

**Looking Beyond Bad Loans to  
Bad Loan Problems in Japan**

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Prepared for the DRC-NICMR Seminar on Bad Assets in the Chinese Banking System

December 14, 2004

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## Introduction

In October 2002, newly appointed Minister for Financial Services Heizo Takenaka requested major banks in Japan to cut their bad loan ratios in half by March 2005. Thanks to each bank's efforts as well as the economic recovery, this goal is almost certain to be achieved (Figure 1).

But we should realize that the most difficult part of the situation with bad loans is not cutting down the publicly or officially recognized bad loans but realizing and eradicating the root causes of the bad loan problems in the nation's financial system.

It is relatively easy to set a definition of "bad loans", be it the SEC's definition or whatever, and to force banks to abide by a rule limiting the amounts of such loans to a certain ratio against their assets. As I emphasize below, the definition of bad loans is intrinsically elusive and subjective. Even though we can achieve an arbitrarily set bad loan ratio, we can never be certain the problem is over.

This is especially true when the reduction of the ratio is partially realized by exogenous factors such as an economic recovery, which is a cyclical phenomenon. When the economy turns into depression stage, the bad loan problems will surely re-emerge unless the root causes amended.

It seems that Japan at least realizes the root causes of its bad loan problems, but to what extent it can improve the situation and succeed in preventing another financial crisis remains to be seen.

## What are bad loans and bad loan problems?

The definition of a bad loan is intrinsically elusive and subjective, because whether a loan is bad or not rests on the future cash flow the loan may generate. The narrowest definition of a bad loan might be "any loan which fails to meet certain obligations to pay interest and/or principal." But increased payments in the future could well compensate for such failures. Conversely, a current apparently good loan might be a bad loan in reality if the borrower secretly plans not to repay and to disappear in the near future.

Even if we introduce International Accounting Standards and hire internationally recognized accounting firms to define whether a loan is good or bad, accounting and accountants basically are supposed to check past and current facts and records. They never have special powers to predict the future cash flow accurately.

Competent financial authorities and skilled bank examiners may be able to do a better job, but still they are not perfect fortunetellers. Also, even however much we emphasize the governance of banks and the training of bankers, they cannot be exact in forecasting the future cash flow of loans they are provide.

The true valuation of a loan is the same as the valuation of equity, in the sense both are financial assets whose value is determined by the expected future cash flow and discount rate.

Determining whether a loan is bad or not is similar to determining whether a share is bad or not. We can recognize how much the value of a share has declined since its purchase, but the share price may go up in the next moment and the share may turn out to be as profitable as originally expected. A loan is even more difficult to value than a share, moreover, since the current market price is usually unobservable.

In short, since it is impossible to forecast the future, we cannot define bad loans in a strict sense. In Japan, there was heated debate in the late 1990s over the actual amount of bad loans at Japanese banks. Many people urged the Financial Services Agency (FSA) to disclose the amount and accused it of allegedly hiding the true value of the bad loans reported by banks. But in retrospect, we can say that these were futile debates since it all depends on the definition of a bad loan and there is no such true definition.

At the same time, we should realize that bad loans are everywhere. They are common and not special. There are certain to be bad loans in any country or any bank over a period of time. Therefore, a bad loan itself is not a problem. We should distinguish bad loans from bad loan “problems”.

So what are bad loan problems? A bad loan problem is the state of the banking system when the risk to banks from bad loans becomes large enough to create fear among depositors and other stakeholders about the safety of their deposits and other claims. When the fear is at a preliminary level, only a few participants observe the problems and only a limited level of deposit withdrawals and reductions of inter-bank transactions occur. But as the fear explodes, bank runs, halting of inter-bank transactions, termination of credits to firms, and even capital flight could become widespread.

Needless to say, in terms of public policy, it is bad loan problems that we have to focus on instead of bad loans per se. Luckily, even though we can never be certain about which loans are bad, bad loan problems are so obvious and observable that we should be able to be equipped with measures to prevent bad loans from exploding into bad loan problems.

### **Internationally developed measures to avoid bad loan problems**

There is a abundance of cases and lessons to be learned from bad loan problems and subsequent financial crises all over the world. Also, it is important to notice that bad loan problems in one country often have a cross-border influence. As a result, it is natural that there have been international efforts to develop measures to avoid bad loan problems.

These efforts culminated recently as Basel 2, which is a far more advanced international standard for banking practices than the existing Basel 1. Ryozi Himino, the Secretary General of the Basel Committee on Banking Supervision emphasizes that

“Accounting standard where the values of assets and liabilities are quantified and compared has its long history since 15th century. But still there are big disputes over IAS 39 on the valuation of financial assets and liabilities. Basel 2 is the new standard to quantify and compare risks and reserves for the risks. An accounting standard is the method of describing what had happened and has long history. But Basel 2 is the method of describing what could happen in the future and is the first attempt in the human history. --- Even we trailed a tough road we finally reached the agreement. I think this is because nobody can deny the need for common language which enables us to quantify and describe risks in a comparable form.”

