

Policy Update 034

## Global Financial Crisis and Policy Issues That Need to be Addressed

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#### Why do bubbles occur?

Japan experienced an asset bubble in the late 1980s when stock and land prices roughly tripled in a matter of several years before plunging to their original levels - i.e., one-third of their peak values - following the burst of the bubble (Figure 1). Japanese banks, which typically accept land as collateral for loans, went on a lending spree when land prices were on the rise because the higher land prices boosted collateral values. The banks had become more lenient in their attitudes toward lending as prices were going up, but when land prices eventually headed back down the same banks tightened their credit standards to such an extent that it caused a "credit crunch." Land price declines from 1991 onward led to deteriorating corporate business performance and forced many corporate borrowers to default on their loan repayment obligations, which resulted in a massive accumulation of nonperforming loans on the banks' balance sheets.

Figure 1



Despite Japan's painful bubble experience, South Korea went through its own bubble ordeal when property values shot up in 2005 before also falling off a cliff. In China, likewise, Shanghai stock prices had surged until December 2007, then abruptly fell to around one-third of their peak level by October 2008. As was the case in post-bubble Japan, the collapse of the U.S. subprime bubble triggered steep drops in both stock and real estate prices that caused the real economy to slow significantly. One major difference between the two bubbles is that while the Japanese bubble was a domestic problem that had been contained within Japan, the U.S. subprime loan problem is impacting the entire world because securitized mortgage loans were purchased by global investors, including banks, in countries across the world.

In spite of all these bubble experiences, why do bubbles continue to occur in one country after another? In autumn 2006, when real property prices were soaring in South Korea, I attended an international conference organized by the South Korean construction industry where I argued that the escalation in real estate prices then being observed in South Korea might be a bubble forming.

I explained my argument using the three indicators shown in Table 1 below.

Table 1: Bubble indicators

(i)	Changes in the ratio of real estate loans to total outstanding bank loans (In Japan, the ratio increased from 16% to 32.6% at the peak of the bubble.)
(ii)	Comparison between the growth rates of real estate bank loans and the real economy
(iii)	Average income multiple required to buy a house

When I visited South Korea and China in the midst of their bubbles, I compared each situation to the Japanese bubble in the late 1980s using the data in Table 1 and various monetary policy indicators. In both countries, I explained that their situation, judging from economic indicators, resembled that of Japan in the late 1980s. However, a Chinese scholar refuted my argument on a televised talk show, saying:

1. China is in a phase comparable to Japan's postwar high-growth period, and the current rise in land and stock prices is not a bubble but reflects economic fundamentals; and thus,
2. The current Chinese situation differs from that of the Japanese bubble, in which the escalation of land and stock prices occurred long after the high-growth period had ended.

In South Korea, I had a similar discussion and my explanation was once again rejected as being incorrect.

But shortly afterward, land prices dropped in South Korea. Likewise, in the later half of 2008, Chinese stock prices plunged to a level approximately one-third of their peak level.

To be sure, not everyone was so optimistic in China. For instance, Yu Yongding of the Chinese Academy of Social Sciences (CASS) had approached me at quite an early stage for advice on how to stop the Chinese bubble. Several Chinese media outlets also carried my article urging China to stop the bubble. Yet the prevailing argument in China was that tightening monetary policy, a step that could slow the economy, was absolutely not a choice when there was no bubble in the Chinese market.

A bubble economy makes many people feel happy. Higher stock prices lead to an increase in household expenditures because people, feeling richer, begin spending and traveling more. And such spending sprees boost sales for many companies, which in turn expand their capital expenditures. As a result, the economy grows, people's income increases, and everyone is satisfied. If a central bank preemptively tightens its grip under these conditions, it is bound to be criticized for throwing the otherwise robust economy into doldrums and making people's lives worse off. It is thus extremely difficult for a central bank to tighten preemptively, even when it concludes that there are signs of a bubble forming. Given this reality, it is anticipated that bubbles will continue to occur in the future.

### **Global excess liquidity**

When we look at global capital flows, we can see that China, Japan, and several other countries with current account surpluses have accumulated massive foreign reserves, with a large portion of these reserves held in the form of U.S. treasury securities. That is, funds accumulated by continuously running current account surpluses are being

channeled back into the U.S., an overly consumptive society with a low savings rate (i.e., high consumption rate) and robust investment rate that is far in excess of savings.

Excess liquidity existed in the United States and Japan because monetary authorities in both countries had taken an accommodative stance to prevent their respective economies from sliding. A typical spending pattern emerged in the U.S. where households borrowed money to buy homes, and then borrowed more to spend on consumption as home values appreciated. The U.S. subprime loan problem has eloquently demonstrated just how much the availability of excess funds could induce significant growth in mortgage loans to low-income households whose credit risk would have been considered too high in normal conditions.

Overseas financial institutions also took advantage of Japan's zero interest rate policy, under which the short-term borrowing rate has been kept virtually at zero. In what has been referred to as the yen carry trade, global investors borrowed yen in Japan and invested in higher-yielding foreign-currency assets elsewhere.

	(Investment - Saving)	+ (Government expenditures - Tax revenue)	+ (Exports - Imports)	=
Japan	---	++	+	0
U.S.	++	+	---	

Easing monetary policy is obviously one central bank action required for pushing down interest rates and propping up corporate capital expenditures enough to prevent an economic downturn. Such expansionary monetary policies pursued by the central banks of some major economies, however, led to excess global liquidity that contributed to the current financial crisis. As discussed above, initially everyone was happy with rising stock prices supported by accommodative monetary policies, and the central banks failed to take a tightening step in a timely manner.

#### **A bubble bursts when microeconomic behavior aggregates into macroeconomic behavior**

The U.S. subprime loan phenomenon, or lending to borrowers with less-than-ideal credit records, began when mortgage companies and financial institutions started issuing mortgage loans to under-capitalized, low-income home buyers. In doing so, they had told the borrowers "you can take out a mortgage loan to buy a house, and you will not have any problems paying back the loan because the price of your house is expected to go up enough to cover the principal and interest payments on the loan." The lenders then securitized these mortgage loans and sold them in the market. Credit rating agencies assigned high credit ratings to such securitized loan receivables because they were backed by home mortgages.

Mortgage-backed securities (MBS) soon became very attractive investment vehicles that were purchased by investors not only in the U.S., but across the world. At first these activities occurred on a microeconomic level among only a limited number of players and did not have a significant impact on the financial system as a whole. The first group of subprime lenders - i.e., housing companies and financial institutions who were first to offer loans to subprime borrowers - received benefits in the form of improved earnings.

