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In the ASEAN+3 countries (ten ASEAN countries,[1] Japan, South Korea and China), strengthened efforts are being made to foster bond markets in each country. While the bond markets in each Asian country have been steadily growing in size with government bonds playing a central role, these markets face major bottlenecks in terms of tradability in the market due to factors such as a narrow investor base and a lack of active dealers.

In addition to the efforts being made independently by each country, activities have been started to promote the growth of each bond market within the framework of regional cooperation. The Asian Bond Markets Initiative (ABMI) is one of such activities under the ASEAN+3 framework, and discussions are ongoing focusing on issues such as the establishment of guarantee mechanisms, the improvement of settlement systems and the development of securitization schemes.

In the Asian bond markets that are expected to grow in the future, business opportunities for foreign companies are also expected to increase. For example, foreign companies operating in Asia can diversify financing sources by issuing bonds denominated in local currencies, while fund management companies can canalize individual financial assets in foreign countries by developing/commercializing fund products that include Asian bonds. In addition, foreign life insurance companies can enter into the Asian market and enrich the local institutional investor base.

I Factors Pushing Bond Market Development in Asia

1 "Double Mismatches" in Currency and Maturity in Bank Debt

The currency crisis that occurred in Thailand, Malaysia, South Korea, Indonesia and other Asian nations in 1997 served as a trigger for each Asian government to give priority to the promotion of the development of its bond market. This is because the currency crisis and the resulting economic slowdown are attributed to the fact that the overall economy had overly relied on the banks and thus had no resistance when the banking system itself collapsed.[2]

In the crisis-affected countries before the crisis, the distinguishing characteristic has been the excessive dependence on bank loans for financing. The banks themselves, in turn, had often depended on borrowing short-term dollar funds on a large scale because they were unable to raise long-term funds in their own currencies.

Due to the major exchange speculations that occurred in several Asian markets, the dollar peg system (pegging of the exchange rate between the local currency and the dollar) collapsed, and the exchange rate of each local currency in the crisis-affected countries declined sharply against the dollar. Accompanying this fall, outstanding debts on a local currency basis have sharply increased in many financial institutions. Since assets have been fixed by long-term loans, it became impossible to raise funds for repayment, which resulted in the insolvency of many financial institutions. This phenomenon is known as "double mismatches"[3] in currency and maturity.

In this way, the banking system has run into a functional disorder, and bank loans have rapidly decreased. This has stirred up anxiety over a clearing system and an overall banking system. At the same time, as the risks in terms of credit among companies have increased, fund-raising has been severely hampered and capital investment has rapidly dropped.

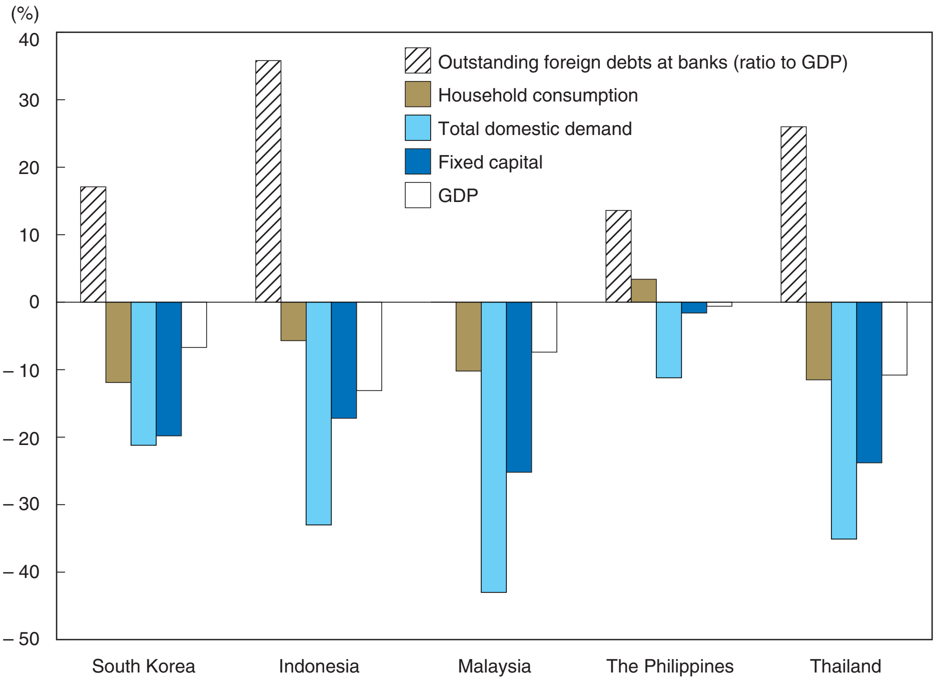
In Malaysia, Thailand, Indonesia and South Korea, fixed capital investment has decreased due to the currency crisis by 43 percent, 35 percent, 33 percent and 21 percent, respectively (Figure 1).