As discussed before, we cannot predetermine a loan is bad or not since this depends on what happens in the future, but the more risk-sensitive approach of Basel 2 provides us with an improved yardstick to avoid letting bad loans explode into bad loan problems. The yardstick was developed through the huge efforts among financial professionals and is based on both historical and experimental lessons.

The new standard also recognizes the limited effectiveness of just abiding by the single capital adequacy ratio of 8%. There are several methods of calculating the ratio and each financial institution can choose the method most suited to its situation. Advanced institutions can choose an internal ratings-based approach that utilizes their own risk management models.

In addition, the capital ratio is just one of three pillars of the new accord. The second pillar is the efforts by banks themselves to assess capital adequacy properly and by supervisors to review such assessments. The third pillar is effective market discipline realized by proper disclosure, to complement the other two pillars.

Even though it is almost impossible to determine current and future values of loans and therefore to prepare for the risk of bad loan problems, Basel 2 tries to cope with the challenge by utilizing the efforts of bankers, who are best positioned with regard to information asymmetries to know the quality of the loans, and by utilizing market forces, which are supposed to provide best estimates of the future and lead participants to behave rationally.

One role of a financial authority is to review banks' risk management processes and to provide incentives to improve these processes. Another role is to ensure that the disclosure system and other functions of a market economy work well and that market discipline is effective.

### **Basel 2 and the new framework of prudential regulations**

This new framework is completely different from the existing one, where the financial authority set capital adequacy ratios that were calculated largely from financial reports audited by accountants. In many countries, the current framework is linked to Prompt Corrective Action (PCA); that is, when a bank's capital adequacy ratio falls below a certain level, a series of regulatory actions are triggered automatically without discretion by the financial authority.

The current system has caused various problems in Japan. For example, to avoid having their capital adequacy ratios fall under the trigger level, banks allegedly manipulated the valuation of loans and other accounting figures. In addition, the fact that accounting firms' judgments over the valuation of banks' assets could trigger PCA and force the government to bail out some banks caused political disputes. Critics asked why accounting firms should be allowed to impose such important penalties and cause social disruption.

Japan's experience suggests that introducing PCA in the middle of a financial crisis under the existing Basel 1 framework tends to increase the incentives for banks to hide their bad loan situation, because otherwise they are instantly subject to regulatory sanctions. PCA essentially works to prevent future bad loan problems instead of acting as a cure for already exploded ones.

PCA may operate differently under Basel 2, since the meaning of capital adequacy ratios differs from the present and also differs among banks depending on the calculation method and internal model each bank adopts.

Furthermore, capital adequacy ratios and PCA should not be the objects of such intense focus under Basel 2, because the new framework gives equal importance to pillars 2 and 3. They are

important but other factors will take on importance as valuable policy measures.

The complete new framework of prudential policies under Basel 2 has not been formally revealed in Japan as yet, but it is expected to alleviate the kinds of malpractice and disputes Japan experienced under Basel 1. Besides, since Japan is exiting a period of bad loan problems, it will soon be well positioned to introduce the new framework as a preventive tool against future bad loan problems. Therefore, Japan should welcome the inception of Basel 2 and the new framework of prudential policies.

It is unfortunate, however, that many Japanese remain antagonistic to the Basel accord. This antagonism is based on the fact that one objective of Basel 1 was to establish a level playing field for competition among international banks. In other words, it aimed to curb the international expansion of Japanese banks leveraged on their very low capital levels. Some view that this not only successfully weakened the competitiveness of Japanese banks but also caused the shrinking of domestic lending as well as of the Japanese economy as a whole. Since many politicians share such a view, the joke goes that a proposal for Japan to reject Basel 1 or 2 would easily pass in the Diet.

We should recognize that even though, in the beginning, Basel 1 might have been intended to penalize Japanese banks, nowadays, it has been adopted by more than 100 countries. If Japan dared to reject Basel 2, it would only become isolated from the international banking community. On the other hand, by adopting Basel 2, Japan would be opting to deal directly with future risks instead of being wagged around by bad loan and capital adequacy ratios calculations based on accounting principles using past records. Therefore, it is reasonable that Japan welcomes the introduction of Basel 2.

Some may point out that the United States is introducing Basel 2 only to top tier banks, and retaining Basel 1 for small and medium sized banks. But we should remember that the United States encourages small and medium sized banks to keep their capital adequacy ratios above 10%. Meanwhile, in Japan, banks without international business are only required to keep a capital adequacy ratio of 4%. This situation must be improved, and to do so, we should introduce Basel 2 to all banks, as the EU did.