However, after seeing these early subprime lenders reap great profits from subprime loans, many of their competitors followed suit and launched their own securitization schemes. And this eventually aggregated into macroeconomic behavior. With a large number of mortgage companies doing the same thing, an excess supply of housing started building up, which drove down housing prices, undermined the very foundation upon which the achievement of their speculative goal hinged, and eventually led to the near collapse of the entire financial system. This is how the financial crisis unfolded.

#### **Financial innovation and regulation**

The U.S. financial sector has invented a diverse set of financial tools and technologies. In Japan, a leading nonlife insurer once initiated a plan to sell policies insuring against the risk of falling stock prices. But the plan, which would have led to the development of an instrument to hedge against financial risks, failed to materialize because the Ministry of Finance did not give its approval. The ministry denounced the idea of having the risk of stock prices - a risk that should be born by the investors who bought the stock - covered by another financial instrument.

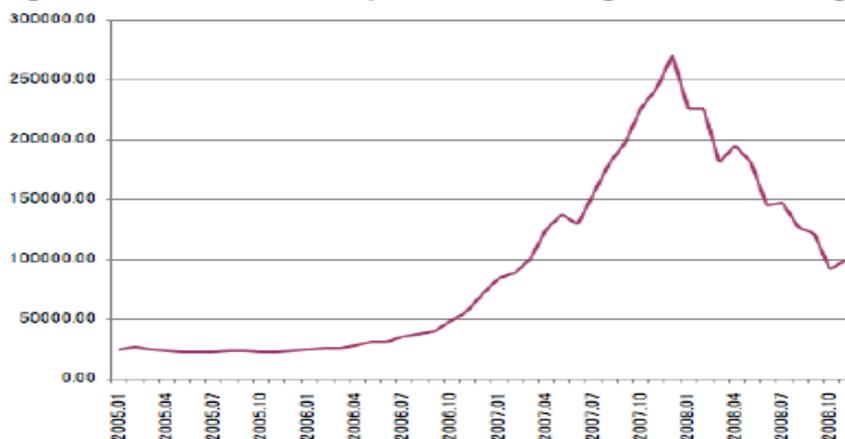
As evidenced by this anecdote, the Japanese regulatory authorities pursued policies geared toward ensuring the soundness of financial institutions rather than policies designed to promote the innovation of financial technology. In contrast, it seems that the U.S. policy has been to encourage the innovation of financial technology to allow the development of various financial schemes and instruments, and to impose regulations only if and when problems arise. This policy stance, which had supposedly contributed to the development of securitization, caused grave problems.

Innovation and regulation must be well-balanced. If the Japanese government imposes overly stringent regulations, it will hamper financial innovation and cause the Japanese financial industry to decline. However, wherever any problematic micro-level financial phenomenon is observed, it is necessary to impose preemptive regulation before it develops into macro-level behavior. It is hopeful that the financial administration will promote unrestricted innovation and develop the capacity to promptly detect problematic micro-level phenomena resulting from such innovation.

**A difference between the Chinese stock market plunge and that of post-bubble Japan**

Chinese stock prices have fallen to one-third of their peak level (Figure 2), which was the case for Japanese stock prices in this country's post-bubble period. These two seemingly similar phenomena differ with respect to their impact on the banking sector, which has been far more limited in China than it was in Japan.

Figure 2: Movement of share prices on the Shanghai Stock Exchange



Partly due to their state-owned status, Chinese banks - unlike their counterparts in Japan - have rarely had large shareholdings, and therefore their impact from falling stock prices has been relatively small. In addition, at least for now, China also has not seen any huge plunge in land prices, which are reportedly supported by the government.

In the U.S., where banks had securitized mortgage loans to low-income borrowers and sold them as MBS to investors, many of these subprime debtors defaulted when housing prices fell. Thus, a number of MBS have gone sour, forcing investors, including banks, across the world to incur huge losses.

**Government steps to avoid triggering credit concerns in the wake of a financial**

## **crisis**

In Japan, a total of 180 financial institutions have failed since the end of the bubble, more specifically, in the period from 1991 through 2008. They were mostly locally based small institutions such as credit cooperatives, but some major banks were also included. This turmoil in the banking sector resulted in a credit crunch, which in turn delayed the recovery of the Japanese economy.

Despite initial opposition from Congress, the U.S. government has so far: (i) raised the maximum amount of deposits covered by the Federal Deposit Insurance Corp. (FDIC) and introduced a temporary unlimited guarantee, such as the one introduced in Japan, on funds in noninterest-bearing transaction deposit accounts; and (ii) implemented a scheme to purchase bad assets from banks and inject public funds to recapitalize banks, prevent bank failures, and avoid systemic risk. In implementing and/or supporting these measures, the FDIC, the Department of Treasury, and the Federal Reserve Board generally acted in unison with each other, although some inconsistencies were observed in implementation methods.

So far the U.S. has responded to its crisis with much greater agility than did Japan to its banking crisis in the late 1990s. In Japan, in addition to measures comparable to (i) and (ii) above; (iii) the Financial Supervisory Agency (now the Financial Services Agency) monitored recapitalized banks' lending to ensure that they were not squeezing off credit; and (iv) the special credit guarantee program for small and medium-sized enterprises (SMEs) - a scheme under which credit guarantee organizations provided 100% coverage against losses sustained by banks from the bankruptcies of SME borrowers - was introduced to encourage banks to lend to SMEs.

However, this promise to cover 100% of losses tempted some banks to take advantage of the scheme and lend to borrowers with unacceptably high risk profiles, resulting in a further increase in bad loans. In response to this new development, the percentage of loan losses covered by the scheme was lowered to 85% so that banks would be forced to bear part of the burden of a borrower's bankruptcy.

In Europe and the United Kingdom, governments have quickly enhanced their levels of deposit protection to avoid triggering credit concerns. They have also implemented measures to prevent banks from ceasing to function under the weight of bad loans and reduced capital levels, thus avoiding the same route Japan followed toward prolonged economic stagnation.

### **Short-term remedies and medium- to long-term solutions**

In the previous section I have discussed measures that were designed to avoid triggering credit concerns following the outbreak of a crisis, prevent large-scale withdrawals by panicked depositors, protect against credit squeezes by banks, and facilitate capital flows to corporations. These measures alone, however, cannot bring about an economic recovery. At the time of the Great Depression in the 1930s, many countries adopted Keynesian policies. In order to overcome the current crisis, developed countries are being urged to act in concert and embark on aggressive fiscal policy, just like they did back in the 1930s.

However, with its public debt already at the level of 180% of its gross domestic product (GDP), Japan finds itself increasingly restricted from issuing government bonds to finance fiscal stimulus measures. Thus, Japan needs to utilize private-sector funds to finance its fiscal measures. And the same applies to countries such as China and India, where infrastructure remains underdeveloped.

