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Policy Brief

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"How to Revitalize the Japanese and Asian Economies ?"

YOSHINO Naoyuki

Professor, Faculty of Economics, Keio University

yoshino@econ.keio.ac.jp

1, 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.

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.

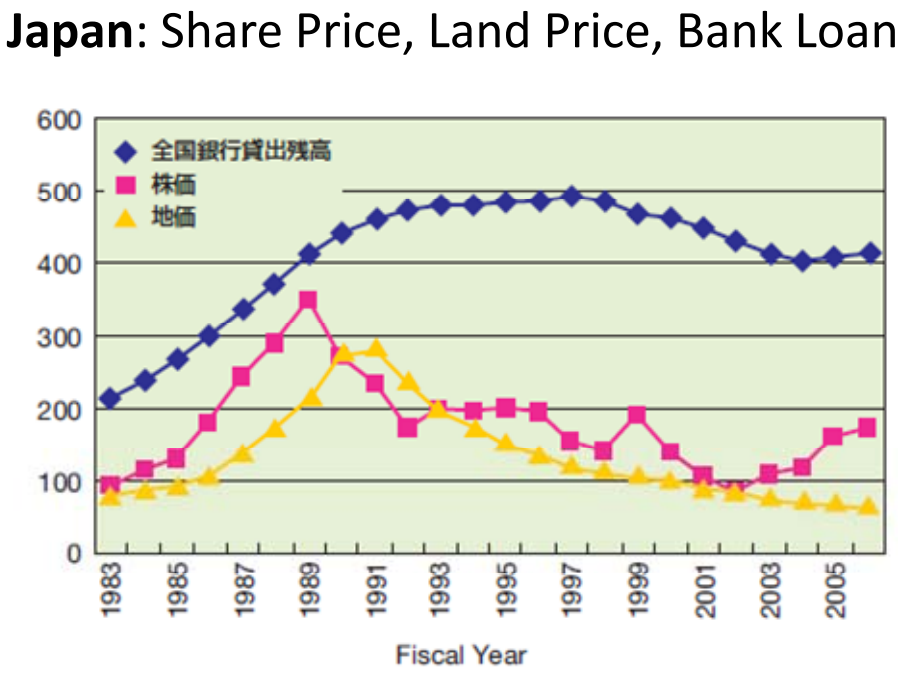


Figure 1

Outstanding loans of all Japanese banks ---- Blue collar Stock prices --- Red collar Land prices --- Yellow collar

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:

- 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,
- 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.

2, 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)	= 0
Japan	- - -		+ +		+	
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.

3, 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.

4, 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.

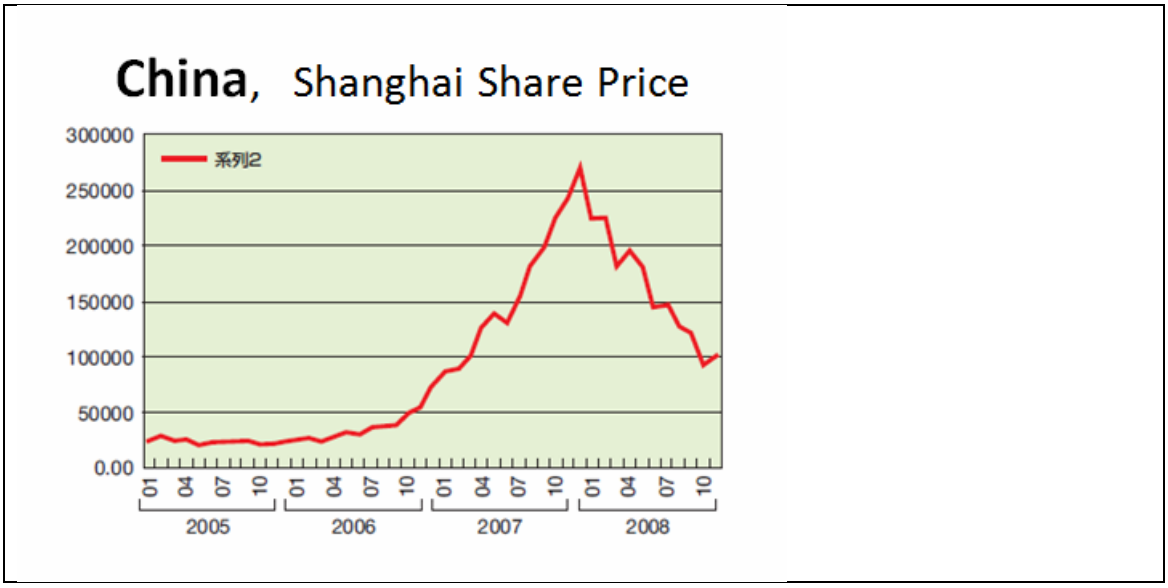
Innovation and regulation must be well-balanced. If the Japanese government imposes overly stringent regulations, it will hamper financial innovation and cause the Japanese

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.