### **Country-specific measures to avoid bad loan problems**

The previous section described the newly created international measure to prevent bad loan problems. The adoption of Basel 2 is indispensable for Japan to avoid bad loan problems in the future. The new prudential regulations will be more reasonable in the sense that they will not depend too heavily on accounting figures that merely depict past facts and are meant to provide a minimum amount of information for investors. As we emphasized, Basel 2 heralds the beginning of the new era in which we can incorporate future risk in the assessment of capital adequacy under internationally recognized rules, and Japan has no choice but to move into this era.

Needless to say, however, Basel 2 is not a panacea. It is an internationally developed idea applicable any country in the world. Its adoption will certainly help to maintain order in the financial system, but every country is likely to have its own unique problems that require unique solutions. Those problems consist of two types: problems in the macro structure of the financial system and problems in the microstructure of the financial system.

The macro structure of a financial system includes such things as the role of banks and public financial institutions in the national economy, the development of the securities market

infrastructure, and the state of institutional investors. If the banking system plays a large role, for example, then risks in the economy tend to concentrate in bank balance sheets, increasing their susceptibility to bad loan problems.

The microstructure of a financial system includes the nature of loan contracts between borrowers and banks and banks' lending practices, as well as their incentive mechanisms and governance structures.

The remainder of this paper describes the problems in the macro and micro structure of Japan's financial system that need to be solved to prevent the emergence of bad loan problems in the future.

### **Macro structure of Japan's financial system**

One characteristic of Japan's financial system is the concentration of individuals' financial assets in deposits. As is shown in figure 2, the level of concentration found in Japan is unique among developed countries. There are several reasons for it. First is the high priority Japan placed on developing the banking sector in order to mobilize national savings and facilitate economic recovery after World War II. As a result, bank deposits enjoy the same level of safety as government bonds and a higher level of convenience for the general public. Deposits received favorable tax treatment until the mid 1980s.

A second reason for the concentration of financial assets in relatively safe deposits is the large share of residential property in the total assets of Japanese households. Because of this, people cannot afford to take on other types of risky assets such as equity. Related to this point, Japanese in their 30s and 40s tend to focus on repaying the huge sums they borrowed to acquire land and housing rather than to focus on investing.

A third reason for the concentration of assets in deposits is the poor performance of investments in equities, bonds and mutual funds, especially in the last decade. Since such investments are not as attractive as less risky deposits, it is rational for individual investors to refrain from increasing the share of assets they held in the securities market.

Because of the concentration of individual assets in bank deposits, banks became the dominant providers of funds to corporations. They not only lend to corporations but also hold huge amounts of corporate securities including equities. As a result, the exposure of Japanese banks to both credit and market risk is significant. Given the dominant role of banks in financial intermediation, this high level of risk exposure by banks has made the financial system as a whole highly susceptible to economic fluctuations and firm-specific risk.

The risk-sensitivity of Japan's banking system did not loom as a fatal problem during the long-term expansion of the economy. As the economy matured and the linkage to global financial markets increased, however, banks often faced unexpected distress in borrowers and devaluation of the securities they held. Meanwhile, they also faced increased competition after a series of financial deregulation measures. They were unable to enjoy steady profits by lending to traditional borrowers such as large manufacturing firms; more and more large firms started to raise money in the securities markets including foreign securities markets. As a result, banks increased their exposure to smaller firms as well as to firms in non-manufacturing sectors where they did not possess enough experience or capability in assessing and controlling risk.

Such sectors as non-bank, retail, general construction, and real estate were seemingly very

profitable in the period of bubble starting in the mid 1980s, and Japanese banks increased lending to those sectors. Land and stock price appreciation made these sectors look not only profitable but also less risky. Mainly as a result of the increased lending to these sectors, the ratio of bank lending to nominal GDP grew significantly in the late 1980s as shown in figure 3. The ratio of bank lending to GDP was already higher in Japan than in the US in early 1980s, but it escalated further during the latter half of the decade. This excessive dependence on bank credit paralyzed the whole economy after the bubble burst, and major borrowers as well as banks themselves suffered significant losses from plummeting land and stock prices.

#### *Japan's efforts to solve its macro structure problems*

As explained, the way in which money flows in the Japanese economy, with banks playing a dominant role and hence bearing more than their share of economic risk, was one factor that exacerbated the bad loan problem.

The first way to reduce the economy's overdependence on the banking system is to encourage companies to raise the capital they need directly from individual and institutional investors in the securities markets without approaching banks. This would avoid the accumulation of too much corporate risk in the books of one bank. Japan has already carried out radical reform aimed at revitalizing its securities markets—in the shape of the August 2001 "Program for Structural Reform of Japan's Securities Markets," the August 2002 "Program for Expediting Reform of Japan's Securities Markets," the December 2002 securities taxation reforms and the amendments to the Securities and Exchange Law in response to the December 2003 report by the Financial System Council ("Towards a Market Oriented Financial System").