Keynesian policies typically call for financing fiscal stimulus by issuing government bonds during bad times. However, for countries with enormous fiscal deficits, such as Japan, it is extremely difficult to issue additional government bonds because there are few economic entities with the capacity to purchase them. (In Japan, government bonds are

mostly held by financial institutions.)

Issuing revenue bonds is one way to utilize private-sector funds. This scheme is applicable to the construction of revenue-generating infrastructure. Revenue bonds can be issued to raise private-sector funds to help finance a specific infrastructure project, such as the construction of a highway, and both the principal and interest portions of these bonds are then repaid solely from revenue generated by the same infrastructure project (tolls in the case of a highway). The government typically bears a portion of construction costs with the remaining costs financed by private-sector funds raised through the issuance of revenue bonds.

The extent to which a specific infrastructure project is financed by private-sector funds is based on the expected revenue from the project to be constructed, with the expected return on investment equal to or greater than the rate of return on government bonds. In cases where actual revenue exceeds the initial expectation, investors would receive a higher return. At the same time, the scheme needs to be designed in such a way that the operator of the infrastructure project (e.g. a highway corporation) would also benefit from the higher-than-expected revenue so that it would have an incentive to boost earnings. It is also possible to set a government-guaranteed minimum rate of return for revenue bonds.

In some Asian countries, notably China and India, domestic demand will increase when their economies are revitalized through efficient infrastructure development. These countries have the potential to serve as long-term global growth engines capable of generating demand for goods and services produced across the world. Not only developed countries, but developing countries as well should be implementing aggressive fiscal policies to help prevent the world from slipping into depression. In doing so, they can exclude wasteful public works projects by making use of private-sector funds, which by design should flow only into highly profitable projects.

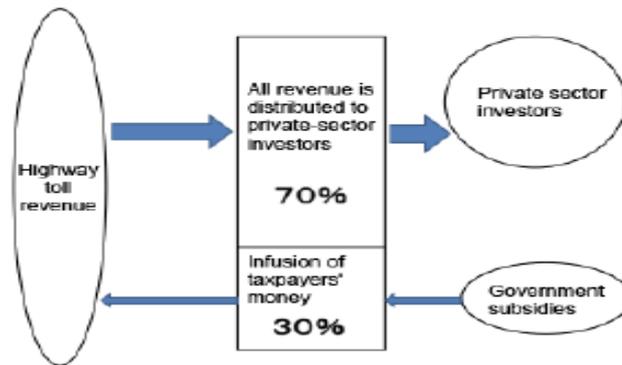
Keynesian policies come under fierce criticism during periods of economic growth, yet are much more popular in times such as now, when the private-sector economy is on a sharp downswing. In dealing with the ongoing situation, hopefully governments will steer clear of outdated Keynesian policies and instead pursue new Keynesian policies that take advantage of private-sector funds.

Certain public projects - water and sewerage services, compulsory education, etc. - obviously must be implemented regardless of profitability in order to ensure national minimum standards. But these projects can also take advantage of revenue bonds when some sort of fee income is expected, as is the case for water and sewerage services. Such projects can be partially funded from tax revenues with the remaining amount supplied by private-sector funds (Figure 3). The use of private-sector funds, albeit partially, would improve the profitability of the project due to their profit-seeking nature. At the same time, the project's profit performance would become visible to the market and the management of water and sewerage services would become subject to external monitoring.

In the example shown in Figure 3, government tax revenues cover 30% of the cost of operating a highway and the remaining 70% is provided by private-sector funds. In this scenario, all of the toll-revenue generated from highway operations is distributed to the private-sector investors at a rate of return on investment equal to 10/7, with the rate being augmented by the infusion of tax revenue.

There is great hope that emerging economies, such as China and India, will launch new Keynesian initiatives leveraging private-sector funds and become the new engines of global growth that will drive the world economy to growth and prosperity once again.

Figure 3: Leveraging private-sector funds for infrastructure development



[>> Original text in Japanese](#)

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## Promoting Progress in Asia During the Current International Financial Crisis

This subprime loan crisis is closely linked to falling stock prices, consumption and investment, and has cast a dark shadow on the real economy. In particular, Asian countries that enjoyed rapid growth thanks to their export-driven economies have seen trade and investment severely impacted. This has created fears of a recurrence of the Asian Currency Crisis that struck in 1997. How can Japan and other Asian countries climb out of this crisis?

Subprime loans were part of a larger problem, in which financial instruments securitized through technically advanced methods contributed to market expansion without investors being aware of the real risk, or the extent of that risk. For a while this created good opportunities, with rising stock prices, positive asset effect, increased consumption, companies' increased sales and a flourishing real economy. But because of this growth, governments found it difficult to introduce financial restraints. In the end, the bubble burst.

The financial crisis triggered and intensified today's severe credit crunch, which has resulted in a worldwide slump in production and consumption. Through a ripple effect, the slump has hit Japan and other countries in Asia that rely on exports for their economic growth.

So, how can we escape the crisis? First of all, we should be aware that other bubbles could burst in the future. Asian countries need to try to prevent future crises by moving away from the export-driven model that relies on developed nations, and transform industrial structures by placing greater emphasis on internal and regional demand. These efforts require cooperation among Asian countries, plus the development of mechanisms that support infrastructural development, encourage productive investment, and promote visible trade.

Because of its mature economy, Japan may find it difficult to shift from an export-driven economy to an economy prioritizing internal demand. But this type of shift is needed throughout Asia so that it can climb out of this crisis. Asia has about 40% of the world's population, and it is clear that many areas still need much more infrastructural development.

### **Infrastructural Development for Economic Recovery**

China was said to be aiming for an annual economic growth rate of at least 8%, because any rate lower than that would make it difficult to continue raising incomes in all income groups. The Chinese government is now examining how to ensure that migrants who return to their hometowns can use the skills they learned in cities. The government is also promoting the development of railways and trunk roads to facilitate the transport of farm produce to the cities. Through infrastructural development, returning migrants will be able to use skills they learned in the cities and boost production in rural China, and agricultural and industrial goods produced there will be more easily transported to urban China. The ultimate aim of these projects, we are told, is to develop effective infrastructure in rural areas so that economic growth is achieved for the entire country.

Railways and trunk roads link China's interior to its coastal cities to a certain extent, but if more effective transportation infrastructure reaches cities in the interior, such as Chongqing, one can expect truly dynamic development in the future. The development of electric power infrastructure in another country, India, offers an example of this potential.

Roads, ports, railways, electric power facilities — the development of such infrastructure is needed to boost the industrialization and economic growth of developing countries, and to promote the operations of Japanese enterprises in those countries.

