org/wbi/governance/govdata)

3.3 Critical Issues to Further Bond Market Development

In the face of the generally benign environment and regulatory encouragement, it is obvious that the lack of substantial Arirang issuance owes to a set of very specific factors. We summarize the explicit enabling factors and impediments in three areas: supply, demand and infrastructure.

A. Issuer Concerns

(a) Pricing is imperative

As has been mentioned, the investor market in Korea is characterized by an increasingly aggressive search for higher yields. Foreign issuers would likely be at the quality end, possibly rated higher than the government's sovereign rating, thus pricing remains an unhappy issue. The on-going expansion of the government bond market may also induce considerable crowding-out effects. Pricing at the long end of the yield curve can be problematic, as the pricing benchmark is the three-year Treasury bond.

(b) The ability to hedge via cross-currency swaps is imperative

Korea's cross-currency swap market has evolved significantly in the past few years. The interbank trading of foreign currency derivatives alone reached a daily US$ 3.6 billion in 2005, doubling over the previous year and tripling over 2003. The Bank of Korea attributes heightened activity, more than 70% of which is accounted for by swap trades, to greater demand for hedging from trade-oriented local firms. Nonetheless, the market remains shallow relative to Hong Kong and Singapore where trading is more than ten times higher. As a result, pricing is said to be intermittent and spreads often wide.

(c) Simple to understand documentation is important

The language barrier is non-existent for chaebol subsidiaries but is highly problematic for non-Korean firms. This makes much of the documentation, governing law and legal procedures largely inaccessible to foreigners[9]. Compliance with issuing procedures has equally been cited as being unduly complex. The requirement to translate foreign documents into Korean is onerous. Also, there have been 15 revisions to the "Regulation on Securities Issuance and Disclosure" rules since 2000, and the three most recent revisions are not available in English. These issues are substantial and are a major hindrance to the conduciveness of the bond market to non-resident issuance.

(d) The need for domestic ratings is problematic

All foreign issuers must be rated by one of the local credit rating agencies, irrespective of whether they have already been rated by Moody's or Standard and Poor's. This introduces considerable delays in the issuing process. In a recent example, Ford Capital was interested in issuing the won equivalent of US$200 million in June 2003. Salomon Smith Barney was selected as the main agency, and KIS and NICE were requested to provide appropriate ratings. However, documentation and financials were required in Korean and the various participants were unable to act promptly. In the meantime, the opportunity to achieve sub-LIBOR borrowing rates had changed, so Ford Capital did not proceed with the issue. For supranationals, the issuing procedure can be easier, as new issues can be classified as a government bond or a special bond.

B. Investor concerns

(a) The need to maintain market size and liquidity

The limited scope of the Arirang market severely limits its appeal to domestic and foreign investors alike. A critical condition would be to attract large issues that induce high levels of liquidity, but the average issue size, comparable for local and Arirang bonds, is too small to ensure this.

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[9] For example, the Korean Financial Supervisory Service notes the following disclaimer: "The English translation of the financial supervisory regulations is not official and is intended for reference only. Neither the FSC nor the FSS is responsible for the correctness of the English translation, and the reader is advised to refer to the most up-to-date regulations in Korean. The English translation is current as of August 1, 2002". See: http://english.fss.or.kr/en/laws/sec/lawstock_l.jsp

(b) Pricing structure – simple is not necessarily the best

The Arirang market, like the corporate bond market in general, is very homogeneous and does not cater to a broad horizon of investors. This is driven in part by the fairly specific nature of local demand. On the other hand, domestic borrowers also prefer to stick to standard terms and concentrate issuance at the short end of the market.

(c) The ability to diversify

Korean bonds offer some scope for diversification since their dollar returns co-move only moderately with US returns (McCauley and Jiang, 2004). However, the won itself has no diversification benefits to most investors, thus global portfolios stay away from won-denominated debt. As has been mentioned, this owes largely to the fact that the internationalization of the won is minimal despite the size of Korea's economy. Nonetheless, to the extent that the won is perceived to be undervalued against the dollar, speculators should be encouraged to hold long positions in the currency. We have seen no evidence for this in the corporate bond market so far, though foreign participation in the three-year government bond futures market is significant.

(d) Withholding tax deters foreign investors

Interest income is subject to 14% withholding tax for resident and 25% for foreign investors. For foreigners, the tax amount may be reduced or exempted by applicable tax treaties or agreements with the domiciliary country. Nonetheless, withholding tax may be a larger barrier than the rates levied or the bilateral arrangements might suggest. An important consideration is that foreign investors simply do not want to submit themselves to the administrative burden of taking advantage of tax treaty rights (McCauley and Jiang, 2004).