2 Increasing Expectations towards Direct Financing

Under these circumstances, expectations for the development of direct financing, in particular the bond market, have been increasing in the ASEAN+3 countries (ten ASEAN countries plus Japan, South Korea and China). Development of corporate bond markets in local currencies will facilitate the raising of long-term and large-scale funds. In addition, the issuance of bonds in a country's local currency would reduce dependence on foreign currency funds, and could contribute to the elimination of excessive currency mismatches.

From these perspectives, the development of corporate bond markets in local currencies as an alternative means of financing has been commonly recognized as an extremely important policy issue by each country. Bond markets are expected to revitalize domestic investment, which has

Figure 1. Outstanding Foreign Debts at Banks during the Currency Crisis (1997) and Fluctuations of Post-Crisis GDP Elements (1997 – 1998)



Note: GDP = gross domestic product.
Source: United Nations, *National Accounts 2001*.

been sluggish in many countries due to declines in the inflow of foreign capital.

II Current Status of Asian Bond Markets

1 Shifting to Open and Fair Competitive Markets

Along with increased recognition of the importance of developing corporate bond markets, various activities have occurred in the ASEAN+3 countries. In many countries, these activities have resulted in major changes in structures and market practices. The changes have contributed to a gradual shift from markets characterized by regulations and non-transparent practices to markets focusing on open and fair competition based on the disclosure of information.

For example, more advanced ASEAN countries have implemented the restructuring of government organizations to develop and supervise the bond markets (vesting authority in a securities commission, etc.). In addition, government bonds are issued regularly to foster the bond markets, promoting the formation of a benchmark yield curve that serves as an index of bond interest (details are explained later). Furthermore, efforts are being made to establish systems and infrastructures such as the development of market makers (securities dealers who own bonds by themselves and handle buy and sell orders by showing quotations for purchases and sales), the establishment of a secondary (trading) market and the provision of a means to hedge risks.

In addition, progress is being made with respect to the establishment of systems to narrow the asymmetrical availability of information between issuers and investors. These systems include accounting and auditing systems, disclosure systems and rating agencies, all of which are necessary to develop corporate bond markets.

Comprehensive approaches are evident in the case of Malaysia. There, the "Capital Market Masterplan," which envisions the development of the capital market from 2001 to 2010, was formulated. Reforms are ongoing not only in the development of the infrastructure but also in numerous areas of government and corporate bond markets. (By the end of 2003, 79 items that correspond to 52 percent of all recommendations in the Masterplan were implemented.)

2 Activities as Seen from the "Four-I" Perspectives

The following section summarizes these activities from the "four-I" perspectives of issuers, investors, intermediaries and infrastructures.

From the "issuer" standpoint, there are two noticeable points. One concerns the beginning of government bond issuance on a large-scale and scheduled basis in many countries, which has contributed to the activities to establish benchmark yield curves. The second point relates to the gradual development of the primary market for corporate issuers. With respect to the latter point in particular, Malaysia and Thailand have achieved substantial growth, as shown in Table 1.

From the "investor" perspective, various institutional investors headed by insurance companies are growing by

Table 1. Size of Domestic Corporate Bond Markets in Each Country (based on outstanding amounts)

(Unit: US$ billion)

	December 2001	December 2002	September 2003	Growth (%) (2001 – 2003)
Japan	1,848.3	1,828.8	1,910.8	3
Financial institutions	1,234.5	1,145.8	1,173.8	– 5
General companies	613.8	683.0	737.0	20
China	217.4	237.4	236.7	9
Financial institutions	205.2	225.2	224.5	9
General companies	12.2	12.2	12.2	0
Hong Kong	29.0	30.2	30.1	4
Financial institutions	24.0	25.4	25.5	6
General companies	5.0	4.8	4.6	– 8
Singapore	20.6	20.5	20.5	0
Financial institutions	14.9	18.0	18.0	21
General companies	5.7	2.5	2.5	– 56
Malaysia	50.7	49.2	54.2	7
Financial institutions	8.7	11.6	11.8	36
General companies	42.0	37.6	42.4	1
Thailand	17.8	18.4	23.2	30
Financial institutions	12.1	11.9	15.4	27
General companies	5.7	6.5	7.8	37
All target countries	4,353.3	4,504.7	4,574.6	5
Financial institutions	3,770.2	3,936.6	3,963.2	5
General companies	583.1	568.1	611.4	5

Note: "All target countries" includes 35 countries throughout the world.
Source: Bank for International Settlements, *BIS Quarterly Review,* March 2004.

reflecting the improvement of the national income level, increase in the average life span, and a low-age population pyramid (representing a population composed of few elderly people and many younger people, and an average age that is relatively low).

