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Bad Loans and Their Impacts on the Japanese Economy: Conceptual And Practical Issues, and Policy Options

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I. Introduction

Bad Loans and Deflationary Slump

For a long time, the unprecedented decade-long deflationary slump of the Japanese economy since the bubble burst in 1990 has attracted widespread attention and ever-increasing concerns among economists, policymakers and even the general public. Today there seems to be still no visible signs of recovery but further deepening of stagnation. Among a number of possible causes for the decade-long slump hotly debated are aggregate demand deficiency and inadequate fiscal policy responses (e.g., A. Posen, 1998); liquidity trap and inadequate monetary policy responses; bad loans and the malfunctioning of financial intermediation; asset deflation and balance sheets adjustment problems; and institutional and structural bottlenecks; and many others. Perhaps there may be no single dominant factor, but the simultaneous working of a multitude of factors may provide a better explanation of causes for the current economic crisis.

In this paper, we attempt to delineate links between bad-debt problems in the banking sector and the Japan's deflationary stagnation, both conceptually and empirically. Many economists and policymakers hold the view that the bad-loan problem is the consequence of deflationary slump, and hence anti-deflation policy should be given the top priority, and only after the economy pulls itself out of deflation, the bad-loan problem could be effectively solved. By contrast, we hold the view along with many other like-minded economists and policymakers that the eradication of bad loans is a necessary condition for ending the Japan's decade-long deflationary slump, because the bad debt is a major cause of deflation. Each bad debt in the banking sector is an obverse mirror image of an ailing unprofitable enterprise. Whenever the banks postpone the final disposal of non-performing loans (NPLs) and instead roll them over, many insolvent firms are kept alive and this sustains over-capacity, which is the major cause of deflation. More importantly, resources are locked up in unproductive sectors, which stalls economic growth and aggravates slump.

About 90 percent of bad loans are concentrated in a number of inefficient industries, particularly real estates, construction, and distribution services. Many zombie firms in theses

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industries and particularly politically well-connected ones have been given a short-lived new lease of life repeatedly through periodic injections of monetary and fiscal stimulus shots, while dragging down the economy into a deeper deflationary spiral. It is *sine qua non* for economic recovery, therefore, that these loss-making firms must be liquidated or rehabilitated if reparable through the aggressive disposal of bad loans. However, the hitch is that the accelerated disposal of bad loans would worsen the deflationary slump in the short run as more firms and banks fail, credit tightens and unemployment shoots up. To soften the pains of a surgical removal of bad-loan tumors and even boost aggregate demand, it would be furthermore necessary that a comprehensive anti-deflationary policy package be formulated and launched at the same time. Such a policy package would include monetary and fiscal stimulus, safety nets for displaced workers as well as hard-pressed small- and medium-size companies, market deregulation and many others. In sum, it is a comprehensive integrated strategy with a three-pronged assault on the deflationary stagnation; (1) an aggressive attack on bad loans, (2) liquidating or restructuring and rehabilitating ailing firms, and (3) designing and implementing anti-deflation policies, and the assault to be launched simultaneously on all three fronts.

As mentioned above, since the non-performing loan of a bank is simply a mirror image of the business failure, the balance sheet adjustment problems at the bank level and at the enterprise level arising from NPLs are discussed together here. Anti-deflationary policy measures to complement the bad debt disposal program will be treated in the subsequent papers. The paper is organized as follows. Information asymmetry and moral hazard inherent in banking business is explained in the rest of introductory section. In section II, we provide some facts and trends for bad loans in the Japan's banking sector. In section III, we introduce the Minsky's model of financial instability as a suitable conceptual model for analyzing the Japan's bad-debt problems. In section IV, we assess why the Japan's bad-loan problems have persisted and worsened in the entire decade of the 1990s and beyond. In section V, we discuss some selected conceptual models for analyzing the impacts of bad loans on the economy, and then an analysis of selected practical issues in cleaning up bad loans follows in section VI. Some lessons will be drawn from recent Korean experiences in section VII. Concluding remarks and policy implications will be given at the end.

Information Asymmetry and Moral Hazards

The business of banking is well known to be highly risky by nature. The bank accepts deposits which it has to pay back on demand anytime, and lends the deposits to enterprises or individuals in a fixed-time frame, namely, borrowing short and lending long with a high risk

of a run on the bank. The fragility of banking business and consequent financial market instability has been extensively discussed in the literature on asymmetric information, adverse selection and moral hazard.[1]

Let us assume that there are no financial market distortions such as financial repression and direct government interventions in credit allocation, which were commonly practiced during the postwar rapid economic growth period in Japan in the 1950s and 1960s, and also in many developing countries in various periods. The bad debt problem and consequent financial market instability may occur even in such a relatively distortion-free market because of the problems associated with asymmetric information, adverse selection and moral hazard. The asymmetric information problem arises because banks or lenders have less accurate information than borrowers regarding potential returns and risks associated with the projects of borrowers. Another asymmetric information problem arises when depositors lack information about the quality of bank assets, which may become a cause for bank panics. The first type of asymmetric information may lead to adverse selection, a situation in which in the absence of adequate information about borrowers, lower quality borrowers with a higher credit risk are the ones finally selected for the loan. Moreover, this adverse selection may give rise to the moral hazard problem on the part of borrowers. Namely, borrowers may engage in highly risky activities since, if the project succeeds, the borrower profits a lot and if the project fails, the bank will bear the most of the loss, thus creating a non-performing asset. Therefore, lenders must monitor and supervise the borrowers' activities to minimize the moral hazard problem. On the other hand, to prevent a run on the bank resulting from the second type of asymmetric information, namely, the depositors' lack of information about the quality of bank assets, usually a government safety net such as a deposit insurance scheme is set up. However, such a safety net may lead to another type of moral hazard problem. With a safety net, depositors are protected if the bank fails and hence they lose incentives to impose market discipline on banks by the threat of withdrawing deposits when banks' risky activities are suspected. Furthermore, with a government safety net, the banks are more prone to take greater risks than they otherwise would. Even today in Japan, given the severely limited disclosure of information on firms and banks, compounded with financial structure distorted by a long history of interventionist government policies, asymmetric information and moral hazard problems assume the ever-increasing importance. Needless to say, the task of

[1] For instance, for pioneering theoretical works on asymmetric information, see Stiglitz, J. and A. Weiss (1981 and 1992), and Mishkin, F. (2000) for a more recent work as related to the banking sector.

designing and implementing prudential supervision to mitigate them is of utmost importance but appears highly daunting.

II. Facts and Trends for Bad Loans in the Banking Sector

Undoubtedly, reliable and consistent time series and cross section data are needed for any empirical analysis, and this is no exception for analyzing bad debt problems. But the task of constructing a comparable and reasonably accurate data set for bad loans seems to be particularly complicated and difficult. Part of the extreme difficulties of constructing such a data set arises from the conceptual ambiguity of defining bad loans. Formally, the bad debt is defined to be a debt instrument (loan) whose contractual interest and principal payments are difficult to collect, but the real problem is "who decides how difficult to collect on what basis or yardsticks". Put differently, no one can foresee correctly the future business prospects of a given enterprise (borrower) which is the crucial determinant of debt repayment capacity. Therefore it is enormously difficult to judge objectively whether or not a given asset (loan) is a bad debt and how difficult to collect, primary concern of the risk assessment techniques.

Some of the practical problems regarding the preparation of a consistent data set for non-performing loans (NPLs) in the Japanese banking sector are attributable to notable differences in the period and contents of disclosure covered for different financial institutions. For instance, there exist great variations between city banks and regional banks in terms of classification systems adopted, scopes and contents in the definition of bad loans, and operational methods used over time. Basically, there are three different methods of defining bad loans that have been developed in the 1990s. The first one introduced in March 1993 is the debt risk-management method based on the banking laws (銀行法によるリスク管理債権). Only city banks participated in the disclosure of bad loans using this method, while most regional banks did not disclose information on non-performing assets. In March 1998, a new method, called "Bank's Self-Valuation" (銀行の自己査定) was introduced for all banks. The new method represents an attempt to reevaluate the asset structure of banks according to a new criteria which broadens the scope of the old debt risk-management method. As a result, the total bad-debt balances increased sharply from ￥19.5 trillion to ￥29.8 trillion when the measurement standard was switched from the old to the new one. The problem with the bank self-valuation method is that the Financial Services Agency(FSA, 金融庁) published only the total amount for the entire banking sector using this method, and did not reveal individual bank figures. The FSA introduced another method in March 1999,called " Financial Revival Laws-Based Debt Disclosure"(金融再生法による再生法開示債権), which is mainly based

on the BIS international standard method for loan classification introduced at the beginning of 1999.

It is outside the scope of this paper to delineate the major methodological differences that exist among the three different systems and their historical background.[2] The above illustration is intended merely to underscore the point that different methodologies produced widely divergent classification standards, scopes and coverage of different types of assets, and hence markedly different asset structure and statistical results. In the following, we present the most recent bad-loan statistics for most city banks to gauge the magnitude of bad-loan problems in the banking sector, using the BIS international standard method for loan classification. According to this method, commercial banks are required to make adequate provisions pursuant to MAS (MUNK Advisory Service) Notice 606. Banks' loan portfolios are to be classified in accordance with guidelines established under MAS Notice 612 into the following five categories: (1) passed, (2) special mention, (3) substandard, (4)doubtful, and (5) loss. Automatic classification of loans under the non-performing loans (NPLs), which correspond to the categories 3,4,5, is required when the principal or interest payments are overdue for more than three months. Provisioning is based on the unsecured portion of the loan and assessed a minimum of 10% for substandard loans, 50% for doubtful loans, and 100% for bad loans.[3] The definitions of the five categories are as follows[4]:

(1) Passed (Normal) (健全): Solvent loans

(2) Special Mention (要注意): Loans to enterprises which may pose some collection difficulties, for instance, because of continuing business losses.

The following three categories (3)-(5) constitute non-performing loans (NPLs) and they are further differentiated according to the degree of collection difficulties.

(3) Substandard (要管理先): Loans whose interest or principal payments are longer than three months in arrears or lending conditions are eased. The banks make 10% provision for the unsecured portion of the loans classified as substandard.

(4) Doubtful (破綻懸念先): Full liquidation of outstanding debts appears doubtful and the accounts suggest that there will be a loss, the exact amount of which cannot be determined as yet. Banks make 50% provision for doubtful loans.

[2] For a detailed explanation, see Yanagawa,N.(柳川,2002), chapter 1.
[3] Full documents are available from the MAS website.
[4] The English terms used in the loan classification here are those found in various BIS documents. For other financial, accounting and legal terms, the author's own translation of the Japanese terms is used, unless more commonly-used terms are found.

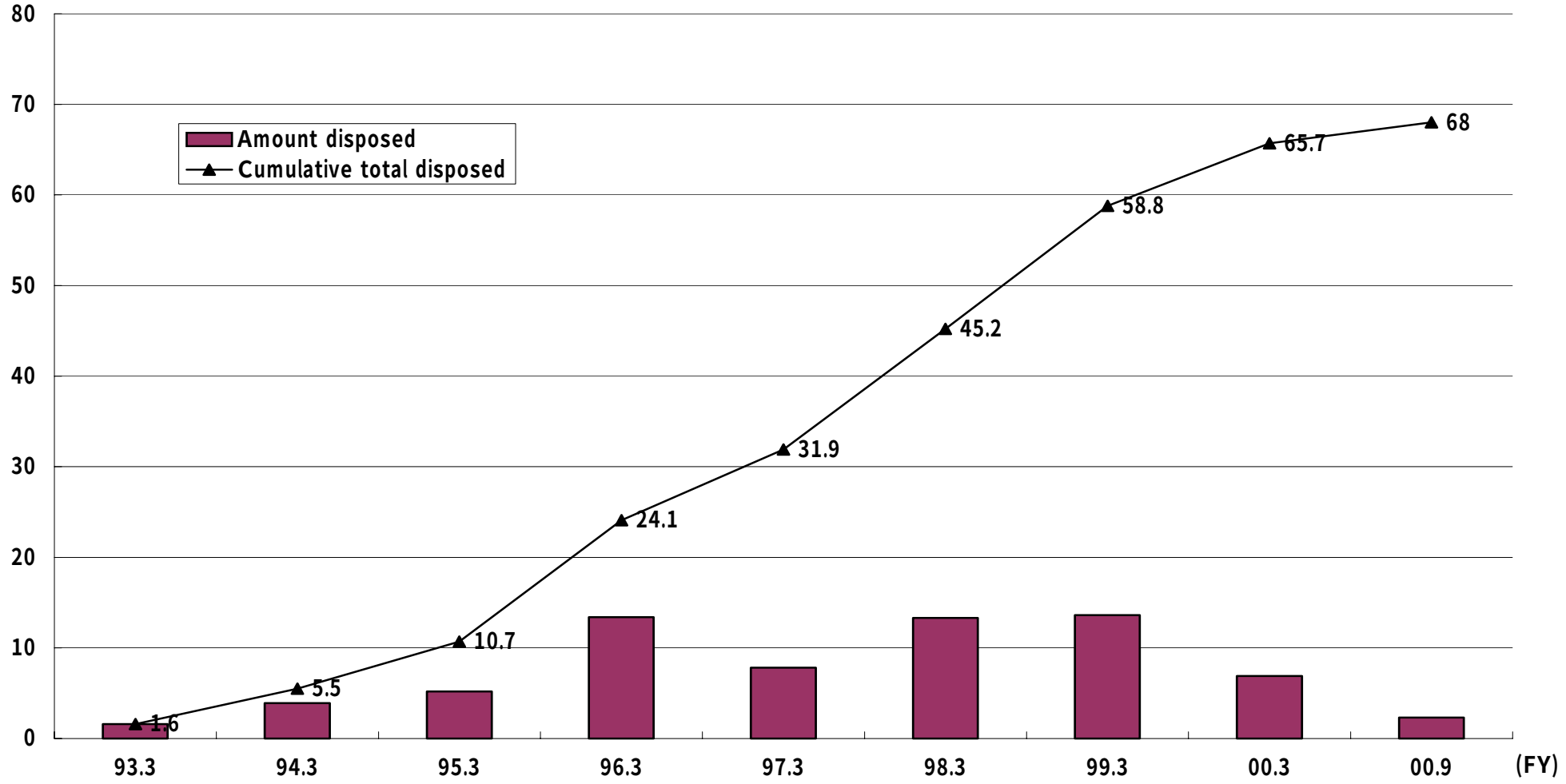
(5) Virtual Loss (実質破綻先) and Loss (Unrecoverable) (破綻先) : Outstanding debts are regarded as not collectible, usually loans to firms which applied for legal resolution and protection under bankruptcy laws. Banks make 100% provision for loss loans.

Despite some formidable methodological problems, some rough estimates of bad loans disposed of and bad-loan balances for the Japan's banking sector as a whole including regional banks for some selected periods are available from the FSA database. More specifically, figure 1 shows the amount of bad loans disposed of by all banks including regional banks for the period of 1993-2000, and figure 2 shows the breakdown of total bad-loan balances into the old and new amounts for the period of 1997-2000. As shown in figure 1, a total of ￥68 trillion worth of bad loans were written of by all banks during the period of 1993-2000. More than a half of this cumulative total in September 2000 was accounted for by those disposed of in the three years, 1996, 1998 and 1999,slighltly over ￥13 trillion respectively. In this connection, it is interesting to note from figure 2 that new bad loans of nearly 15 trillion yen in 1998 and 16 trillion yen in 1999 surpassed the considerable amount disposed of around 13 trillion yen in these two years. By contrast, in 1997, one year before, the total amount of new bad loans generated was only 1.85 trillion yen. As a result, the total bad loans outstanding shot up by more than a third from around 22 trillion yen in 1997 to a 30 trillion-yen level in 1998 and remained near this level thereafter. Perhaps, this sudden jump in the bad-loan balances between 1997 and 1998 may illustrate a strong link between changing macroeconomic conditions and bad-loan problems. Relatively a small increase in new bad loans in 1997 may reflect delayed positive effects of the fiscal stimulus package introduced in the mid-1990s. In contrast, a big jump in new bad loans from 1998 on reflects the negative macroeconomic effects of fiscal retrenchment such as a consumption-tax hike carried out in 1997.

More detailed and perhaps reliable debt and other financial statistics for more recent periods are readily available for the 13 large city banks, but not for smaller regional banks and other financial institutions. Therefore, financial data for these 13 city banks are used for bad loans analysis, although less exhaustive and comprehensive in coverage, unless required data

(Trillion Yen)

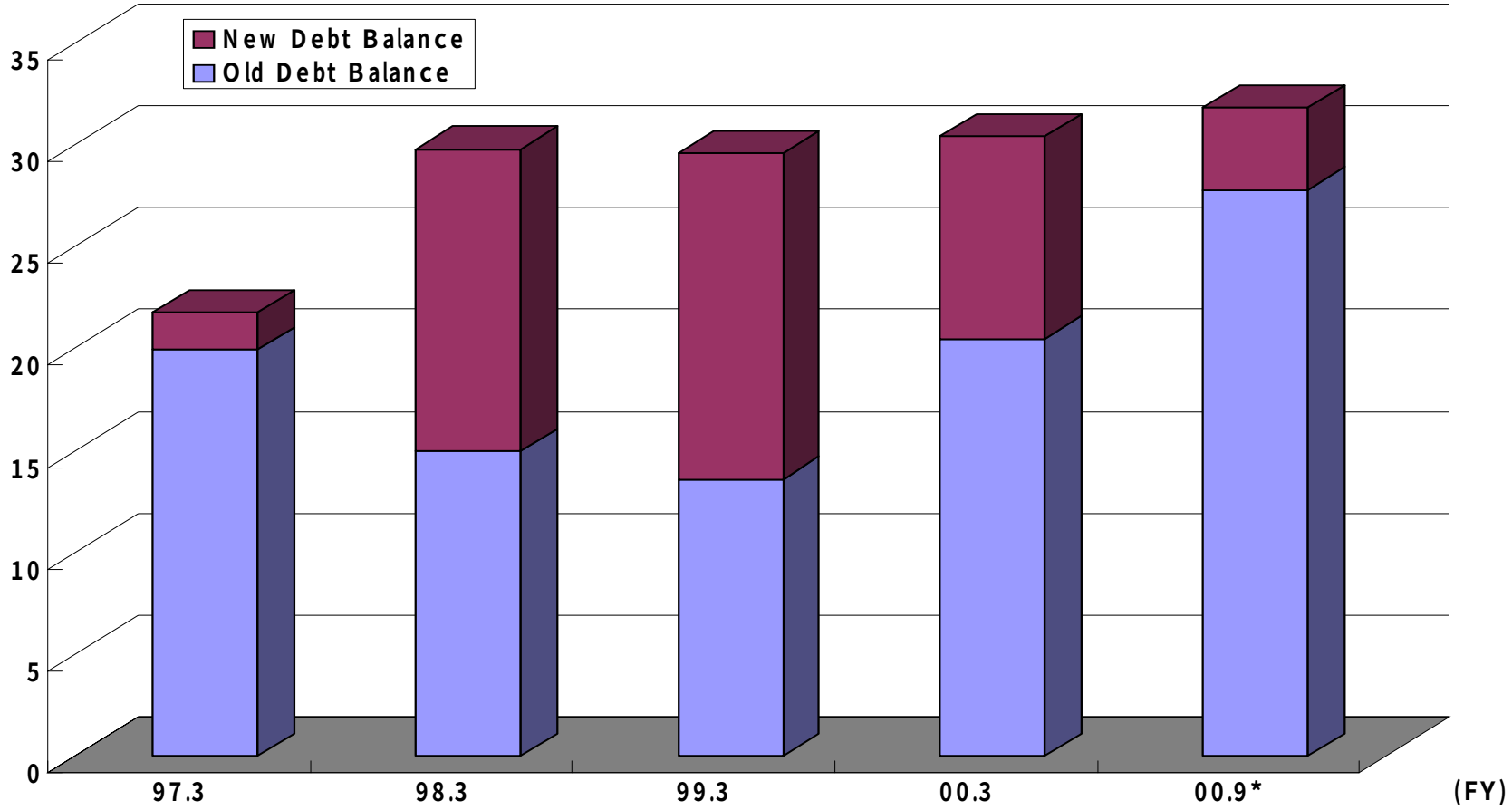
Figure1. Trends for Bad Debt Disposals by All Banks



Source : Financial Service Agency, Japan
Databank

(Trillion Yen)

Figure2. Old and New Bad Debt Balances by All Banks



* :A half-year figure for the September 2000 period
Source : Financial Service Agency, Japan
Databank

Table 1. Total bad-debt balances for 13 city banks

Year	Total bad loans outstanding	Bad loans as % of total loans	Losses due to write-offs of bad debts	Bad debt losses as % of total loans
2001	￥18.0 trillion	5.4 %	￥4.3 trillion	1.4 %
2002	￥ 27.0 trillion	4% 1st half-14% 2nd half period	￥ 8 trillion	1%-4%

Table 2. A breakdown of total bad loans outstanding for 13 city banks (March 2002)

Loan classification 債務区分	Amount (￥trillion) 債権額 (兆円)	Loan-loss reserves (%)* 引き当て率
(1)Normal loans 正常先	250	0.2-0.3
(2)Special mention loans 要注意先	34.5	4.0-5.4
(3)Substandard loans 要管理先	11.3	19.1-27.0
(4) Doubtful loans 破綻懸念先	12.2	59.4-75.9
(5)Actual or virtual loss loans 実質破綻先。破綻先	3.2	100

Bad loans total: ￥26.8 trillion, (3)+(4)+(5).

* Figures for 4 big banking groups. Loan-loss reserve ratios are ratios of loss provisions to the unsecured portion of the loans.

Source: Nikkei, 25 May 2002

are available for other smaller banks and financial institutions.[5] Total bad-debt balances for

[5] The 13 city banks in the five banking holding groups (5 大銀行グールプ) for which debt data are compiled account for 51% of the total assets and 50 % of the total lending of the entire banking industry. They are comprised of :

Mizuho Holding Group (みずほホールディングス)

1. Daiichi Kangyo (第一勧業)
2. Fuji (富士)
3. Nihon Kogyo (日本興業)
4. Mizuho Asset Trust (みずほアセット信託)

Mitsubishi Tokyo Financial Group (三菱東京フィナンシャル。グルプ)

5. Tokyo Mitsubishi (東京三菱)
6. Mitsubish Trust (三菱信託)

UFJ Holding Group (UFJ ホールディングス)

7. UFJ Bank (former Sanwa,Tokai) UFJ 銀行(旧三和、東海)
8. UFJ Trust (UFJ 信託)

Mitsui Sumitomo Group (三井住友グルプ)

9. Mitsui Sumitomo Bank (三井住友銀行)
10. Sumitomo Trust (住友信託)
11. Mitsui Trust (三井信託)

Risona Group, (Reorganized from the Daiwa Holding Group) りそなグルプ(大和ホールディングスがら再編)

12. Daiwa (大和)
13. Asahi (あさひ)

the 13 city banks reported at the end of March 2001 and 2002 are as follows.

As shown in the above table 1, the combined bad loans outstanding for the 13 city banks in 2002 increased by 8.7 trillion yen as compared with the amount in 2001 despite the bad loans write-off of 8 trillion yen in the same period. This means that a total of more than 17 trillion yen worth of new bad loans(新規不良債権) swelled, overwhelming the amount of bad loans taken off the book. The main reason for the substantial increase in the non-performing assets of the group is the downgrading of many loans to unprofitable enterprises. For instance, a considerable portion of loan portfolios held by the group, particularly as related to real estates, construction and distribution service industries, were considered as safe previously. But as a result of a recent special inspection of 149 big borrowers of over ￥10 billion, they have been downgraded below the level of substandard loans with an increasing difficulty of loan repayment, as these enterprises were hard hit by a sharp drop in the stock markets. On the other hand, big banks accelerated the write-offs of bad debt by means of legal resolution or debt forgiving in the amount of over 8 trillion yen. This represents an increase of over 40 percent over the previous period a year ago, but the total amount written off was by far exceeded by the new ones. As a result, bad loans outstanding were up by a whopping 50 percent over the previous year. This dims the prospects for reducing bad loans for the 13 city banks to a manageable level of 12-13 trillion yen by the year 2005 as envisioned in the financial recovery scenario by the FSA, as published in August 2001. Moreover, the losses due to the bad-loan write-offs amounted to 8 trillion yen, exceeding well above the level of average annual net profits of the banks put at around 3-4 trillion yen. Also, the bad loans as percent of total loans sharply increased to a 14 % level for some banks. Worse yet, bad-debt problems for small and medium enterprises (SMEs) are not taken into account here and their inclusion is likely to reveal the greater fragility of the banking sector.