Another effort Japan is making to reduce the concentration of risk in the banking system is to promote methods to transfer risk from banks to other parties that can afford to take on more risk. Increasingly, banks will need to be able to transfer to other lenders some of the risk of the loans they extend rather than keeping it all on their balance sheets. Examples of such risk transfer (also known as market-type intermediation) are loan sales and securitization, syndicated loans, and credit derivatives. Although such techniques are being used more often in Japan, they are still much less common there than in the United States and Europe. Figure 4 confirms this situation for the case of syndicated loans. Japan needs to do still more to encourage the use of these techniques and it needs to address many problems including disclosure issues, information on transactions data, and the need to obtain the original debtor's permission before transferring a loan.

#### *To what extent do we need to depend on banks?*

Japan's heavy dependence on banks is unique among developed countries, but it is common among Asian countries, as shown in figure 5 by the large share of bank deposits in individuals' financial assets in seven Asian countries.

As it was in Japan, it is reasonable for those Asian countries to put high priority on the development of the banking sector in order to mobilize national savings and facilitate economic recovery. Besides, the payment and settlement and money transfer functions of banks are indispensable, even in an early stage of economic development, while securities markets require the development of sophisticated investors, analysts, rating agencies, and other market infrastructures such as disclosure systems, stock exchanges, and central depositories. Therefore, it is common for banks to have the predominant place in the financial systems of developing countries.

Banks are not necessarily indispensable to the financial system, however, according to Adam

Posen of the Institute of International Economics. In a presentation in 2001, Posen even called for shrinking the banking sector because banks cause significant problems in the economy. According to him, it is banks more than any other actor in the financial system, that have a maturities mismatch. He suggests that this and other vulnerabilities and costs to the public may outweigh the unique and special services banks provide.

Banks have long been argued to play a special role in economic development, but according to Posen's summary of recent academic literature, while an economy does need some financial intermediation for proper allocation of investment, banks are not necessary to that allocation. He argues that superior accounting practices, improved computerization, better disclosure and training, and accumulation financial innovation, cast doubt on the need for banks to play such a large role in today's world. He also points out that increased capital mobility means that the amount of capital available for investment is no longer limited to the amount of savings available in a given country at a given time.

While Posen's views may sound extreme, Japan's experience is proof of the potential problems of a bank-dominated economy. As Japan tries to exit from this regime, other countries should also rethink the extent of their dependence on the banking system.

### **Microstructure of the financial system**

As explained above, Japan has moved to strengthen its securities markets and adopt risk transfer mechanisms such as syndicated loans and securitizations as part of its effort to reduce dependence on the banking system and to alleviate the concentration of risk in that system.

The problem of the concentration of risk in the banking system can be addressed not only by shifting risk to other investors but also by developing better risk management in banks. While the introduction of Basel 2 is the key, such international standards are not enough to solve the problems that arise in individual countries, because of the specific characteristics in the microstructure of banking business there.

For example, although the word "loan" means the same in Japan and in other nations, the nature of a loan contract in Japan is different because the risks are obscure and hard to value. The uncertainties of the risks involved in Japanese loan contracts arise from several peculiarities explained below.

First, in Japan bank loans to firms typically are secured by real estate and/or guaranteed by the owners of the firm as well a third party close to the owner. In actuality, these measures may offer little protection to the lender. Volatile real estate prices cause wide swings in the value of the collateral, but the personal guarantees of the owners and third parties, which are typically found in loans to small and medium sized firms, pose even worse problems. Once a loan is made, banks do not monitor the financial capacity of the guarantors to cover the risks of the loan, and when firms go bankrupt, banks often find that neither the owner nor the third party is able to repay the loan. Moreover, the incentives in the guarantee system work against the bank when a firm gets into trouble. To escape financial ruin of the owner or of the third-party guarantor, the owner of a troubled firm may try to hide the firm's real situation from the bank or to repay the original loan by borrowing from another financial institution at a higher interest rate. These actions worsen the firm's situation to the point where there is no chance of a turnaround.

Clearly, even a state-of-the-art risk-management system will not protect Japanese banks effectively if too much of their lending involves such uncertain and awkward guarantees. For this reason, banks in Japan are moving from basing their lending decisions on such guarantees



to basing them on the cash flow of the borrowing firm. Related to this, the use of covenants is being encouraged as an alternative to traditional guarantees for banks.

A second peculiarity is that typical bank loans in Japan are said to be more like quasi equities than loans. This is because often there is no predetermined maturity or because banks keep providing a certain amount of revolving short-term credit. Also, banks often adjust interest rates are adjusted downward when borrowing firms face temporary difficulties.

The quasi equity nature of bank loans requires banks to behave as virtually the most important stakeholder behind the owners of the borrowing firm. The other stakeholders, including employees, counterparties, the local community and politicians, tend to encourage the bank to rescue a troubled firm in order to protect their own stakes. Such pressure from other stakeholders creates additional risk to the loan that the bank did not fully recognize when it made the loan contract.

The quasi equity nature of loans and the fact that they often entail additional and unexpected burdens for banks naturally make it difficult to apply typical risk management methods to the traditional loan contracts of Japanese banks.