5, 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.

6, 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.

7, 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.

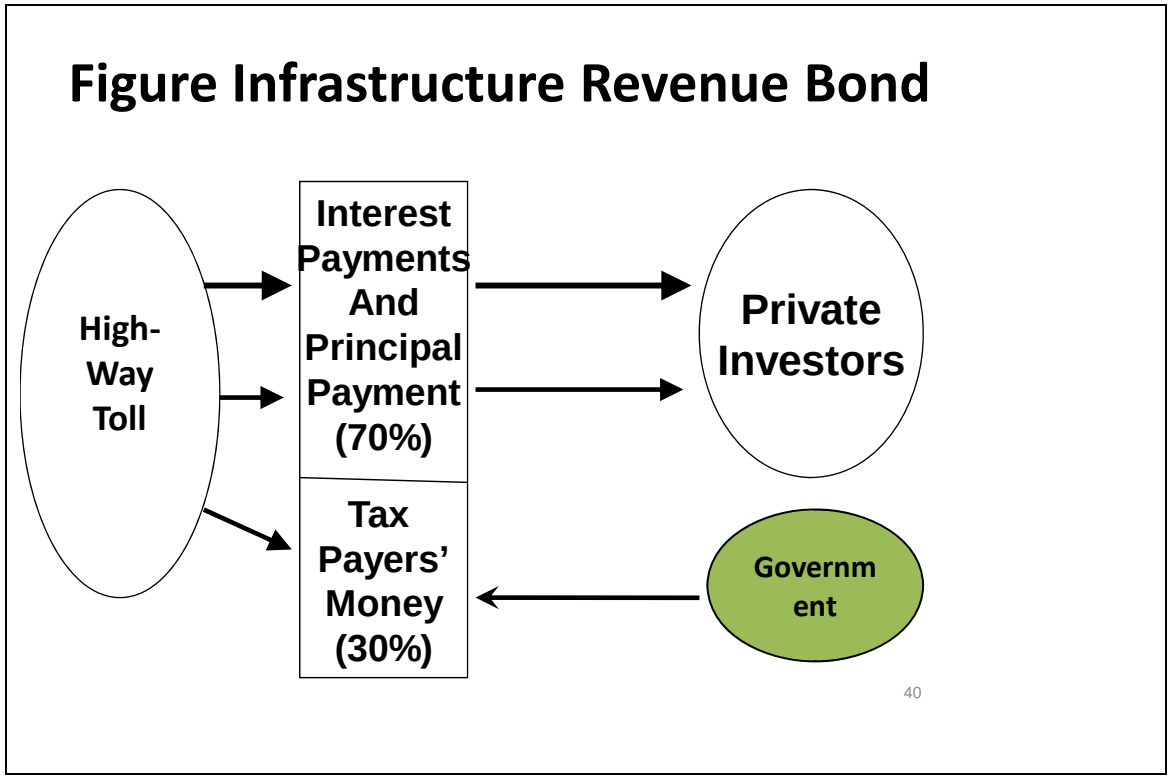
Keynesian policies come under fierce criticism during periods of economic growth, yet are much more popular in times such as now, when the private-sector economy is on a sharp downswing. In dealing with the ongoing situation, hopefully governments will steer clear of outdated Keynesian policies and instead 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