. Some fragmentary data show that the bad-debt problem for regional banks seems equally grim. According to financial data compiled by Nikkei (4 December 2002), the total bas loans outstanding for the 20 largest regional banks of the first and second tier groups (formerly mutual banks) in the fiscal year 2002 to September was estimated to be 6.3 trillion yen, an increase of 5.2% over the same period a year before. However, the losses due to the final disposal of bad loans for the entire group were around 3 trillion yen, down by 23.2% compared to the previous period. This decline occurred mainly because a large-scale disposal of bad loans were undertaken by the regional banks as a whole in the fiscal year 2001 to September. The deterioration of bad-debt situation for the regional banks is explained by

deflationary stagnation, and also partly by a more stringent re-inspection of the banks' loan assets. As a result, 12 banks out of the 20 large regional banks saw their bad-debt balances markedly increased again.

The above recent examples suggest that the causal relationship between bad loans and macroeconomic performance is bi-directional. Stated differently, the bad-debt problem in the financial sector is not only a major drag on the sluggish economy, but also the bad-debt problem is partly the result of poor macroeconomic performance. To the extent that new bad loans are added to the existing stocks more rapidly than those written off as a result of worsening business conditions as happened in recent years, the burden of bad debt is becoming increasingly unsustainable. It is essential, therefore, that this bi-directional causality has to be taken into account in investigating the impacts of bad loans on the economy in the subsequent analysis.

III. The Minsky Model of Business Finance and Financial Instability

Perhaps it would be useful to apply the theory of investment finance and financial instability expounded by H. Minsky (1982, 1985) as an analytical framework for examining the bad-debt problem in the Japan's banking sector. The Minsky's path-breaking works cover a wide range of issues from business investment and financing problems to financial crisis and macroeconomic stabilization policies. In this report, we will narrowly focus only on his works dealing with business investment and bank financing, and their implications for the generation of non-performing assets and consequent financial instability.

The Minsky theory attaches great importance to the effects of institutional changes on the behavior of individual economic agents, households and firms including banks, and their feedback effects on the institution. Financial liberalization and globalization coupled with phenomenal advances in information technology unleashed in the last two decades have accelerated the integration of global financial markets, intensified competition, and enhanced immensely the efficiency of financial systems worldwide. On the other hand, the global financial system has become increasingly unstable, fragile and vulnerable to external shocks. This is evidenced by recent successive financial crises starting from the Black Monday worldwide stock-market plummeting on October 19,1987, Mexico Peso crisis, and the Asian currency and financial crises in 1997 spreading far and wide to Russian and Latin American countries. And of course, the long economic stagnation in Japan can be added to this list. Each financial crisis facilitated by global financial integration buffeted various economic agents and particularly banks and enterprises, and their financing mechanisms. Numerous banks and firms have fallen, and many others have been forced to restructure to survive, and

above all their behavioral adjustments provided an impetus to financial reform and other institutional changes. This is an example of an institutional change, namely financial liberalization and globalization, causing financial crisis which affects individual economic agents' behavior, and finally changes in the activities of agents leading to further institutional change.

The Minsky theory of investment finance and financial instability provides a useful analytical framework for understanding how bad loans are generated and affect adversely financial stability. The validity of the Minsky theory is based on a set of assumptions, which can be summarized as follows. Business investment necessitates bank financing, and the decision to invest and finance is made under uncertainty; Profits guide production and income generation. The size of profit is determined by the level of investment. The level of investment is in turn determined by the future expected profits, which formed on the basis of the recent past profit records; investment realizes only when financed. And debt services, principal and interest payments, are expected to be covered by the future expected revenues of the borrower. The amount of loans would be restricted by the financial structure, or debt-equity ratio of the current period compared with the previous period. When the expected revenue flows of the borrower to meet the debt servicing commitments do not materialize as expected, say because of an external shock, part of the debts becomes non-performing (bad debt), and clogs up smooth money flows somewhere in the financial system, or put differently, destroys financial interrelation. When this partial blockage spreads to the rest of the financial system (a systemic risk), the financial system is destabilized. Financial instability makes it difficult for borrowers to find lenders willing to finance their business investments. As a result, investment levels and hence aggregate demand drop, causing economic slump. This is roughly a logical explanation of how bad loans originate, result in financial instability, and eventually damage the economy.

The question of whether or not certain debt obligations are to be fully repaid depend on the relative size of the future cash flows of the borrower and the future cash flows from the debt asset. In general, future cash flows relationships between the borrower (investor) and the lender (bank) can be characterized by three types of finance according to the Minsky model; hedge finance, speculative finance and Ponzi finance. Using a simplified version (and particularly the reformulation by Iwasa, Y. (1998), postscripts) of the Minsky's original specifications (Minsky, 1985, appendix A), they can be mathematically stated as follows.

(1) Hedge Finance

The following variables are defined to characterize three types of financing.

C_t is the contractual cash payment commitments on debts (principal and interest payments) at time "t". Let A_t denote the revenue flows including depreciation or quasi-rents from the investment assets at time "t", $\overline{A}$ be its expected value, and δ^2 its variance. Let K(:) represent discounted present value or capitalization of cash flows. Then, the difference between the discounted present value of cash flows from the asset and that of debt servicing payments is the net worth. Needless to say, the capitalization values vary depending on the capitalization rate or discount rate used. Usually discount rates are calculated as the risk-free pure interest rate, denoted r, plus risk premium reflecting the degree of risk attached to the future revenue flows. Here, the pure interest rate is used to derive capitalization values and then the larger of capitalization values is adjusted for cash flows risk. Then, risk-adjusted revenue flows from the asset is

$$M_t \equiv A_t - \lambda(\delta^2/\overline{A}) \text{ or}$$

$$X_t \equiv A_t + \lambda(\delta^2/\overline{A}) \qquad (1)$$

λ represents risk preference of borrowers or investors.

Then, the position of hedge financing can be stated

$$C_t < M_t \equiv A_t - \lambda(\delta^2/\overline{A}) \qquad \text{for all t's} \qquad (2)$$

And hence

$$K(C_t) < K(M_t) \qquad \text{for any r's} \qquad (3)$$

Note that λ is sufficiently large so that the subjective probability assigned to $A_t<C_t$ is acceptably small. In other words, there is greater variability and uncertainty about the future income flows from the capital assets than the future debt servicing commitments. Therefore there should be a sufficient safety margin between the revenue flows and debt servicing payments for all periods to allow for the greater risk associated with the operation of capital assets, A_t. Also, since the future revenue flows from capital assets exceed future debt servicing commitments for all periods, the discounted present value of the capital asset is greater than that of debt obligations as shown in Equation (3), and hence the net worth is positive regardless of financial market conditions.

In hedge financing, the revenue flows from the capital assets are expected to be sufficient to cover debt-servicing commitments. But unforeseen events or external shocks can happen. As a result, the cash flows from the capital asset operation may fall short of the debt servicing commitments. To protect against such exigencies, the hedging unit could set aside an extra reserve in the form of cash and liquid financial assets beyond the transaction needs similar to the precautionary demand for money in addition to transactions and speculative

demand for money in the Keynesian demand for money function. In such a case , the balance sheet of a hedging unit can be described by

$$K(A) + \rho K(C) = K(C) + Eq \; ; \qquad 0 < \rho < 1 \qquad (4)$$

ρ is called a precautionary reserve coefficient, a measure of the margin of safety in assets superfluous to operations, and Eq. is the equity capital.

(2) Speculative Finance

Speculative finance is characterized by the cash flow relations whereby the expected cash flows from the capital assets (A_t) fall short of the debt servicing payments of principal and interest (C_t) for some "t", typically near terms. For other periods, the expected revenue flows are sufficient to cover debt-servicing commitments. Speculative finance can be mathematically stated by

$$C_t > X_t \equiv A_t + \lambda \, (\delta^2 / \bar{A}) \qquad \text{for } t < t_n$$

$$C_t < M_t \equiv A_t - \lambda \, (\delta^2 / \bar{A}) \qquad \text{for } t > t_n \qquad (5)$$

The speculative finance may represent the case in which speculative finance units fall into a temporary liquidity or cash-flows problem, but remain solvent in the long term. The temporary shortfalls between A_t and C_t for the near periods $t < t_n$ have to refinanced. Therefore, the necessary condition for speculative finance is the existence of a market in which speculative finance units can raise cash in time and on terms that do not adversely affect the likelihood of fulfilling other financial commitments. More importantly, the long-term solvency (the excess of $K(A_t)$ over $K(C_t)$) of speculative finance depends critically on the condition that interest or discount rates will stay within an acceptable range. Mathematically stated, denoting discount rates by r,

$$K(C_t) < K(M_t) \qquad \text{for all r's} < r^*$$

$$K(C_t) > K(X_t) \qquad \text{for all r's} > r^* \qquad (6)$$

Therefore, the net worth of the capital assets operator becomes positive under easy monetary policy and negative under tight money supply. A speculative financing agent is dependent upon the normal function of product, factor and money markets, while hedge finance is affected by product and factor markets, but not by money market.

However, even under the speculative finance scheme, the following condition must be fulfilled.

$$C_{yt} < A_{yt} \qquad t < t_n \qquad (7)$$

C_{yt} represents cash flows to pay interest payments or the portion of income payments (e.g., C_t excluding principal repayments), and A_{yt} net cash flows of the asset revenues or the income

proportion (e.g., gross revenues minus depreciation). In other words, even during the early revenues-shortfall periods of t's < t_n, the speculative financing units can pay the contractual interest payments and hence their loans remain performing, and the reduction of the initial debt outstanding at later periods, $t > t_n$, is possible.

A speculative investor will also set aside a precautionary reserve $\rho K(C)$ in Eq. (4) to protect itself against transitory revenues or money-market difficulties. We can expect ρ to be greater for a prudent speculative financing than hedge financing.

(3) Ponzi Finance

Ponzi finance is a position whereby future debt servicing commitments exceed expected future revenue flows except for some periods, and the gaps between receipts and payments are filled by additional borrowing, usually higher interest rates or running down on precautionary reserves if any. Additional borrowings to meet debt-servicing commitments would add to the existing stocks of debts. Therefore, the Ponzi position is unsustainable if continued for some time. Ponzi finance can be mathematically stated by

$$C_t > X_t \equiv A_t + \lambda \left(\delta^2/\overline{A}\right) \quad \text{and}$$

$$C_{yt} > A_{yt} \qquad \text{for all "t"s except some "t"s} \qquad (8)$$

e.g., t= t*, t** such that

$$C_{t^*} < A_{t^*}, \quad C_{t^{**}} < A_{t^{**}}$$

A difference between Ponzi and speculative finance is in the income component of debt payment (interest) and the investor revenues. For a Ponzi scheme, $C_y > A_y$ with subscript y referring to the income component, namely, investment revenues are not sufficient to cover even interest payments on the loan, let alone principal payments. By contrast, for a speculative scheme, $C_y < A_y$. Moreover, with speculative finance, the net worth and liquidity can increase even if debt is refinanced for some periods, where in a Ponzi scheme, the net worth and liquidity necessarily decreases. Some investors may expect a rare big windfall chance so that

$$K(C_t) < K(A_t) \text{ for some r's (discount rates)}$$

But in reality, it is more likely that

$$K(C_t) > K(A_t) \qquad \text{for all "r" s} \qquad (9)$$

The positive net worth implied by $K(A_t) > K(C_t)$ for some "r"s in the Ponzi scheme if happens actually is unlikely to last long. With the passage of time, the debt outstanding, $K(C_t)$ will continue to grow to exceed the asset value $K(A_t)$ eventually, because the Ponzi scheme depends on the continuing borrowing to finance debt obligations including interest payments.

The distinction between the three financing schemes is an elastic and fluid concept in which investors can easily cross over the boundaries in a rather short span of time due to shifting financial and economic conditions. Such a fluid and volatile situation for both investing and financing agents can be described mathematically by

$$M_t \equiv A_t - \lambda(\delta^2/\bar{A}) < C_t < X_t \equiv A_t + \lambda(\delta^2/\bar{A}) \qquad (10)$$

Eq.(10) describes a case in transition from one to another financing type, affected by an internal or external shock . Under such a volatile condition, a shift from hedge finance to speculative finance, and from speculative to Ponzi finance could occur readily, triggered by an internal or external shock. A good example of shock is the two oil shocks in 1973 and 1979 that raised systematically the cost structure across industries and prompted worldwide stagflation. Another example is the protracted Japan's deflation and asset deflation on the heels of the bubble burst in 1990, affecting adversely the firm's revenue flows.

Once trapped in the Ponzi game, the investor (borrower) is forced to incur more and more short-term debts at ever-higher interest costs to meet the ever-increasing debt repayment commitments. At the same time it must allow its debt balance to snowball, even when no new income-generating investment is undertaken.

When the share of speculative finance relative to hedge finance, and of Ponzi finance relative to speculative finance increases economy-wide, the interdependence of financial institutions increases and at the same time financial system becomes increasingly vulnerable to internal and external shocks. As a result, the likelihood that the debt default in one part of the system would cause a systemic negative impact on the whole financial system would also become greater. It is worth noting in this regard that investment boom as happened during the bubble economy in the late 1980s in Japan, would raise the share of debt finance, and also increase the shares of speculative and Ponzi finance in the financial system. As the share of speculative and Ponzi finance enlarges, the financial health of the firm is likely to deteriorate, and the interest costs move up beyond a certain critical limit, and some of the investment assets begin turning sour. Therefore, the investment boom is a major endogenous cause of financial instability. This theoretical hypothesis is empirically well substantiated by the recent experiences of the bubble economy in the late 1980s and its aftermath in the 1990s. .

IV. Causes for the Persistent Growth of Bad Loans

The crucial question remains as to why bad loans continued to grow steadily over the last decade and showed no signs of diminishing yet. Since the burst of the bubble economy in 1990, non-performing loans continued to swell, despite valiant efforts of some banks to check their mushrooming growth in the past decade. According to the Financial Services Agency,

the total sum of bad loans extinguished from the book for the entire banking industry since 1992 amounted to nearly 69 trillion yen, but the new bad loans cropped up faster than the ones retired. As mentioned earlier, the 13 large city banks have written off bad loans in the amount of 8 trillion yen at the end of March 2002. But their combined bad loans outstanding actually increased by 8.7 trillion yen over the previous year due to a faster accumulation of new bad loans. In the following, we attempt to enumerate of a number of causal factors which may have contributed to the chronic growth of NPLs.

(1) *Asset Deflation*

It is commonly held that the current worsening debt problem is a negative legacy of the bubble economy in 1990, and the bubbles were caused by excess liquidity and imprudent bank financing in the second half of the 1980s. Two major causal factors for a massive bad-debt load created at the aftermath of the bubble burst can be identified. The first cause is a steep decline in the land and stock prices. During the bubbles, countless business enterprises and households alike engaged in speculative investments excessively in land and real estates financed by equally willing banks and financial institutions, infected by the myth of perpetual escalation of land values. However, since the bubbles burst, land values plummeted nationwide by 30 percent, and by over two thirds in the major urban areas between 1990 and 2000 as shown in figure 3. Of course, most firms and households which borrowed inordinately on the strength of skyrocketing land values were suddenly trapped in a position of insolvency as the land prices suddenly nose-dived, and continued to slide. Particularly, the real estates and construction related industries were forced to sell their assets at far lower prices than their purchase prices to meet their payment obligations. The market values of many assets held by these firms had drastically diminished, while the nominal values of their debts remained fixed. As a result, their net worth turned negative in many cases. In this regard, banks and other financial institutions which validated speculative exuberance by reckless financing during the bubbles may be equally to be blamed for planting the seeds of financial instability in the ensuing years. Perhaps the ultimate responsibility may be also traced back up to policymakers who pursued an ultra-easy monetary policy.

(2) *Over-investment during the bubbles*

The second major cause for the emergence of an enormous debt burden immediately following the bubble burst is excessive fixed capital investments during the period of the bubble economy. Many firms were trapped in a frenzy of capacity expansion in anticipation of ever-expanding markets for their products. The extent of over-investment and consequent over-capacity was reflected in the decreasing average rate of returns on assets for both SMEs

and large firms , which fell abruptly to a 5 % level today from around 10 % level in the 1980s according to corporate business statistics of the former Ministry of Finance. In a similar vein, the capacity utilization index for mining and manufacturing dropped below 100 in the first half of the 1990s from over 110 in 1988-1990 with a base index of 100 in 1985. Excess capacity means a so-called excess supply-demand gap, namely, a gap between a potential output or GDP at full capacity utilization and actual realized GDP. Such a GDP gap was estimated at around 50 trillion yen, about 10 percent of actual GDP in 1999, and the excess capacity was put at around 86 trillion yen according various statistical sources of Ministry of Industry and Trade. In time of economic downturn, excess capacity means falling prices, lower revenues and reduced profitability which make it increasingly difficult for enterprises to meet their payment commitments to lenders who financed such excess investments. In other words, the firm may be pushed into speculative finance from hedge finance or worse from speculative finance to a Ponzi position, according to the Minsky's model.

(3) *Failure to resolve the bad-loan problem promptly.*

Since the bubble burst, many banks were extremely reluctant to dispose of bad loans immediately and rather preferred to wait and see if the business conditions may improve. As they postponed the final disposal, the problem of bad loans progressively got worse as the values of the land and real estates on which loans were secured continued to decline steadily.

(4) *Changing bad-loan classification systems.*

Until recently, the banks are not legally required to disclose NPLs. But the banks are now required to carry out a self-valuation of their assets, and disclose the results. Moreover, the classification methods have become tighter and stricter in recent years. As a result, many bad loans that were not correctly classified or deliberately concealed during in the past have surfaced as NPLs. For instance, the shortening of the length of interest and principal payments in arrears from longer than six months to three months for the substandard category may have downgraded many special-mention category loans into the non-performing categories.

(5) *The negative impacts of sluggish economy.*

Many loans that were passed as normal and sound at the time of the burst of the bubbles have been turned into the non-performing categories, as the economic downturn has become deepened and extended, and many enterprises became insolvent. As discussed in the context of Minsky's theory of financial instability, this is a case of hedge finance being pushed into speculative, and speculative into a Ponzi situation by an external shock to firms, in this case, the protracted economic slump. However, it is often difficult in practice to judge the extent to which business failure is due to its own mismanagement and its inability to

adapt to changing market conditions or due to the deterioration of external economic environment such as a sharp decline in demand or a financial squeeze caused by a credit crunch.

(6) *Ponzi Financing (Oigashi,追い貸し).*

Some banks were locked in a Ponzi game as discussed above. The bank continued to roll over loans to an insolvent firm which could not meet interest and principal payments. New loans were intended to cover this loan repayment so that the indebted firm may stay alive for the time being (Oigashi). There are many reasons why the banks are drawn into a serious moral hazard in which they are forced to lend. For instance, if a given bank is overexposed to some firms and their business failures endanger the bank's own solvency, it is in the bank's perverse short-term self-interest to continue to lend to ensure that the firms stay out of bankruptcy. Sometimes, the bank is forced or even politically pressured to lend to an insolvent firm, if the firm in question is important to the regional economy, or simply to avoid the stigma of the appearance of a credit squeeze. Often, the bank simply wants to conceal the true magnitude of their bad debt load, because overexposure to non-performing loans may threaten the bank's credibility and risk a run on the bank. However, no matter what reasons might be, this game can not continue for long, since bank portfolios continue to deteriorate in step with the progress of the game, acquiring an ever-increasing accumulation of non-performing loans, which will in turn push the bank to insolvency sooner or later There are some empirical evidence to Ponzi finance or Oigashi in Japan. For instance, an empirical investigation of Japanese bank lending by Ito and Sasaki (1998) shows that banks' lending to firms in real estates, construction and finance industries continued to grow even when many of them were plagued by mounting non-performing loans in the 1990s.

(7) Malfunctioning of the Japanese banking management system

Prior to the burst of the bubble economy in 1990, the Japanese financial system and its management model was characterized by life time employment, seniority promotion, job rotation, maximization of market shares rather than profits, and many other unique characteristics. The system had proved to be a successful prescription for rapid and sustained economic growth in the post-war period. The main characteristics of the Japanese financial markets are (a) a high level of household savings which are largely deposited with banks and other depository institutions, namely the dominance of indirect finance; (b) highly segmented financial markets differentiated by function, maturity, region and source of funding; (c) the main bank system in which the big city banks played a key role in ensuring finance to firms, fostering cross-share holdings of the Keiretsu firms, monitoring and often participating in the

firms' management and operation; (d) a high degree of government intervention in the financial markets under the so-called "convoy system"(護送船団方式) in which the Ministry of Finance, the Bank of Japan, and many other government agencies controlled and regulated interest rates, branch licensing, capital inflows and outflows, and many other business practices. The government-guided financial system delayed or even obstructed the needed deregulation and competition in the banking sector which have been actively promoted in most western countries since the beginning of the 1980s. Because of rapidly liberalizing and integrating global financial markets prompted by a phenomenal advance in information technology in the last two decades, the existing Japanese system has become obsolete and noncompetitive. As a result, many banks are mired in deep financial distress with mounting non-performing assets in the 1990s. For instance, the system encumbered by life-time employment and a high degree of government regulation is not readily amenable to restructuring and other cost cutting measures demanded by the intensification of global competition.

(8) *Negligence of prudential supervision*

As a corollary of the above argument, the government failures in the area of prudential supervision of the financial markets may be a key factor for financial crisis caused by the bad-debt problem in recent years. As discussed at the outset of this section, risk and instability is inherent in the banking business, which basically borrows short from savers and lend long to investors. In theory, depositors are supposed to provide market discipline to the bank's lending activities by their threats to withdraw funds or a run on the bank when the bank is suspected of a risky activity. But because of asymmetric information problem, the depositors know seldom the true nature of the bank assets. It is possible, therefore, that they may overreact to a false information, causing a run on the bank and wider financial instability. To prevent such financial instability and at the same time to protect the weak, namely, small depositors, a safety net system such as a deposit insurance scheme is set up. But this would give rise to the moral hazard that the bank may engage in risky activities once the market discipline imposed by depositors are removed. To discourage such banking imprudence, a set of regulations are usually established. Government monitoring and prudential supervision of the banking sector is a typical example. However, this poses in turn a classic principal-agent problem with the principal being the depositors or taxpayers and the agent being the

government regulators.[6] In other words, the agent (a regulator or supervisor) does not have the same incentives as the principal (the taxpayer or the depositors) and hence his behavior is guided by his own interest rather than by the interest of the principal.

Regulatory forbearance against the interest of the taxpayer is not difficult to find. To protect the interest of the taxpayers, bank regulators should have imposed sufficiently high capital requirements, restricted the bank holdings of risky assets, and closed down insolvent institutions immediately after the burst of the bubble economy at the beginning of the 1990s. Instead, they had swept the bad-debt problem under the carpet, hoping that economic conditions would pick up. For instance, while the bad-debt problem had been progressively worsened since the burst of the bubble economy, the Japanese financial regulatory authorities had failed to disclose e bad-debt statistics until 1996. In that year, a series of bank and financial institution failures erupted , and major failures included Cosmos and Kizu Credit Association (コスモス,木津信用組合), Hyogo Bank (兵庫銀行), Taiheiyo Bank (太平洋銀行), Takushoku Bank (拓植銀行), Sangyo Securities (三洋証券), Yamaichi Securities (山一証券), and Long-term Credit Bank (長期信用銀行). The government failure to investigate and disclose bad-debt information raised tremendous public anxiety and uncertainty about the viability and soundness of financial system. Another example of possible regulatory negligence is the rampant abuse of the revolving door system (Amakudari 天下り) for regulatory and supervisory bureaucrats for whom regulated financial institutions provided post- retirement plum jobs. Such a system is bound to compromise professional conduct of the regulators and breed regulatory forbearance against the tax payers' interest, and damage the viability of the banking system as a whole.[7]

There are many different reasons why many regulators have incentives to act contrary to the interest of the taxpayer. One reason is their desire to avoid blame for the poor performance of their agency. Another incentive is that they wish to protect their career by accommodating pressures from the people who strongly influence their careers, for instance, politicians, or they want to seek a second career after retirement in case of the Amakudari possibility. Sometime, they want to avoid possible legal complications that may ensue their action against insolvent firms or resisting political pressures. Anyway, the principal-agent

[6] For the principal-agent problem in the banking industry, see Kane, E.J. (1995), and for an analysis in the specific context of bank supervision, see Berger, A..N., A. K. Kashyap and J.. Scalise (1995).
[7] See Shimizu., K. .and A. Horiuchi (2000) for an illuminating empirical analysis of the negative impacts of the "Amakudari" practice on the Japanese financial system (in Japanese).

problem will continue to pose serious and intractable problems in regulating and supervising the financial market and aggravate the bad-debt problem in the long time to come.