(e) Poor governance and investor protection inhibits (foreign) investment

In the aftermath of the East Asian crisis, many investors were unable to recover their claims due to legal systems that insufficiently supported investor rights. This problem persists even under normal conditions. The likelihood of bankruptcy filings has been shown to be lower when creditor rights are weaker and the judicial system less efficient (Claessens, Djankov, and Klapper, 2003). This is of some concern in Korea. Strictly speaking, creditor protection is reasonably strong as measured by creditor rights (La Porta *et al.*, 1998) and the resolution of claims disputes (Djankov, McLiesh and Shleifer, 2004). However, this does not make up for the regulatory and governance inadequacies criticized by the ACGA and the World Bank. Investor confidence is also hurt by the explicitly aggressive growth strategy of certain Korean firms such as Hyundai Motor. The effect of these uncertainties is reflected in (a) investor reluctance to hold certain securities and (b) relatively higher credit spreads on corporate bonds.

C. Infrastructural issues

Despite concerted regulatory efforts, the present infrastructure in Korea could ill-support a large and sophisticated foreign bond market. This is reflected in Korea's generally low rating in the ALBI Impediments Index[10], which assesses the difficulty of accessing bond markets in ten Asian countries. Korea ranks only seventh, well behind Indonesia, Thailand and even the Philippines. It scores especially badly in currency and capital restrictions, the complexity of withholding tax and the ease of setting up and operating an investment fund. The country also receives criticism for infrastructural conditions in pricing, transparency, settlement and custody, derivative markets and hedging.

(a) The technical infrastructure is critical

The Korean Government is aware of the need to maintain and lengthen liquidity along the yield curve, and preferably to concentrate issuance in particular maturity buckets. New Treasury issues are allocated reasonably evenly across 3 maturities; three-year bonds are still the most popular, but five- and ten-year bonds are quickly gaining. This evidently contributes to increasingly better pricing in the corporate bond market. On the other hand, many non-pricing-related concerns prevail among foreign market participants in particular, such as the limited availability of offsetting risk management technologies.

[10] Hong Kong and Shanghai Banking Corporation (HSBC) produce the ALBI (Asian Local Bank Index), which tracks the total return of liquid bonds in local regional economies.

The absence of floating rate markets is a notable shortcoming. There is also no clear development plan for simple exchange-traded and over-the-counter derivatives. For example, there are delays in the introduction of interest rate futures and other derivatives that are linked in some way to benchmark bond curves to facilitate risk management and trading. There are nonetheless several recent initiatives targeted at enhancing price discovery. The first of these is to increase the use of floating-rate measures, which would eventually lead to the expansion of floating-rate instruments (forward rate agreements and possibly short-dated futures). This process began in 2004 with the introduction of KORIBOR (Korea Interbank Offered Rate), the Korean counterpart of LIBOR, which should form the benchmark interest rate for short-term financing for banks, and may become a reference rate for bond or swap transactions. KORIBOR is fixed by taking the average of the middle eight of 14 quotes from contributing banks.

The Korea Securities Depository (KSD) has yet to complete the full reform of corporate bond trading, settlement and custody. The foundations of the bond registration system were laid by the Registration Act back in 1993. The KSD is finally moving towards the full dematerialization of corporate bonds and is working on the introduction of electronic trading. It has also allowed listed won-denominated corporate issues to be used in repo transactions, which should contribute to greater liquidity in the market.

(b) Capital controls need further attention

Capital controls still exist in Korea and are recounted by Noland (2005). For example, there remain limits of foreign won funding aimed at hedge funds. For foreigners, the sale and purchase of foreign exchange without documentation are subject to notification requirements over US$ 20,000 and US$ 10,000, respectively. The government’s exchange rate policy and the magnitude of currency market interventions also go beyond smoothing operations and have been a source of controversy. It is important that capital controls have been broadly responsible for the significant buildup of foreign reserves, thus their effectiveness needs to be reconsidered. Anecdotal evidence also suggests that illegal money transfers abroad are both common and considerable, totaling US$ 1.2 billion in the first half of 2004 (all-up legal transfers over the past years come to US$ 6 billion).