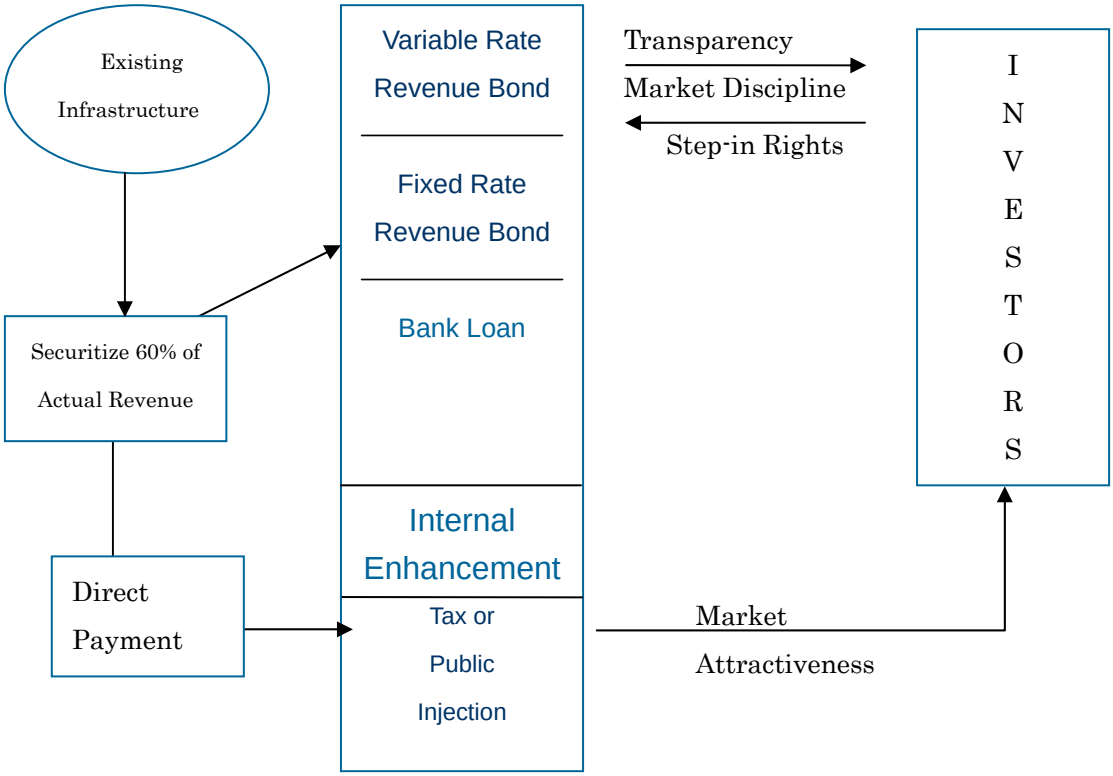


8, Revenue Bond for Financing Infrastructure Project

Revenue bond can be introduced to finance the infrastructure projects as well as to promote the bond market development in Asia. Infrastructure building depends heavily on bank finance and foreign borrowing under the current financial scheme in Asia. So local currency denominated revenue bonds can mitigate the double mismatch problems and moral hazard problem caused by existing government bonds which secure the principal and interest payment even when the projects fail since the revenue bonds are secured by only the future cash flows (revenues) generated by the project. It also diversifies project financing while lessening the over-dependence of bank loan.

It is difficult to issue the revenue bond, one of municipal bond in US in most Asian countries because of the lack of institutional factors such as regional monoline insurance company, bankruptcy law for bankruptcy remoteness and credible regional rating agency. So this paper proposes the feasible scheme of the issued revenue bond issuance to finance the infrastructure projects in Asia.

Figure 4 Revenue Bond Scheme in Asia



From the perspective of market attractiveness, we don't have regional monoline insurance company in Asia to provide the credit guarantee to the revenue bond like US. So the fixed portion of public money (or tax) by government at the initial stage is injected and direct payments which are made in the pre-determined conditions[1] will function as internal enhancement which consequently can enhance the credit rating of the project. The amount of this public injection can be adjusted to secure the reasonable market interest rate of the issued revenue bond to investors.

And from the perspective of market discipline, the variable rate revenue bonds (revenue-linked bonds) will be issued by linking purely with the future cash flows generated by the projects clarifying the performance of the infrastructure projects and bonus or incentives will be given to the operators so that they manage and operate efficiently the infrastructure. Consequently this variable rate revenue bonds enable investors to monitor the projects with step-in rights while clarifying the generating mechanism of project revenue.

However it is very difficult to forecast exactly the future cash flows from the project so it is a good and feasible way to securitize the existing infrastructures which has enough historical data (track records) for stable and reliable forecasting in order to issue the