V. The Impacts of the Bad Loans on the Economy

It is evident that the bad debt becomes a drag on the economic recovery. But the view diverges widely among economists, financial practitioners, and policy makers as to the importance of the bad debt as a causal factor for the present Japan's economic stagnation, and transmission mechanisms of how bad loans affect adversely the economy. On one hand, there is a school of thought that regards bad loans as a fundamental cause of the current stagnation, and sees no possibilities for economic recovery without solving this problem.[8] On the opposite side of spectrum, there are those who stress the negative impact of bad loans on the economy as a relatively minor factor, and attribute to other factors such as the inefficient economic structure and deflation as a more fundamental cause of the current economic stagnation.[9] Furthermore, they contend that the bad-loan problem is not the cause of stagnation, but the results of it. In reality, the relationship between non-performing loans and economic performance may not be unidirectional, but likely to be bi-directional, with the effects of both variables mutually reinforcing each other.

In this section, we attempt to examine some selected theories of both schools , namely those who see the bad debt as a major stumbling block to economic recovery, and those who search for a culprit of long stagnation elsewhere other than bad loans. To be more specific, among arguments in support of bad loans as a fundamental shackle on economy, we will examine the theory of bank credit creation hobbled by the bad debt load. This problem occurs in process of balance sheet adjustments in the banking sector. At this juncture, it is extremely important to note that bad loans are a mirror image of business difficulties of the firms, with bank-financed investments going sour. At the same time, the firm in question is also forced to make a negative balance sheet adjustment. We can not separate the issues of bad loans from those of balance sheet adjustment at the firm level. Therefore, after analyzing the negative impact of bad loans on the economy through credit contraction, we will review the same problem from the viewpoint of failed investments leading to bad loans, such as quantitative and qualitative impacts of balance sheet adjustments at the firm level in the context of theories of debt overhang , disorganization and uncertainty. In the second part of this section, we will discuss selected hypotheses of opposing schools, particularly the position of analysts

[8] For views representing this school, see Watanabe, K.(2001), Hart, O.(1995) and Kobayashi, K. (2001).
[9] For views reflecting this school, see Hamada, H. (2001), Horiuchi, A. (1988), Noguchi, A. (2001), and Ito, M. (2001).

claiming deflation, asset deflation and delayed economic restructuring, not bad loans per se, as a more important determinant of the current economic slump. In the end concluding remarks are offered.

(A) *Bad Loans, Capital Adequacy and Credit Contraction*

As emphasized at the outset in the context of asymmetric information, adverse selection and moral hazard, the banking business is inherently risky business in the sense that banks receive short-term deposits, promising to return on demand. They then lend out the deposits to others without being able to call in the loan when they need, and highly exposed to the risk of a run on the bank. Moreover, the failure of one bank or even the possibility of it will have systemic effects on other banks and on the economy as a whole. Therefore, the banks keep a cushion of capital against the risk of unforeseeable loss. Although such capital provision was once a domestic concern, the rapid growth of international banking has created worldwide concern for the soundness of the banking system. As a crude measure to reduce the risk of such bank failures, the Basle Committee of rich-countries agreed to establish the minimum capital adequacy requirement(自己資本), called Basle Accord 1 or BIS regulation in July 1988. Given numerous shortcomings of the current one-size-fits-all approach, which has been in force as a crude system of financial oversight since 1988, a new capital adequacy standard for banks ,called Basle 2, is currently being drafted to remedy known defects in the existing rules. A new approach represents a far more comprehensive and much more complex scheme, but still found to be inadequate, and highly unlikely to be implemented before 2006, although originally planned for 2004.[10] The following discussion of capital adequacy requirements and NPL problems will be based on the Basle Accord 1 Agreement

The Basle Accord on capital requirements was defined as the ratio of capital over risk-weighted assets, which will be designated as the capital adequacy ratio (CAR,自己資本率). The capital in the numerator of the CAR is comprised of the two tiers. Tier I is called core capital (中核資本) and comprised of bank equity capital plus official reserves. Tier II is supplementary capital (補完資本) which consists of the sum of 45 percent of market securities capital gains, reserves for bad loans, subordinated debts, and other special provisions. It is required that Tier I capital accounts for a minimum of half of the total capital,

[10] For a full description of Basle Accord II, refer to Basle Committee on Banking Supervision (1999). For a critical review of Basel II being proposed, see *The Economist*, 23 February 2002. For a detailed account of historical evolution of Basle Accords I and II, see Uchikomi, S. (2000)(in Japanese).

and the amount of inter-bank cross-holding of capital is excluded from this calculation. The denominator of the CAR represents the risk-weighted sum of different assets plus off-balance sheets items. The assets including off-balance sheets items are weighted according to the degree of credit risk of each type of asset, for instance, a zero weight for reserves and government securities held by OECD countries' central banks, which carries little default risk, 10% for claims on public corporations, 20% for claims on OECD countries' banks, 50% for municipal bonds and residential mortgages, and 100% for credits to consumers and corporations.. Off-balance-sheet activities are treated in a similar manner by assigning a credit equivalent percentage that converts them to on-balance sheet items to which the appropriate risk weight is attached.[11] All banks which are engaged in international banking are required to maintain a minimum CAR of 8 % with a minimum 4% for the core capital portion The CAR for the banks which specialize in domestic banking is 4%. It is worth noting that the CAR is required in proportion to the amount of risk associated with the bank assets, not in proportion to absolute size of the total assets. Although the Basle Accord is not a legally binding guideline, it is widely employed in regulating the domestic banking sector in most industrialized countries, and the CAR is adopted as a practical guideline for banks involved in international banking in over 100 countries today.

Given the definition of CAR, we can now proceed to discuss how the problem of bad loans and capital adequacy in the banking sector could impede an exit from stagnation. Discussed in the literature are two mechanisms by which the existence of bad loans impairs the credit creation capacity of the bank, and prevents the economy from escaping a low-output equilibrium. One mechanism is through draining the bank's capital by the disposal of bad loans, and another is through the Ponzi finance necessitated by bad loans.

In this regard, it may be useful to familiarize with various ways of disposing bad loans. Basically, there are two methods for the disposal of bad loans, direct disposal (直接消却) and indirect disposal (間接消却). The former refers to the direct removal of bad loans from the book or balance sheet, and the latter deals with setting aside reserves for future loan losses. The use of the direct method extinguishes once and for all bad loans from the book, while the second method leaves the total bad debt balance unchanged. Furthermore, there are three ways of disposing bad loans under the direct method. The first one is the legal resolution (公的整理) by which the differences between the book values and the actual sales values of the

[11] Banks' off-balance sheet activities refer to trading financial instruments and generating income from fees, which do not appear on the banks' balance sheet, but nevertheless expose them to risk.

bad loans are posted as the losses in the book. The second method is called private resolution (私的整理) whereby the bank cancels or forgives the bad debt of its own accord. The third method is related to the direct sale of bad loans to foreign investment funds. No matter what form of method may be employed, the losses resulting from the disposal of bad loans has to be covered by the bank profits or capital or both. It is evident, therefore, that as the bank disposes of a substantial sum of non-performing assets by depleting its own capital, the bank may risk dropping its CAR below the BIS adequacy levels.

To avoid capital inadequacy in such a case, the bank may resort to restricting their new lending. The disposal of non-performing assets may be viewed as the results of the bank's poor management. Thus, the bank may risk the erosion of market confidence and credit rating, resulting in the diminished deposit flows or the growing difficulty or costs of raising capital in capital markets. On the other hand, the bank disposing of non-performing assets may become increasingly reluctant to take new risks and commit new loans. This in turn creates a so-called "credit crunch" problem, whereby new promising investment projects, particularly those of small and medium scale enterprises (SMEs), will be deprived of a source of finance and will not be undertaken (see Watanbe.K, 2001). This decline in business investments would in turn lead to a drop in aggregate demand and growth, aggravating a vicious deflationary cycle. Also the decline in business investments means a slowdown in technological progress and a fall in the potential productive capacity, thus lowering expected growth and deepening stagnation. Worsening economic conditions increase new business failures, hence deteriorate the quality of bank assets, and generate new non-performing assets, thus offsetting the initial effects of the bad loans extinguished.

The possibilities of crippling credit-creation capacity of the bank and a credit crunch caused by the existence of bad loans as discussed above presuppose the existence of three preconditions. The first precondition is that the bank is short of capital or undercapitalized, and finds it difficult to raise money in capital markets. In reality, it is true that some banks have a capital shortage problem, but many others are sufficiently capitalized and have a strong asset position so that they are willing to finance new profitable investment projects. It is also possible that even undercapitalized banks may find some ways to augment its own capital through capital markets, and a credit squeeze will disappear in such a case. The second precondition for the occurrence of credit crunch is that all banks are poorly risk-managed and the majority of assets held by banks suffer from quality deterioration in time of economic stagnation. This premise tends to underestimate the risk management capability of banks. In reality it is evident that some banks are run in an efficient and profitable manner and continue

their lending activities even in the midst of deep recession. The third precondition is that bank credit is a predominant source of financing business investment and there exists few other alternative means for business finance. In actuality, a well-managed enterprise with a portfolio of attractive investment projects could raise necessary money from sources other than bank loans such as issuing new equities or corporate bonds in the capital markets. To the extent that many firms, especially internationally competitive large ones, raise funds to finance their capital investments in the capital markets, the argument of credit crunch through the damage to the bank's capacity of credit creation does not hold. On the other hand, it is also true that the SMEs still predominantly depend on bank loans for their investment finance, and the Japan's capital markets in general are yet to be fully developed as compared with those in other developed countries.

(B) Ponzi Finance

Often, banks continue to lend to indebted firms to keep them solvent, despite the fact that their future expected revenue flows are not likely to be sufficient to meet their future debt repayment obligations or even one teetering on the verge of bankruptcy, as observed in their sustained lending to financially weakened Japan's construction and property sectors after the burst of the bubble economy in the 1990s. There are many reasons for this type of Ponzi finance, or "Oigashi (追い貸し)". Banks may hold unrealistically an optimistic view that the economy will soon recover, and the profitability of debtors also may improve and become solvent again. Some banks may be reluctant to let an insolvent firm go under by refusing to lend more to cover its interest payments, because such a business failure would become a new bad loan, and may damage the bank's market credibility. Also, they may find it expedient to cover up such a loan failure by further lending in order to avoid the reporting of financial losses .Often, liquidating an insolvent firm means the exposure of the bad business decision of the predecessors who helped the career advancement of the current manager, and the current job holder may be pressured to engage in a Ponzi game not to tarnish the reputation of his superiors. When the bank is overexposed to a certain firm in terms of its share in the bank' total lendings, such a Ponzi financing, called alternatively "ever-greening"or "too-big-to-fail", becomes even more compelling, because the business collapse of the firm in question may cause the insolvency of the bank itself.

It is obvious that this type of financing scheme can not go on for long, because each time an insolvent firm borrows at ever-higher interest rates, the firm' debt burden also continue to snowball, and the same for the bank's bad-loan load. This process becomes unsustainable sooner or later leading to the failure of both the bank and the firm in question.

It seems logical, however, that the Ponzi finance is possible only in the absence of regulatory discipline by the bank's shareholders as well as government financial regulators and supervisors. It is highly unlikely that both owners and financial regulators will become excessively negligent to permit the bank to carry on such a damaging activity for a long time. Furthermore, the argument that Ponzi finance deprives good investment projects of necessary financing, does not hold, even if the bank capital is locked in some bad loans. An efficient and competitive firm with promising investment projects not only should be able to find alternative financing avenues in capital markets, but also most banks also have a sufficient capital margin to finance such a profitable project. It is not the shortage of bank capital, but the lack of good domestic investment opportunities. It is a demand rather supply constraint in the credit market that new bank lending is not increasing, as evidence by the fact many banks hold a substantial portion of the bank assets invested in low-interest rate government bonds. The declining bank lending activity is likely to reflect the inadequate risk assessment capacity of the bank on one hand and the lack of new investment opportunities for enterprises.

(C) Impacts of Firm-Level Balance Sheet Adjustments on the Economy

We have examined the negative impacts of the banks' balance sheet adjustments necessitated by an increase in their non-performing assets in the form of a shortfall in the CAR and the impairment of their credit creation capacity, resulting in a credit contraction. It should be noted, however, that the bad-debt problem in the bank originates from the failures of enterprises or households to which bank loans are made. Therefore, it would be equally illuminating to examine how the private sector entities, namely households and firms would adjust their balance sheets as business conditions deteriorate and how their balance sheet adjustment would affect adversely the economy in general in time of deflation and asset deflation. The two key assumptions underlying the following analysis is the existence of deflation, a continuous decline in the general price levels and price deflation in the asset markets, which fit reasonably well the Japanese economic conditions until now since the burst of the bubble in 1990. We draw on a debt overhang model developed by Hart (1995) for general analysis and a study by Kobayashi (2000) in the specific context of the Japanese economy. Within a framework of debt overhang, both quantitative and qualitative effects of balance sheet adjustments in the private sector on the economy will be first examined, and then the disorganization hypothesis postulated by Caballero and Hammour (1996), and Blanchard and Kremer (1997). An overall assessment of the relative importance of bad loans among many other factors as a principal cause of the current decade-long economic slump will be given at the end of this section.

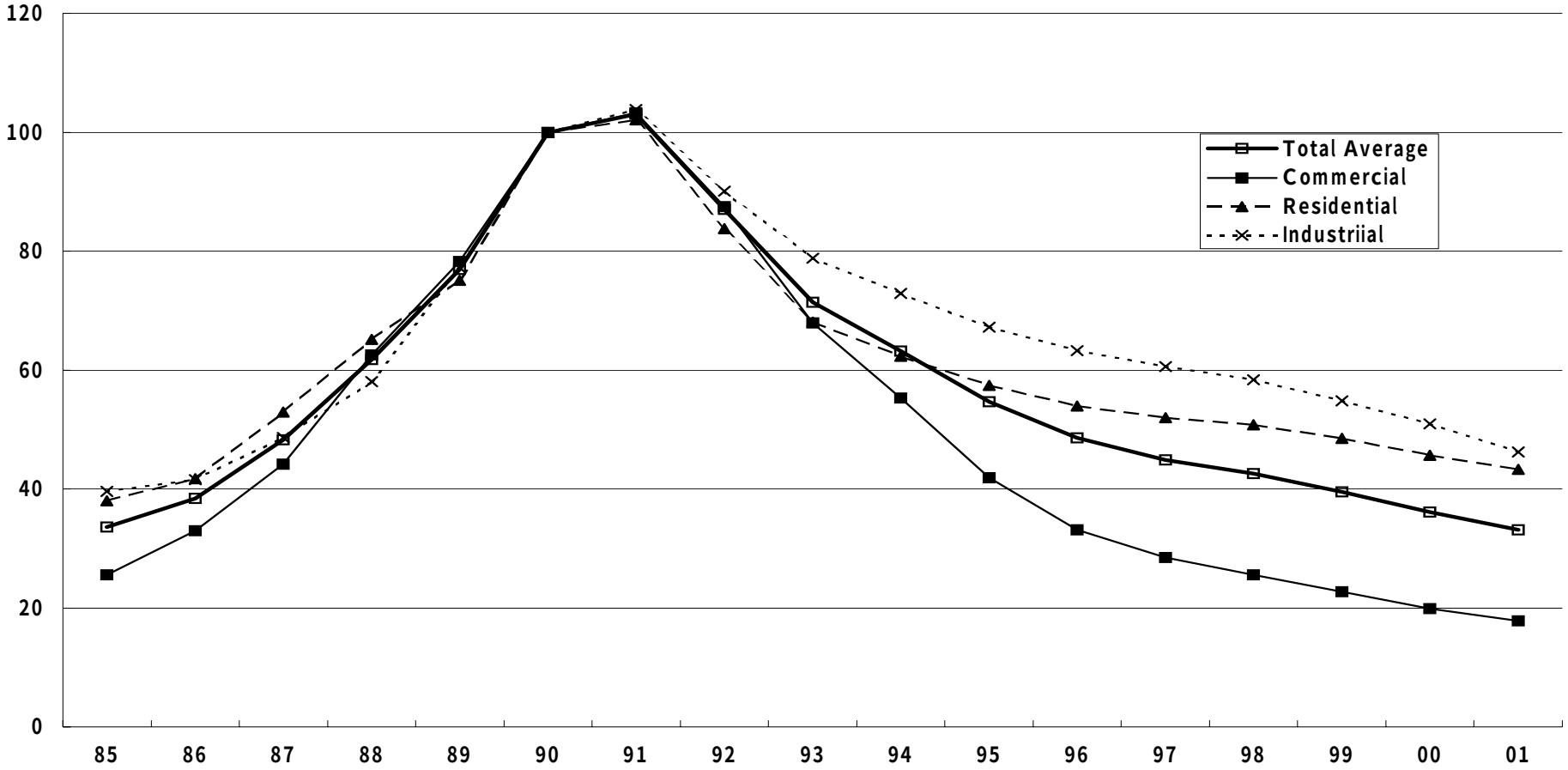
(1) Direct quantitative effects

The origins of the Japan's current deflation and asset deflation can be traced back to excessive frenzy investments supported by recklessly expansionary bank financing during the bubble period in the second half of the 1990s. Here deflation refers to a continuous decline in general price levels, whereas asset deflation represents a sustained fall in asset prices, particularly land, stock and property prices. When the bubble economy collapsed in 1990, excess investments during the bubble created an economy-wide over-capacity of 5 to 10 % of actual GDP, which triggered off a persistent decade-long deflationary spiral. The continuous decline in the general price levels re-enforced the sharp decline in the asset prices, both financial and fixed assets, reflecting worsening returns on assets. In particular, since the majority of bank loans to enterprises have been secured on land, it is important to observe a sharp upward movement of land prices before and during the bubble, and their subsequent dramatic collapse after the bubble burst. Such spectacular movements in the commercial, industrial and residential land price indices in the six major metropolitan areas in Japan are shown in Figure 3.

In figure 3, the index of average commercial land price at the end of March 1990 is set equal to 100. The index increased gradually from 20 in 1980 to the middle of the decade, but sharply escalated to the peak of 100 in 1990 in the second half of the decade. Then it abruptly nose-dived in the same fashion down to the level of 20 in 2000, the initial level of comparison.

This represents both an extraordinary steep climbing five-holds during the bubble and an equally dramatic drop from the peak by 80 percent in the 1990s. Almost identical patterns of movements for other indices, residential and industrial land prices, are also observed in figure 3. According to a report published in March 2001 by the Ministry of Land Management and Transport (国土交通省), the national average land price continued to fall below the previous year level consecutively over the last ten years. Also, according to a recent report by General Affairs Agency (総務庁) (Nikkei, 29 October 2002), standard residential land values in the major metropolitan areas have fallen over the last year by 12 %, and 31 % compared to three years ago.

Figure3. Price Indices for Urban Lands



Source : Japan Real Estate Research Institute

Note : 31 March 1990=100
6 major cities= Tokyo, Yokohama, Nagoya, Kyoto, Osaka and Kobe

In this regard, Kobayashi and Kato (2000) offered a cogent explanation of why the land prices had spectacularly escalated during the bubbles in Japan. They postulated an hypothesis of " double-faceted transactions (両建て取引)", or the land-standard financing (土地本位制金融) mechanism. The mechanism works roughly as follows. Initially, speculative investors borrow money from banks, using land as collateral, and use the borrowed money to buy more land, which will be used again as collateral to borrow more, and so on. The process continues to swell the asset size of the speculative investors in this fashion. But this chain transaction is no longer workable today because the amount of loan negotiated is usually less than the current market value of land, normally 70%. But during the bubbles when the land prices sky-rocketed, it is not uncommon to find banks or non-bank finance firms willing to lend money equal to the current market value of land or even more because of the pervasive belief in "the myth of perpetual ever-increasing land values". Moreover, the authors underscored that the practice of a sloppy land pricing method contributed to the emergence of chain transactions. Strongly influenced by the myth of perpetually rising land values, the value of land is determined on the basis of its future capital gains rather then a risk assessment of future revenue flows therefrom. As a result, the land value was often set by the recent land sale prices in the neighborhood rather than by the profitability, expected revenue flows, and utility of the land in question.

In view of the primacy of the land-standard bank lending, it is fairly easy to understand that many banks neglected to improve their risk assessment techniques in their lending activities. As long as the collateral values of lands continued to rise, full loan repayments were reassured even in case of business failures. Because of irrational land-based credit expansion, the gap between the real value of the land and its bubble price was rapidly widened. When the bubbles were finally punctured, the land prices nose-dived and the banks' non-performing loans quickly ballooned.

The crucial question is often raised as to why the banks failed to promptly dispose of bad loans caused by the collapse of land prices, for that matter other assets. The reason is that many banks and other lenders truly believed that the collapse of land prices was a temporary shock and expected their quick recovery, and the problem would disappear.

It is now evident that the plummeting of asset prices, both financial and fixed tangible assets, not only caused a substantial increase in the banks' bad loans, but also directly restricted and diminished the borrowing capacity of both firms and households. In the real world of imperfect financial markets plagued by asymmetric information problems, both

firms and households confront the credit restriction that they cannot borrow beyond the limit set by the market values of secured assets. As a result, when market values of the secured assets continue to fall as experienced in the post bubble-burst period in Japan, while the nominal value of the debt remains fixed and its real value increases, a situation of so-called "debt-overhang" would emerge, whereby liabilities exceed assets. As the negative net worth increases further as a result of asset deflation, the firms' or households' capacity to borrow also is progressively curtailed, and hence their consumption or investments must decline, and hence a fall in the effective aggregate demand. Worse yet, the adverse effects of asset deflation are compounded by those of deflationary spiral. That is, the revenue flows and profitability of the asset deteriorate in time of deflation. For instance, the effective demand for land falls, the rental revenues of the land also drop, and its return on investment declines. In this manner, the effects of credit restrictions caused by the falling value of assets and diminishing returns on the assets reinforce each other, amplifying their adverse impacts on the aggregate demand and deepening economic slump. This adverse impacts of asset deflation on the economy is called the quantitative effect of debt overhang, and also referred to as the "financial accelerator" in the literature.(e.g., see Bernake and Gertler(1989)).

(2) Qualitative effects of debt-overhang: coordination failures

In addition to the direct quantitative effects of credit restriction imposed by the asset deflation, as discussed above, there is also the problem of qualitative adverse effects of debt overhang on the economy. It is conceivable that a firm struggling with a negative net worth (債務超過) as a result of asset deflation may face additional difficulties of financing, even if the firm in question might come up with a new promising project. The reason is that the existing creditors may have a priority claim on the return on the new investment (usually, the older the debt claim is, the higher the claim priority is). When the profit from a new investment is distributed first over the old debt claims, there would be little left for the new investment, and an otherwise sound and promising investment may not be undertaken. To the extent that new productive investments fail to take place, inefficient resource allocation occurs due to the presence of bad loans.

To prevent the occurrence of such a situation, it is obviously necessary to dispose of banks' non-performing loans. For instance, if some of the firm's creditors, namely, banks, are willing to forgive their claims or downgrade their claim priority, or refinance interest payments on the problem loans, or sell them in the secondary markets, a new project is likely to be carried out. In such a case, not only the return on the new investment will be assured, but also the profit from the new project may be allocated to the partial repayment of the

existing debts, thus benefiting all creditors involved. Then, why do not the creditors respond to such measures? There are two major reasons why such coordination among creditors may not be easily implemented. The first reason is that when there are many creditors for a given enterprise, the group agreement assigning different claim priorities to different creditors may be extremely difficult to achieve because of their different particular interests, although they realize that such a cooperative action may collectively benefit all. The second problem is moral hazard associated with such an arrangement. There is always a risk of the negligent use of a new loan, once the firm in question knows such an arrangement in advance. In fact, anticipating the moral hazard problem of this sort, creditors may retrench themselves by refusing to finance any project with a slightest degree of risk, and aggravate the credit crunch problem. Anyway, banks are usually very reluctant to take a loss-making step such as debt forgiving or lowering the claim priority of their own assets or refinancing the insolvent loans. As a matter of fact, debt overhang seems to be of limited relevance in Japan. The reason is that bank lending as percent of total lending to the relatively inefficient industries such as property, construction, and distributive services have been steadily rising despite their worsening profitability, implying a ponzi game to refinance the non-performing loans.