(c) Reform agenda

The government hopes to secure Seoul's position as an international financial centre by working towards full foreign currency liberalization by 2011. The first phase of the Foreign Exchange Liberalization Plan (2002 to 2005) has increased Korean won funding limits for non-residents and raised the ceiling amount of residents' foreign borrowings requiring notification. Meanwhile, policy measures are being implemented step-by-step to deepen and widen the foreign exchange market, such as allowing securities firms into interbank and over-the-counter foreign exchange derivatives trading, and forging business coalitions between domestic and foreign brokerage firms. By the time the plan is implemented, the government hopes to have internationalized the won, and made its foreign exchange market a leading financial hub in Asia-Pacific.

The 2005 merger of the Korea Stock Exchange (KSE), the KOSDAQ Stock Market and the Korea Futures Exchange (KOFEX) into the Korea Exchange (KRX) is certainly expected upgrade the competitiveness of the nation's trading system for a variety of financial products, including stocks, bonds, options and other derivatives. The KRX is easing further some of the restrictions on foreign equity investors, already accounting for more than 40% of the market. The internationalization of the stock market has done nothing to instigate foreign investment in Korean bonds, however. The policy of KRX is also unclear on how to encourage Arirang issuance other than by making easing listing requirements. The cornerstone of their strategy is to scrap the current rule that requires issuers to be listed on either foreign exchanges or have their depository receipts of foreign shares listed on the KRX, as long as the firm is issuing secured bonds with low risk of delinquency.

4. Lessons and Conclusions

Asia-Pacific governments targeting foreign bond issuance have seldom come up with apparent or specific development strategies. In the case of Korea, the government has vowed to continue reform of the domestic financial system, with the explicit objective of turning Seoul into an international financial centre on par with Singapore and Hong Kong by 2010. One critical issue of this plan will be to develop Korea's foreign bond market. At present, the negligible Arirang market appears untouched by quality issuers, which is surprising given the scale and scope of the local bond markets.

Funding FDI or local currency portfolios appears to have little to do with why foreign firms enter a domestic bond market. Rather, borrowers seek out the minimum cost of financing amongst a spectrum of choices. This dictates that the appeal of Arirang issuance largely hinges upon the sophistication of Korea's cross-currency swap market. As significant inroads are being made in this regard, the government must ensure that the other obstacles impeding easy access to the market are simultaneously removed. The tasks include the improvement of pricing conditions, the reduction of the administrative burden, the elimination of capital controls and encouraging local and international investor demand.

For other East Asian governments seeking to develop their own foreign bond markets, there are numerous lessons to be learnt. They must formulate an infrastructure that is enabling for issuance and risk management, nurture institutional and retail demand, and deregulate capital markets to facilitate two-way capital flows. There appears to be a natural ordering to the tasks involved: (1) benchmark bonds and indices must be established; (2) a diverse derivatives market needs to be developed; (3) the bond market's maturity profile must be systematically lengthened; and (4) OTC capability and esoteric prices structures must be built and developed for derivatives and other complex financial and financing instruments.

The Korean experience also shows that the sophistication of the local bond market does not necessarily make it appealing to foreign borrowers. This warrants a several imperative observations:

1. *Development is driven by market forces and is difficult to simply regulate.*

The sophisticated bond markets of Australia, Hong Kong or Singapore have evolved over many years. Thus, the presence of the enabling infrastructure is only a first step in market development: one needs the right mix of issuer supply and investor demand. The case of Korea seems to support his view. Despite the conscious building of infrastructure and the success of the corporate bond market, foreign issuance never really took off. There may be many reasons for this anomaly: complex regulatory, issuing and compliance processes, parochial investor attitude and possibly crowding-out effects.

2. *Proper planning in conjunction with industry will help overcome some risks.*

In Australia, government withdrawal from the bond markets allowed foreign issuers to substitute at the quality end of the investment spectrum. The reverse appears to be the case in Korea; Treasury issuance appears to crowd out foreign borrowers despite low levels of government indebtedness. These problems could easily be overcome by filling in the infrastructural gaps and maintaining liquidity along the benchmark yield curve in conjunction with industry.

3. An order of issuance helps build markets but it needs to be followed up.

In Korea, corporate borrowers were not granted access to the Arirang market until four years after the first supranational issue. It is important to remember that the mandate of supranationals is to "provide cost-effective funding on a sustainable basis for financing economic development[11]". Thus, they are driven to minimize funding costs and lack the ability to continuously cross-subsidize market development by regular issuance.