A third peculiarity of the lending environment in Japan is the implicit put options embedded in loans by main banks. The main bank of a firm is not simply the bank that loans the most to the firm. The main bank also sends staff to help manage the firm and holds the firm's shares.

Other potential creditors tend to rely on the credit analysis and loan review by a firm's main bank in deciding whether to lend it money. Then, when a firm gets in trouble, other lenders naturally criticize the main bank since they relied on its judgment. They also naturally pressure the main bank, as the largest lender, provider of important personnel, and major shareholder, to exert governance, intervene in the firm's decision, and avoid problems.

In such an environment, when other banks decide to stop lending to a firm or to withdraw exiting credit lines, the main bank typically covers with an additional loan. Also, when a firm reschedules its loans, the main bank typically assumes more than its pro rata share of the losses. Indeed, until several years ago, the main bank also bought back corporate bonds issued by a troubled firm in order to protect bondholders from losses. Because of such support from the main bank, even equity holders do not lose all of their money; their stake does not become worthless and it can appreciate once the firm's recovery plan is on track.

In short, a loan by the main bank is subordinated to all other claims and is even subordinated to equity, a condition that is not stipulated in the loan contract. The main bank is subject to implicit put options exercised by other banks or shareholders.

These three peculiarities of loan contracts in Japan suggest that it is difficult for Japanese banks to get a reasonable grasp on both the profile and the amount of risk involved in their loan assets. Without reforming this situation, Japanese banks will have difficulty applying sophisticated risk management tools and the internationally developed concepts of Basel 2.

#### *Efforts to reform loan contracts*

There have been some efforts to change the above-mentioned problems. For example, the amendment of the Civil Law has just passed the Diet. It aims at limiting the excessive use of third-party guarantees. Also, the FSA and BOJ promote the use of DCF (Discounted Cash Flow) in evaluating loans. In fact, the FSA has introduced DCF methods partially in its loan

examinations.

In addition, the FSA and Japan Institute of Certified Public Accountants have clarified procedures and accounting treatment of debt-equity swaps and debt-debt swaps in order to facilitate banks' turning their traditional quasi-equity loans into pure equity or subordinated debt.

### **Interdependence among measures to prevent resurgence of bad loan problems**

So far, we have discussed three measures to prevent future bad loan problems. They are positively introducing Basel 2, shifting risk from banks to other market participants, and changing the nature of loan contracts.

It is worth noting that these three measures are interdependent. For example, in order for pillar 3 of Basel 2 to work effectively, highly developed securities markets are necessary, and the existence of a developed risk transfer market as well as securities markets contributes to rationalizing lending terms and practices. In other words, without a proper securities market, there will be no sound banking system.

On the other hand, without the reform of the nature of loan contracts, pillar 1 of Basel 2 will not be effective. Also, when lending terms are irrationally kept below market rates, loans can hardly be sold to the market or securitized. Besides, if banks were ready to assume more risk than the market rate suggests, then no firm would be willing to tap the securities market to raise funds. That is, without a proper banking system, there can be no real development of the securities market.

Because of such interdependences, we need to implement all three measures instead of focusing on just one.

### **New common infrastructure for the new financial system**

Redesigning the existing financial system into a new regime that is less prone to bad loan problems may seem to be a daunting task. Introduction of Basel 2 alone might be a hard enough challenge, but as we emphasized before, it must be accompanied by efforts to solve macro and micro structural problems as well.

At the same time, the interdependence among measures means efforts in one area will have side effects for other areas. Also we should note that background conditions are totally different today from the 19th century when Japan's modern financial system was established. The speed and format of financial system development depend on how effectively the nation can manage the information asymmetry problem. Without sophisticated communication networks and databases to assist participants' financial decision making it was not so easy to incorporate market forces into the financial system in the early days.

Today, however, we can take advantage of highly developed and inexpensive IT to develop a common infrastructure for a prudent banking system, an active market for risk transfer, and a developed securities market. Three examples of such infrastructure are described below.

#### *Credit risk databases*

The United States has been developing the use of credit risk databases for so-called credit scoring systems since the 1950s. The system started in the area of consumer finance but gradually expanded into lending to small and medium sized enterprises.

While private initiatives led the development of credit risk databases in the United States, in Japan the government and industry groups are undertaking to develop risk databases for corporate loans. For example, the Small and Medium Enterprise Agency initiated development of CRD, which covers financial, default, and loan collection data for two-thirds of the SMEs in Japan. By providing improved credit information, such databases is expected not only to make the terms of lending better reflect the risk involved but also to facilitate risk transfer through such products as CLOs or CDOs.

#### *Credit register*

A credit register is a national system to collect information on borrowers. The use of such systems has a long history in Europe and it is expected to become even more important when Basel 2 is implemented. There has not been much discussion about introducing a credit register system in Japan partly because of resistance to the government's collecting private credit information.