In the past, major institutional investors in these countries were banks and/or government pension funds. Accordingly, the fostering of investors who have diverse risk appetites (to what extent risk is willingly taken) and differing investment policies has become a major policy issue. In comparison to the past, recent trends feature two points. One point is that insurance companies have continuously expanded the scope of their activities in each country and have started to be recognized as major investors in the bond markets. The second point relates to the increasing popularity of investment trusts (while still small in size) because of governmental promotion and other factors (Table 2).

From the third perspective, "intermediaries," i.e., securities firms and broker's brokers, activities are still limited as described in the next chapter. Nevertheless, progress is being made in the development of the primary dealer system (a special participant system that requires government approval for participation in the primary market of government bonds), which plays a key role in quoting prices not only for treasury auction in the primary market but also in the secondary market. Transactions for new bonds have become active mostly among Western investment banks, including Citibank, Deutsche Bank, the Hong Kong and Shanghai Banking Corp. and other banks.

The important point from the last perspective, "infrastructure," is the provision of means to promote smooth transactions and to ensure liquidity, such as repo (repurchase agreements: buying and selling bonds with repurchase conditions) and bond lending and borrowing transactions.

In addition, the systemization of delivery and settlement processing after bond transactions is well underway in many countries. In some aspects, these countries are ahead of Japan. For example, the shift to paperless transactions has been almost 100 percent completed with respect to both government and corporate bonds in South Korea, Singapore and Malaysia. In the Philippines and Thailand, an electronic transaction system is being developed with the initiative being taken by the government and/or independent regulatory organizations.

Spurred on by the activities explained above, each country's bond market continues to grow. The total size of the bond markets in five ASEAN countries (Singapore, Indonesia, Malaysia, the Philippines and Thailand) amounted to 265.5 billion dollars in 2002.

Nevertheless, as shown in Figure 2, bank loans still constitute a major channel of financing, which, in other

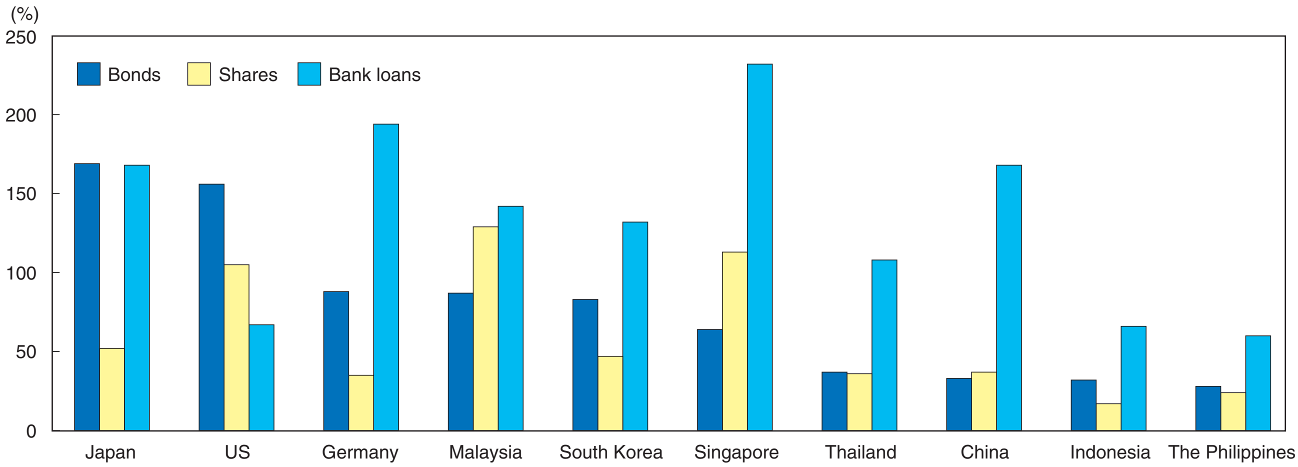
Table 2. Assets of Various Institutional Investors in Each Country

(Unit: US$ million)

	Pension funds	Life insurance	Investment trusts	Total
South Korea	43,432	35,703	211,780	290,915
China	–	8,246	2,416	10,662
Hong Kong	2,012	7,229	183,030	192,271
Singapore	51,471	31,756	4,372	87,599
Indonesia	4,031	588	633	5,252
Malaysia	46,859	1,347	10,184	58,390
The Philippines	7,194	466	138	7,798
Thailand	8,270	1,342	8,020	17,632
Total	163,269	86,677	420,573	670,519

Source: Ismail Dalla, *Harmonization of Bond Market Rules and Regulations,* Asian Development Bank, 2003.

Figure 2. Ratio of Fund-Raising Methods in Each Country (Ratio to GDP, 2002)



Source: Ismail Dalla, *Harmonization of Bond Market Rules and Regulations,* Asian Development Bank, 2003.

words, indicates great potential for future bond market growth. In particular, considering the potential economic growth of these countries, it is undoubtedly important to meet long-term and large-scale financing needs through the development of the bond markets.

III Issues to Overcome in Developing the Bond Markets in Each Country

1 Three Phases in Developing Bond Markets

We have divided the developmental stage of bond markets into three phases (Figure 3).