(c) Disorganization effects

In addition to the debt-overhang effects of bad loans discussed above, another qualitative effects of the failure to eliminate bad loans, called disorganization effects, (e.g., see Caballero and Hammour(1996) , Blanchard and Kremer(1997) and Kobayashi (2000)) have attracted considerable attention in the literature. At the risk of oversimplification, the disorganization hypothesis can be summarized as follow. The failure to remove bad loans off the banks' books or alternatively reduce the firms' excess debt burdens would pose a serious bottleneck for developing an efficient inter-firm and inter-industry production network. Since the bank has the power to liquidate any insolvent firm, to which it is exposed, and the knowledge of such non-performing loans owed by a given firm would seriously impair the credibility and reliability of the indebted firm. As a result, many banks and enterprises may try to avoid to commit new business transactions with the firm which is known to be heavily indebted and insolvent, because of uncertainty surrounding the possible liquidation of a new prospective partner. Therefore, the failure of the banks to remove bad loans off their books would generate the "disorganization effect". As a result, the widening and deepening of inter-business transactions would be hindered, supply and subcontracting networks would shrink, the level of economic activities be reduced, and hence the overall efficiency and productivity of the economy as whole may suffer. It seems essential that to solve the disorganization

problem, the banks must act resolutely to solve the bad-loan problem. Various means can be employed toward this end, for instance, debt forgiving or converting debts into equities, which would improve the asset structure of the indebted firm and at the same time would enhance the credibility of the firm as an attractive business partner.

Although the disorganization hypothesis is conceptually plausible, its empirical validity in general and in the context of the Japanese economy in particular remains open to question. Unfortunately, there is a paucity of empirical verification of the disorganization effects. Kobayashi study (2000, p.201) plotted the trends for domestic inter-firm transactions amounts over the period of 1979 to 1998, which showed a marked steady increase from 1980 to the peak of the bubble, 1990, and a subsequent continuous decline to 1998 from the 1990 peak. It can be inferred, therefore, that the monetary value of inter-firm transactions representing the level of inter-firm business activities sharply increased during the bubble period in the second half of the 1980s and then markedly declined in the 1990s after the bubble burst. It seems difficult to judge, however, whether this upward trend during the bubble period and downward trend after the bubble burst is mainly caused by the disorganization effects of bad loans or other factors. For instance, deflation or severe asset deflation accompanied by the general deterioration of the firms' balance sheets may also explain the steady decline in the inter-firm activities in the post-bubble period equally well. It is also possible that a good number of firms are not heavily indebted and on the contrary financially in a strong position. In addition, there is the possibility of new entrants into the markets. In such cases, the disorganization effects of bad loans become less relevant. It is also not far-fetched to speculate that the inter-industry transaction linkages in the post-bubble period may have remained intact or even expanded, but transaction values among the existing network participants may have been reduced considerably by protracted economic slumps. Finally, the increasing intensification of global competition and the greater need for enhancing competitiveness as a survival strategy forced many firms to drastically restructure and adopt various cost-cutting measures including the greater reliance on the outsourcing of cheaper inputs from abroad such as China and other developing countries. During the period of a rapid change in the business environment, it would be difficult to assume that the existing domestic patterns of inter-firm and inter-industry transactions remain unchanged. It would be equally difficult to further infer that the decline in domestic transactions largely reflects disorganization effects of heavy bad-debt loads in the Japanese economy.

(D) Other causal factors for economic stagnation

One school of thought focuses on deflation and asset deflation as a principal culprit for the current economic stagnation. More specifically, this group argues that the bad debt is not the cause of the current economic stagnation, but the result of it. It is deflation and asset deflation that inflated the debt burdens and diminished the asset values of firms, begetting non-performing loans. Stated differently, the cause of economic stagnation is misplaced on the bad loans. Therefore, even if the problem of bad loans is completely solved, the Japanese economy could not extricate itself from economic stagnation, unless the more fundamental causes of stagnation, namely, deflation and asset deflation, are removed by appropriate remedial policies (Noguchi, 2001).

Another school of thought pinpoints structural problems, namely, the delayed industrial restructuring as a fundamental cause of the current economic malaise (Horiuchi, 2001). According to this school, the bad loan is the result of inefficient industrial structure of the Japanese economy. Two factors impeding the transfer of productive resources tied up in inefficient sectors to more productive sectors of the economy are stressed among many other factors. They are inefficient financial intermediation and wasteful government spending programs. On one hand, banks contributed directly to the rapid accumulation of bad loans, particularly during the bubble period by recklessly expanding their lending based on the land collateral to numerous firms which were known to be highly risky and poorly managed, and continued to support them after the bubble burst. The end result is the creation of over-capacity economy mired in the decade-long deflationary slump and asset deflation. Worse yet, periodic massive injections of government spending as part of stimulus packages for economic recovery in the 1990s had delayed the badly-needed economic restructuring , since the most of fiscal stimulus was targeted at unproductive public works projects and other growth-retarding programs, which in turn helped to perpetuate the existing inefficient and over-capacity industrial structure built by the huge bank financing during the bubbles.

Bad loans stand in the way of this critical transfer of capital and human resources. As long as the final disposal of bad loans is postponed, the waste of productive resources locked up in the inefficient sectors continues to increase and deprive the more dynamic growth industries of critical capital and manpower resources. Therefore, the disposal of bad loans or liquidation of the unprofitable enterprises is the first necessary step to effect resource transfer to more productive sectors in the economy. This may require a drastic restructuring of both the banking sector and various industries. But the task of wholesale economic restructuring does not stop here. One need to find a whole host of new growth industries to which released resources would be transferred. In addition, various existing resource transfer mechanisms

and economic institutions need to be drastically deregulated and restructured, or new efficient ones need to be created. In particular, the existing labor markets need to be extensively reformed and deregulated to facilitate labor movements from the old inefficient industries to the new productive industries. In the financial sector, the functioning of secondary markets dealing with various non-performing assets should be created or strengthened if they already exist, to facilitate the smooth and speedy final disposal of bad loans. More open and transparent corporate governance needs to be designed and implemented. Legal frameworks for business and households bankruptcies need to be strengthened It is beyond the scope of this paper to enumerate an exhaustive list of structural and institutional reforms required to raise productivity and stimulate economic growth through a more efficient resource allocation. A few illustrated examples given here may suffice to underscore the long duration of time required, perhaps over one decade, and the extreme complexities of the tasks of structural reforms. In sum, the salient point of this school of thought is that the fundamental cause of protracted stagnation is the inefficient and noncompetitive economic structure and the existence of bad loans is viewed merely as a facilitating factor for such economic deterioration.

(5) *Overall Assessment*

So far, we have examined various theories which explain how the existence of non-performing loans (NPLs) would adversely affect the economy and whether or not the bad loan is a fundamental cause of the present protracted stagnation of the Japanese economy. Here we attempt to provide an overall evaluation of these diverse and often conflicting theories.

It is evident from the foregoing analysis that the failure to dispose of a mountain of bad loans would definitely exacerbate the macroeconomic conditions primarily through the balance sheet adjustment of both banks and firms. As discussed earlier, the banks are forced to contract their credit supply to business and household sectors in order to maintain sufficient capital to meet the BIS capital requirements, set aside adequate bad-loan provisions or cover the losses resulting from bad-loan disposals. On the credit demand side, the borrowing capacity of the firms is directly restricted by the size of NPLs or negative net worth as a result of asset deflation. Furthermore, the adverse effects of bad loans on the economy are amplified indirectly or qualitatively through debt overhang and disorganization effects as discussed in detail in the foregoing section. The negative balance sheet adjustment of both banks and enterprises would then inevitably cause a fall in consumer spending and business investment spending, which would in turn accelerate the deflationary spiral of reducing

aggregate income and employment. As a result, bad loans are considered as a major cause of protracted stagnation.

On the other hand, it is also evident that even if all bad loans were wiped off cleanly from the banks' balance sheets by a massive injection of public funds or other means, the economy would not soon pull itself out of deflationary morass and return to the normal growth path. Simply, the deteriorating macroeconomic conditions, namely deflationary spiral coupled with asset deflation, continue to generate new NPLs. Unless deflationary spiral and asset deflation itself is halted, the problem of bad loans would continue to persist. Put differently, non-performing loans are partly the results of deflation and asset deflation, and the basic causes of deflation must be tackled with in order to be completely free from bad debts. It seems that bad loans are both a major cause of deflationary stagnation, and the result of it. Namely, the causal direction of the two variables is bi-directional. In this context, the resolution of bad loans could be regarded as a necessary condition, but not as a sufficient condition for economic recovery from the long stagnation of the Japanese economy.

In this context, it is now easy to see that any attempt to unload bad loans at a large scale, particularly at basement bargain prices (投げ売り) in the midst of deflation may prove to be self-defeating, because it would further depress the liquidation values of bad loans at the secondary markets and cause the banks to suffer the greater losses resulting from the final disposals of bad loans. As a result, their capital positions would be considerably weakened, and the banks may be forced to resort to asset compression, exerting further pressures on the deflationary spiral.

It seems highly logical, therefore, that the problem of bad loans in the banking sector and the liquidation or restructuring of insolvent enterprises should be solved simultaneously under the one and same comprehensive economic recovery program. In theory, the prescription seems quite straightforward. Problem loans to insolvent firms beyond repair should be speedily written off the book by liquidating bankrupt firms. The firm that is in severe financial difficulties, but with a reasonable probability of rehabilitation through restructuring, should be rescued by means of partial debt forgiving, exemption or reduction of interest payments or other temporary relief measures. Finally, the firm that is facing a temporary liquidity or cash-flow problem but otherwise sound, should be continuously refinanced. It is worth noting that the first case corresponds to the termination of a Ponzi finance, and the second and the third cases correspond to the continuation of a speculative finance in the context of the Minsky model presented earlier. The argument is equally valid for the case of bank failures. Insolvent banks with a sizable negative net worth should be

liquidated through nationalization, merging with a healthy bank or through other bankruptcy procedures.

In practice, however, it is much easier said than done. Given the enormous problem of information asymmetry, the lender or the bank will find it extremely difficult to discriminate between a basically sound but temporarily illiquid firm and an insolvent firm on the verge of bankruptcy. For instance, it is probable that a substantial portion of loans in the special mention category (要注意先) and hence considered still as performing assets may in fact be downgraded to substandard loans (要管理先) , namely, bad loans in substance , but disguised as performing assets partly because of extremely low interest payments permitted by the zero interest rate monetary policy . The case in point is the failure of Mycal (マイカル) Corporation, whose loans were classified by big banks as "special mention " , a notch above the bad-loan demarcation line, but in fact went bankrupt in 2001. Undoubtedly, as the interest rate should increase in the future, much of these loans may become non-performing.

However, the real problem is the limited capacity of the banks' risk assessment to screen between bad loans and good loans in a highly volatile economic environment. A sudden external or internal shock to the economy could knock down a star-performing model firm into a disastrous business failure. This is nowhere more vividly demonstrated by the wave of unprecedented US corporate bankruptcies in recent years not only in the number of casualty suffered but also in the sheer scale of damages inflicted. For instance, the largest U.S. bankruptcies of 2001 and 2002 in billions of dollars are: WorldCom ($103.9 billion), Enron ($63.4 billion), Global Crossing ($25.5 billion), Adelphia Communication ($24.4 billion), Pacific Gas and Electric ($21.5 billion), Kmart ($17.0 billion), NTL ($16.8 billion), FINOVA Group ($14.0 billion), Reliance Group Holdings ($12.6 billion), Federal Mogul ($10.2 billion), etc.[12] Corporate casualties of such immense magnitude which are particularly pronounced in the telecommunication and energy sectors are extremely difficult to foresee for even the most skilled and experienced Wall Street analysts. Recall that a large majority of these firms held a high credit rating and were touted as a model of successful corporate management. Major multi-national banks equipped with the most sophisticated state-of-the-arts risk-assessment techniques were unable to foresee looming catastrophes and were never hesitant to bankroll their projects which proved to be reckless IT bubble investments on the hindsight. Take the case of the collapse of telecom industry worldwide. The U.S. second largest telecom giant, WorldCom, failed in 2002 as a result of corporate scandals involving account-riggings and

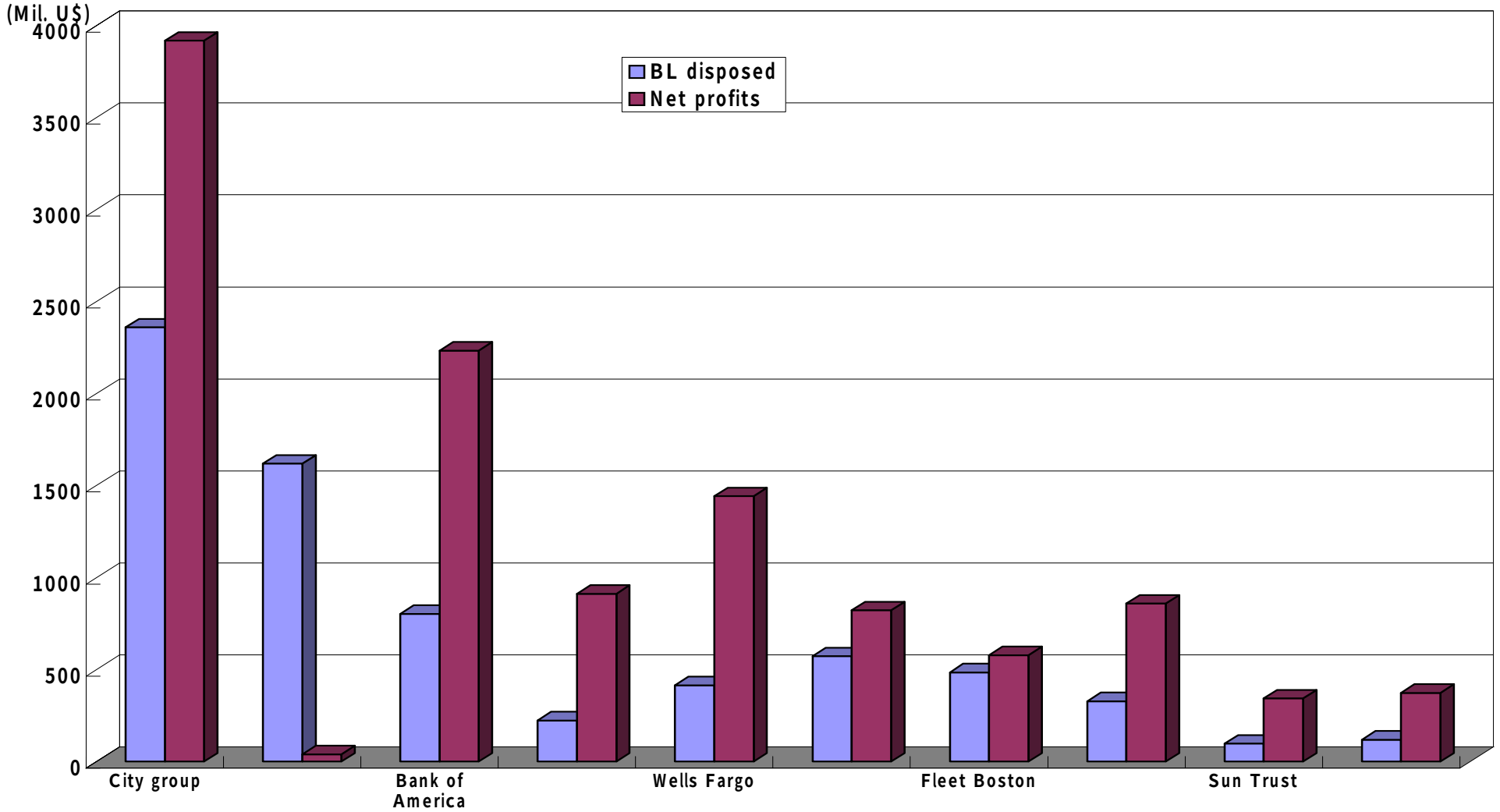
[12] Data source : Bankruptcy data.com

other fraudulent practices. Immediately following this, a total of 63 smaller telecom companies went bankrupt in the period of 2000-2002 with 50,000 job losses, 500 billion dollars asset losses, and numerous new entrants into local telecom markets were wiped out. The tidal shock waves have quickly spread to telecom suppliers and other related industries. As a result, major global telecom equipment makers such as Lucents, Nortel and Corning have also suffered a severe business setback and some of them on the verge of bankruptcy. The catastrophic impacts spread further to Europe where major European telecom companies such as BT and France Telecom, and their related companies, piling up huge losses exceeding the Belgium's GDP, and their stock prices tumbled to a 10 percent level of the previous year. It was only a few years ago that riding high on the wave of "New Economy" revolution, in which even the U.S. Federal Reserve Board Chairman, Greenspan believed firmly one time, these companies were regarded as a flagship of the 21st century growth industries and a paradigm of corporate excellence.

Similar mega-business failures caused by an entirely unexpected event can be readily found in the airline industry and many others. It is well-known that immediately after the terrorist attack on the World Trade Towers on September 11, 2001, the volume of worldwide commercial airline traffic tumbled abruptly, and the whole global airline industry, with a notable exception of a small number of low fair regional airlines, was hard hit. Some of giant airlines such as Delta, American, and United were driven to the brink of bankruptcy.

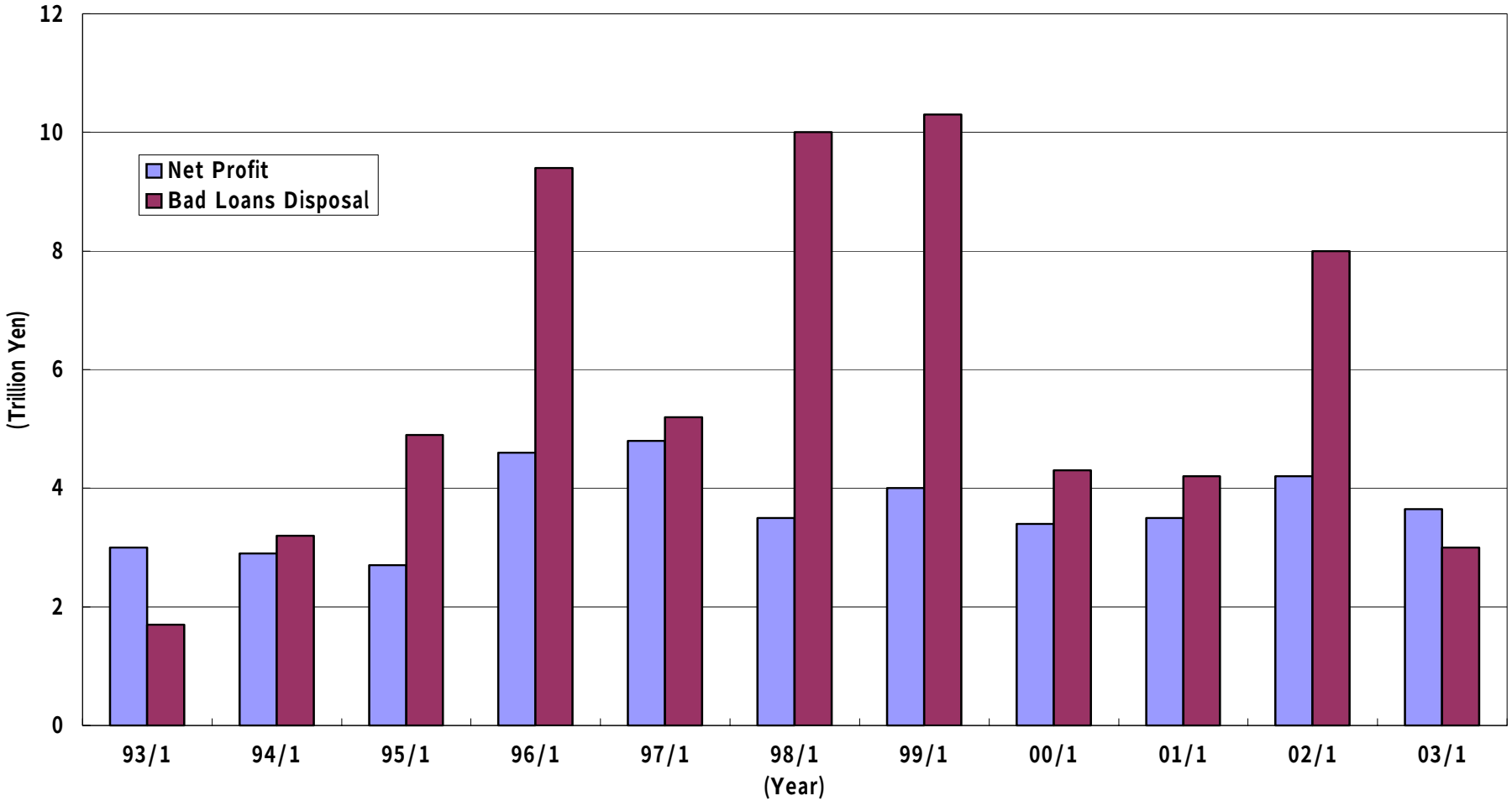
As shown in table 3, the big 10 U.S banks disposed of a total of $ 7.3 billion worth of bad loans in the July-September quarter of 2002, an increase of 10 percent over the same quarter a year earlier, while their combined bad loans outstanding grew to $ 33.6 billion, an increase of 35 percent over the same quarter of the previous year. This significant increase in the new bad loans and those written off in this quarter was mainly attributed to the rapid deterioration of business performances of their borrowers resulting from the worsening US macroeconomic situation in recent years. As a result of the recent slump in the U.S. economy, most big banks had to increase substantially their loan-loss provisions as their NPLs enlarged. In fact, some major banks felt that their bad-loans problem was at last over at the end of the last April-June quarter, but the problem has resurfaced as a result of the worsening economic conditions.

Figure 4, Bad-Loan Disposals by US Top Ten Banks, July-September, 2002



Source: Nikkei, 18 October 2002

Figure5. Bad-Loan Disposals by Japanese Big Banks, 1993-2003



Note: 2003 : Estimates

Source: Goldman Sachs Securities

It is worth noting, however, that there are significant differences between the U.S. and Japanese bad-debt problems. Figures 4 and 5 describe the amount of bad loans disposed by big city banks and their net profits in Japan and the U.S. The comparison of the two figures seems to suggest the following marked differences between the two countries. First of all, the absolute magnitude of bad loans in the U.S. group is much smaller than their Japanese counterpart. At the risk of oversimplification, the yen equivalent of the bad-debt loads of the big 10 U.S. banks at the end of September 2002 is roughly 4.7 trillion yen compared to 27 trillion yen of the big 13 Japanese banks at the end of March, 2002. The Japanese burden is more than five times heavier than the U.S. loads. Second, unlike the Japanese banks, many U.S. banks posted 2-digit profits in the household-sector banking business, although their revenues in the corporate sector suffered a sharp decline. Driven by historically low interest rates and strong consumer demands, their housing loans have increased by 10 % and their credit card loans up by 19%. Despite the slump, all banks posted a positive profit and seven out of the 10 banks managed to register an increased profit over the last period. More importantly, all banks except J P Morgan Chase managed to write off their bad loans out of their net profits without damaging their capital, and obviated the need for government support including the injection of public funds like the Japanese counterparts.

The moral of the story is that numerous corporate failures worldwide of such epic proportion in recent years can not be solely attributed to corporate greed and defective corporate governance. Therefore, the problem cannot be solved by vigorous punishment of corporate crimes and corporate reforms alone. The root cause of the problem seems to go deeper and be traced to the fundamental problem of market failure. Simply the public infrastructure industries such as telecommunication, energy and transport, which underpin the social overhead capital of the economy can not be allowed to become an object of unbridled speculative investments giving rise to the boom-bust cycle based on the neoclassical paradigm of market mechanism.

Another important implication of the foregoing analysis is that unforeseen shocks, both external and internal, do occur constantly, and create a new wave of business failures and hence non-performing loans. In other words, business failures are unavoidable as the economy is continuously buffeted by shock waves, and this is true even in case of the world's best performing U.S. economy with a relatively sound financial system today.

Table 3. Bad Loans Disposed by the US Top Ten Banks, July-September,2002

	NPLs outstanding	NPLs disposed	Net proftis
City group	10,147	2,362	3,920
	(23.4)	(42.3)	(23.4)
JP Morgan.Chase	5,542	1,620	40
	(109.4)	(98.8)	(-91.1)
Bank of America	4,849	804	2,235
	(17.7)	(-46.1)	(165.8)
Wacchovia	1,751	224	913
	(16.3)	(-7.8)	N.A
Wells Fargo	1,549	415	1,444
	(-4.3)	(-8.6)	(24.1)
Bank One	3,521	573	823
	(13.1)	(1.2)	(9.2)
Fleet Boston	3,759	486	579
	(140.8)	(50.5)	(-24.4)
US Bank Corp.	1,207	329	860
	(19.4)	(-41.6)	(2,123.0)
SunTrust	554	98	343
	(13.0)	(24.1)	(2.7)
National City	748	120	374
	(27.4)	(-13.8)	(4.9)
Total	33,627	7,031	
	(35.2)	(11.0)	

Note: Unit: millions of US dollars;

Figures in parentheses are percentage changes over the same quarter of previous year.