#### *XBRL (eXtensible Business Reporting Language)*

XBRL is one of a family of "XML" languages that are becoming a standard means of communicating information between businesses and on the internet. XBRL is used for the electronic communication of business and financial data. Instead of treating financial information as a block of text—as in a standard internet page or a printed document—it provides a computer-readable identifying tag for each individual item of data. For example, company net profit has its own unique tag. XBRL is being developed by an international non-profit consortium of approximately 250 major companies, organizations, and government agencies.

The introduction of XBRL tags enables automated processing of business information by computer software, cutting out laborious and costly processes of manual re-entry and comparison. Computers can treat XBRL data "intelligently": they can recognize the information in a XBRL document, select it, analyze it, store it, exchange it with other computers, and present it automatically in a variety of ways for users. XBRL greatly increases the speed of handling of financial data, reduces the chance of error, and permits automatic checking of information.

In Japan, the Tokyo Stock Exchange adopted XBRL for timely disclosure by listed firms and the Bank of Japan is planning to introduce XBRL for off-site monitoring of banks. The FSA has just started reviewing XBRL for possible use in EDINET, the registration and dissemination system of disclosure information. The application of XBRL in banks' loan assessment has already started.

As Fuchita (2003) emphasizes, XBRL is an indispensable and powerful tool for Japan to build a new financial system where loans are better priced, banks are better monitored, and better dissemination and analysis of corporate financial data keep securities markets fair and efficient (see Figure 6). In other words, XBRL is a common infrastructure to facilitate the implementation of all measures described.

#### **Conclusion**

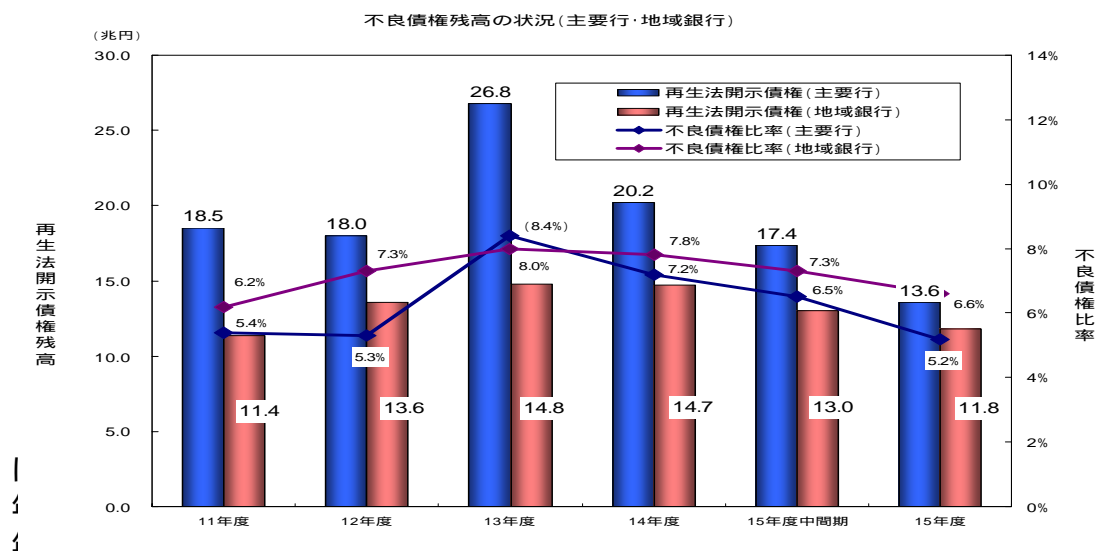
We should not just focus on the amount or ratio of bad loans because the definition of bad loans is inherently subjective and arbitrary. It is more important to try to recognize and control both realized and hidden risks in each bank as well as in the banking system as a whole. In addition to positively introducing internationally developed measures to cope with risks, or Basel 2, it is

important to identify and solve both micro and macro structural problems in each nation. Since Basel 2 and measures to address country-specific structural problems are interdependent, it is important to focus on both types of measures. Nowadays, innovative use of IT will serve as a common infrastructure to facilitate carrying out all those measures.