In Phase I, the principal issuers of bonds are the government and a limited number of large companies. During this phase in establishing a legal framework, bond transactions (excluding transactions at the time of issuance) are still limited.

Phase II is defined as the stage during which transactions in the secondary market are vitalized with increased issuance of government bonds and the more reliable pricing of corporate bonds. At this phase, the domestic market can be considered to be well established.

Phase III is the stage during which the bond market is enhanced with the participation of diversified investors along with progress in globalization. This phase is characterized by active cross-border transactions and the emergence of markets for high yield bonds (high yield bonds rated BB or lower, i.e., bonds rated as non-investment-grade bonds) and structured bonds (bonds structured by cross currency and interest rate swaps, etc.).

Based on these development phases, many ASEAN+3 countries can be roughly divided into two groups: (1) a country group that completed Phase I and is reaching Phase II, and (2) a country group that has finally launched Phase I. The former group includes more advanced ASEAN nations such as Indonesia, Malaysia, the Philippines and Thailand. The latter group includes developing ASEAN nations including Vietnam, Cambodia and Laos. (Japan, South Korea and Singapore are positioned around Phase III.)

In continuing our analyses, the following section focuses on Country Group (1) consisting of those advanced nations, since these countries show typical development models and bottlenecks in the course of their development.

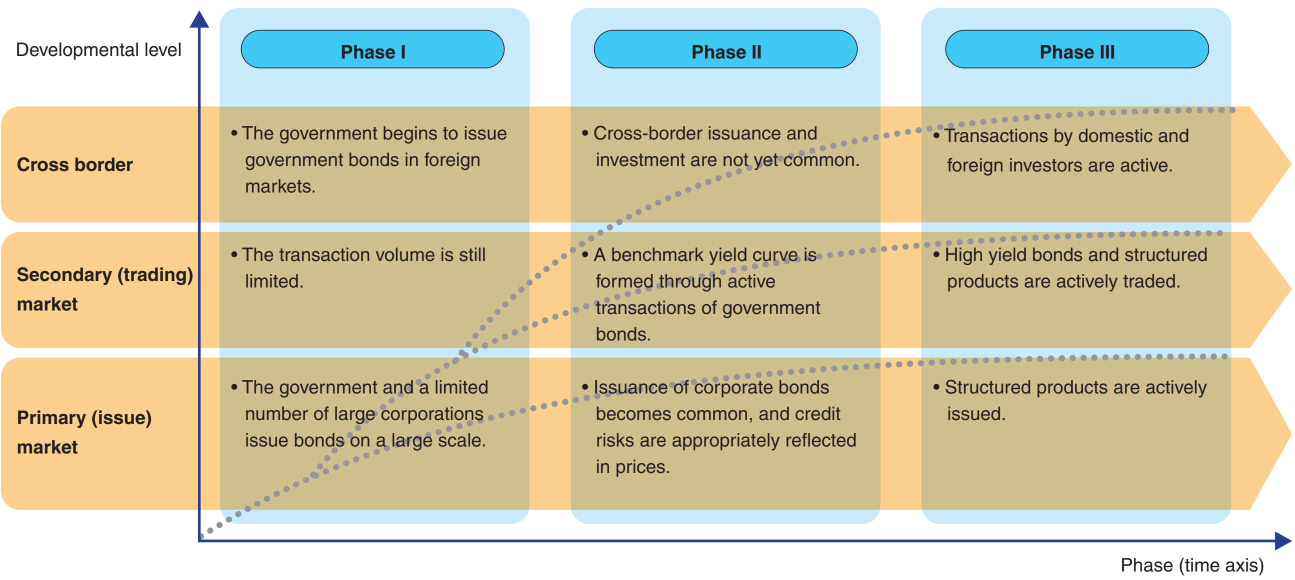
2 Overcoming a Vicious Circle Is Essential for Improving Liquidity

(1) Benchmark yield curve

While the environment for activities in the secondary market has been facilitated, the actual number of transactions still remains low, which means that the price discovery function is not fully operational. It is only when appropriate prices matching the market's supply and demand have been discovered that the bond market plays a sufficient role as a true "market." If the price discovery is inefficient or if such price discovery lacks reliability from the market perspective, not only would obstacles on transactions occur but the issuance of corporate bonds would also be hindered.

The price of a government bond usually has significant meaning for overall bond markets including corporate bonds. Generally, a bond price is determined by using the interest rate of a government bond, which is considered to entail no risk, as the benchmark (index interest rate) and by adding a spread corresponding to the risk (mostly credit risk) of the relevant bond ("spread pricing"). The most common benchmark is the interest rate of a government bond,[4] and a graph of an interest

Figure 3. Developmental Stages of the Bond Markets



rate of a benchmark bond in each tenure is called the "benchmark yield curve."

If government bond prices are not used as the benchmark, there is little reliability among market participants. In other words, high liquidity means that price discovery is functioning.