Source: Nikkei, 18 October 2000

However, the problem of bad loans seems to be far more complicated and serious in the long-depressed Japanese economy. Today, most Japanese banks are not likely to have a sufficient financial strength to tackle with a new wave of bad loans surfaced by the deepening deflation, as the forces of the existing bad debt weight and deflationary spiral reinforce each other. During the financial crisis of 1997-1999 marked by successive failures of big financial institutions such as Takushoku bank(拓植) , Yamaichi Shoken (山一証券) and Japan Long-

term Credit Bank (日本長期信用銀行), the Japanese Government injected twice, in March 1998 and in March 1999, a total of 10 trillion yen worth of public funds into major banks to expedite the disposal of NPLs and strengthen the bank capital. However, new bad loans continued to surface as deflation deepened since then. In the meantime, the total losses of bad-debt write-offs of big banks piled up to several trillion yen, while the three heavily-indebted industries, distribution, construction, and real estates, continued to be fed and kept alive.

As discussed extensively earlier, there remain many unsettled theoretical issues surrounding the question of whether bad loans are a major cause of deflationary stagnation or vice versa, and theoretical explanation of transmission mechanisms whereby bad loans damage the real economy, for instance, through debt-overhang effects or disorganization effects. But from the pragmatic policy viewpoint, there is a simple and compelling reason for cleaning up the bad-debt mess, boldly and decisively, in conjunction with anti-deflation policy measures. It is the generalized and diffused sense of uncertainty and public anxiety about future economic prospects. One of the main culprits for this contagious malaise is the heavy bad-debt loads weighing down the banking sector, along with other social economic ills associated with the rapidly aging Japanese society such as old-age care, pension crisis and looming labor shortages, etc.

In the literature, the theory of uncertainty pioneered by Frank Knight (1921) is often applied to explain the role of uncertainty in financial crisis and economic slump. According to Knight, there are two types of uncertainty about the occurrence of a future event. One is the occurrence of an event whose specific outcome is unknown but whose probability distribution is known. This type of uncertainty is called risk. The second type refers to the occurrence of an event whose probability distribution is not known and hence completely unpredictable. This type of uncertainty is called the Knight uncertainty (ナイト不確実性). It seems reasonable to assume, therefore, that under the Knight uncertainty, the economic agents, namely, the households and firms, are expected to behave according to the worst possible scenario of future events in the absence of information.

The concept of the Knight uncertainty could be readily applied to explain the lethargic consumption and investment behaviors today in the Japanese economy.. The myth that “the bank never fails” has persisted until 1994 under the convoy system type (護送船団方式) market intervention of the Ministry of Finance, which directly regulated all aspects of the banking sector and financial markets including the entry to the markets and interest rates

ceilings among other things. But when the financial markets were progressively deregulated and exposed to intense external competition since 1994, a series of successive failures of banks and security companies, and particularly mega-collapses of both financial institutions and enterprises in recent years as described earlier, have immensely damaged the confidence and complacency of both households and business community about future prospects of the Japanese economy. Under the condition of Knight uncertainty, households could conceivably behave on the premise of the worst possible scenario that numerous banks would fail including their own, and his own company could go bankrupt and lose their jobs. This pervasive feeling of uncertainty and public anxiety is partly contributed by the massive bad-debt loads coupled with the appalling lack of information disclosure in the banking sector, and further heightened by a successive wave of corporate scandals both in the U.S and in Japan as explained before. As a result, both aggregate household spending and business investment sharply fell and became highly unresponsive to fiscal and monetary stimuli, thus contributing to a persistent aggregate demand gap and perpetuating deflationary stagnation.

VI. Selected Practical Issues in Cleaning up Bad Loans

The new Koizumi (小泉) government which was born as a result of the cabinet reshuffle in October 1, 2002, has placed one of the highest priority on the solution of bad-loans problem and formulated a bold plan to clean up the major bulk of bad loans. The primary objective of the plan is to stabilize financial systems. The maintenance and stabilization of the financial systems is considered vital to forestall the financial crisis which could be triggered off by a chain reaction of bank failures and could damage immensely the real economy. The plan entails the following elements. (a) to ascertain more accurately the true magnitude of bad-loan problem through the adoption and enforcement of more stringent methods for asset valuation (資産査定); (b) to assess the capital adequacy of the banks following the speedy disposal of bad loans , and to determine the need for the injection of public funds (公的資金) into the capital-deficient banks ; (c) to strengthen corporate governance of the banks ; and (d) to accelerate structural reforms (構造改革) of both banking and business sectors. It is evident, however, that the implementation of the plan may encounter many huddles. First, there is the urgent need for developing a new adequate method for bank asset-valuation, which could be both conceptually and practically difficult. Second, the surgical removal of a large sum of bad loans in the short period of time would raise the capital adequacy problem for many banks. Third, the capital adequacy problem would raise many thorny issues of the injection of public funds as a method for ending bad-debt problem.

Fourth, it is highly likely that a large-scale disposal of bad loans would exacerbate the current deflationary slump at least in the short run. Therefore, it becomes necessary to formulate anti-deflation policy measures geared to mitigate the negative macroeconomic impacts of the NPL disposal program. Each of these bottlenecks to the resolution of bad-debt problems is discussed in the following, except for corporate governance and anti-deflation policy measures, which will be treated in subsequent papers as part of a comprehensive economic recovery policy package.

(A) *Adequacy of New Asset-Valuation Methods*

In the spring of 2002, the FSA has just completed a special inspection of 131 major city banks concentrating on big loans of over 10 billion yen to 149 companies. As a result of the inspection, many banks were ordered to increase their bad-loan provisions beyond the level determined by their own valuation methods. Some banks objected to reclassify some of their normal loans as doubtful (破綻懸念先), or increase loan-loss provisions for the substandard category (要管理先の引き当て), or shorten the restructuring period of problem loans pursuant to the new plan. Also, the revision and issuance of a new manual for banking inspection and supervision takes time and at the same time raises the question of continuity. Finally, the formulation and modification of a restructuring plan is basically a matter of private sector decision and it raises the question of the extent to which government could intervene in this area. Above all, another round of bank inspection based on a new manual proposed by the FSA immediately following the last special inspection carried out in 2001 raised a strong suspicion and objection among some bankers and policymakers that the banks' "self-valuation" (自己査定) is just in name and in reality the valuation smacks of a heavy-handed bureaucratic intervention.

On the other hand, there seems to be lingering doubt and even distrust regarding the accuracy and reliability of the banks' own valuation results, as exemplified in the case of the bankruptcy of Mycal Corporation mentioned earlier. Banks tend to be lenient and even half-hearted in their loan classification to conceal their weak capital position. The most contentious point in this regard is the second category of special-mention loans (要注意先). They are aptly described as a reserve army of non-performing loans and amount to 34 trillion yen, about 10 percent of total loans outstanding. Many loans in this category belong to those firms with a serious solvency problem, but for the simple reason that banks promised to support them, they evaded the bad mark for bad-loan classification.

It is true that through the last inspection of big banks, some of their loans were already downgraded and asked to augment their loan-loss reserves. This is particularly true of downgrading the special-mention loans with a required loss provision rate of 5% to substandard loans with a loss provision rate of 20%. It is widely felt, however, that this was not adequate and the re-examination of banks' loan portfolios was called for in view of worsening economic stagnation in recent years. Moreover, the existing rate of loss-provision for each category, namely 5 % for the special mention category and 20 % for the substandard category is thought inadequate, particularly among policymakers of the Bank of Japan. The same rates for the two categories in the U.S are 20% and 30% respectively. There are significant differences in the calculation methods of loss-provision. In Japan, the loss-provision rate is calculated from the past bankruptcy rates of other firms with a similar credit rating. For instance, the past three-year average is used in case of the substandard loan category, whereas one-year average is applied in case of the doubtful category. As a result, in the midst of deepening deflationary slump, the loss provisions based on the past results tend to be inadequate and often incur additional losses at the time of final disposal of bad loans.

On the other hand, another method, called "discounted cash flow (割引現在価値)" method is mostly employed in the U.S. to evaluate the loan value and 20% and 30% loss provision rates are applied respectively to the two loan categories . The discount cash flow value is the present value or the sum of discounted future incomes of the debtor. The use of discounted cash flow (DCF) method makes it possible to estimate the value of assets reflecting different individual real business performances. There are a couple of hitches, however, to the application of the DCF in Japan. First, it would be a formidable task to estimate accurately the future revenue streams of big business firms whose activities span widely over different industrial domains. Second, since the lending interest rates in Japan tend to be lower than other western countries, the present values obtained by the use of lower discount rates tend to be overestimated in Japan relative to other countries. As a result, it is possible than the loan-loss reserve requirements may be lowered rather than raised relative to the present level. The crucial point here is an appropriate discount rate by which the future expected income stream is discounted. The present value of the future expected incomes and its discount rate is to a large extent determined by various subjective factors because of uncertainty, and hence highly variable. Depending upon the discount rate chosen, the present value of the asset may exceed or fall short of the present value of debt servicing streams. In other words, using the Minsky's model, $K(A_t) > K(C_t)$ or $K(A_t)<K(C_t)$ in Eq. (10) , and the situation becomes highly volatile in such a way that the hedge finance (or normal and special-

mention loans) is pushed into the speculative finance (or substandard loans), and the speculative into the Ponzi finance (bad loans). Namely, the same asset can be reclassified to the different grades of loans, depending upon the different discount rate chosen, and hence the different amount of loss provisions required.

According to a rough estimate of Nikkei (11 October 2002), when the higher U.S rates of 20% for the special-mention category and 30% for the substandard category are applied, the banks are required to increase their loss provisions by an additional sum of nearly 7 trillion yen, even without adopting the U.S calculation method. This is roughly an equivalent of one and half-year net profits of the group and at the same time, their CAR may slip below the critical 8 % level.

The importance of a stricter reassessment of the classification method is underscored by the fact that the most troublesome loans in the present classification system is in the special-mention category (要注意先). As shown in table 2, the total NPLs balances for the 13 city banks at the end of March 2002 was nearly 27 trillion yen, about 8.6% of total loans outstanding. The special-mention loans amounted to 34.4 trillion yen. They represent loss-making loans that may pose some collection difficulties and hence require close watch, but still considered not serious enough to be placed in the bad-loan categories. It is widely suspected, however, that the major bulk of these loans could be downgraded to the non-performing categories and hence at least double the current size of bad loans outstanding, if a more stringent and tighter valuation method is applied, as shown in the hypothetical example.

In sum, despite some criticism that government intervention in the disposal of bad loans is becoming excessive, there are some signs that banks are not tough enough or even negligent in dealing with problem loans. For instance, many business enterprises virtually teetering on the verge of bankruptcy were supported continuously under an unrealistic restructuring plan and their loans were ranked above the NPL categories. This problem is particularly acute in the three laggard industries; general construction, real estates and distributive service industries. After all, the problem of bad loans has been swept under the carpet and ignored for the last twelve years since the burst of the bubble economy in 1990, and the tolerance limit for such banks' forbearing behaviors may have perhaps long ago reached.

(B) *Bank Capital Adequacy Problems*

As discussed earlier, the banks dispose of their bad loans either though the direct method of selling and removing them from their balance sheets or through the indirect method of augmenting loss provisions. Either way, they may have to use the banks' profits or their own capital, or both to fill the holes made by the disposal of NPLs. This would diminish their

bank capital and lower their CAR. The crux of the matter is whether the banks are sufficiently capitalized to withstand the heavy draining of their capital to implement a large-scale disposal of bad loans, and still remain sufficiently capitalized to clear the BIS capital requirements.

In this regard, it seems extremely important to examine the structural weakness and fragility of the bank capital base. As of the end of March 2002, the total capital balance (自己資本残高) for the four financial groups as a whole was reported to be around 27 trillion yen, maintaining a CAR of 10 % above the BIS 8% requirement. In fact, on the face of it, banks managed to post a healthy CAR of 10-11 percent despite successive business losses reported in the last several accounting periods. However, this figure can be readily judged to be deceiving and even misleading, when the composition of the bank capital is carefully examined. Several factors explain the qualitative deterioration and fragility of the bank capital structure. First factor is the relative importance of public funds (公的資金) injected into the bank capital. Twice in March 1988 and in March 1999, big banks in the four financial groups augmented their bank equity component (資本金) and legal reserves (法定準備金) by the injection of public funds.[13]. In the first round, the major bulk of public funds in the amount of around 1.8 trillion yen was allocated to major banks to support their capital positions mainly through the sales of subordinated debts or loans (劣後債、劣後ローン). In the second round in March 1999, each big bank except for Tokyo-Mitsubishi Bank (東京三菱銀行) issued preferred stocks (優先株) to Deposit Insurance Corporation (預金保険機構) to raise capital. The total sum injected amounted to around 7.5 trillion yen including a small amount of subordinated loans. Most banks used the half of public funds raised by the issuance of preferred stocks to augment equity capital and the remaining half to increase legal reserves. In legal sense, the type of stock-ownership, private or public, should not matter, but it matters a great deal in reality. It is a fact that the government and the political party in power expect the early repayment of public funds, and the banks are also planning to repay them. In this respect,

[13] The legal framework for the injection of public funds in Japan was laid out under the two laws enacted in October 1998, the Financial Revival Laws (金融再生法) and the Early Financial Revitalization Laws (早期健全化法). The Financial Revival Laws, which expired at the end of March 2001, specify the legal procedures for liquidating bankrupt financial institutions. On the other hand, the Early Financial Revitalization Laws aim at strengthening the bank capital position. Toward this end, the Laws set a capital adequacy ratio (8% for banks dealing with international transactions, and 4% for purely domestic banking), and require the banks falling below the CAR to submit a management-restructuring plan. On request from the bank, it is possible to augment the bank's capital position by the injection of public funds through the RCC. For further details on these laws, see Yanagawa, N. et.als. (2002)(in Japanese).

the capital raised by the issuance of preferred stocks to the government is distinctively different from the capital raised from other sources. The preferred stocks purchased by public funds assume the character of a debt instrument rather bank capital in reality. As a result, more than a half of the combined core capital (Tier I, 中核資本) of the four financial groups, estimated at 13.6 trillion yen as of March 2002, is comprised of the public funds which could be viewed as a debt burden rather an asset. The public funds injected account for about one quarter of the total capital, namely, Tier I core capital plus Tier II supplemental capital.

Adding further fuels to the bonfire of the ongoing political debates surrounding the use of public money is a proposal of the Tanaka Special Project Team of the Koizumi Government on Financial Reforms to convert the preferred stocks owned by the government into common stocks. When such preferred stocks are converted into common stocks, the government becomes a majority owner of most city banks with a majority voting right. When the public funds were injected into big city banks, the government stipulated that the government would have the right to exercise stock conversion in case that the business of big banks deteriorates to such an extent that they risk the erosion of market credibility. However, the conversion period varies from bank to bank. As of mid-October 2002, according to an estimate by the HSBC Securities Co. the convertible government preferred stocks account for 20 % of the total bank stocks for Mitsui-Sumitomo Bank, 25% for UFJ Group, 40 % for Risona, and 50 % for Mitsui Trust Financial Group. There is none for Tokyo-Mitsubishi Financial Group, since the group paid back all public money, and the conversion period is still one or two years away for Mizuho Financial Group.[14] When such conversion takes place, this is virtually same as the nationalization of private banks, and the government can extensively intervene in the bank management to push banking reforms and improve corporate governance. Whether such a government intervention is desirable or not is an entirely different issue and a matter of further investigation.

Another factor which makes the bank capital appear larger than it is actually is the capital accounting method called as deferred tax-refund assets (繰り延べ税金資産) or tax effects accounting (税効果会計), which was introduced in March 1999. Most banks have been building up reserves for the problem loans as their bad loans accumulate. When the reserve build-up exceeds the tax-exempt limit, the amount above this limit will be taxed as an income. When the problem loan in question becomes non-performing in the future, the paid tax will be deducted from the revenue as a loss. However, this deferred tax refund credit is

[14] Nikkei, 23 October 2002.

now included in advance as part of the bank capital. The maximum limit for the deferred tax refund assets is set by the next five years' expected taxable incomes multiplied by effective tax rates, usually 40 %. In the U.S., the maximum limit is one-year taxable income multiplied by an effective tax rate or 10 % of core capital, taking the smaller of the two figures. Obviously, the Japanese standard is judged to be much more lax and lenient than the U.S method. There is some rough estimate that the big Four CAR may slip to the 6-8% range if the U.S. standard is applied. Anyway, it smacks of a cosmetic accounting in the midst of deflationary stagnation with dark future revenue prospects. Since the tax refunds assets are included as part of the core capital, the core capital diminishes as the tax refund assets decrease. The failure of the old Japan Securities Credit Bank (旧日本債権信用銀行) is a case in point. When the bank was liquidated in December 1988, the tax-refund assets of the bank was totally disallowed, simply because there were no future taxable incomes from which prepaid taxes were supposed to be deducted as losses.

However, the above comparison of the Japanese accounting methods for deferred tax refunds with the U.S. method does not seem to be complete, and there are some mitigating factors for the Japanese system. One of the reasons why the deferred tax refund assets as part of the bank capital in the U.S banks is far less important than in the Japanese banks is the difference in the tax treatments of bad loans disposed. In the U.S., when the bank judges certain loans as unrecoverable, the Internal Revenue Services would in principle readily recognize such loans as losses, and the bank can dispose of them as bad loans tax-exempt. Because bad loans can be promptly disposed of without paying taxes, there would be less accumulation of deferred tax credits in the U.S. By contrast, the Japanese tax laws for the tax-exempt disposal of bad loans is much more stringent and legally complex. In principle, the Japanese tax authorities recognize the bad debt as the business loss, only when the legal resolution (法的整理) of bad loans based on the application of corporate revival laws (会社再生法) is executed or the secured assets are disposed of. Only the half of the unsecured portion of even the virtual-loss loans(実質破綻) is allowed to be liquidated tax-exempt and the remaining half is taxable, and the tax paid cannot be treated as the business loss until the debt in question becomes actually unrecoverable. Therefore, as more money is set aside for loan losses, the deferred tax-refund assets increase.

There is another important difference in the tax systems between the two countries which would cause a marked difference in the accumulation of deferred tax refunds in the two countries. It is the carry-forward deduction of the current deficits from the future gross profits

(繰り越し控除). The maximum allowable period for such a carry-over loss deduction is 20 years in the U.S. as compared with 5 years in Japan. Furthermore, the carry-back refund of past taxes paid to make up for the current deficits (繰り戻し還付) is also stricter in Japan. In the past, the retroactive refund of past taxes paid in case of deficits is permitted only from the taxes paid in the previous year, but today the practice is frozen for the reasons of fiscal problems in Japan. In short, if the tax laws regarding the carry-forward deduction and the carry-back refund as described above should ease, the task of the final disposal of bad loans in Japan would become a lot easier. Therefore, there is an element of truth in the view of the banking industry that if the standards for counting deferred tax-refund assets as part of bank capital are to be tightened vis-à-vis the U.S. standards, it is also essential to overhaul at the same time the corporate tax laws dealing with the treatment of business losses. This would mitigate the burden of the banks cleaning up bad loans.

The real problem is that these destabilizing components together account for a substantial portion of the bank capital and in some cases such as Mizuho and UFJ groups approached a 50 % of the core capital, and 77% for Risona as of March 2002 as shown in table 4. Note that the major part of capital is composed of the cosmetic additions of deferred tax refunds and highly restrictive public funds. If these two components are subtracted from the capital, there is virtually little left in the bank capital for the final disposal of existing bad loans, let alone new ones, and for dividends, with a notable exception of Mitsubishi-Tokyo Bank.

Table 4. The Composition of bank capital for 5 financial groups, 31 March 2002 (%)

	Mizuho	UFJ	Mitsui-Sumitomo	Mitsubishi-Tokyo	Risona
Deferred tax refunds	25.1	25.7	26.6	16.5	32.9
Public funds	29.6	30.9	21.2	0.0	43.8
Other capital	45.3	43.4	52.2	83.5	23.3

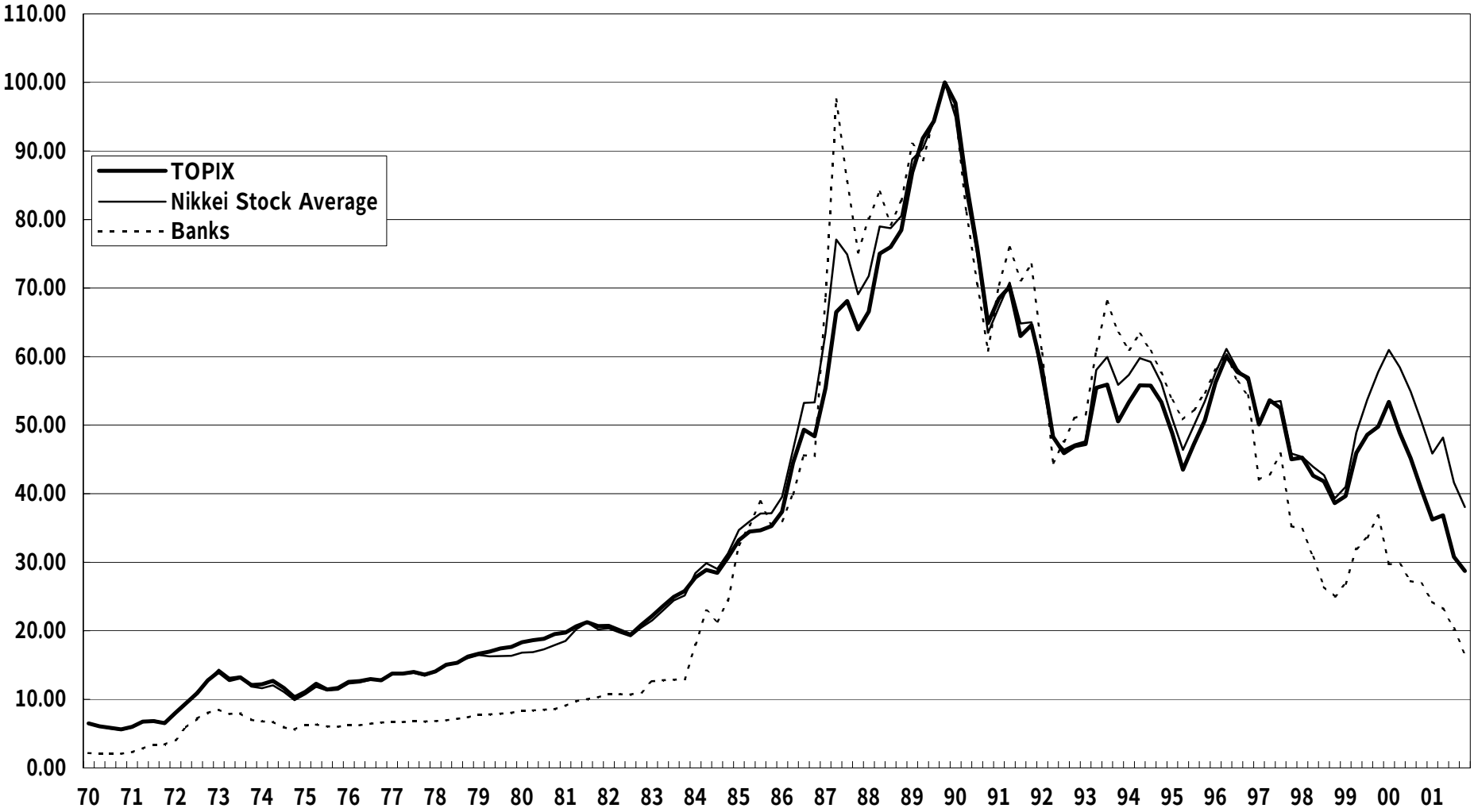
Source: Mainichi Shinbun, 10 October 2002

Additional equally worrisome source of the structural fragility of bank capital is the bank-held stocks. Big banks hold a sizable amount of corporate stocks in the form of cross-share holding (持ち合い株) roughly equal to 30 trillion yen valued at the current market prices as of the end of March 2002. The central issue here is that the share prices continued to tumble since they hit the peak with the average Nikkei price of 38,915 yen on 29 December

1989 as shown in figure 6. The serious negative impacts of falling stock prices on the bank capital is obvious. Included in the Tier II capital is the amount equal to 45% of capital gains or losses of the market securities held by the banks. It is evident that the continuously falling stock prices since the bubble burst in 1990 as shown figure 6 have been seriously eroding the banks' profits and capital base. The government has recently required the banks to reduce the bank stock-holdings within a limit equal to their core capital by September 2004. In response, Sumitomo Trust Bank has met this requirement two years in advance of the deadline by selling off 150 billion yen worth of its stocks, and leaving the balance of about 720 billion, which is less than its core capital of 770 billion yen. A similar plan to reduce the bank stock holding to the level of core capital during this accounting period is contemplated by Mizuho and UFJ groups. The total sale of stocks held by big banks amounted to 5.4 trillion yen in the last accounting period and the sale of this period is expected to surpass the previous period.