4. Foreign issuers are driven by cost and do not necessarily fund FDI or portfolio investment through local issuance.

Multinational firms pick financing arrangements very carefully. Chaebol subsidiaries issue Arirang bonds exactly to minimize the funding costs of foreign investment, and the Korean subsidiaries of foreign firms will likely do the reverse. Chaebols obviously have a comparative advantage at home, which they are able to transfer into lower costs in the host country. It is unsurprising that Indonesian chaebol subsidiaries are at the forefront of the Arirang market, as they would probably have difficulty accessing local debt and banking markets.

[11] This is a quote from the World Bank website on their funding objectives, although it is consistent with others:
http://treasury.worldbank.org/Services/Capital%2bMarkets/Annual+Issuance/Funding+Strategy+and+Objectives.html

Finally, the insights provided by the Korean experience are imperative to the on-going reform of developed economies in Europe and Asia. In the new millennium, firms across the developed world are already faced with significant changes in the financial environment, as banks are increasingly cautious about extending credit. This has triggered a gradual process of disintermediation in historically bank-oriented financial regimes, fed by considerable regulatory efforts directed at market liberalization. In emerging markets, bank-intermediated finance continues to form the single most important source of funds to the corporate sector. However, they are subject to the same universal trend, which calls for immediate efforts to develop disintermediated financing channels. The Korean blueprint, with all its imperfections, should provide an excellent guide.

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Table 1
Financial Markets in Asia-Pacific
(in US$ billions)

	1997					2005				
	Government	Corporate	Financial	Total	% of GDP	Government	Corporate	Financial	Total	% of GDP
China	67.4	6.3	42.7	116.4	12.9	331.8	12.2	208.0	552.0	31.5
Hong Kong	13.1	32.7		45.8	26.4	16.0	66.9		82.9	48.7
Indonesia	0.9	2.0	1.7	4.6	1.9	48.5	3.8	2.9	55.2	20.6
Korea	21.6	57.1	51.7	130.4	25.1	183.5	155.0	261.3	599.8	81.0
Malaysia	19.4	20.8	16.8	57.0	56.4	49.2	45.6	20.3	115.1	93.2
Philippines	16.6	0.3		16.9	20.5	35.8	0.1	0.2	36.1	39.4
Singapore	13.0	10.7		23.7	24.9	45.1	34.5		79.6	71.4
Thailand	0.3	9.0	1.1	10.5	6.6	34.7	22.6	14.8	72.1	42.3
Vietnam						4.3			4.3	10.0
Japan	2,383	578	1,650	4,608	116	6,929	836	1,516	9,281	187
US	*4,452*	*1,889*	*5,528*	*11,870*	*143*	*5,697*	*2,659*	*11,192*	*19,548*	*158*

Sources: Asian Development Bank, Dealogic Bondware, Bank for International Settlements.

Table 2
Outstanding bonds in Korea by type
(in ₩ billions)

	2001	2002	2003	2004	2005
Total	547,449	600,139	650,110	736,160	805,776
Government	78,126	95,808	137,677	197,932	234,126
Treasuries	46,032	52,389	82,427	142,421	180,855
FX Stabilization Bonds	8,700	15,850	23,650	22,200	15,300
National Housing Bonds	21,268	26,469	31,001	33,311	37,376
Municipal	9,246	8,954	9,939	10,553	11,210
Special Public	134,343	133,417	118,286	115,288	117,191
Monetary Stabilization Bonds	79,121	83,890	105,497	142,729	155,235
Financial Debentures	83,660	120,898	123,963	134,854	145,523
Corporate	162,953	157,172	154,748	134,804	142,492
Guaranteed	5,987	4,862	3,364	755	323
Secured	64,060	63,454	63,121	48,878	40,704
AAA	9,384	15,618	16,369	15,542	14,583
AA	16,862	16,219	18,259	23,604	31,633
A	19,232	20,145	21,431	22,851	29,664
BBB	20,565	16,823	15,779	16,008	17,686
BB	7,855	6,446	5,506	1,251	1,075
B	4,454	3,589	1,592	457	432
CCC-D	3,545	1,178	536	345	291

Source: Korea BondWeb.

Table 3
Government and corporate bond trading in Korea
(in ₩ billions)

	Government bonds			Corporate bonds		
	Over-the-counter	Exchange trading	% Exchange trading	Over-the-counter	Exchange trading	% Exchange trading
1997	15,848.6	237.4	1.5%	143,423.1	3,807.1	2.6%
1998	44,554.8	6,519.9	12.8%	391,951.9	8,968.9	2.2%
1999	397,504.4	281,921.7	41.5%	442,891.0	11,685.0	2.6%
2000	582,662.0	23,521.2	3.9%	272,401.0	3,648.4	1.3%
2001	985,028.0	12,213.6	1.2%	263,376.0	2,012.6	0.8%
2002	731,811.0	46,062.8	5.9%	223,808.0	1,111.4	0.5%
2003	1,001,362.8	214,009.9	17.6%	164,858.8	892.0	0.5%
2004	1,524,504.0	383,122.5	20.1%	140,560.0	986.7	0.7%
2005	1,550,280.0	360,824.4	18.9%	115,752.0	1,935.1	1.6%

Source: Korea BondWeb.