(2) Vicious circle hampering market development

The following section discusses the price discovery function of the market from the "four-I" perspectives.

First, from the "issuer" standpoint, issuers are not always able to issue bonds at reliable market prices, which may deter the issuance itself. If price discovery is not functioning well, liquidity of the bond becomes low, under which circumstances underwriters and investors generally require a liquidity premium (additional interest rate to compensate for the low liquidity). In particular, since bank loans are an overwhelming financing source in many ASEAN+3 countries, the discovery of competitive and efficient bond prices (even compared to loan interest rates) is extremely significant for the "take-off" of the bond markets.

From the "investor" perspective, the point is the lack of diverse investors. In order to enable transactions under various market environments, market participation by a wide variety of investors with different risk appetites is required, ranging from conservative investors such as pension funds to investors handling hedge funds. However, the representative investors in the above countries include the government's pension funds, which often adopt a buy-and-hold investment strategy.

In these cases, the number of players who conduct active market transactions is extremely limited. Furthermore, in ASEAN nations with large Muslim populations, Islamic finance[5] based on the Islamic doctrines has been developed, constituting one of the factors for dividing the small investor base.

From the standpoint of "intermediaries," the problem is the inactive market making and position taking due to the lack of benchmarks and large volatility (price and interest rate fluctuations) of the bond markets.

Finally, turning to the "infrastructure" that supports these activities, the environment to hedge risks, such as inventory (settlement) risks accompanying market making, is not yet developed. While the bond futures market and the repo market have been established in recent years, the problem remains in areas such as that the availability of short selling that serves as a means of hedge for dealers cannot be expected. In some markets, the short selling of bonds is prohibited and even bond lending transactions are not commonplace.

The problems described above cannot be individually resolved. Rather, they constitute a "chicken-and-egg" vicious circle in which the factors causing the problems restrain each other from resolution (Figure 4).

(3) Measures to improve liquidity

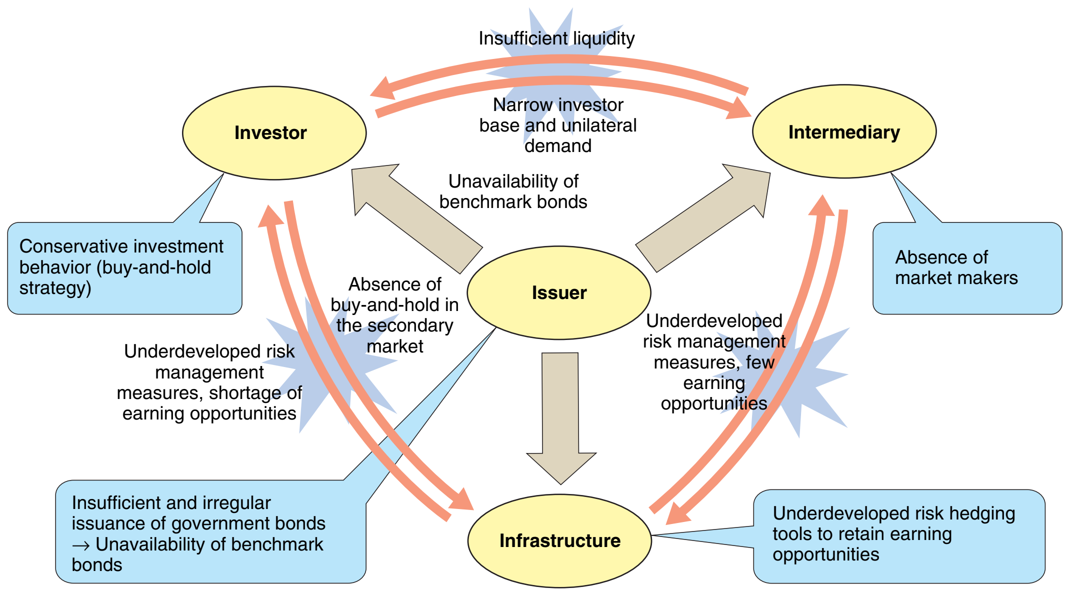
To overcome the vicious circle described above, two further steps will become important.

The first step involves the role of the government as the issuer. As suggested by the position of the "issuer" in Figure 4, the issuer is considered a key to the elimination of bottlenecks. This is because the government bonds serving as benchmarks are a kind of infrastructure for the development of the bond markets.

Measures involving the government as the issuer include (1) planned issuance to establish benchmark yield curves and (2) improving the infrastructure, such as the introduction of the primary dealer system or the repo market and establishment of rules on bond lending and short selling.

With respect to the issuance plans indicated in (1), important factors are to increase the reliability of bond price as the "market price" (for example, interest rate

Figure 4. "Vicious Circle" Hampering Development of Bond Markets



control should be liberalized to the maximum extent) and to maintain a sufficient issuance volume enabling a large amount of transactions on the trading market. In addition, information should be provided from an early stage so that investors and securities firms can implement bond investment and transactions strategically.