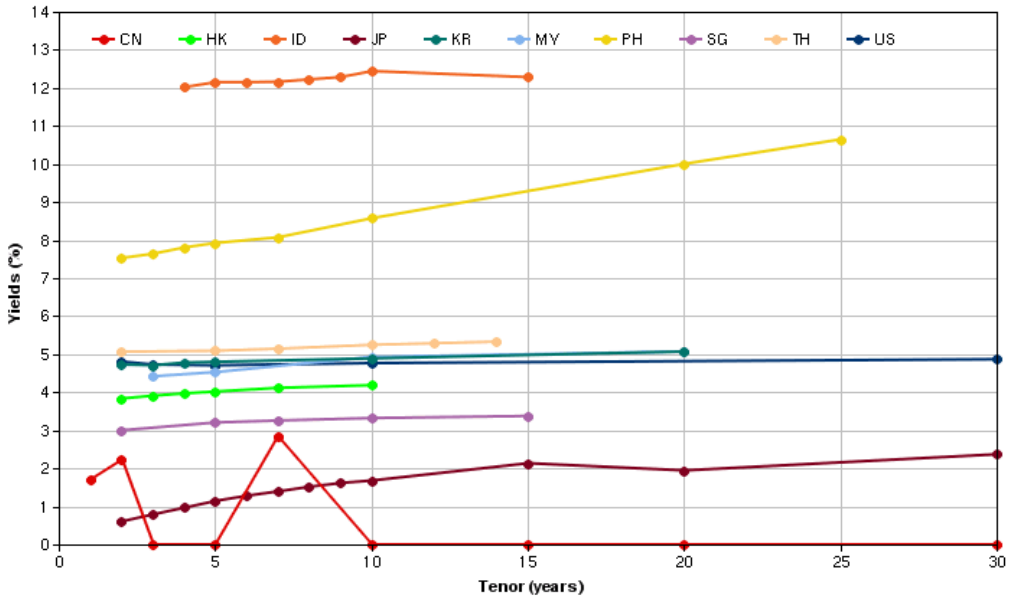
[1] Direct payment might be made by 1) business interruption events, 2) toll adjustment events, and 3) operator services events. The payable direct payments is calculated as the difference between the net toll revenues after the event and the net toll revenues in the same period of the previous year.

revenue bond in Asia[2]. It also can secure investors if partial portion (for example, 60%) of actual revenues would be securitized, investors will bear the risk only when the revenues fall below the 60% of the future cash flows.

9, On the Possibility of Asian Infrastructure Bond Fund

However, there are lack of institutional investors' base in the region and also lack of regional debt instruments with long-term maturity that can satisfy the needs of a few regional institutional investors who want to manage their assets for long-term investments. There are only 4 countries, Philippines, Korea, China and Japan which have a benchmark yield curve with more than 20 years maturity and which consequently result in the maturity mismatch with long gestation period of infrastructure projects of over 20 years.

Figure 5 Benchmark Yield Curve for LCY Bonds



Source) AsianBondsOnline, Asian Development Bank.

In the region, Japan has the largest base of institutional investors and then Hong Kong, Korea, and Singapore. However, Hong Kong and Singapore function as regional finance centers to attract large capitals from US and Europe. So it cannot be necessarily said that they circulate the Asian savings for long-term investments in the region. Therefore institutional investors in Japan and Korea are expected to play an important role in investing the long-term maturity bonds and developing the infrastructure bond markets to circulate the regional high savings.

[2] See HongLink 2004 for more details.

Table1) Size of Regional Institutional Investors (unit: billion dollar)

	Pension Fund	Life Insurance	Trust Investment	Total
China	28.0	136.0	27.0	191.0 (2.2%)
Hong Kong	38.0	9.0	465.6	512.6 (6%)
Indonesia	5.4	10.5	11.1	27.0 (0.3%)
Korea	161.0	133.0	186.0	480.0 (5.6%)
Malaysia	70.0	21.0	23.0	114.0 (1.3%)
Philippines	7.9	2.7	1.4	12.0 (0.1%)
Singapore	68.0	33.0	105.7	206.7 (2.4%)
Thailand	20.0	17.0	19.0	56.0 (0.7%)
Japan	2981.0	3452.0	524.0	6957.0(81.3%)
Total	3379.3	3814.2	1362.8	

Source)

The infrastructure assets, considered as traditionally public sector such as toll road, railways, airports, tunnels, bridges and ports are being handed over to the private sectors by private public partnership (PPP), private finance initiative (PFI) and privatization etc. Private project finance is being trumpeted as a solution to the fiscal burden of building and maintaining the social infrastructures under the increasing demand of infrastructures.

Good returns and low correlation between other infrastructure asset classes have recently attracted many private infrastructure funds (see the below table). Among them, the Australian-based infrastructure blockbuster has obtained the rate of return of 19.4 % (usually ranging from 10 to 30 per cent) over the past 11 years. And another rapidly growing factor is that the long-term lifecycle of infrastructure assets can meet the demands of the long-term investment periods that institutional investors such as pension funds seek for their portfolio investments. This increasing trend has continued over the next few decades.