Table 4
Corporate bond investors in Korea
(percent)

	1998	1999	2000	2001	2002	2003	2004	Sept. 2005
Banks	5.3	4.9	8.1	12.8	12.8	14.3	12.2	11.5
Bank trusts	10.3	10.4	7.4	6.4	8.1	6.3	5.5	4.4
Investment trust companies	62.4	60.2	29.5	20.8	18.7	11.9	15.3	13.9
Security companies	8.7	12.3	15	13.8	15.5	20	21	23
Insurance companies	2.1	1.5	5.5	7.2	8.9	11.8	11.8	11.8
Pension funds	0	5.6	9.2	10.7	10.4	9.1	6	5.3
Mutual savings banks, credit unions, individuals etc.	11.2	5	25.3	28.4	25.6	26.5	28	30.1

Source: Korean Securities Depository, from Lee and Kim (2006).

Table 5
Arirang bond issues since 1995

Issuer name	Domicile of issuer	Local credit rating	Issue date	Description	Amount (₩ million)
Asian Development Bank	Supranational	AAA	01/09/1995	7-year fixed 12.15%	80,000
International Bank for Reconstruction and Development (EBRD)	Supranational	AAA	23/04/1997	5-year fixed 9.8%	71,500
European Bank for Reconstruction and Development (EBRD)	Supranational	AAA	02/05/1997	5-year fixed 10%	71,100
PT CS Indonesia	Indonesia		11/06/1999	3-year fixed 7%	45,000
PT Hanil Jaya	Indonesia	A	16/07/1999	3-year fixed 7%	14,000
PT SK Keris	Indonesia		29/11/1999	1-year fixed 8%	45,000
PT Indomiwon Citra	Indonesia		20/12/1999	1-year fixed 10.8%	20,000
PT Miwon Indonesia TBK	Indonesia		16/03/2000	1-year fixed 9%	20,000
PT Indomiwon Citra	Indonesia	BBB-	20/12/2000	2-year fixed 10%	10,000
PT Indomiwon Citra	Indonesia		28/02/2001	1-year fixed 11.125%	15,000
PT Miwon Indonesia TBK	Indonesia	BBB-	16/03/2001	1-year fixed 10.9875%	20,000
SKC Inc.	US	BBB	03/05/2001	2-year fixed 10.2%	50,000
PT SK Keris	Indonesia	BBB	28/05/2001	3-year fixed 9.875%	30,000
Hyundai Assan OSVT	Turkey	A-	04/06/2001	3-year fixed 7%	29,000
SKC Inc.	US	BBB	19/07/2001	2-year fixed 8.6525%	70,000
PT SK Keris	Indonesia	BBB	23/07/2001	3-year fixed 8.85%	50,000
SKC Inc.	US	BBB	06/11/2001	2-year fixed 8.27%	50,000
SPI (Seosan) Cogen	Singapore	A	20/12/2001	3-year fixed 7.675%	140,000
SPI (Seosan) Water	Singapore	A	20/12/2001	5-year fixed 7.675%	70,000
PT Indomiwon Citra	Indonesia	BBB	27/02/2002	1-year fixed 7.26%	16,000
PT CS Indonesia	Indonesia	A+	27/04/2002	1-year fixed 7.32%	100,000
PT Indomiwon Citra	Indonesia	BBB	17/10/2002	3-year fixed 6.43%	30,000
SKC Inc. [a]	US	BBB+	02/05/2003	1-year fixed 7.75%	50,000
SKC Inc. [a]	US	BBB+	21/07/2003	1-year fixed 10.02%	70,000
PT SK Keris	Indonesia	BBB+	22/07/2003	2-year fixed 9.2%	50,000
SKC Inc. [b, c]	US	BBB+	06/10/2003	3-year fixed 9.5%	5,000
SKC Inc. [b, c]	US	BBB+	20/10/2003	3-year fixed 9.5%	10,000
SKC Inc. [b]	US	BBB+	06/11/2003	1-year fixed 7.24%	35,000
SKC Inc.	US	BBB+	03/05/2004	1-year fixed 6.1%	50,000
SKC Inc.	US	BBB+	21/07/2004	1-year fixed 6%	45,000
SPI (Seosan) Water	Singapore	A+	30/11/2004	3-year fixed	50,000
SPI (Seosan) Cogen	Singapore	A+	01/12/2004	3-year fixed	100,000
				Total issues	1,511,600
				Average issue size	47,238
				Average maturity	2.4
				Current outstandings	235,000

Notes: [a] MATD; [b] callable; [c] private placement.
Source: Reuters Fixed Income Database.