Actually, in many of the ASEAN+3 countries, these factors are issues that are still in the process of being resolved. Regular issuance of government bonds and appropriate coordination and strategy planning within the government agencies are being sought. In some countries, the formulation of the government bond issuance plans is entrusted to the central bank that is responsible for the actual implementation of the issuance of government bonds. In such cases, planning from the perspective of "market development" is sometimes difficult to accomplish.

Regarding the improvement of the infrastructure indicated in (2), measures should be adopted for market makers to make use of risk hedging tools and thus retain enough earning opportunities to make markets and discover effective prices. For example, while repo transactions have now been introduced in many countries, short selling is not permitted in many cases, which, however, is essential for market participants to engage in market making. While it is necessary to adopt a careful approach including promoting investor understanding (as short selling can be a means that might promote speculative transactions, short selling regulations will be gradually liberalized.

Moreover, in a market with a limited investor base, an important policy is to establish the primary dealer system, since their roles in the secondary market are essential.

The measures described so far represent policies to eliminate bottlenecks from "inside." At the second step, the establishment of a cross-border trading environment would become necessary as policies to eliminate bottlenecks from "outside."

Cross-border participation is essential because the market size of a single nation in the Southeast Asian countries is limited, and there is a possibility of being unable to achieve the critical mass by domestic transactions alone. The critical mass refers to the minimum transaction volume to become attractive, which is required for investors to feel the market appealing as an investment target. In such a situation, investors with varied risk appetites and investment styles will not emerge, which is likely to result in not only pedestrian transactions but also in unilateral market moves.

To prevent such a situation, the base of market participants should be expanded through policy measures (e.g., deregulating foreign exchange regulations and reviewing tax policies) that facilitate the issuance of bonds by foreign companies in the local currencies and the investment by foreign investors or financial institutions in local currencies. This will eventually promote linkage between markets among the ASEAN+3 countries in the areas of finance and economy.[6]

IV Joint Approaches by Each Country toward Fostering Bond Markets

While each country is independently developing bond markets, moves are also underway to take joint steps to foster markets with initiatives mainly taken by international organizations. While also envisioning the formation of a well-functioning regional bond market in East Asia, these moves are aimed at upgrading the regulations and systems in each country and facilitating cross-border issues, including investment/trading. Among these efforts, several kinds of support are being provided from both the supply and demand sides at various forums within the region, as described below.

1 Asian Bond Fund

The Executives' Meeting of East Asia-Pacific Central Banks (EMEAP) is promoting the Asian Bond Fund Initiative as part of their regional cooperation related to the fostering of bond markets. ABF1, for which investment began in 2003, is the first specific project under this initiative. For this fund, the central bank of each country pools a total of $1 billion from part of their foreign currency reserve and invests in dollar-denominated government bonds and government debt securities that are issued by each EMEAP member country.

Furthermore, as the second project, plans are being formulated to purchase government bonds issued in local currencies by each EMEAP member country. ABF2 consists of PAIF (Pan-Asian Bond Index Fund) and FoBF (Fund of Bond Funds).

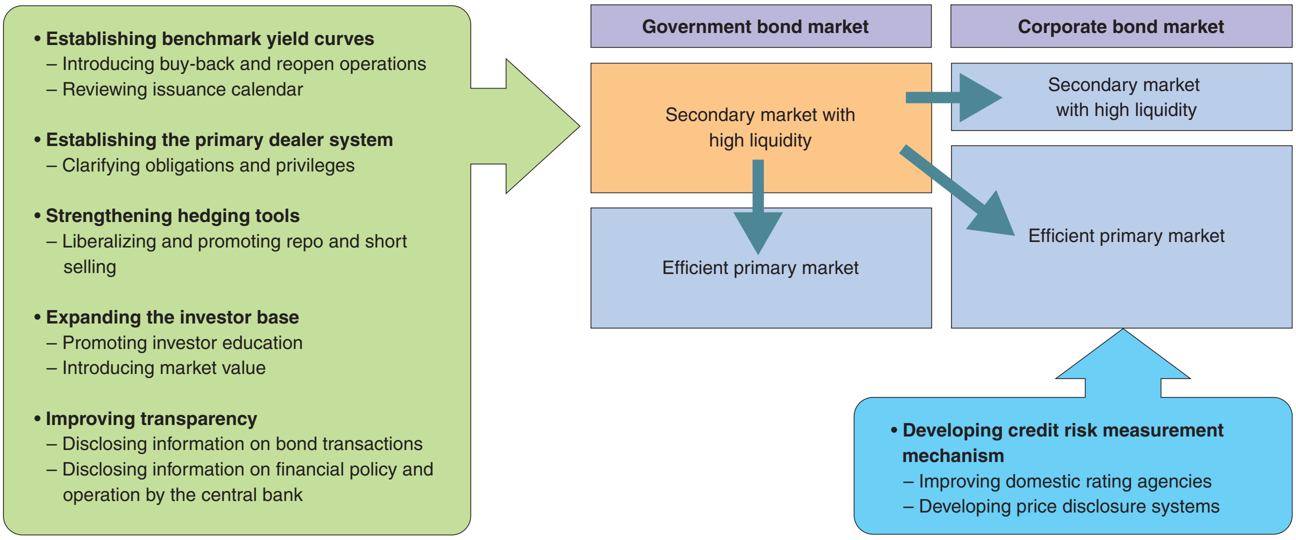
PAIF is planned to be designed as an index fund aimed at diversified investment in government bonds issued by EMEAP member countries. FoBF is comprised of a mother fund and a fund for each country; fund allocation can be changed by the investor's choice.