The main reason for the banks to accelerate the disposal of cross-share holding stocks is to server the negative link between stock prices and bank profits. Banks are required to post in the balance sheet as losses the differences between the book values and current prices of stocks held or sold by banks when their differences exceed 50%. In the period ending in March 2002, the big banks all together suffered stock capital losses of 1.7 trillion yen, offsetting more than a half of their combined net profits.. As of March 2002, it is estimated that the big banks still hold collectively cross-share holding stocks 1.4 times their core capital. The big banks aim at strengthening their financial positions by unloading their stocks at the markets, but their selling activities would further depress the stock markets which have been already suffered a huge drop in recent time. On October 10, 2002, the Nikkei 225 stock average dropped to 8439 yen from 20337 at the end of March 2000, all time lows since the burst of the bubble, representing nearly a 80 % drop from the bubble peak values. It is true that the recent steep decline in the Japanese stock markets is strongly influenced by the U.S.-originated worldwide stock markets plummeting. This is further compounded with the general fears and uncertainty that the government plan to clean up bad loans at a massive scale may precipitate the deflationary spiral at least in the short run. The capital losses resulting from a sharp decline in stock prices since last March is estimated to expand by another 5 trillion yen, and the bank capital must be reduced by the amount equal to a 60% of this capital losses. Obviously this would put heavy pressure on the bank profits and CAR. It was previously estimated that the CAR may not clear the international standard of 8%, if the Nikkei 225 average falls below the 9000 yen level, and the average has already slipped well below this level.

Figure6 . Stock Price Indices



Source: Nikkei Database

Note: Nikkei and Topix, 29 December 1989=100(Nikkei 38,915 Yen)

In the light of the current critical situation, it is well understandable that the Bank of Japan (BOJ) has decided to purchase a 2 trillion yen worth of the bank-held stocks. But the 2 trillion yen price-keeping-operation (PKO) would hardly make a dent on the total bank stock holdings of around 30 trillion yen. Perhaps, the BOJ' unprecedented market intervention may have a more announcement effect stance than its direct quantitative impact with the clarification of its policy stance.

Lastly but not least important, there is a serious problem of precarious cross-share holding relationships between banks and insurance companies. At present, most big banks hold subordinated loans or funds from their closely related life or accident and damage insurance companies, while the insurance companies reciprocate this transaction by holding bank stocks. In accordance with BIS regulations, mutual holdings of capital among banks are not allowed as bank capital and hence excluded from the bank capital as such. However, the banks and the insurance companies are now not treated as the same industry. It is quite possible, however that the border line between banking and insurance industries may disappear in the near future as financial market deregulation accelerates, and hence the cross-share holding between the two industries may not be allowed to count as part of the capital base. Major insurance companies hold now around several hundred million to several billion yen worth of the big banks' capital. Worse yet, such cross-share holding is not only spreading, but more alarmingly the capital base of major insurance companies as measured by the solvency margin (保険支払い余力) is worsening as hit hard by the plummeting stock prices in recent days. For instance, according to the Nikkei newspaper of 11 October 2002, the capital losses of stocks held by the big 7 insurance companies as a result of a sharp decline in stock prices was estimated to be around 1 trillion yen as of 10 October 2002. This is a sharp contrast to a capital gain of over 1.8 trillion yen they have made at the last reporting period of 31 March 2002. No doubt, such capital losses of the big insurance companies would further weaken the bank capital base. Worse yet, the expanding cross-share holdings between banks and insurance companies would increase the risk of a chain reaction of bankruptcies of one group triggered by the failures of the other group, thus elevating financial instability to a critical level.

Now we are in a position to assess the extent of precariousness or hollowing-out (空洞化)of the bank capital by putting together estimates of various bank capital components. As of March 2002, big city banks together were reported to have a total capital of 27 trillion yen on the face of it. Subtract from this total: (1) the deferred tax refund assets which has of no

liquidation value, amounting to 11 trillion yen; (2) capital losses from a sharp fall in the stock prices since last March in the amount of roughly 5 trillion yen; and (3) additional reserves for special mention loans and substandard loans in the amount of 7 trillion yen. This would leave the remaining balance of around 6 trillion yen. If we further subtract 7 trillion yen worth of public funds from this sum, the bank capital becomes negative, namely a negative net worth situation (過剰債務). This implies that the real bank capital may not be in fact sufficient to clear a critical BIS minimum CAR, and without public money injected, many banks may find themselves in a state of insolvency. This is tantamount to the nationalization (国有化) of the banking sector.

Moreover, we have not taken into account the looming problems of cross share holding between big banks and big insurance companies. Under this precarious condition, many banks may face a run on the bank and hence financial crisis without the government guarantees of bank deposits. It is quite understandable why the government plan to remove the government protection of regular account deposits beyond 10 million yen as of April 2002 has been postponed for another two years. The most significant implication of the hollowing-out of the bank capital is, however, that most banks are so undercapitalized that they are in no way in a position to clean up bad loans on the strength of their own. The injection of public money is deemed absolutely essential, but how and how much? This is a subject matter of the next discussion.

(C) *Issues Relating to the Injection of Public Funds*

(1) Conceptual Issues

Given the extreme fragility of the bank capital structure as described in detail in the foregoing analysis, it seems almost unavoidable that the solution to the bad-debt problem requires some form of the injection of public funds. The controversial issues surrounding the use of public money are indeed numerous, complex and confusing, often stirring up a great deal of emotion. However, much of the confusion of debates surrounding the use of public funds can be avoided, if a set of transparent principles or criteria for the use of public funds is clearly established. For analytical convenience, we will first discuss conceptual issues related to the general principles underlying the injection of public funds. Then we evaluate some of the actual policy proposals requiring the use of public money particularly, in the context of the comprehensive Tanaka Plan for accelerating the disposal of bad loans coupled with anti-deflation policy packages being currently proposed by the Koizumi government. In this regard, various controversial arguments related to the use of public funds could be grouped

around the following broad conceptual dimensions: justification, purposes, methods, and timing. We will take up each of the items in order in the following[15].

Conceptual Justification for the Use of Public Funds.

The first and foremost question raised in regard to the injection of public funds, particularly for the purpose of rescuing troubled enterprises is "why banks only and no other private enterprises?" The theoretical justification for the injection of public money in the banking sector is grounded on the concept of public goods provided by the smooth function of the banking system. The banks provide two essential services, namely, credit creation (信用創造) and a mechanism for payment settlements of personal and business transactions (取引決算). Credit creation refers to the process whereby the bank receives deposits from savers and lends them to investors, and as each bank repeats this process of money circulation successively, the deposits and loans in the economy expand by a multiple of the initial deposit in due course of time. Payment settlements refer to the financial settlements of real economic transactions of numerous economic agents, mainly, households, firms, and governments, using bank credits, and this settlement system is linked by a large number of financial institutions with the banks at the core. It is evident, therefore, that the failure of one bank may risk the destruction of this vital chain link, and risk successive failures of other banks in the system, so-called "systemic risk". Moreover, since the banks carry on close business transactions with numerous firms, bank performance would have immense impacts on the client firms. Therefore, the failure of the bank by, say excess NPLs, would produce much greater damaging impacts on the economy that the comparable business failure in other industries. As a result, the injection of public funds is deemed justified to forestall such catastrophic systemic impacts of the bank failures on the economy.

However, there are also some plausible arguments against the use of public funds in the banking sector. The injection of public money may create moral hazard causing a vicious circle of new bad loans leading to worsening economic conditions. This process can be roughly explained as follows. The injection of public funds would not only benefit relatively sound banks, but also enable laggards to survive for the time being. However, as the economic conditions deteriorate again, these weak banks try to attract new deposits by offering higher interests, and seek higher-return borrowers. In doing so, the weak banks may resort to highly risky lending activities and increase the risk of generating new non-

[15] This section on conceptual issues related to the injection of public funds draws heavily on chapter 6, Yanagawa, N. (2002) (in Japanese).

performing loans. Also, the survival of the weak banks may hinder the liquidation of inefficient firms with problem loans, and hence lower the overall productivity of the economy.

But one could counter the above argument that to forestall moral hazard, public money should be injected only into healthy banks. In practice, screening between weak and strong banks seems very difficult. In principle, the health of the bank should be judged on the basis of market valuation of assets held by the bank. But the prudential bank supervision system in Japan is not yet well developed to perform this task of bank supervision and assessment. The reasons for this are many and not difficult to find, for instance, a shortage of qualified inspectors, and the difficulties of hiring outside experts. There is also serious concern about the adverse side effects of government screening of good banks from bad ones. For instance, the banks condemned as substandard may suffer the exodus of bank depositors and clients, and also a lower credit rating with the increasing difficulties of raising capital.

In a similar vein but on a slightly different theoretical ground, the quasi-market discipline hypothesis (Horiuchi 2001) presents a theoretical case against the use of public funds. At the risk of oversimplification, the hypothesis can be summarized as follows. In principle, it is ultimately desirable that the problem of bank capital adequacy be solved by market mechanisms without government intervention. But banks burdened with a heavy bad-debt load are not usually inclined to strengthen of their own accord their capital position. A quasi-market discipline may be needed to force the banks to maintain adequate capital. For instance, if the banks are required to apply more stringent asset valuation methods and adopt more stricter measures to increase loan-loss reserves, the banks would be compelled to improve their capital position without the injection of public funds. However, the banks may resort to asset compression to strengthen their capital, thus creating a credit crunch in the short run, but the medium-and long-term benefits of self-reliant capital augmentation may more than offset the short-run losses. And the injection of public funds may impede the development of such a quasi-market discipline. All in all, it is also unrealistic to expect, however, that given the financial health of the banks so weakened today, the banks can clean up bad loans and beef up their capital at the same time without the support of public funds. Simply, although the notion of a quasi-market discipline is highly desirable in theory, it is not operative in practice.

Purposes of the Injection of Public Funds

The use of public funds in the banking sector is intended for many different purposes. Some objectives are broadly defined such as financial stabilization and economic recovery from deflation. Others are more narrowly focused such as protection of depositors, aids to

SMEs, maintenance of a well-functioning financial settlements system, preserving bank capital adequacy, and so on. The crux of the matter is the consistency and compatibility of objectives when multiple objectives are specified for the injection of public money. When a conflict of goals exists, the injection of public funds often achieves none of the goals intended, and become totally ineffective or wasted.

A good example of costly wastes of public money with conflicting goals is the recent injections of public funds of around 10 trillion yen all together into major city banks in 1998 and 1999. The public money was initially intended for replenishing the banks' capital depleted by the final disposal of bad loans so that they would clear the BIS 8% capital huddle. However, the banks are also obligated at the same time as a condition for the use of public funds to actively support and expand their lending to SMEs. Particularly, the big banks are accused of curtailing substantially their lending to SMEs, while their lending to big corporations has kept the same pace. The recent statistics (Nikkei, 5, November,2002) vouch for this criticism. The bulk of big city banks reduced their lending to SMEs as of the end of March, 2002 compared to the same period a year before. For instance, the reduction was 0.7 trillion yen for Mitsui-Sumitomo, 2.5 trillion yen for UFJ group, 0.27 trillion yen for Daiwa, 1.4 trillion yen for Asahi, and 0 .34 trillion yen for Mitsui Trust. On the positive side, two banks increased their loans to SMEs, 0.2 trillion yen for Mizuho Holdings, and 0.03 trillion yen for Mitsui Trust.

What are the reasons for big banks' sluggish lending to SMEs? First of all, there is the paucity of credit demand from SMEs, despite the conscious efforts of big banks to expand loans to this sector. Tighter rules for lending may tell part of the story. But the most important point is a conflict of goals. The goal of protecting loss-making SMEs is diametrically opposed to that of improving the banks' profitability. When public funds were injected into big city banks in 1999, the big banks promised to expand their lending to SMEs, but their promises were not kept as described above, mainly because of deepening macroeconomic stagnation. There is a contradiction between the government encouragement of the banks to become stronger and profitable by raising interest rates on the one hand and the government demand to expand their lending to unprofitable SMEs. Ironically, the injection of public money resulted in the extended survival of both heavily indebted banks and inefficient SMEs.

The main lesson to be learned from this fiasco is that the objective of the use of public money should be sufficiently articulated and a set of measures to achieve this objective should be consistent with it. Measures inconsistent with the specified objective should be excluded from this particular program, and included under a different appropriate program. For instance,

in the above case, the protection of SMEs should be provided under a different government SMEs support program, not as part of the program to revitalize the banking sector. In fact, the government set up a program of special loan guarantees for SMEs with an initial fund of 29 trillion yen in October 1998. There are however many conceptual and practical pitfalls to this specific safety net program for SMEs, which will be discussed later in the context of anti-deflation policy packages.

Methods of Injection

The institutional framework for the injection of public funds into the banks in Japan was set up through the enactment of the Financial Rehabilitation Laws (金融再生法) and the Early Revitalization Laws (早期健全化法) in October 1998. The former deals with the bankruptcy procedures of failed banks, while the latter focuses on aiding the capital-deficient banks by the injection of public funds prior to bankruptcy. There are basically the two different ways of injecting public funds into the banks. One method is through the direct government purchase of preferred stocks and subordinated bonds issued by the banks. The other method is the use of public money for facilitating the sale of bad loans from the banks to a third receiving body, for instance, RCC (Resolution and Collection Corporation,整理回収機構) or a new Industrial Revival Corporation (産業再生機構) . Practical issues concerning the two different methods will be discussed in detail shortly. Here some of the conceptual differences in the underlying principles of the two approaches are examined

One of the critical points in this regard is the extent of government intrusion in the bank management through the injection of public fund. According to the Financial Rehabilitation Laws (金融再生法), the banks receiving a special support (特別支援) will be held responsible for the outcomes of the support. The special support here refers to special loans from the Bank of Japan or the injection of public funds. In case of special supports or the injection of public funds, the inspector from the Financial Services Agency could sit in the board meetings of the bank to monitor and supervise the bank activities on regular basis. Therefore, the injection of public funds is tantamount to placing bank management under government control.

Moreover, the use of public money usually requires some form of management accountability. The severity of penalties may vary widely from a wholesale change of top management with the termination of pensions and other retirement benefits, and in some cases criminal and civil law suits of their wrongdoings to a slap on the wrist, for instance, simply requiring the submission of a restructuring plan. Under the Early Financial

Revitalization Laws (早期健全化法), the injection of public funds is possible only on request from the banks, and requires the pursuit of management responsibility when the restructuring plan submitted at the time of the injection of public funds is not achieved. Today, the application for the use of public funds is processed in accordance the Deposit Insurance Laws (預金保険法) and still only on request from the bank side. Furthermore, unlike the previous case, there is no stipulation for management responsibility.

A thorny point in this issue is that if the pursuit of strict management accountability is stipulated prior to the injection of public funds, no bank would come forward for the application of public funds. On the other hand, if management responsibility is not vigorously sought, one could hardly expect the banks to implement a bold restructuring plan. Financial revitalization may fizzle out and taxpayers' money squandered. This is a classic case of moral hazard.

As a corollary of the above issue of management accountability, the compulsory injection of public money into the bank in serious capital deficiency is also an important issue. Obviously, the banks are very reluctant to use public funds on condition of management accountability. The only way to inject public funds into troubled banks with management accountability is through legally forced means, and to enact new laws to make such compulsory enforcement possible. On the other hand, it seems presumptuous to contend that government knows better than banks, and forcibly intervenes in the private sector. In short, there is a wide range of unsettled conceptual issues, let alone practical ones, concerning proper management responsibility associated with the injection of public funds. The issues merit further serious investigation

Timing of the Injection of Public Funds

The question of optimal timing or when to inject public funds is another important issue, on which expert views widely diverge. Roughly speaking, there are two schools of thought on this issue. One school stresses the need for the injection of public funds at the early stages of financial troubles of the banks and particularly capital deficiency. By contrast. the other school argues that public funds should be injected only when there is the risk of a systemic financial crisis. Main conceptual underpinnings of each school is examined in turn and compared in the following.

The argument in support of the injection of public funds at the early stages of financial troubles focuses on the process of the banks' balance sheet adjustments as their asset quality deteriorates and the negative impacts of such balance sheet adjustments on the economy. As

explained before, when the portion of the banks' total assets turning non-performing increases, the banks' capital would be diminished and their CAR would fall. In such a case, the banks may resort to the compression of risky loan assets to prop up the sinking CAR. Although such asset compression is perfectly a rational response for the banks, it may create credit crunch and hence affect adversely the economy. Therefore, it is considered desirable to inject public funds into the banks at the early stages of asset deterioration to replenish and strengthen the damaged bank capital and at the same time prevent credit crunch.

The apparent advantage of the early injection of public money is to strengthen the bank capital so that the final disposal of bad loans and the augmentation of loan-loss provisions would be facilitated, and the risk of bank failures and a consequent systemic financial crisis could be prevented. However, whether the reduction of bank lending could be also prevented or not remains uncertain, since the liquidation of risky assets is part of rational risk management even in time of credit crunch. The second advantageous point of the early action is that the its total costs tend to smaller than the costs of cleaning up bad loans after bankruptcy. This is simply because the non-performing proportion of total assets is likely to increase sharply at the advanced stages rather than at the early stages of problem loans.

Nevertheless, the early action has some demerits. The foremost problem is moral hazard. Given the extreme difficulties of separating good banks from bad banks, there may be always the risk of throwing money at bad banks. Furthermore, as a counter-argument to the above premise, there are some cases that the total costs of early action may become greater than the total costs after bankruptcy. For instance, the bank may be judged to be safe as a result of a thorough asset valuation at the time of preventive injection of public funds, but later becomes unprofitable again, requiring another round of the injection of public money. Therefore, the total costs of public money often become difficult to estimate at the time of preventive injection.

The more serious argument against the early action is that the early injection would deprive the banks of incentives to raise money at their own initiative to shore up a capital shortfall. The argument underscores the primacy of market principles that permit the survival of the most competitive ones and weed out the weaker ones. As a result, the problem of over-banking would be solved and the efficiency of the banking sector would be improved. One important reason for lower profit rates of the Japanese banks compared with those in other developed countries is attributed to an excessive number of banks and consequent excess competition. Under excess competition, lending rates may be driven down to a level lower than that appropriate to the risk of the loan in question. The prior announcement that the

government is committed to inject public funds only after bankruptcy and not before would be needed to promote competition among banks.

It stands reasonable to argue that the injection of public funds before bank failures as a preventive measure may impede or retard the development of an efficient financial system based on market discipline and competition. But in this respect, the preponderance of indirect finance vis-a-vis direct finance in Japan must be considered. For instance, the ratio of total bank loans outstanding to nominal GDP is about three times greater in Japan than in the U.S., with the ratio of around 96% in Japan compared to 32% in the U.S. This means that the same percentage of bad loans exerts by far greater economic impacts in Japan than in the U.S. Therefore, there may be the greater risk in Japan that a rapid credit contraction may result from successive bank failures caused by excess competition and inflict an irreparable damage on the economy during the transition period. Under such special circumstances, the injection of public funds prior to bankruptcy may be justified.

From the viewpoint of costs and hence burdens to taxpayers, it is relatively easier to arrive at a total cost estimate for the post-bankruptcy injection than the early preventive injection. Therefore, it becomes easier to persuade the general public and mobilize their political support in case of the injection of public money after bankruptcy. However, there are also many past cases that huge hidden liabilities were discovered in the process of liquidation, thus inflating the total cost at the last moment. A case in point is the collapse of Japan Long-Term Credit Bank(日本長期信用銀行). The bank was misjudged to be a sound bank and received a total of 170 billion yen worth of public funds to strengthen the bank capital. However, only a half year after the bail-out, the bank was exposed to be heavily indebted a lot more than known outside before. The bank was nationalized and liquidated. Most of public funds injected to purchase preferred stocks were lost and borne by the taxpayers.

(2) Practical Issues

Given the extreme fragility of the Japan's banking sector, it seems logical to conclude that the use of public funds is a prerequisite to the resolution of the bad-loan problem. First of all, as discussed before, the public money is necessary to replenish the capital shortfalls of the banks disposing of bad loans. Moreover, public money is needed to operate the public corporations such as the Resolution and Collection Corporation (RCC) or Industrial Rehabilitation Corporation (IRC), which purchases bad loans from the banks and makes up for the secondary losses resulting from the disposal of purchased problem loans.

It is generally accepted that the prototype of the injection of public funds into the bank capital was developed when a large- scale liquidation of insolvent banks under nationalization

was carried out in the United States during the Great Depression in the 1930s. Undoubtedly, the Great Depression in the U.S was far more severe in all respects than the current deflationary slump in Japan. In addition to the financial crisis, the unemployment in the U. S was much larger and the general price levels had dropped by about 30 % in four years. It was only after the massive government spending during the World War II that the U.S. economy fully recovered from the Depression. However, there is one important lesson to be learned from the U.S. experiences during the Depression. That is the Bank Holiday. The president Franklin Roosevelt declared the Bank Holiday and ordered the business stoppage of all banks on March 4, 1933 immediately after his presidential inauguration. The government authorities completed a thorough investigation of the banks' assets and other financial conditions within one week. As a result, 5,000 insolvent banks out of the total number of 18,000 banks were liquidated under the corporate bankruptcy laws. The remaining banks were forced to clean up their bad loans, using their own capital first, and then the Resolution Financial Corporation (RFC) injected public funds into capital-deficient banks by purchasing preferred stocks with a voting right. In addition, management responsibility was vigorously pursued and a partial reduction of deposits was enforced[16].

Tanaka Plan for the Accelerated Disposal of Bad Loans

From the viewpoints of policy formulation and implementation, there is a vast range of controversial issues concerning the injection of public funds. Perhaps, it would be highly useful to examine the Tanaka Plan for accelerating the disposal of bad loans currently being proposed as a starting point for discussion. The main elements of the Tanaka plan is summarized in figure 7. First of all, the plan seeks the banks receiving public funds to separate the new account (新勘定) from the old account (旧勘定) and manage them separately . All bad loans are purged from the new account and lumped together in the old account. The separation of old and new accounts is not new. Immediately after the end of World War II, the separation of old and new accounts was enforced as part of a comprehensive reform plan of the banking sector in Japan. There were also similar cases overseas such as the same scheme occurred under the temporary nationalization of private banks during the financial crisis in Sweden in the early 1990s. As a recent example, the bad loans of the Japan Long-Term Credit Bank (new Shinsei Bank、現新生銀行) were also lumped and sold together to the RCC.

[16] For an economic analysis of the Great Depression, see Friedman, M. and Schwarts(1965), Temin, P(1976) and Barta, R.(1985).

Gradual or Radical Approach?