Figure 1:
Does the Issuance of Arirang Bonds Destabilize the USD/Won Exchange Rate?

Figure a: Standard deviation around 0- to 30-day event windows

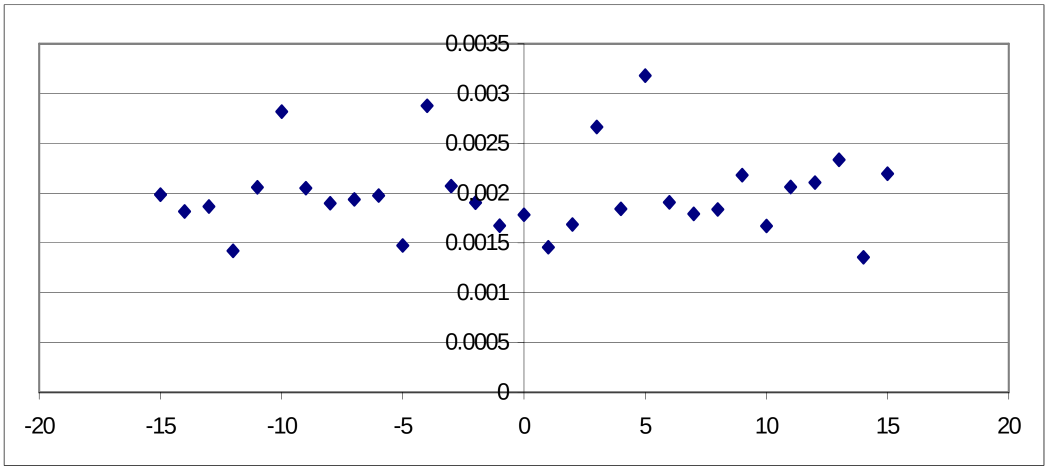
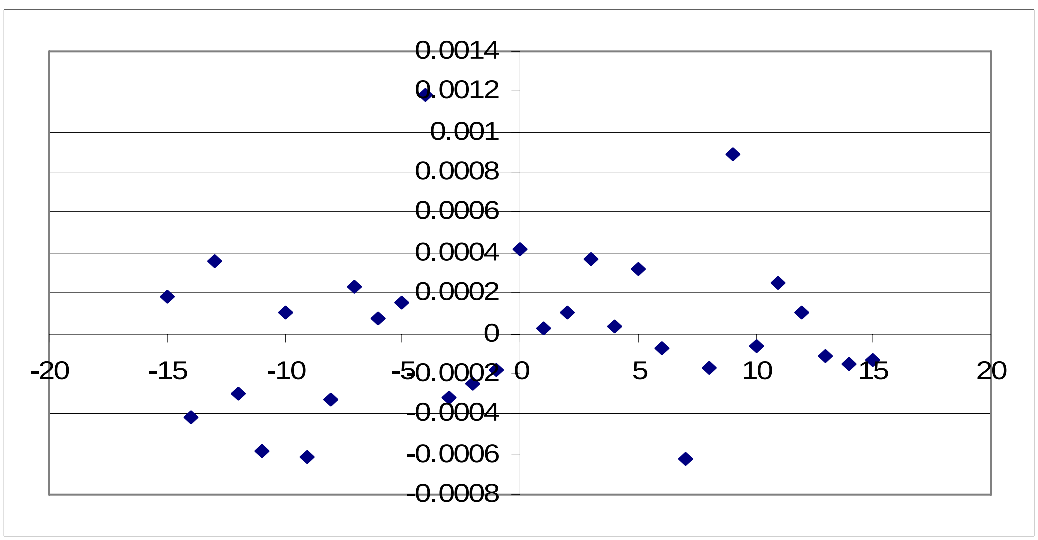


Figure b: Returns (log of daily change) around 0- to 30-day event windows



Institute for International Integration Studies
The Sutherland Centre, Trinity College Dublin, Dublin 2, Ireland