At a time when the budgetary resources of national governments are limited, the effective development and operation of infrastructure such as electric power facilities require private-sector know-how and technology. This is why the use of Independent Power Producers (IPP) is growing. Japanese enterprises are now showing greater interest in IPP projects as a destination for their investments. JBIC is keen to cooperate in infrastructure projects being pursued by Japanese companies.

In the past, capital for that type of infrastructural development was generally procured from government treasuries, but one option would be for governments to issue revenue bonds for specific infrastructure projects. As an example, it might be advantageous to apply this type of capital procurement measure to expressway development plans in India. Hopefully Japanese financial institutions could be persuaded to participate in projects employing this type of financial scheme.

Savings rates are remarkably high in a number of Asian countries, but much of that capital is invested in long-term bond markets in the U.S, and Europe, rather than in long-term financial investment destinations closer to home in Asia. Some capital invested in the U.S. and Europe flows back as Asian stock investments, or as risk money. The savings originally came from money earned 

in Asia, so it is a shame they are not recycled within Asia as capital resources used to good effect. The Asian Bond Market Initiative (ABMI) was proposed to accomplish such an objective.

The Asian Currency Crisis offered lessons that led to such programs as the Chiang Mai Initiative and the ABMI, both proposed to promote collaboration within Asia. During the present crisis, funds were pulled out of the Republic of Korea and transferred to the United States as short-term capital, and this was a major cause of the rapid depreciation of the won. We need to seriously examine the negative effects of Asian money being invested in stock and bond markets in the U.S. and Europe, then foster confidence in Asian capital markets and cooperate to promote investment within Asia.

US bonds have a high degree of liquidity, which gives investors confidence that they can cash them in when they wish. And they are denominated in a key currency, which eliminates much of the foreign exchange risk. Asian countries have not yet developed a mature, medium-risk, medium-return market that could occupy a niche between bank savings and stock investments. Even so, I believe there is a common desire to promote the development of investment trusts and bond markets. So revenue bonds issued in Asia are an excellent idea. They would promote infrastructural development by attracting capital from private capital markets and offering investment opportunities. Such long-term bonds that invest in the development of roads and electric power facilities in Asia could be received, for example, as a good investment vehicle.

And yet, there simply are not enough institutional investors in Asia. Some institutional investors — mainly insurance companies and pension funds — do exist in Asia. Projections indicate a growing need for long-term capital to ensure economic growth in China and ASEAN countries. The question is whether that need can be effectively met through suitable long-term financial products. It is necessary to promote the further development of Asian institutional investors that can accurately assess the risk of such products and invest in suitable ones.

### **Closer Collaboration within Asia**

We have to learn from the past when searching for ways out of the present financial crisis. Japan took to heart lessons gained from the Asian Currency Crisis of the late 1990s by proposing collaboration within Asia through the Chiang Mai Initiative and the ABMI. Collaboration through these types of initiatives will surely become even more important in the future.

Under the ABMI, JBIC provided the support by guaranteeing locally denominated bonds issued by those companies in Asian markets. Asian Exim Banks Forums, attended by Asian export-import bank members, are held annually to promote the exchange of ideas and enhance cooperation among participants. JBIC supports the capital procurement efforts of Asian governments as one way to overcome the present financial crisis. For example, JBIC agreed to provide financial support in

Japanese yen up to the equivalent of US\$1.5 billion, including guarantees for yen-denominated foreign bonds (samurai bonds) issued by the Indonesian government in the Japanese capital market.

## **Support for Trade and Investment**

These major trends in global capital flows have been obvious over the last few years: China has been amassing foreign currency through its huge trade surplus, the US trade balance has fallen deep into the red, and China is buying US bonds with its foreign currency reserves.

Asian countries achieved growth through their export-driven economies, but we need to consider whether they will be able to shift to economies driven by internal demand, or whether, after economies in industrial countries recover, Asian countries will try to rely once again on export-driven growth.

Because of their present difficulties, I suppose they will develop policies that search for a balance between reliance on exports to U.S. and European countries and promotion of internal demand.

When industrialized economies recover after a few years, Asian countries will most likely promote an even higher level of industrialization, using the infrastructure they developed during recovery efforts. And by then, they will have presumably transformed their trade structures. We can also assume that some of their labor-intensive industries will be transferred to countries at a lower level of development, and that industries producing high value-added goods will drive economic growth. The result will be a balance between an emphasis on internal demand and an emphasis on exports. Countries like China and Thailand, where export industries have been seriously impacted by the current crisis, will most likely work hard to develop economic policies that achieve this balance.

For Asia, surely the best approach is to develop infrastructure and create new industries in order to boost Asian regional demand and promote exports. However, the crisis is making financial institutions hesitant about taking risks with one another, leading to today's restricted access to credit for global trade payments.

Access to credit is essential for trade. Trade financing mechanisms are not functioning properly today. In an attempt to resolve this problem, the G7 finance ministers and central bank governors met in Rome in February this year and announced trade financing support initiatives utilizing JBIC financing. Those types of support are vital.

There is now a noticeable trend in the United States and elsewhere to expand investment and promote industry in environmental and new energy fields, as a key to ensuring economic recovery and creating jobs. I am sure there is a need for more of this type of investment in Asia, too. We are still in the midst of the crisis, so it might be too early to say, but even so, since Japanese companies are competitive in environmental technologies, they should be given opportunities to expand Japan's environmental business in other Asian countries and invest in this sector. Eco-friendly technologies offer Japanese companies some excellent business opportunities.

## Promoting Opportunities for Small and Medium Enterprises in Asian Countries

In Asia, more than 90% of all companies are small or medium enterprises (SMEs). They are the first to find it difficult to procure capital during a financial crisis. So financing instruments for SMEs, including safety nets, are now vital, everywhere in the world.

When participating in the ASEAN+3 conference in March this year, I proposed the development of a new system to be employed for SME loans in other parts of Asia. In Japan, when SMEs apply for a bank loan, they are expected to submit financial data to a credit guarantee association, and to receive credit guarantees from it if their application is successful. After I explained this system to conference delegates, they indicated they understood the importance of SME financial data.

Up until now, financing for SMEs in ASEAN countries has generally been conducted under loosely defined rules. But if financing decisions are based on the concrete financial data of these companies, their creditworthiness will be more evident and they should be able to borrow at a lower interest rate and for a longer term. This system would reduce the information gap, and SMEs would be in a better situation to withstand the financial crisis.

This study builds on the preceding **“Development of Database on Corporate Credit Information”** in 2007/2008, which underscored (1) the reality that SMEs throughout East Asia face the difficulty in accessing finance from the market, and (2) the importance of having a credit information database to reduce the information asymmetry problems and ease financing access of SMEs, in particular. It extends and deepens the scope, focus and research methodology from the previous one and primarily seeks to enrich existing perspectives on the capital market development impact of establishing a regional credit infrastructure for the ASEAN economies. New participating research institutions from Malaysia, Philippines and Thailand contribute to the research and making recommendations.