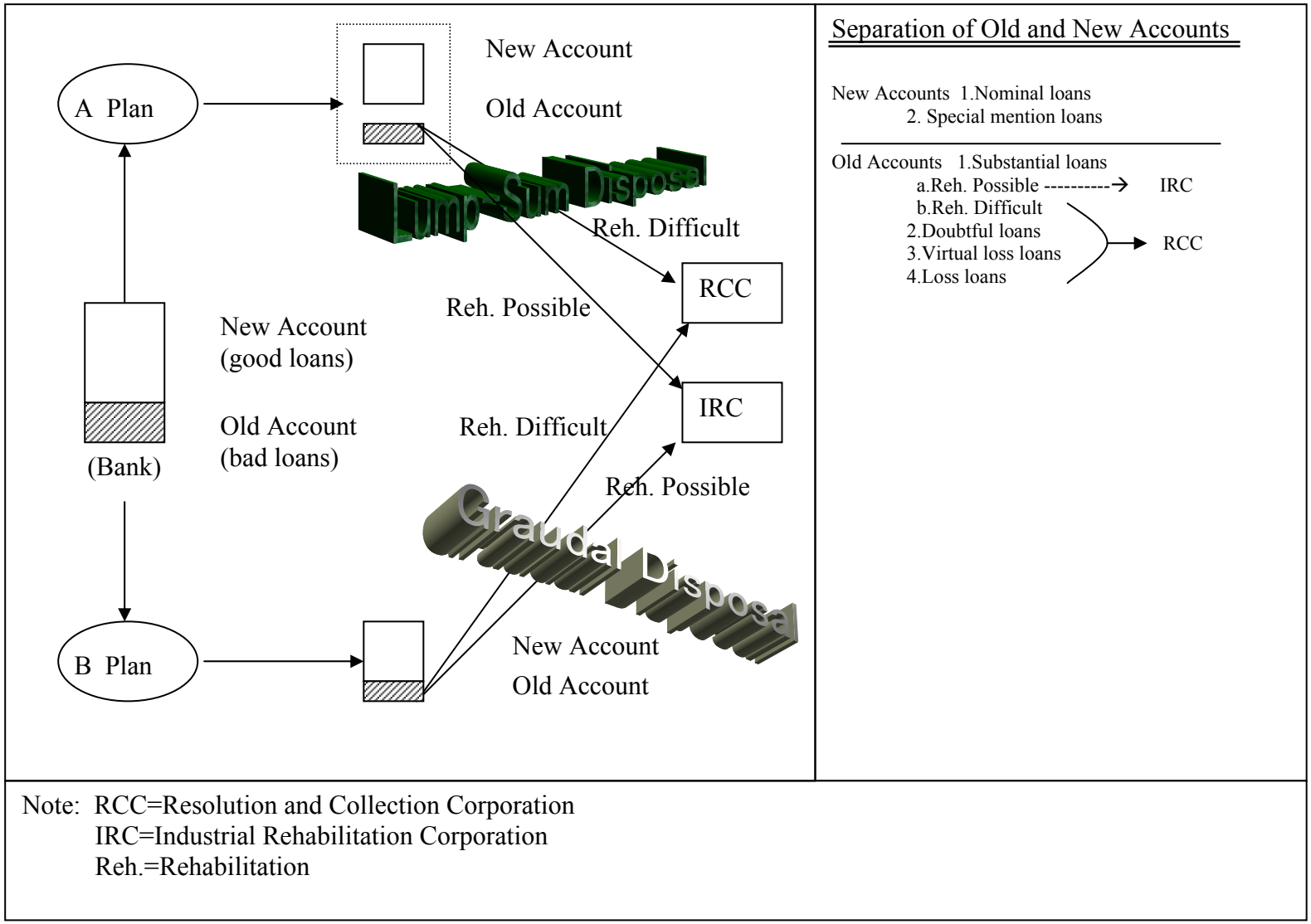
Although the Tanaka plan does not specify the concrete method of separation, the two broad approaches can be envisioned. The first one is a radical surgical approach whereby separated bad loans are sold in the lump once for all to a receiving plate such as the RCC or IRC. The second method is a gradual approach whereby separated non-performing debts in the old account are gradually unloaded and restructured if possible over several years under the new management. Moreover, bad loans are further distinguished between bad loans to firms whose business revival is possible through restructuring, and those totally insolvent. Unrecoverable bad loans are sold to the RCC, while those reparable ones are transferred for restructuring and rehabilitation to a new quasi-public corporation, called the Industrial Rehabilitation Corporation (産業再生機構,IRC), which is supposed to be financed from both government and private sources, and placed under the umbrella of the Deposit Insurance Corporation.

The implementation of the Tanaka Plan as described above faces many policy and organizational huddles to clear, apart from intractable political controversies which is beyond the scope of the paper. We will discuss some of the major issues related to the implementation of the Tanaka plan in the following.

The Main Functions of the Industrial Rehabilitation Corporation (IRC)

The foremost issues center around the creation of a new government corporation, tentatively designated as Industrial Rehabilitation Corporation (IRC, 産業再生機構). The idea of creating a new corporation is born of the urgent need for placing equal importance on industrial rehabilitation in the course of cleaning up bad loans within a broad anti-deflation policy framework. It represents a two-pronged assault on deflationary slump. On the one front, it aims at the speedy disposal of bad loans, which shackle the economy with excess capacity and widening deflationary demand gaps. On the other front, it attempts to rehabilitate sick but reparable enterprises to good health through restructuring. It is intended not only to alleviate or counteract the adverse short-term effects of disposing of bad loans on the economy, but also to improve the overall productivity and facilitate the structural reform of the economy in the long run. Traditionally, the RCC played the role of receiving bad loans and sorting out those worth saving from those for final liquidation. Then it was felt among some bankers that the primary function of the RCC is supposed to be the collection and disposal of bad debts, and hence it is not up to the task of industrial rehabilitation. On the enterprise side, there is a

Figure7. A Proposed Framework for Bad Loans Disposal



Note: RCC=Resolution and Collection Corporation
IRC=Industrial Rehabilitation Corporation
Reh.=Rehabilitation

negative image problem that once the firms sell bad loans to the RCC, they may be tarnished with an undesirable image of " irreparable". The new IRC will inaugurate in April 2003 as an essential part of the overall integrated government anti-deflation policy package. The gist of *modus operandi* of the new corporation can be summarized as follows. The IRC will purchase only bad debts worth rehabilitating from creditor banks except the lead creditor bank (main bank) to the indebted company in question. The IRC is a financial institution equipped with the functions of corporate finance, trust and guarantees. The Industrial Rehabilitation Committee (産業再生委員会) will be established within the IRC and the Committee will be responsible for screening target enterprises for industrial rehabilitation, among other things. The committee is composed of the private sector (excluding the banking sector) industrial restructuring specialists and public officials in the field of industrial policy. The IRC will promote industrial rehabilitation in close collaboration with the lead creditor bank. According to the government plan, the effective period of bad-debt purchases by the IRC is limited to three years and its operational period also limited to five years. The time-bound existence of the IRC is intended to mark a clear-cut turning point for industrial rehabilitation by the pre-determined specific yea, when the program for the accelerated disposal of bad loans is also to be completed. At the same time, it is also intended to prevent the IRC from becoming a permanent depository for low-quality loans. The decisions of whether or not a given enterprise can be rehabilitated will be based on the basic guidelines to be developed by the Government Team for Industrial Rehabilitation and Employment Strategy (産業再生。雇用対策戦略本部) under the direct authority of the Prime Minister. The guidelines will be based on a (tentative) critical value of the ratio of debt outstanding of a company to its cash flows not exceeding 10 upon completion of its restructuring plan. The NPLs not clearing this huddle will be rejected. Bad loans will be purchased at the real book-values (実質簿価) which are higher than the current market values (時価), while the RCC purchases at the current market prices. The secondary losses resulting from the purchased loans will be borne by the lead creditor bank and the IRC together. The IRC will not directly participate at the real task of industrial restructuring. The task will be entrusted to the lead creditor bank or a private industrial restructuring fund on a competitive bidding basis. In such a case, the old management team of the company under restructuring will be replaced by a new team composed of management experts and specialists dispatched from the lead creditor bank or a private restructuring fund, and the new team will take over company management.

The salient feature of a new IRC being proposed is close collaboration of the lead creditor bank and the IRC to which all creditors' claims to the loan in question except the share of the lead bank will be sold. Such a bundling of claims in one place would obviate the need for complex coordination and adjustment of different and often conflicting interests among a large number of creditor banks, and hence considerably facilitate the rehabilitation process of problem enterprises. More specifically, as a major creditor in this scheme, the IRC could exert pressure on the lead bank to formulate a realistic restructuring plan and influence the problem enterprises to focus on profitable areas and discard unprofitable ones.

Selection Criteria for Industrial Rehabilitation

Perhaps, the foremost intractable problem is how to develop an objective and transparent criteria for screening the candidates worth rehabilitating and those "irreparable". Being seriously considered now as a possible quantitative indicator for this purpose is the debt-cash flow ratio, namely the ratio of a company's debts to its cash and liquid assets. The critical value for this ratio is that the interest-bearing debt balances is less than 10 times the annual cash flows at the completion date of the restructuring plan. It means that the debts could be repaid within 10 years. In general, the restructuring period of 3- 5 years for big enterprises and 7-10 years for SMEs is allowed. For example, the actual ratios for different industries as of 2001 are roughly as follows: 24 for real estate, 20 for textiles, 17.9 for retail and whole sale, 17.5 for general construction, 13.4 for non-metallic, 11.0 for iron and steel, 10.5 for petroleum and coal, and 9.8 for metallic (Nikkei, 10 November 2002). It is evident, therefore, that unless each company in high ratio sectors designs and implements a very strict restructuring plan, it could not clear this critical huddle at the end of restructuring period. Around 76 percent of non-performing loans of the big banks are concentrated in these laggard industries, namely, real estate, construction, retail and whole sales, and other services, according to an estimate of the Bank of Japan. Then the task of rehabilitating those "zombie" companies under this new rule seems indeed formidable.

However, at the time of this writing, the uniform application across industry of the above Cabinet Government's original quantitative standard is likely to be shelved because of strong opposition from various industry groups, and particularly trading companies and general construction (Nikkei, 25 November 2002). According to the current plan, the Industrial Rehabilitation and Employment Strategy Headquarters in the Prime Minister's Office will hammer out the basic guidelines within this year. At the beginning of 2003, each government ministry and agency will draft based on the basic guidelines its own specific guidelines suited to special characteristics and needs of the industries under its jurisdiction.

Since a quantitative criteria is not required in the basic guidelines, different industry guidelines developed on the basis of different ministerial discretion may increase the possibilities of watering down the original strict standards. As a result, the IRC may absorb some of the unrecoverable NPLs. As a result, industrial restructuring may be delayed.

On the other hand, it is also true that the uniform across-industry application of a certain quantitative standard without adjusting for heterogeneous characteristics and special circumstances of each firm and each industry would seem unfair and impracticable. However, once qualitative factors are taken into account, it becomes extremely difficult to draw a line between "rescue and perish" of a given debtor firm. For instance, one can imagine readily how difficult to quantify technological capacity and know-how of the enterprise in question, and its economic importance to the local economy or other firms in terms of business transactions.

The Scope of IRC Functions

As closely related to the problem of selection criteria, the scope of activities of the IRC should be clearly understood and delimited. The crucial question in this regard is whether the primary function of the IRC is to deal with microeconomic problems of rehabilitating the ailing but promising big enterprises as an integral part of the strategy to facilitate the disposal of bad loans from the banks. Or it may go beyond this limit to get involved in the macroeconomic issues of structural change of the industry as a whole. Under the present organizational set-up, the IRC is placed under the jurisdiction of the Deposit Insurance Corporation (DIC), and the funds to purchase bad loans from the banks are also provided by the DIC. Under such an organizational set-up, it may be simply beyond the IRC capacity in terms of technical, financial and manpower resources to tackle with macroeconomic structural change policies.

Appropriate Asset Purchase Pricing

Another contentious issue is the appropriate price at which the IRC should purchase bad loans from the banks. The RCC which is primarily concerned with the collection and final disposal of bad loans purchases them from the banks at the current market price(時価) in principle. Based on the market-price principle, the purchase price of the RCC is usually set at the level equal to the value of around 10 % of the book value of the loan. However, the market-determined price is considered too low to induce the banks to sell bad loans to the collection agency. It is strongly felt, therefore, that a new pricing principle which yields higher purchase prices than the traditional market pricing principle is deemed necessary for

the IRS, and a new method called " the real book value pricing"(実質簿価) is introduced as a result. As described in figure 8, we have a simple algebraic relation for asset pricing as follows:

Book value- (loan-loss reserves + current market value) = bank losses

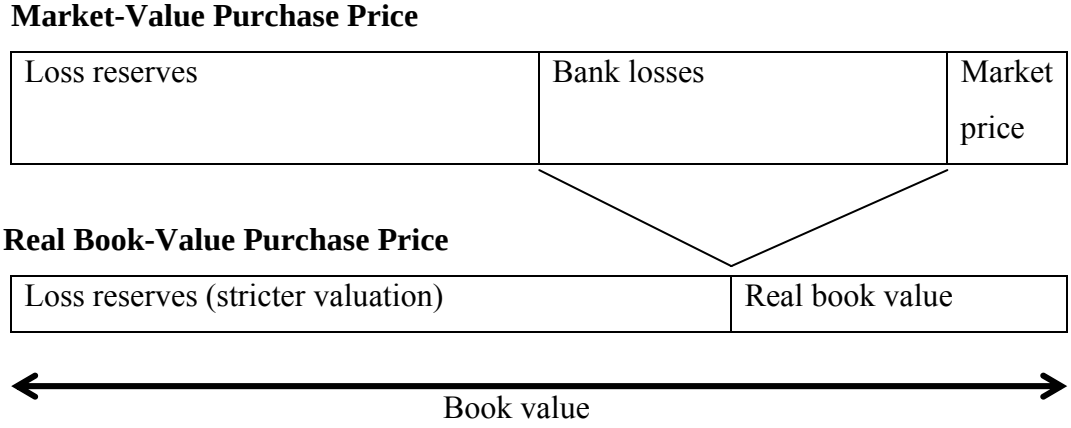
According to the current market-value pricing method, given the market value, it is necessary to increase the loan-loss reserves up to the point where the bank losses become zero. However, the required amount of additional loan-loss provisions to make a zero loss may be too big and costly for the banks to carry out, since it would severely drain the bank capital, endangering their BIS capital adequacy requirements. As a compromise solution, the real book value method is devised to share the burden between the banks and government. According to this scheme, the FSA may require the banks to re-value the adequacy of loan- loss reserves, using a stricter valuation method, and increase the reserves accordingly. Then, the re-valued reserves are deducted from the original book value of the loan, and the residual is the real book value that the IRC will pay to acquire bad loans from the banks. The real book values tend to be higher than the current market values. As an illustrative example, take the case of doubtful loans (破綻懸念先) which are mostly dealt with by the RCC . Normally the loss reserve requirements for this category of bad loans are 40 to 50 % of the original book value. In this case, the purchase price based on the real value method would be set at the levels of 50 to 60 % of the book value, which are a lot higher than the 10 % level set by the RCC using the current market-value method.

In this regard, the cabinet government is currently checking the possibility of adopting a stricter loan-valuation method, namely the discounted cash flows (DCF) method, which would enable us to estimate the current value of the firm based on its expected future profits in calculating the real book value. If the DCF method is applied, one study estimates that the loan-loss reserves may have to increase by 1.5 to 2 times, and the estimated real book value would be around 16 percent of the original book value. At this purchase price, the banks need to raise the loan-loss reserves to the level of about 80 percent from the present 20-27 % of the original book value for the substandard category of bad loans. This may be too much for the banks to bear. Therefore, the more flexible application of the DCF method is called upon by certain policy makers to permit the hiking of the purchase price to a level attractive enough to the banks.

Since loan-loss reserves plus real book values exhaust book values by accounting identity, the banks would register no loss at the initial round of purchases by the IRC. The

IRC would purchase bad loans from the banks at higher prices than the market prices assuming that the indebted ailing firm will be rehabilitated to a profitable enterprise. Using the Minsky model, the bank validates the speculative finance of a temporarily illiquid firm, anticipating that the firm will return to a hedge finance position in due course. It is possible, however, that the secondary losses may occur if the restructuring plan should not succeed as expected. In such a case, the losses may have to be covered by the IRC using public funds and/or the banks.

Figure 8. Illustration of bad-loan purchase prices



As mentioned at the outset, the IRC will be set up with a limited life span of 5 years. It has to sell off all its assets to market players before its 5 year-mandate ends. Prior to the dissolution of the IRC, it is hoped that all the debtor firms will have recovered their health and their market credibility. Otherwise, the IRC must suffer huge losses at the taxpayers' expense. There is a dilemma in the choice of loan-valuation method and purchase prices. If the bad loans are purchased aggressively, using a too easy loan-valuation method and at higher prices, it is likely to prompt the banks to sell off their bad loans and hence help stabilize the financial market. On the other hand, the IRC will be stuck with NPLs of the insolvent firms, and inflicted with huge secondary losses at the increased taxpayers' costs. Moreover, it would only help to prolong the lives of mortally sick firms that should be purged from the market in the first place, thus defeating the purpose of industrial restructuring and rehabilitation. Also, the purchase of bad loans at too lenient terms would stunt the fledging growth of private funds specializing in industrial restructuring and rehabilitation such as those set up by Phoenix Capital Co. and Nippon Mirai Capital Co., for example. On the other hand, as noted before, if the loan-valuation is too strict and the price offered is too low, it will become more difficult to unload their bad loans and financial market will remain unstable. But since the IRC will be

likely to handle only those debtor firms which stand good chance of recovery, the risk of secondary losses at the expense of taxpayers may be smaller.

Obviously, the crucial question of where to strike a balance between the two alternatives is indeed challenging and formidable in practice. Put differently, the strategy of "killing two birds with one stone", namely financial stabilization and industrial rehabilitation may not work in practice. If the IRC would purchase aggressively bad loans at easy terms for the purpose of financial stabilization, it may wind up with a rescue operation of many problems firms, while the purchase at too stricter terms would discourage and delay the disposal of band loans. Simply the achievement of one goal means the abandonment of another goal. A choice must be made between the two, namely financial stabilization or industrial rehabilitation, and the two goals cannot be pursued at the same time, like "chasing two rabbits at the same time".

Industrial Rehabilitation for Small- and Medium-Scale Enterprises (SMEs)

The statistics validate readily the gravity of the plight of smaller firms. The total bank loans outstanding to small and medium firms as of the end of September 2002 was down by a whopping 30 % to 219 trillion yen from 308 trillion yen at the recent peak point of the end of 1997. By contrast, the bank lending outstanding to big firms dipped slightly to 95.4 trillion yen from 98.4 trillion yen during the same period (Nikkei, 3 December 2002). The financial problem of SMEs is likely to get worse as the government program of bad-loan disposal accelerates as planned. It is evident that the asset compression to improve bank capital position was concentrated on SMEs. A drastic reduction of bank lending to SMEs is partly explained by the fact that some of the debts of small firms were repaid by their parent companies on their behalf. It is even more likely that banks find loans to small firms riskier and easier to liquidate in case of business failure compared with loans to big firms. Therefore, it becomes increasingly difficult to avoid reducing further lending to smaller firms, if the government is to accelerate the write-offs of bad loans and tighten the selectivity of bank loans. The government program of accelerated bad-loan disposal would directly contradict its plan to expand credit availability to SMEs. On the other hand, from the standpoint of lenders, there seems to be little promising loan-demand from SMEs, and they do not want to simply finance the life extension of zombie enterprises.

The IRC activities are mainly focused on the speedy disposals of 20 to 30 big corporate borrowers of big city banks and bad loans in the substandard category. The resolution and rehabilitation of SMEs' bad loans is not part of its major activities, although big city banks were legally bound to lend a certain percentage of their total loan balances to

SMEs as a condition for the injection of public funds in 1999. Responding to the strong urge and pressure from the government, many big banks such as Mitsui-Sumitomo, Sumitomo Trust, Risona, and Shinsei launched a new unsecured loan program for SMEs, which lack securable assets such as real estates and marketable securities. The interest rates of the loans are set at relatively higher levels than secured loans, adjusted according to the degree of risk. This new program would have the beneficial effects of "killing two birds with one stone" in the sense that the banks involved could shun the criticism of credit tightening and at the same time increase their profitability. However, these are new healthy loans based on a strict risk assessment, and no support program is envisaged within the IRC scheme for bad loans of SMEs which stand good chance of revival with adequate financial support. Obviously, there is the urgent need for an institutional scheme similar to the IRC whereby bad loans of SMEs are sorted out between "reparable" and "irreparable" through a rigorous loan valuation with sufficient consideration given to special circumstances and unique characteristics of SMEs. Those "irreparable" loans are usually liquidated by the RCC, but there is no receiving plate for those "reparable" loans on the premise of industrial rehabilitation yet. Since the IRC deals mainly with big problem loans with multiple creditors, whereas most of the SMEs loans are provided by a single or a few number of creditors, the IRC at the present form may not be suitable to handle such SMEs' bad loans.

In fact, at the time of this writing, the FSA is proposing the expansion of the RCC functions to include industrial rehabilitation of SMEs. Originally, the RCC was set up to dispose of the assets of bankrupt firms on the premise of business liquidation. However, if the RCC is to assume the new assignment of industrial rehabilitation, it needs to reorient its organizational and operational framework based on the premise of rehabilitation and mobilized necessary financial, technical and manpower resources to realize such a plan. Above all, it needs to wipe off the old image of "a graveyard for failed businesses"

Under the present draft plan, the RCC will collaborate closely with main creditor banks to clean up bad loans of mid-sized firms. More specifically, the lead creditor bank of the troubled firm will decide first whether or not the rehabilitation of the problem firm will be entrusted to the RCC. If requested from the main bank, the RCC will take over all the problem firm's loans from the non-main creditors in the form of either direct purchase or a trustee relationship. The RCC will then undertake the task of restructuring and rehabilitation in close collaboration with the main bank. Since the RCC will not be provided with financing resources, its role is limited to supervision and advisory services and the main initiative will be entrusted to the creditor bank in the rehabilitation process. To facilitate the new

rehabilitation function of the RCC , special corporate rehabilitation divisions will be established at each of the RCC's 43 offices nationwide. Currently one such office exists, in Tokyo. The staff for corporate rehabilitation will also increase from 130 to 150. Since the RCC will concentrate on the doubtful loan category, its function will not overlap with that of the IRC, which will focus on the substandard loan category.

However, there is mounting concern over the wasteful proliferation of SMEs support programs. The SMEs support program was included as a part of the comprehensive anti-deflation policy package of the government. The program aims specifically at expanding the lending activities of government financial agencies to SMEs and strengthening the capacity of regional credit guarantee facilities for SMEs. However, this may cause some problem. The government disbursed 29 trillion yen of special guarantee loans to SMEs to ease the problem of credit crunch since October 1998. The program prompted many small and medium firms to borrow without special needs, and some banks to collect the existing loans and replace them with the government guaranteed loans. The loan repayments to the banks by the regional loan guarantee facilities on behalf of failed SMEs amounted to 5 % of their loan balances for the last three years and this share is still on the surge. To put a brake on the mounting abuse of the guarantee system for the SME, the Ministry of Economy and Industry is planning to ask the financial institutions and SMEs utilizing the guarantee scheme to bear part of the burden. Under the present scheme, the regional credit guarantee facilities provide the full guarantee for the entire amount of SMEs loans from the banks in principle. The new plan is to reduce the guaranteed amount from 100 % to 80-90 % of the loan values coupled with a raise in the guarantee fees form 1 % to around 1.3%. In case of business failure, the non-guaranteed portion of the loan will become a non-performing asset to the lending banks. The partial guarantee system is intended to force the beneficiary banks and enterprises to bear some of the risk involved. In fact, the partial guarantee system is widely adopted worldwide. The guaranteed portion of the loan varied widely from country to country; for instance 75% or 85 % depending on the amount of loan in the U.S., 75 % or 85% depending on past performance of the firm in the U.K., 50% or 80% according to policy objectives in France, 50-80 % based on the uses of the loan in Germany, and 100 % in Switzerland. (Nikkei, 7 November 2002). However, if the guarantee limit is pressed too hard, the banks may become too cautious in their lending to SMEs, and weaken the safety net effects of the guarantee system.

If the safety net system for the SMEs is over-stretched to the point of overprotection, it would lend a helping hand to sickly firms which should be allowed to go under, and go

against the goal of accelerated write-offs of bad loans. Obviously, there is the urgent need for developing an overall integrated and consistent SMEs support framework by coordinating and consolidating, and integrating widely scattered existing programs before creating new ones aimlessly.

Manpower Requirements for Industrial Rehabilitation

There is the serious problem of securing sufficient skilled technical manpower and know-how to tackle with the task of complex industrial restructuring and rehabilitation in conjunction with the massive clean-up operation of bad loans. Highly specialized and experienced technical manpower from varied and diverse fields will be needed in the process of disposing of bad loans and rehabilitating ailing but reparable firms. They include, among other specialists, lawyers, accountants, corporate finance experts, and management consultants who specialize in the areas of corporate bankruptcy, mergers and acquisition, corporate taxes, drafting a corporate restructuring plan, and reconciling the interests of banks and shareholders. It is estimated that there are over 10,000 business restructuring specialists in the U.S, while in Japan there are only 500 today and the minimum number required for the accelerated bad-loan disposal program is roughly put at 5000, 10 times the current supply.