These trials directly support the development of the Asian bond markets by stimulating investment activities. In addition, the structuring of the products helps clarify the legal framework, regulations and taxation in each country and improves the infrastructure of the bond markets by eliminating as many related structural barriers as possible.

2 Asian Bond Markets Initiative

The Asian Bond Markets Initiative (ABMI) represents mutual consultation and approaches at the finance minister level in the ASEAN+3 countries for the purpose of strengthening the domestic bond market in each country

Figure 5. Themes of Asian Bond Market Technical Assistance by NRI



comprehensively within the framework of regional cooperation. In November 2002, South Korea proposed the fostering of bond markets at the ASEAN+3 meeting. In December of the same year, Japan proposed the establishment of the ABMI.

The basic idea of the ABMI is to develop a highly liquid bond market that appropriately serves both issuers and investors by issuing the largest possible volume of bonds in diverse currencies and terms to enhance diversity and depth. Major study items adopted include promotion of bond issuance by a wide variety of issuers and the development of enabling environments.

With respect to increasing the number of issuers, consideration is being given to (1) expanding bond issuance as benchmark bonds by the government and public financial institutions, (2) promoting the issuance of bonds in the local currency by companies making overseas direct investment, (3) the issuance of bonds in the local currency by international organizations and (4) promoting the securitization of loans by using guarantees by government agencies, etc., to open the way for small- and mid-sized companies to issue bonds.

With respect to the development of enabling environments, focus is placed on (1) utilizing guarantees by establishing an international organization or a credit guarantee agency within the region, (2) fostering a regional rating agency, (3) disseminating bond-related information within the region, (4) strengthening and standardizing a settlement system and (5) promoting technical assistance. At present, six working groups and focal groups for coordinating the progress of each working group have been set up.

Study items of each working group include (1) the development of new asset-backed securities (ABS); (2) credit guarantee mechanisms; (3) foreign exchange transactions and settlements; (4) the issuance of bonds in the local currency by international development financial institutions, foreign government agencies and multinational companies in Asia; (5) regional rating agencies; and (6) coordination of technical assistance. The issuance of bonds in the local currency by international organizations, the utilization of credit guarantees and the promotion of technical assistance have already been implemented.

Within this ABMI framework, Nomura Research Institute (NRI) has been providing technical assistance to the government and related government agencies in ASEAN countries at the request of the ASEAN Secretariat. Specifically, we are identifying the bottlenecks that hinder the fostering of the bond market in each country and suggesting appropriate policies and solutions for such problems.

As noted previously, the most urgent activity in eliminating the bottlenecks in building the bond market in each country is the improvement of liquidity in the government bond market. Accordingly, as the first step, we focused on "improving the liquidity of the government bond market" and made a proposal with the issues depicted in Figure 5.

Through these means of creating and sharing knowledge within the Asian region, opportunities to accelerate growth in regional economy and finance[7] have increased.

V Business Opportunities for Companies and Financial Institutions

The development of Asian bond markets has a great significance for both the ASEAN+3 countries and other countries. Namely, foreign companies and financial institutions can quickly seize business opportunities during the development of bond markets.

Business opportunities correspond to the "obstacles" to the development of bond markets in Asia. Major issues in Asian bond market development include the issuance of investment-grade bonds by a number of companies and the broad investor base with varied appetites for risk. Therefore, foreign participants can also enjoy business opportunities in developing Asian markets by utilizing their financial assets from the following four perspectives.

The first perspective relates to the limited number of companies that can issue bonds, as there are only a few large companies within each of many Asian nations.

If foreign companies operating businesses in Asia could issue bonds in local currencies, they would be able to obtain efficient fund-raising opportunities at low costs in addition to bank loans and input from cash flow. Since the need by potential issuers to issue bonds in local currencies is estimated to be extremely high, policy measures by the government (i.e., discussing with local governments and providing information to local subsidiaries) would become rather important.[8]

The second perspective concerns individual financial assets within foreign countries. The canalization of these individual financial assets within Asia can also be considered business opportunities. However, since the Asian crisis, institutional investors in foreign countries have refrained from investing in individual bonds in many Asian nations because of their concern over large foreign exchange risks and limited liquidity.