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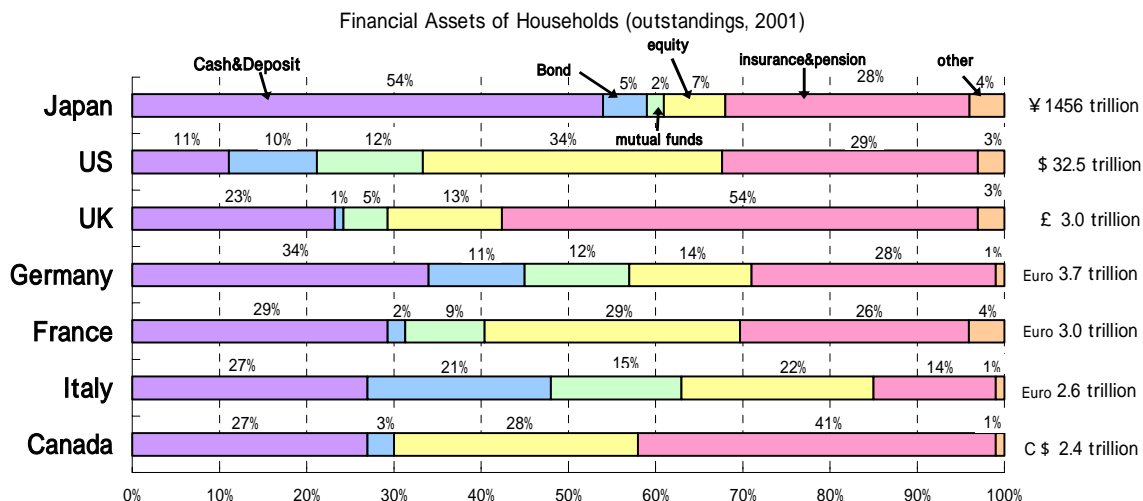
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Figure 1: Bad loan ratios of Japanese banks