The analysis revolves on the dynamics of three essential financial-economic elements: (1) the credit infrastructure — in this case, credit bureaus and credit guarantee systems — which were erected to impact on the efficient allocation of financial capital and risk; (2) the SME industry whose performance and contribution have been vital to ASEAN economies; and (3) the ABMI framework, which provides the blueprint for taking ASEAN economies to the next level of readiness and dynamism in global financial competitiveness and capital market development.

**The first** deals with the credit information infrastructure in Asia especially as they relate to SMEs’ access to financing. The discussion is based on more detailed information on the existing credit bureaus and information registries in some ASEAN countries, in terms of major responsibility, institutional arrangement, regulatory framework, financial resources, management and

country-specific economic, historical and social backgrounds. **The second** component centers on credit guarantee systems (CGS) and SME finance in the ASEAN. It extensively assesses the nature of CGS operations, its rationale, role and effects of CGS in ASEAN economies and surveys the present institutional arrangements between CGS-participating financial institutions and SMEs. Additionally, it features how SME financing is changing the strategy of banks in handling SME portfolios and creating lending products for SMEs, and how SMEs benefit from regional and local efforts to develop the credit infrastructure to provide more funding channels and eventually enable ASEAN SME firms' participation in the regional bond market. **The third** discusses the credit information system in Japan, a model in the Asian setting when it comes to credit information infrastructure and lending operations especially as regards SMEs. The spotlight is put on Credit Risk Database (CRD) of Japan, a successful case of credit information database specializing in SMEs and anchored on a framework that was uniquely developed for Asian economies. **Final** component concludes the paper and offers policy recommendations. It touches on regional collaborative efforts to address the primary goal of this research. In the context of the ABMI paradigm, it attempts to suggest designs for collaboration among ASEAN10+3 nations to maximize the engagement and performance of SMEs in a regional setting.

### *The SME Industry and Credit Information Infrastructure in East Asia*

Despite the degree of development in financial markets, which occurred after the 1997 AFC, the trickle-down effect to the SME industry of such progress leave a lot to be desired. Information asymmetry still exists and the type of infrastructure that could appropriately address this problem varies widely, in terms of existence and state of development, across the ASEAN region. SMEs play a pivotal role in the industry structure of ASEAN nations (in terms of contribution to output growth, value-creation and employment) and yet, as literature has established, their growing demand for credit is not entirely matched by the existing credit infrastructure and credit products of banks and other lending institutions. It appears that developments in credit infrastructure establishment in the ASEAN are not enough and must be pursued further to create more credit channels for SMEs and help these firms realize their full economic potential. Meanwhile, the Asian Bond Market Initiative (ABMI) has been very keen on developing the bond markets of different countries in the region in general.

Despite its relevance and dynamic growth, the SMEs industry is never immune to problems. SMEs are hardest hit by economic crisis and other unfavorable market conditions such as unfair competition in the marketplace. But the persistent challenge to SMEs is access to financing, not only because the level of financing available in the developing economies in which these SMEs operate are relatively scarce to begin with, but “many financial support measures for SMEs have limited outreach at disparate costs.” It also does not help that capital markets in the region are far from

adequate for SME debt and equity financing. The financing problem of SMEs is rooted on the information asymmetry problem that faces both lenders (mostly banks) and SME-borrowers and is compounded by existing market imperfections and the nature of the financing transaction itself. As a demand and supply issue, financing may only be successfully consummated if the lender finds acceptable the risk it faces subject to a given promise of return by the borrower. This acceptable level of risk depends on the accuracy and timeliness of information that the borrower is able to present or convey to the lending bank. The development of credit infrastructure such as credit bureaus would serve both the lending banks and the borrower-SMEs by bridging the gap between these two parties.

A credit information system is an indispensable infrastructure for credit market development. The provision of credit information helps lenders understand better the risk profile of their borrower-clients and enable them to expand their credit services. Recent availability of new technologies such as credit scoring has facilitated the ability of banks to service SMEs better. The information-capture platform of a credit bureau makes it possible to measure SME-borrowers in a number of ways. What gets measured gets managed, and the metrics provided by credit bureau information serve the interests of both banks and SMEs. A World Bank study of 5,000 companies showed that, *without a credit bureau*, 49% of SMEs indicated facing high financing problems and the probability of getting a bank loan was 25 percent. With a credit bureau, the probability of getting a loan increases to 40 percent.

The foundation for better credit granting and risk management is better information, which a credit information system provides. By disseminating captured information about SMEs and its suppliers, it assists SMEs in building track records. Even if these SMEs have no banking relationships, if their credit bureau record indicates a good credit standing among their suppliers, such information may be used to their favor to support financing applications when the need arises. SMEs with good track records may also be able to access credit on more favorable terms, and obtain faster decisions on their financing applications. The negative and (especially) positive data that a credit bureau has benefit SME loan applicants by providing a more balanced view of SME credit ratings, and have a relation to default rates. By knowing how the credit bureau presents information about them, SMEs (which were rejected by banks) gain a better understanding of their financial deficiencies through the credit bureau reports and ratings. These reports would also serve as “a convenient tool for SMES to carry out a self-evaluation to identify areas that need improvement and initiate adequate remedial actions to increase their competitiveness. SMEs are thereby empowered to improve their own profile, with correspondingly enhanced prospects for the SME sector as a whole.”

What are the credit information infrastructures that support ASEAN SMEs and how do they impact on the ability of SMEs to manage the challenges they face in accessing financial services? (Table E-1) Indonesia has the Debtor Information System and the Indonesian Business Information and

Data (DIBI) specifically for SMEs, Philippines sets up BAP Credit Bureau, and Singapore has its SME Credit Bureau. Malaysia and Thailand have being established credit risk database for SMEs and more detailed information follows in this section.

**Table E-1: Credit Information Systems for SMEs in ASEAN**

	Name	Supervising Agency	Specific Purpose
Indonesia	Debtor Information System Indonesian Business Information Data (DIBI)	Bank Indonesia	SMEs
Malaysia	SME Credit Bureau	Credit Guarantee Corporation	SMEs
Philippines	CIBI, BAP Credit Bureau	CIBI	
Singapore	SME Credit Bureau	Private	SMEs
Thailand	National Credit Bureau	Private	

The experience of these ASEAN countries is a testament to the fact that the SME development and the credit information infrastructure are inextricably linked. SMEs are important for economic development of ASEAN, while credit information infrastructure is essential to financial development. SMEs cannot live without credit from banks, while banks cannot survive if they keep their credit reach to accommodate only premium borrowers. The information asymmetry problem that characterizes ASEAN SMEs’ financing dilemma is as real now as it was before, and the problem of financial access that plagues most SMEs persists despite developments in these countries’ credit information infrastructure.