Nevertheless, some Asian countries have already succeeded in reducing their foreign exchange risks, and have reached the stage where they are able to provide attractive investment products. Canalization of individual financial assets especially in the ASEAN+3 countries for these investment opportunities would be extremely important in facilitating economic integration within the Asian region.

Businesses include those that promote internationally distributed investments by establishing schemes facilitating investment by individuals. Examples include the development of the Asian bond index fund as seen in ABF2.

The third perspective is the participation of insurance companies in the Asian local markets. Due to the decrease in the number of younger people and continuing deflation, matured countries' life insurance markets cannot expect major growth. In contrast, the attractiveness of the insurance business is increasing in Asian countries where per capita income is growing. While remarkable growth has been observed in this business in China and South Korea, insurance markets are making their appearance in ASEAN countries as well, which are also promoting the vitalization of their domestic bond markets.

In this field as well, the leading insurance companies in Europe and the United States have already begun to expand their activities in each Asian country, and have increased their presence in each country's bond market. Chances still exist for other foreign companies to participate in this growing market on a full-scale basis as part of their strategies for future survival in the world market.

As the fourth perspective, financial intermediaries will be able to expand their businesses in Asia by providing means of fund raising for foreign companies operating in Asian countries, promoting cross-border investment and providing a transaction infrastructure. In particular, there are many instances in the ASEAN countries in which financial institutions from Europe and the United States hold a high percentage of each country's bond market. These financial institutions have been increasing their profits along with the growth of the domestic bond markets.

Especially with respect to investment banking and advisory services, past achievements, existing channels and conversance in the local market all constitute important factors in conducting such financial business successfully. Accordingly, efforts to enter these markets at the time of significant growth would be vitally important to increase a company's future presence in these countries. Foreign financial institutions may need to face the restructuring of their Asian strategies.

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(1) The ten ASEAN (Association of Southeast Asian Nations) member countries are Singapore, Indonesia, Malaysia, the Philippines, Thailand, Brunei, Vietnam, Laos, Myanmar and Cambodia.

(2) The Asian crises of 1997 were called the "Twin Crises" in that both the currency crisis and the banking crisis occurred simultaneously. See *Ajia keizai no shinjitsu* (The Truth of the Asian Economy) by Masaru Yoshitomi, Toyo Keizai, 2003, and related publications.

(3) In comparison to loans receivable, which are not affected by the fluctuations of exchange rates because these domestic loans are principally provided in a country's own currency, a "currency mismatch" refers to the phenomenon in which outstanding debts that principally consist of dollar funds that are affected by currency depreciation and sharply increase. A "maturity mismatch" refers to the dilemma of being pressed for repayment as maturity dates are accelerated because loans payable consist of short-term dollar funds while loans receivable are provided on a long-term basis and cannot be collected in time for such repayment.

(4) In addition, there are cases in which a swap rate (a fixed rate of interest that can be exchanged for LIBOR [London interbank offered rate]) is used.

(5) Muslims must not violate the sacred writings of Islam that are written in the Koran, etc., and are prohibited from receiving predetermined interest for deposits and/or loans. An Islamic bank that conforms to these teachings provides financial services to Muslims. While a Muslim cannot invest in interest-bearing bonds for similar reasons, financial schemes based on the concept of sharing profits and losses that utilize leasing in which predetermined interest is not explicitly collected, zero coupon bonds (discount-type foreign currency-denominated bonds), etc., can be used.

Life insurance has been prohibited for the reason that it violates the teachings because it uses human life, which is given by Allah, as a target of a profit-generating business. Non-life insurance has similarly been restricted on the grounds that contracts should not be concluded based on the uncertainties of the future. However, as it is also an obligation of a Muslim to provide support and mutual assistance to families and neighbors who suffer from misfortune, and the Islamic insurance system called *takaful* has been provided under this concept. (There are two types: family *takaful*, corresponding to life insurance, and general *takaful*, similar to ordinary non-life insurance.)

The assets of an Islamic bank, which started business in 1992 in Indonesia, increased by 90 percent in two years from 1997 to 1999, during which the currency and financial crises occurred (*Asiaweek*, July 21, 2000). In Malaysia, in 2002, Islamic bonds exceeded general bonds in terms of the volume of corporate bonds issued by the private sector.

(6) From this perspective as well, a rise of Islamic finance and the trend of globalization in the ASEAN countries are noteworthy.

(7) The Asian Development Bank has developed the following website where the latest trends, statistics and research that are related to the Asian bond markets are posted collectively: "Asia Bonds Online" (http://www.asianbondsonline.adb.org/). This site provides links to the statistics for each country. Details of the technical support provided by NRI are also available through this site.

(8) For example, Nippon Export and Investment Insurance and the Japan Bank for International Cooperation have prepared schemes to provide support for the issuance of bonds in local currencies.

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