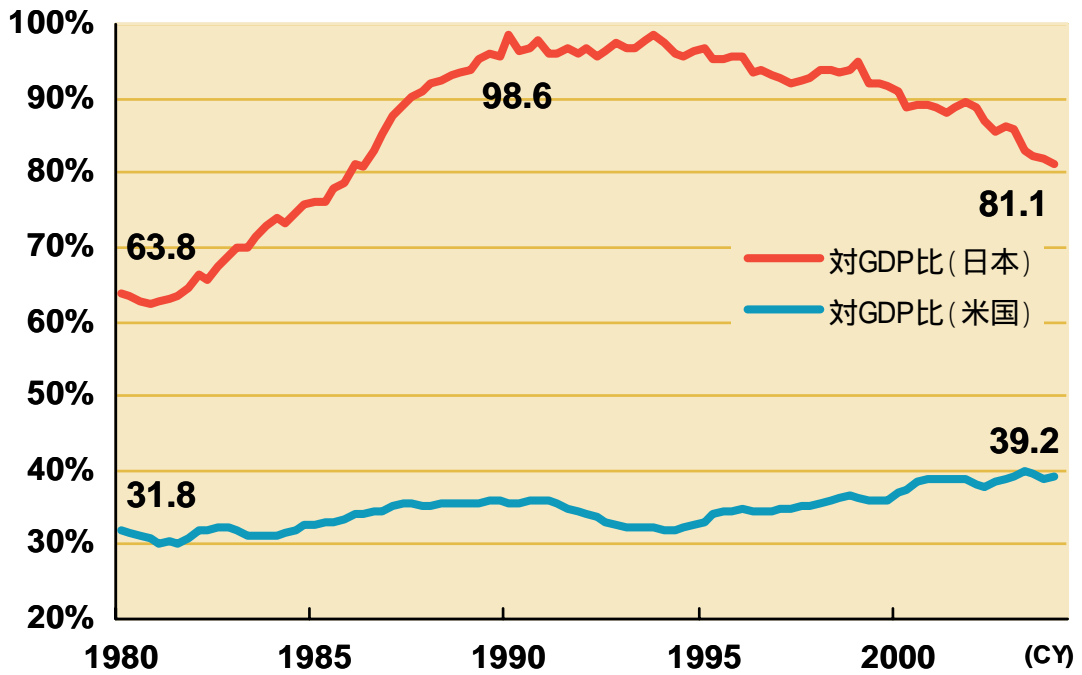
の増えを「下云社」を占む。

Figure 2: Financial Assets of Households in G7 countries



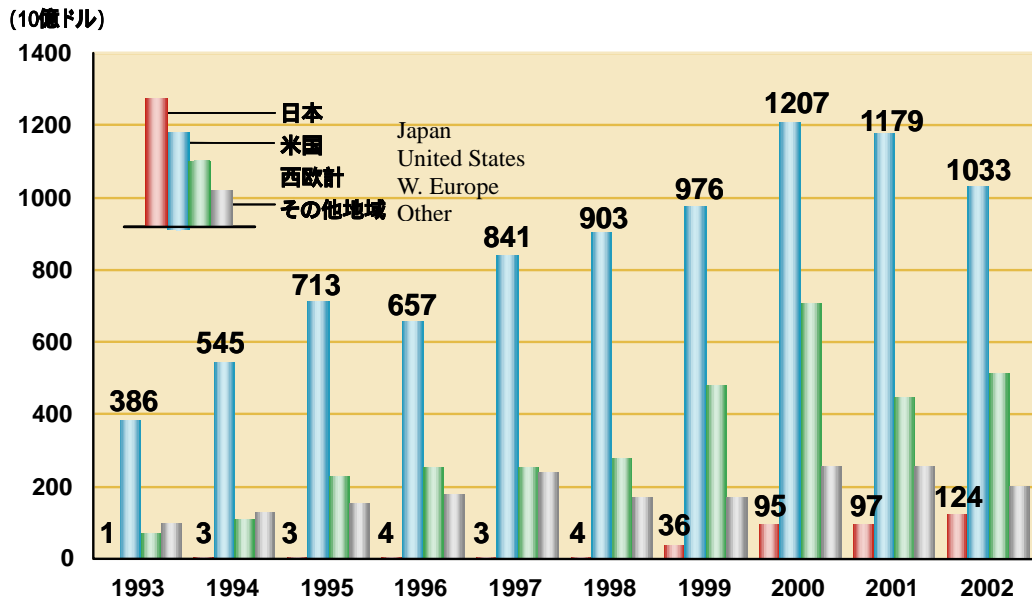
(Sorcoe) BOJ

Figure 3: Bank loans/Nominal GDP



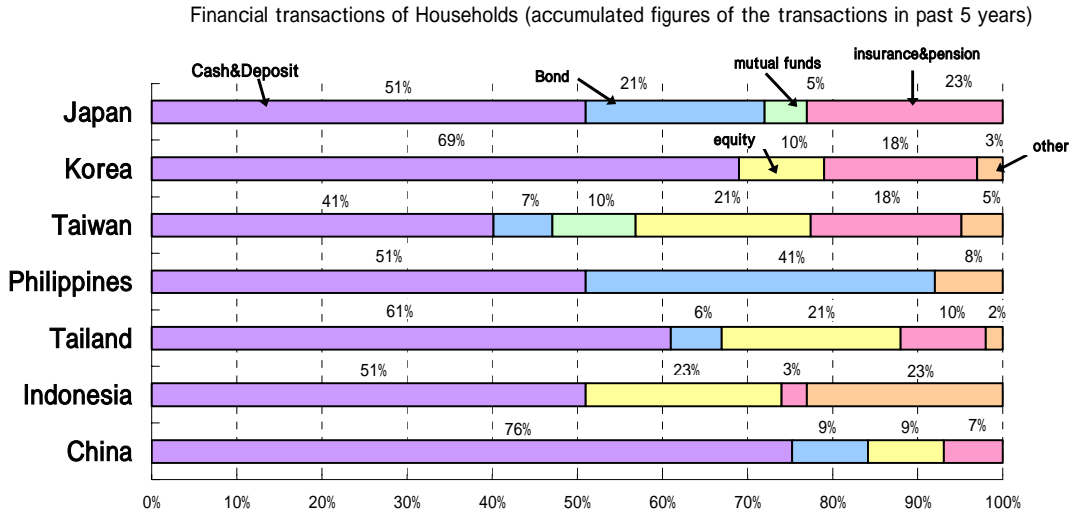
Source: National Cabinet Office, BOJ, FRB, Department of Commerce

Figure 4: Originations of syndicated loans



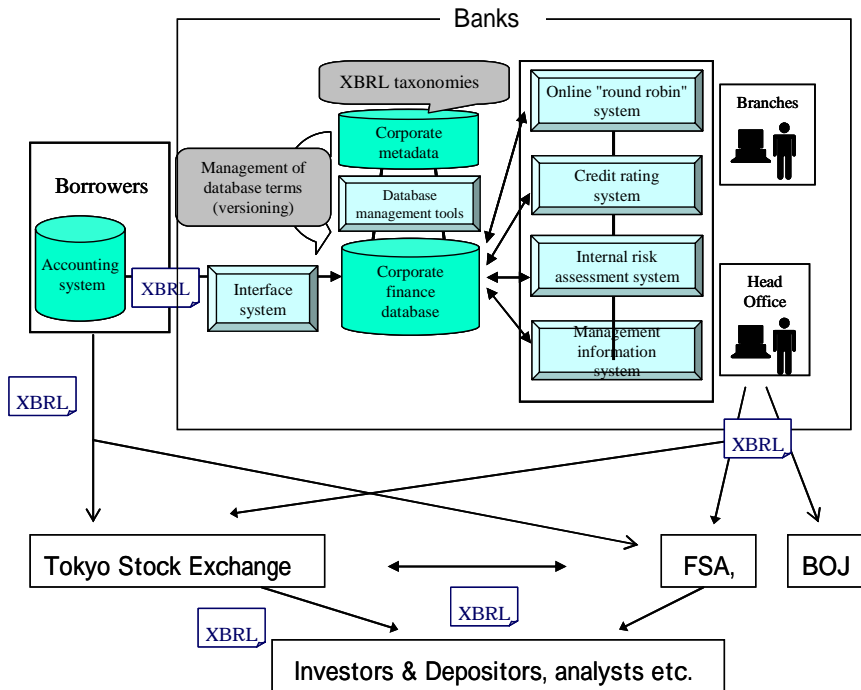
Source: IFR

**Figure 5: Financial Transactions of Households in Asian Countries**



(Source) BOJ

**Figure 6: New Financial System for Japan Built on Common XBRL Infrastructure**



Source: Nomura Institute of Capital Markets Research