The information gap that continues to plague ASEAN SMEs also indicates that more information bridges have to be built before these firms can be fully engaged in the formal financial sector. Even with credit infrastructure development, the responsibility to reduce the information asymmetry problem also falls on the SMEs-borrowers and their creditors in the formal sector. The development of solutions to make credit information an enabling tool of finance and economics rests, to a large extent, on the depth of relationship that SMEs have with financial institutions and how both parties leverage on such a relationship. SMEs also need to initiate their own measures to complement those undertaken by the government and the banks by raising their commitment to improved value-creation and by finding new areas of growth while striving to achieve long-term competitiveness.

Lastly, while credit bureau information may be used for scoring SMEs and be a tool for risk management, this tool must be applied correctly and handled by well-trained risk managers who are not only familiar with SME banking but are adept in credit assessment systems for small and medium sized businesses. The availability of SME credit information which answers the 5 “C”s of credit – commitment, capacity, collateral, conditions and character will empower SMEs to have easier and better credit access.

## *Credit Guarantee Systems and SME Finance in ASEAN*

Credit guarantee schemes (CGS) have the objective of absorbing part of the loss resulting from default of a bank loan. It reduces the risk of the lender, serves to improve the supply of credit and facilitates the smooth operation of the loan market. CGS can be compared and contrasted according to: definition, types of CGS (direct or indirect, individual or portfolio model, funded or unfunded, open or targeted, ex-ante or ex-post schemes and ownership), country-differences in establishing the rationale for CGS operations, criticisms and issues (motivation, sustainability, funding, additionality, scheme design, moral hazard, scheme operations and practices, eligibility, enabling environment and success factors).

Indonesia has four corporate CGS institutions (Sarana Peningkatan Usaha, ASKRINDO, Penum Sarana Pembangunan Usaha and PT Penjaminan Kredit Pengusaha Indonesia) and one export credit insurer, Asuransi Ekspor Indonesia, Ltd. Currently, there is no law or regulation that regulated loan guarantee issues and guarantee institutions in Indonesia (Table E-2). Malaysia has Credit Guarantee Corporation (CGC). Established in 1972 as a limited company under the Malaysian Companies Act 1965, with Bank Negara Malaysia (79.3%) and all the commercial banks (20.7%) as its shareholders. In the Philippines, CGS firms include SB Corporation, which operates on the basis of risk sharing with accredited financial institutions, Quedancor, which concentrate mostly on agri-fishery loan guarantees, and Tidcorp, which was officially designated as the country's export and import credit guarantee agency.

**Table E-2. ASEAN Credit Guarantee Scheme Objectives**

<b>Malaysia: CGC</b>	<ol style="list-style-type: none"> <li>1. To assist SMEs, especially those with inadequate collateral or without collateral gain access to financing from the participating financial institutions at a reasonable cost.</li> <li>2. To complement the Government's efforts in promoting and developing identified business sectors</li> </ol>
<b>Philippines: SBC</b>	<ol style="list-style-type: none"> <li>1. To offer a wide range of financial services, specifically for small and medium enterprises engaged in manufacturing, processing, agribusiness (except crop level production) and services (except trading).</li> <li>2. These financial services include among others guarantee, direct and indirect lending, financial leasing, secondary mortgage, venture capital operations and the issuance of debt instruments for compliance with the mandatory allocation provision.</li> </ol>
<b>Thailand: SBCG</b>	<p>To provide credit guarantee for viable small enterprises which do not have enough collateral to enable them to obtain sufficient credit from the financial institutions in order to :</p> <ol style="list-style-type: none"> <li>1. Increase credit extension from financial institutions to small enterprises.</li> <li>2. Strengthen the confidence of financial institutions in providing credit</li> </ol>

	<p>to small enterprises.</p> <p>3. Accelerate the dispersal of credit extension to small enterprises throughout the country.</p> <p>4. Promote industrial development to achieve the target of the National Economic and Social Development Plan.</p>
<p><b>Indonesia: PT Askrindo</b></p>	<p>To give an easier access for SMEs to get financial assistance</p> <p><b>Specifically regarding credit guarantees:</b></p> <ul style="list-style-type: none"> <li>- MSMEs Loan Guarantee (Micro and Small Enterprises Loan Guarantee): Guarantees for the cash loan amount &lt; IDR 500 million.</li> <li>- Middle Market Loan Guarantee: Askrindo as the guarantor gives a guarantee for the cash loan over IDR 500 million.</li> <li>- Others: credit Insurance &amp; surety: trade credit Insurance, surety bond, customs bond, re-guarantee for banks' construction guarantees</li> </ul>
<p>Source: Compiled by the author.</p>	

Lessons offered by the best practice experiences of Japan and Korea indicates that the having a central SME overseer is a crucial factor in the success of SME financing programs. This ensures the coordinated actions of all stakeholders in the SME development agenda and helps minimize the occurrence of conflicts in interest and direction, which is what usually happens when two or more offices of authority handles SME development. ASEAN countries, such as the Philippines with its Small and Medium Size Development Council and Thailand with its SME Development Bank, are moving towards this direction. SME funding mechanisms are unique to each ASEAN country although the concept of establishing an SME fund for the whole ASEAN region is no longer an alien idea.

Some ideas for SME funding include equity listing, bond issuance, securitization and setting up a regional credit guarantee mechanism to support SME funding avenues as well as contribute to the development of regional capital markets. Promoting securitization has been getting attention because it is not only an avenue for SMEs to get their foot in the door of capital markets; it is also connected to the current thrusts of the ABMI and the APEC to “create an environment conducive to developing bond markets.” This covers the provision of credit guarantees, improvement of the credit rating system, establishment of a mechanism for disseminating information, improvement of the settlement system and strengthening of the legal and institutional infrastructure for bond market development. Under the ABMI, the Working Group on Credit Guarantee and Investment Mechanisms (chaired by China and Korea) are focusing on ways to promote the use of CGS in Asia. The ADB also decided to contribute to the creation of a regional credit guarantee mechanism to support the development of domestic and regional bond market in ASEAN+3 countries. On the other hand, the APEC initiative to develop securitization and CGS involves high-level dialogues for APEC economies to exchange views on the use of securitization and CGS as well as identifying impediments and developing detailed action plans.