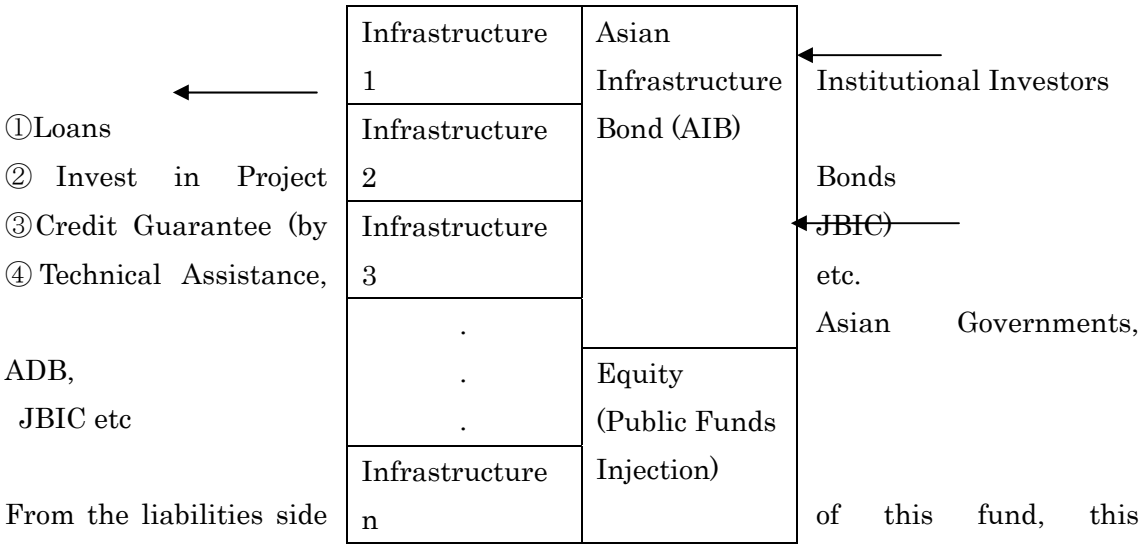
Table 2) The Case of Infrastructure Funds

Arranger	*Major Fields*	*Size (US dollar)*
Macquarie Korea Infrastructure Fund Macquarie Shinhan Infrastructure Asset Management (MSIAM)	Toll roads, Tunnels, Bridges etc	964 million March 14, 2006
Alinda Capital Partners LLC	North America & Europe	1 billion
Infrastructure Development Finance Corporation	India Infrastructure Initiative	350-450 million
Carlyle Group	US	1 billion
MENA Infrastructure Fund Dubai International Capital and HSBC	The infrastructure sector such as in utilities, energy, transportation and public private partnerships across the Middle East and North Africa (MENA) region	500 million Mar 2006
Islamic Development Bank Infrastructure Fund Emerging Market Partnership (principal adviser)	Promote the use of Islamic finance in infrastructure development	730 million
Goldman Sachs International	Global Fund for Infrastructure	3 billion
KB Asset Management	J/V ING group and Korea Kookmin Bank Consortium of 17 domestic pension funds and insurance company investors	1.2 billion
Carlyle Group and Riverstone Holdings	Renewable Energy Infrastructure	685 million
GE and Credit Suisse	Infrastructure such as Power Plants, Pipeline, Airports, Railroads and toll roads	500 million

However these kinds of private infrastructure funds have been invested mostly in the form of the equity and loan. So for the development of Asian bond market, the set-up of government-led fund will be necessary which further the development of regional infrastructures as well as the nurturing of infrastructure bond market. This institutionalized fund will be established through the participation of the governments,

financial authorities, government financial institutions and professional market players in Asia. The investment committee of this funds could be organized to select the profitable infrastructures and decide the investments in infrastructure bonds and loans to infrastructure buildings.

Figure 6) The Conceptual Structure of Asian Infrastructure Bond Fund



From the liabilities side of this fund, this infrastructure fund can be setup from mainly two portions, bond and equity. This fund consists mainly of Asian Infrastructure Bond (AIB) which can be purchased by regional institutional investors and equity participation from public funds injections by the governments, other government financial institutions, multilateral development banks and professional market players in the region.

From the assets side, this infrastructure fund would mainly make the low-interest rate (below the market rate) loans for building and maintaining the infrastructures and invest in the infrastructure bonds (project bonds or revenue bonds) in the region. This institutionalized fund is expected to enable regional investors to invest in projects which are inherently risky owing to the long gestation period and uncertainty in future cash flows and fill the existing financing gap by facilitating the Asian infrastructure bond market development.

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