*What attributes should a regional credit guarantee institution for ASEAN countries possess?* A regional credit guarantee institution must be established to meet the following objectives: (1) development of regional capital markets for stable access to long-term funds to facilitate private sector and infrastructure development; (2) promotion of transparent and cash flow-based lending by facilitating securitization and bond issuance; (3) catalyzing investment by assuring investors through guarantees for new products and issuers; (4) providing cost savings to issuers in the region by sharing the reduction in spreads resulting from credit enhancement; (5) improving the liquidity of bonds through diversification of investment products; and (6) creating an environment in the capital markets conducive to accelerated development of economies and establishment of bond markets.

There are also major institutional limitations that would make it difficult to establish a regional scheme, particularly, these are (1) differences in the legal framework for securitization, (2) differences in accounting standards and tax treatment for special purpose companies, and (3) insufficient time series data on loan performance.

### ***Lessons and Insights from Japan's Credit Information Infrastructure and SME Financing Models***

In Japan, the establishment of credit reporting agencies such as the Tokyo Shoko Research and Teikoku Databank was instrumental in reducing the credit information gap that exists between borrowers and lenders. However, these credit information agencies collect only the information of SMEs above a certain threshold and not those of small and micro enterprises. In the meantime, only mega banks were conducting the adoption of Basel II framework in risk monitoring. Subsequent guidance from authorities to conduct strict internal ratings based approach for SME credit evaluation and risk management, long with the increasing number of smaller institutions, which have adopted scoring models crested the demand for large-volume credit information database. At the same time, computer technology enabled the development of credit scoring lending and collateralized debt obligation (CDO) schemes for SME financing, especially of small and medium enterprises. These led to the development of large volume credit information database such as CRD.

The Japanese experience with credit information infrastructure, particularly for SMEs, indicate that for this kind of infrastructure to support the internal rating based approach of banks, it will need to provide additional services to evaluate the credit risk of pooled data while paying attention to the issue of data protection, specifically anonymity. CDOs with the guarantee of the public sector are the potent instrument to facilitate SME financing by means of bundling these small SME loans, however given the current global financial crisis, securitization is not such an attractive option.

For ASEAN economies in the process of building credit information infrastructure, it pays to remember that based on the experience of Japan, the promotion of a large volume credit information database and a shared regional database will facilitate cross-border SME financing.

### **Policy Recommendations for SME Database**

Bridging the role and impact of SME financial access and actual SME output growth through the establishment of a credit information infrastructure is not exactly alien to the key objectives of the new ABMI. Directing the aspect of SME development that centers on financing access to eventually integrate these firms into capital market activities may be treated as a parallel means of supporting the thrusts of the ABMI. In particular, two of ABMI's key areas — improvements in the regulatory framework and accompanying developments in infrastructure development for bond markets, in which credit information infrastructure is a part — will impact on SMEs as well. The establishment of a credit information infrastructure (e.g., credit bureaus and credit ratings agencies) and credit guarantee systems with special focus on SMEs would enable this sector to reach into a wider range of resources to fund their business needs.

Promoting SMEs is on every Asian country's must-do list, just as the development of their respective local bond market (and further on towards a regional level) is on the agenda of every ASEAN country. *How could the SME industry help drive the development of the bond market, given the existing differences and gaps in their current stage of development?* As diverse as these small and medium firms are, the respective bond markets in ASEAN countries vary just as well in depth and volume of activities. Necessary to the ability of SMEs to take part in the development of a regional bond market as espoused by the ABMI framework is their success and sustained growth. It means these firms have to be successful to such an extent that enables them to have operations large enough in scale to demand, encourage and justify financing through bond issuances and not just through the local arteries of commercial bank lending.

*The success of SMEs necessarily confirms the success of the development platform on which these firms were nursed. But such hinges on a number of factors.*

**First**, SMEs must be competitive and to breathe life to such spirit of competitiveness, governments must help establish a level playing field that helps SMEs compete on a more equal basis. **Second**, the effective use of public resources (and in Asia such resources are scarce) in financing SME-focused programs must be ensured. **Third**, greater access to institutions, structures and instruments appropriate to SME needs must be provided. More attention and work must be poured towards the development of private markets for services suitable for SMEs to narrow access issues on both the

demand and supply side, particularly on the matter of information. Rising on the spirit of the ABMI, bonds may be issued to finance SME-related infrastructure such as transport, warehousing and logistics facilities as well as information technology. These practical measures would help SMEs step up to the plate, despite their lack of ability to realize economies of scale or other internally generated expertise, which remain confined to larger businesses. **Lastly**, there is also the need to create a separate office for export-oriented high-tech SMEs in the manufacturing industry and those in the traditional lines of SME businesses, *under the umbrella of a single SME center*. Equally important is the need to upgrade the skills and knowledge levels of people handling SME programs.

Information and money are two important ingredients for ASEAN SME industries to really take off and make significantly sustainable contributions to the region over the long term. Accurate and timely information about market opportunities, financial assistance and access to technology is crucial for SMEs to compete and grow in an increasingly global market environment. Opportunity for financial access is an especially important catalyst for SMEs to have the resources they need to gain a foothold in the market.

***In the context of establishing a template for a regional information sharing mechanism, efforts must first be concentrated on the getting off the ground the establishment (and development) of reliable and robust credit information systems in all ASEAN10+3 economies.*** Once operating, their best practice features can be added to the typical requisites of a credit information infrastructure and, once fine-tuned to incorporate the unique characteristics of ASEAN markets, can provide the basic framework for a regional credit information sharing mechanism that puts into place the following elements:

- (1) The legal and regulatory frameworks for credit reporting;
- (2) The technology platform that would support such regional information sharing mechanism;
- (3) The providers and users of data;
- (4) The kind and quality of data to be collected and distributed;
- (5) The support for an advocacy program for credit reporting discipline, outreach and education;
- (6) Institutional arrangements that would govern the collection and use of credit information across borders; and
- (7) Policy guidelines for the use of regional credit information to benchmark how financial institutions rate in terms of credit reach to formal industries, with special interest to SMEs.

The legal and regulatory elements are anticipated as most critical and challenging among all the elements mentioned because of the existing differences in the judicial system and market regulatory set-up of ASEAN countries. Laws and regulations surrounding creditor rights and enforcement, corporate insolvency, credit risk management, debt recovery and enterprise workout practices and

privacy laws would have to be leveled off to give way to an environment that could give birth to a set-up for information sharing benefiting all thirteen economies in the ASEAN landscape.

To support the large volume of information, which SME-dedicated credit information infrastructures need to have in order to be financially viable, SMEs must be encouraged to disclose their truth data. Regulations must provide sufficient protection to institutions that collect SME information so they will not be compromised to disclose information to tax authorities and related agencies.

***In the context of establishing a regional credit guarantee mechanism, there exists an ADB ABMI regional credit guarantee and investment mechanism proposal that seeks to align both ABMI and ADB policies to provide:***

(1) Guarantees for bond issuances; (2) Guarantees for swap transactions; (3) Loans and loan guarantees; (4) Equity investments in financial infrastructure that lead to the development of bond markets; and (5) Technical assistance funding to provide funds for countries to assist in practical and targeted forms of capacity building to enable the issuance of bonds and to reduce risks.

Credit guarantees schemes (CGS) have played an important role in Asian economies. The CGS experience of ASEAN countries demonstrates the importance of guarantors having sufficient capitalization and prudent risk management practices since guarantees are vulnerable to concentration risk. The proposal for the ADB for a new regional credit guarantee entity aims at avoiding the problems that led to the failure of Asia Ltd, the first regional credit guarantee company in Asia. The new regional credit guarantee entity will have a bigger capitalization than Asia Ltd to obtain AAA rating. It may also be either housed within the ADB or set up as an independent multilateral organization with clear procedures for recapitalization. ***In the context of SME participation in bond markets, the securitization of SME bonds plus a credit guarantee on those bond issues could render it more attractive to investors.***

Current efforts to establish credit information systems in ASEAN countries where such infrastructures were previously absent is a move in the right direction. This will improve the quantity and quality of market information and help present better portfolio investment profiles. It will also improve the efficiency of domestic credit rating agencies and render possible the establishment of regionally specialized credit ratings firms that rate Asian corporate bonds.

Hopefully, the development of credit information infrastructure would generate a critical mass of SME information and spur the creation of SME-focused credit rating agencies and related market entities, which are essential in helping SMEs that opt for bond financing. To date, basic market infrastructure and market-supporting institutions to encourage SME participation in capital markets are still in the

process of being built. These include a strong legal framework to protect investors in the face of a credit event, credible credit rating agencies to provide informed assessments of issuers, good financial reporting and accounting practices to ensure accurate and timely information, transparent price information, a pool of liquidity and viable hedging instruments, and individual and group performance benchmarks for SME firms. *The rates of progress of SME development agendas in ASEAN countries remain heterogeneous and domestic bond markets continue to be works in progress.* Some capital markets are relatively more advanced than others, but regional initiatives and ongoing drive to promote regional bond market help steer ASEAN countries to move in the same direction.

On the SME front, the following need to be part of SME discipline to prepare them for their entrance in capital market activities --- continuous disclosure of information on company's financial and operational profiles, aligning company procedures and outcomes with best business practices; establishing track record and related footprint in business transactions; tapping the support of broking community; obtaining knowledge as to the requirements and costs of listing, underwriting and funding; possessing and upholding sound principles and business ethics surrounding company management, governance, integrity, accountability, transparency, credibility to reliable information, and discretion for directors and management. Through these disciplines, ASEAN SME culture would learn to be more comfortable and trusting of capital market activities and encourage SMEs to be more transparent about their activities.

Different types of SME debt instruments must be developed to cater to different types of issuers. SME loans can be bundled, securitized and together with a regional credit guarantee mechanism be made more attractive to investors. Infrastructure projects that promote technology injection, transport and logistics efficiency and operational competitiveness among SMEs can also be securitized in bonds. If various Asian countries collect SME data, cross-border comparison becomes possible for SME credibility. SME loans can then be securitized based on cross-border data. Through pooled information sharing, credit risk models for SMEs can be improved, and the risks of SME bonds can be properly assessed and diversified to make it more attractive to investors. A regional credit information sharing system will contribute to the enhancement of the Asian bond market by allowing SMEs to issue SME bonds and enhancing capital flows among Asian countries.

### **Specific Policy Recommendations for Establishing SME Database**

SME lending used to be based on an experienced banker's intuition. Unfortunately, SMEs are not evaluated by statistical analysis like large corporations due to lack of data. SMEs are sometimes mistreated by lack of enough information. SME database can reduce information asymmetry between SMEs and banks. Due to the lack of SME data in many countries, SMEs tend to pay higher

interest rates to banks compared to corporations. The establishment of a database could reduce excess costs paid by SMEs to formal sources of finance.

(1) SMEs have to have incentives to disclose their truth data. In Japan, SME data are collected nationwide by Credit Guarantee Corporations, which have 47 offices in all the prefectures in Japan. When SMEs want to borrow from banks, they are often asked to put credit guarantee on their loans. This is because SMEs are perceived to be much riskier than large corporations. In this manner, SMEs have the incentive to disclose their financial data to the Credit Guarantee Corporation so as to be able to borrow money from banks. Since ASEAN countries have different financial and SME lending systems, the kind of organization to collect SME data in each country must be studied well.

(2) An institution that is mandated to collect SME data while looking after the confidential and trustworthiness interests of the SMEs in its database must be established. This institution, which may either be a government agency, a government-affiliated institution or an independent organization of banks should not be compromised to divulge or disclose information in its SME database to tax-collecting agencies or other related agencies. At the same time, its profitability and self-financing capacity must be achieved.

(3) Once the organization to collect SME data is set up, the government must spend for the initial cost of its establishment to help get its operations off the ground. The cost must be as minimum as possible. At the same time, it must have its own revenue source. In Japan, CRD (credit Risk Database) collect fees from financial institutions by selling data and by providing the computation of default risks. Consultation of data analysis with various banks is another source of income from CRD.

(4) The SME database should be a repository of both financial and non-financial SME data. In Japan, the data collected by CRD includes sales, operating profits, ordinary profits, investment in plant and equipment, investment in P&E (excluding investment in software), increase in inventories, ratio of operating profits to sales, ratio of ordinary profits to sales, ratio of net worth, liquid assets, inventories, fixed assets, deferred assets, total assets, liquid liabilities, fixed liabilities, net assets, interest expense and personnel expenses. For ASEAN countries which are just in the process of establishing an SME-dedicated information agency, it has to study what kind of data are appropriate to be collected in order to analyze well the SME business profile.

(5) Statistical analysis is required to compute the default risk ratio of SMEs. The database institution can then provide statistical analysis to its member banks.

(6) If SME data are collected in various Asian countries, cross border comparison becomes possible for SME credibility. SME loans can be securitized based on the accurate database, which can widen the opportunity for SMEs to raise funds from the capital market. SMEs can start to issue CPs and corporate bonds as a group. The information contained in the SME database can help reduce the risks of SME bond and the pooled SME bonds can be used to diversity the risks of investors.

Continuous efforts need to be made to improve the kind of data to be collected in each country so as to ascertain the exact situation of firms in the SME industry. Credit risk models can be developed and improved with the use of various SME data. The development of SME database will contribute to the enhancement of the Asian bond market by allowing SMEs to issue SME bonds. If SME data sets were disclosed in Asian countries, and under the auspices of the ABMI, capital flow among Asian countries will be enhanced.

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