In an attempt to fill this huge manpower gap, the Ministry of Economy and Industry introduced a crash program to train specialists in this field through opening lectures at university graduate schools and other private educational organizations. One billion yen is budgeted for the program and the half-year to one-year special lecture programs are planned to be inaugurated at several universities at the Tokyo area in the Fall of 2003. But it is doubtful how much this crash program can accomplish in alleviating the massive manpower shortage. Meanwhile, the banks and enterprises are expected to dispatch their own experienced staff to restructuring assignments, but the banks themselves are now in dire need of experienced specialists for their own restructuring program and may not have extra resources to spare for external assistance. Also it is a bit ironic that the staff support should come from the ailing banks saddled with bad-loan problems. At present, there seems to be no other alternative but to rely on foreign sources until domestic capacity is sufficiently built up.

Private Versus Public Initiatives

The crucial task of rebuilding both the ailing banking sector and weakened industry is facing its most critical turning point. The creation of the IRC is an important response to this challenge. Ideally, the IRC should be a lean, transparent and efficient organization with the minimum intervention in the private sector. Apart from the enormous practical difficulties of building such an ideal organization, the foremost mind-boggling question arises as to the

question of why the public hand is needed to rebuild the private sector economy. We live in the age of the market-principle paradigm that what can be done by the private sector should be entrusted to the private sector. When the Nissan Automobile company was facing the immediate danger of bankruptcy three years ago, the main creditor bank and the government were mere by-standers. After all, the Nissan co. was brought back to life and has become one of the most profitable enterprises in Japan in a few years under the skillful management of the new president, Carlos Ghosn, dispatched by the French car-maker, Renault, with a substantial capital participation of the same company.

The notion of enterprise restructuring with the public-helping hand seems anachronistic. It seem a bit presumptuous to assume that the public body composed of politicians, bureaucrats, or heads of business associations, can judge the future prospect of a given enterprise better than the market. Public intervention may not always help rehabilitate the troubled firm or industry. Furthermore, the rehabilitation of troubled individual firms with public aid may not necessarily lead to the rehabilitation of the industry in question as a whole, particularly in case of industrial over-capacity. For instance, when one of major firms in the industry is rehabilitated and regained its competitive strength with financial supports, and launches a cut-throat price competition, the whole industry will be destabilized as in case of the general construction industry.

Moreover, the government bail-out of ailing firms may run the risk of nipping the buds of fledging private funds specializing in restructuring sickly firms, apart from being a convenient depository for bad loans and prolonging the lives of zombie companies. Taking into consideration the possible negative impacts of government support programs on the private sector development, the IRC is mandated to exist for a fixed period of 5 years and its activities are confined to the acquisition of bad loans and sponsoring a rehabilitation program. This would leave the substantive business of restructuring and rehabilitation to the private sector such as the main bank and private funds specializing in industrial restructuring. In case of dealing with firms in the excess-capacity industry, extreme caution must be taken so that the rescue operation of troubled firms would not exacerbate the problem of excess supply in the industry.

Few could dispute the cogent argument that industrial rehabilitation is ultimately a private matter between private interested-parties, and the government-led initiative is of limited usefulness, because of the limited capacity and know-how of the government in industrial rehabilitation. There are some exceptional cases, however, that government intervention is justified. The maintenance of financial stability is a case in point, apart from

other externalities and market-failure arguments. Financial stability is public goods which is essential for the smooth functioning of the real economy. Big banks play the vital role in preserving financial stability through financial intermediation and credit creation. When one of the banks fails, there is the real danger of a systemic failure of the entire banking system, and hence jeopardizing the real economy in terms of income and employment. Such an economic catastrophe is most likely to happen in time of severe financial distress, which many believe the Japanese economy faces today. In such a crisis situation, there may be no time to wait for the market mechanism to work itself out without plunging the economy into deep stagnation. Or the market mechanism is not well equipped to cope with a serious economic crisis. It is justifiable for the government to lend a helping hand under such circumstances. Of course, there is no more business for the government to stay, and hence should exit from the market promptly, when the mission is accomplished, namely, once the economy recovers to normalcy. On the other hand, if the big banks are healthy enough to earn adequate profits, they can raise their own capital at their own strength by issuing shares at the market prices. The banks would then be well capitalized and clear easily the minimum BIS huddle. We have a banking crisis precisely because they are not capable of doing this.

Finally, in addition to the accelerated removal of bad loans, there are many other things that the government can do to promote anti-deflation policy and advance industrial reforms without directly encroaching upon the private sector. They include, among many other things, a cheap-yen policy, pulling down the corporate tax rates to the U.S. and European level of 30%, and active inducement of foreign direct investments. They will all likely to invigorate industrial rehabilitation. More vigorous application of intellectual property rights to prevent the flooding of markets with cheap imitation goods from Asian countries may help to strengthen the competitiveness and profitability of manufacturing firms. There are potentially numerous innovative schemes that the government can initiate to provide an environment conducive to the reinvigoration of the private sector economy without directly getting involved in the private business operation, except for a financial or economic crisis. The government should concentrate on supporting activities in diverse fields such as exchange rate policy, tax reforms, safety nets for SMEs and displaced workers from industrial restructuring, while the main business of running a firm including restructuring and rehabilitation should be left to the private hand.

VII. Korean Experiences

As the problem of bad loans has dragged on beyond the decade of the 1990s since the burst of the bubble economy, the recent Korean success story of overcoming the 1997

financial crisis has attracted widespread attention to draw some possible useful lessons for ending the Japan's bad-debt problem. It is indeed a remarkable success story that South Korea has overcome the 1997 financial crisis relatively in a short span of time, four years, by tackling boldly and decisively with the twin problems of bad loans in the banking sector, and excess debt and inefficiency of big enterprise groups (zaebols)[17].

It is well known that South Korea has achieved a phenomenally rapid double-digit economic growth in the 1980s and in the 1990s under the government-directed industrial policy with a major growth thrust focused on the pivotal role of various zaebols and their financial support. However, the growth policy based on the government-directed policy loans to big enterprise groups has produced the twin problems of debt-overhang and inefficient productive structure characterized by low profitability in the late 1990s. As a result, seven of the 30 zaebols have gone under and the Korean economy faced the currency and economic crisis with a steep drop in the value of Won and its foreign reserves in the late 1997, on the heels of the similar crises in neighboring Thailand and Indonesia. The new Kim Dae-Jung government inaugurated in February 1998 accepted an emergency financial support from IMF and World Bank, and launched a bold program of drastic restructuring of the economy and the banking sector along the lines of IMF advices.

At the risk of oversimplification, the main results of fundamental economic and financial restructuring launched in December 1997 can be summarized as follows. First of all , the government raised short-term interest rates up to 30 % to stabilize the value of Won and to maintain an adequate foreign reserve. By July 1998, the value of Won was stabilized and the government then launched on the second stage of crisis management, namely a stimulus package of monetary and fiscal expansion to revitalize the economy. Within one year, depressed share indices had quickly recovered and trebled the lowest levels reached during the crisis.

During the crisis, the total amount of public funds injected amounted to 157 trillion Won, equal to about 30 % of the Korean GDP. As a result of fundamental restructuring and reorganization of both the banking sector and big business groups (zaebols), the number of banks had been whittled downed to 20 today from 33 at the end of 1997, and all making profits except one today. Sixteen laggards out of a total of 33 zaebols had been dissolved. Even competitive big business groups have undergone a drastic rationalization and reorganization to further enhance their global competitiveness, as evidenced by the global

[17] For an analysis of major factors leading to the 1997 financial crisis, using models of financial crisis caused by distortions in capital markets, see Dooley, M. P. and I. Shin (2000).

presence of some Korean zaebols such as Samsung Electronics, Hyundai Motors, and SK Telecom.

A total of seven banks were nationalized with the injection of public money by the end of 2000, and a large-scale management change was undertaken for major banks. Banking business was restructured to focus on profitable areas such as the expansion of consumer loans. One of the special features of the Korean crisis management is that public funds were injected also into non-bank financial institutions and insurance companies. The total sum of public money injected into non-bank financial institutions accounted for about 45% of the total public funds injected.

The Korean Asset Management Corporation (KAMCO), which comparable to the Japan's RCC, played a pivotal role in disposing of bad loans in the Korean banking sector. KAMCO purchased 100 trillion Won worth of bad loans from banks In addition to the sale to KAMCO, the banks employed many other disposal means to accelerate to unload bad loans. As a result, the bad debt ratio had plummeted from 12.9 % at the end of 1999 to 3.4% at the end of 2001. Public funds were used to make up for the secondary losses resulting from the final disposal of bad loans by KAMCO. In this regard, it is worth noting that much attention has been focused on the way that the Korean government disposed of bad loans using public funds. The Korean framework for disposing of bad loans can be described roughly as follows. The bank assets are separated into two groups; the new account for the normal healthy assets and the old account for non-performing assets. A public corporation depository for bad loans in the old account such as KAMCO is first created and capitalized by the issuance of government guaranteed bonds, and the public corporation purchased bad loans from banks with public capital. The banks which sold their bad loans to KAMPCO purchased government guaranteed bonds with the proceeds of bad-debt sales. In this way, NPLs owned by the banking sector were replaced by safe assets, namely government guaranteed bonds.

It is quite evident that the efficiency and profitability of the Korean banking sector has remarkably improved as a result of its massive bad-debt disposal and reorganization, as substantiated by the fact that all surviving 20 banks have made profits at the end of 2002. Furthermore, the momentum of banking reforms is further accelerating today to improve its efficiency and global competitiveness by increasing its size through mergers and enlarging its scope of operation to include security-trading and insurance to provide universal banking services. The government is planning to auction off the major bulk of shares of the nationalized banks and to further reduce the number of banks by a half in three or four years.

The crucial question arises as to whether the Korean experiences could provide some useful lessons for solving the Japan's banking sector problem. It is evident that the Korean experiences cannot be replicated in Japan without substantial modification because of major structural differences between the two economies. First of all, there is a major difference in the sheer size of the economy. The Japan's GDP is roughly ten times that of South Korea, and in fact Japan is still the world's second biggest economy in terms of GDP despite its decade-long stagnation. Being the second largest economy in the world, it would be a lot more difficult for Japan than for South Korea to stimulate the economy by manipulating exchange rates. Secondly, prior to the financial crisis in 1997, fiscal deficits in South Korea were small and manageable in contrast to the Japan's case, and hence a large sum of public funds could be readily raised. However, the most salient features of structural differences between the Japanese economy and other financially distressed economies is the unprecedented co-existence of three problems, namely, insolvent banks, unprofitable enterprises, and protracted deflation since the burst of the bubble economy in 1990. The 1993 financial crisis in Sweden resulting from the burst of the real estates bubbles and the 1997 financial crisis in South Korea caused by the negative net-worth financial structure of Zaebols did not occur in the midst of deflation as in the case of Japan. In the dangerous cocktails of heavily debt-laden banks and emasculated companies in an adverse environment of deepening deflation and asset deflation, one has to tackle with the double blows of the new bad loans created by the deflationary spiral as well as a mountain of the existing ones. In other words, the program for solving the bad-debt problem should include as an integral part anti-deflation policy measures to contain the newly created bad loans as the clean-up of bad loans would increase corporate failures and worsen the deflationary spiral in the short run as discussed extensively earlier.

An equally if not more, important success factor in ending the bad-debt debacle in South Korea is the enhanced and pervasive sense of crisis and urgency among the general public. Immediately following the presidential inauguration in February 1998, the President Kim Dae-Jung placed the highest priority on the task of overcoming the financial crisis, asked for the painful sacrifice and austerity of people, and effectively mobilized national support for the IMF reform program. Perhaps, building national consensus for the primacy of crisis management may encounter lesser political resistance under the presidential political system as in case of South Korea where political power is concentrated at the office of presidency in contrast to a cabinet-type political system as practiced in Japan.

No matter form of political system a country may have, the exalted sense of national crisis among the general public is a key factor for overcoming a financial and economic crisis

and this is precisely what is lacking in Japan today. Many favorable economic circumstances militate against fermenting any sense of national crisis and urgency. Despite the decade-long economic slump, Japan is still the world's second largest economy in GDP with the world's largest foreign reserves of over $450 billion, the world's largest creditor country with a net foreign asset of over $10 trillion, and also an individual financial asset of around 1,400 trillion yen. It is true that unemployment rate has recently nudged up to all-time highs of 5.6 percent but this figure still does not compare so unfavorably with many other industrialized countries. On the other hand, despite these seemingly favorable indicators, one cannot overlook many unmistakable signs of the deepening economic crisis. For instance, as discussed in detail in various parts of the foregoing analysis, troublesome signs of the Japan's ailing economy manifest themselves in many different forms: the unprecedented decade-long economic slump coupled with persistent deflation and severe asset deflation, the highest public debt as percent of GDP among industrialized countries, around 140 percent of GDP, plummeting share prices to all time lows of 8500 yen levels, mushrooming bad loans and sharply rising corporate bankruptcies, steadily rising unemployment, and the pervasive feeling of anxiety and uncertainty of the general public confronting the rapidly aging society .

The Korean experience would show us among other things what it would take to extricate the economy from a financial quagmire of bad loans and restore it on the healthy growth track. First of all, the program for ending the bad-debt problem along with fundamental banking sector reforms may require a big-bang approach with a substantial commitment of public resources, around 30 percent of GDP in the Korean case. The accurate total stock of bad loans in the Japan's banking sector is difficult to come by. It is estimated around somewhere between 50 and 60 trillion yen. The true figure may be double that amount. Anyway, a large-scale commitment of public money equal to over 20 percent of GDP, over 100 trillion yen, may be needed to clean up the bad-debt mess. Moreover, restructuring and rehabilitating ailing industries and firms, and anti-deflationary policy to cushion the short-term painful economic impacts of these drastic measures must be an integral part of the program for the disposal of bad loan, namely a three-pronged assault on insolvent banks, zombie enterprises, and deflation. Secondly, the reform program must be carried out, decisively and swiftly, so that resistance to reform may not have enough time to build up. In this regard, strong political leadership is considered essential to build a national consensus for reform and mobilize national support for the implementation of a reform program. It may be too far-fetched to expect that something like this would happen in Japan today. The eleventh hour crisis seems to be still not imminent in public perception.

VIII. **Concluding Remarks and Policy Implications**

(A) Priority Issues between Anti-Deflation Policy and Bad-Debt Disposal

Some concluding remarks with policy implications emerging from the foregoing analysis will be presented in this final section. The first and foremost question which arise in the context of bad-debt problems is whether or not anti-deflation policy should take precedence of financial stabilization policy focused on the eradication of NPLs. It is true that the Japanese economy is today facing the unprecedented formidable challenge of revitalizing the ailing banking sector laden with a mountain of bad loans and a multitude of non-competitive firms in various sectors in an adverse environment of deepening deflationary spiral. In such a deflationary spiral, the disposal of bad loans would impart an additional adverse shock to the depressed economy by creating a new wave of corporate failures and unemployment, particularly through the asset market deflation and negative balance sheet adjustments as discussed in detail in the main text. As a result, a surge in the new bad loans would overwhelm the old ones that have been just written off. The argument contends, therefore, that the depressed macroeconomic environment should be first fixed and then the problem of bad loans should be tackled with in terms of policy sequence.

However, the anti-deflation-first advocates could be faulted on a number of conceptual and empirical grounds. The core of the issue is that the bad debt is one of the main causes of deflationary stagnation. Stated differently, the Japan's real problem is that the government has been dragging its feet in cleaning up bad loans for so long time. Banks continued to roll over bad debts rather then write them off. This sustains excess capacity, keeps unprofitable firms alive, and locks resources in unproductive sectors such as construction, real estates and retail , all of which contribute to the deepening of deflation. In short, the bad debt reflects the rapidly declining competitiveness of the Japanese economy. Moreover, frequent injection of monetary and fiscal stimulus packages helped these inefficient firms survive, and perpetuated this pattern of resource misallocation over the last decade and beyond, as evidenced by the fact that over 90% of bad loans are today concentrated in the above three unproductive sectors. As long as anti-deflation package continues to sustain the life of zombie corporations, it would be futile.

In this regard, the Japan's general construction industry may shed some light on how some of the inefficient firms have managed to survive and perpetuate the industry over-capacity. The general construction industry is the Japan's largest depressed industry with 570,000 firms including SMEs, and around 6 million employees. The industry is a classic case of the declining industry whose life is propped up by periodic injections of public work

projects. Despite a sharp cut over the decade in the total investments (public and private combined) from 84 trillion yen at the peak year of 1992 to 60 trillion yen in 2001, the number of the firm in the industry increased by 9% to 570,000 during the same period (Nikkei, 21 February 2003). The major bulk of the increase took place in the SME sector at the expense of the big contractors. This increase is the result of the so-called hot-bed policy for the protection of small and medium firms (中小保護温室政策) ,which has been vigorously promoted by the central government as well as local governments. The policy provides SMEs with preferential allocation of public work projects. This is a good illustrative example of a misguided policy prescription stemming from a conflict of policy goals, between industrial efficiency and SMEs protection in this case.

There is mounting concern for the worsening economic troubles and possible widespread business collapses in the industry. Yet surprisingly, only ten companies have gone under in the last five years since two big Tokyo-Stock-Exchange listed corporations, Tokai Kogyo (東海興業) and Tada Construction (多田建設) failed. A dozen of big corporations in the industry have seen their stock values slumping below the 50 yen level, in addition to another dozen corporations' stock values hovering between the junk values of 50 yen and 100 yen. Many of these corporations are a big financial supporter of the party in power and they continue to operate even after they went bankrupt, because the existing laws permit them to participate in the bidding of public work projects as in the case of Tokai Kogyo. Ironically, under court protection against creditors stipulated by the bankruptcy laws, and particularly with the benefit of the interest-payment moratorium, some of these failed firms gain an unfair competitive edge against other healthier rival firms. And they continue to sustain over-capacity and deflationary stagnation.

Perhaps, it would be important to make a clear conceptual distinction between deflation and asset deflation to have a firm grasp of the essence of the issue at point. It is well known that deflation refers to the continuous decline in general price levels, whereas asset deflation describes a sharp fall in asset prices such as land and share prices in the last decade. According to 2002 National Economy Account by the Cabinet Government (内閣府２００２年度国民経済計算), the capital loss from the decline in land values from the peak of the bubble at the end of 1990 to the end of 2000 amounted to a cumulative total of 965 trillion yen, nearly 1.8 times the Japan's GDP today. Not surprisingly, the above three laggard sectors which heavily invested in real estates during the bubble period are today mot heavily laden

with bad loans[18] Then, the question arises as to whether asset deflation would be halted if the macro-economy recovers. The answer is no according to the past empirical evidence. During the short-lived economic growth of 3% in 1995-1996,the commercial land values plummeted by 15 % , and the deterioration of loans in the special-mention category (要注意先) into non-performing loans increased sharply by 17% compared to the usual deterioration rate of 3% in other periods.

The anti-deflation policy proponents (e.g. Posen, 1998) may contend that the stimulus package was not sufficient to have a lasting effect. But they seem to have missed one important point. The stimulus package is intended to create the Keynesian pump-priming effect, namely to provide an initial stimulus shock to reactivate the lethargic economy. After reactivation, it is the private demand that should take charge to sustain recovery and growth. The main reason why the private demand does not respond to the Keynesian stimulus is the bad debt. The massive load of bad loans paralyzes the intermediation function of the banks, preventing a free flow of money from savers to investors. As mentioned earlier, the bulk of stimulus package is diverted to unproductive but politically well connected projects such as public work projects, and keeps unprofitable firms alive, sustaining excess capacity and increasing deflationary pressures. Unless bad loans are removed from the balance sheets of both banks and enterprises, the intended Keynesian effects would not materialize and deflation would not be defeated.

Since August 1992, fiscal stimulus packages have been injected 12 times with a cumulative total sum of 140 trillion yen. At the same time, the ratio of monetary base to GDP has been raised to the all time highs since the creation of the Bank of Japan except the war time period in order to pursue vigorously the quantitative monetary-easing (量的緩和) policy, and nominal interest rate hit the zero percent floor. Despite periodic infusion of fiscal stimulus and monetary easing at the zero interest rate, the Japanese economy has failed to recover to the sustainable growth path. To make the matter worse, frequent macroeconomic policy interventions have increased the dependency need of private sector for public aid and

[18] Despite a sharp fall in the land values since the bubble burst at the end of 1990, the current market values of land in Japan compare still very expensive relative to other developed economies. For instance, the total current market value of land in Japan is estimated around 1444 trillion yen, about three times its GDP compared with 0.9 times its GDP in the USA, and 1.0 in the UK. Given the long-term prospects for accelerating industrial redeployment overseas, and rapidly aging demographic structure, the continuing sluggish demand for land, and hence a long-term decline in land prices seems inevitable。

have dulled the private incentives to help itself to restructure and enhance its industrial competitiveness. With generous government fiscal support and cheap money at the zero interest rate, the badly-needed structural change which would bring about the maximum vitality of private sector faltered, insolvent firms were kept alive and the pressing task of cleaning up bad loans was derailed.

Moreover, macroeconomic interventions in the 1990s have been undertaken more or less on ad hoc basis without a clear long-term vision, and have zigzagged erratically from one direction to another, accomplishing little. To be more specific, in 1992 the Miyazawa government abandoned its original plan to clean up the bad loan mess, using the public money, and instead switched to promoting fiscal stimulus measures. In 1996, the Hashimoto government ushered in the financial "Big Bang" reform to promote the restructuring and strengthening of the financial markets, but the reform program was thwarted by the worsening economic stagnation caused by the ill-timed fiscal retrenchment. The following Obuchi (小渕) government reverted to fiscal stimulus policy. At the same time, public money was injected into big banks, but the banking sector failed to be revitalized due to subsequent negligence in banking supervision. The massive government expenditures to stimulate the economy in the 1990s seem to have failed utterly, pushing up the total public debt balance to a dangerously high level of 140 percent of GDP. This provides a cogent empirical support to the view that the current policy debate regarding priorities and policy sequencing of anti-deflation policy and financial sector rehabilitation through the drastic disposal of bad loans is misguided. The solution to the present decade-long deflationary stagnation may call for a more comprehensive and integrated three-pronged simultaneous assault on the three fronts;(1) revitalizing the banking sector through a radical surgical removal of the bad-debt mess, (2) fixing the ailing corporate sector through extensive structural reforms and deregulation, and (3) implementing anti-deflation measures to boost aggregate demand. In this regard, monetary and fiscal policies to reflate aggregate demand should be radically shifted from traditional ineffective approaches focused on public work projects such as building roads, dams and bridges. They have delayed urgent structural reforms by prolonging the lives of marginal inefficient firms and sustaining over-capacity, the major cause of deflation. Put differently, scrapping excess capacity through bad-debt disposal and liquidation of unprofitable firms would improve the return on capital and eventually boost growth. However, the cleanup of bad loans would aggravate deflation as corporate failure and unemployment rises in the short run. Then, monetary and fiscal policy can be used to cushion, not prevent, the painful

consequences. In this context, more innovative and effective stimulus policy measures have to be designed to have a more lasting positive effect on aggregate spending. Some of the more imaginative schemes being proposed include among other things expanding urban renewal projects and strengthening IT infrastructure, tax cuts to spur consumer spending and business investments, creation of special zones to facilitate deregulation, special incentive measures to stimulate venture capital, safety net programs for the unemployed, to name several examples. As mentioned earlier, detailed analysis of corporate restructuring and necessary anti-deflation policy remains outside the scope of this paper and will be treated in the subsequent papers. Instead, this paper will focus on the first leg of the three-pronged strategy, namely the clean-up of bad-loan mess to rebuild a more sound and healthier banking system.

(B) Policy Measures to Accelerate Bad-Debt Disposal

There are two sources of bad loans. One is from the negative legacy of reckless over-investment during the bubbles and consequent over-capacity leading to the unprecedented decade-long deflation. The second source is from the failure of the Japanese economy to adapt to a new economic environment characterized by globalization and market liberalization in the 1990s from the old war-time interventionist economic system, which once worked well in the previous decades. Therefore, one has to contend with not only the massive old bad loans created by the bubble burst, but also the new ones generated by the non-competitive economic structure and inefficient corporate management system ill-adapted to intensified global competition. As a result, although an enormous over-90 trillion yen worth of bad loans has been written off in the last ten years, the new bad loans have overtaken the amount removed, and pushed up the bad-debt balances to ever higher levels. On the other hand, the banks' lending activities have become increasingly unprofitable and capital gains from their cross-share holdings have also almost evaporated. Against this backdrop of drastically deteriorating profitability and weakened capital structure of the banking sector, the problem of bad loans is becoming increasingly critical than ever. In the following we outline a number of policy measures which may be deemed essential to alleviate or overcome the bad-debt crisis.

(1) Realistic Valuation of the Bank's Loan Portfolio: The Use of Discounted Cash Flows

To dispel the public distrust in the banking sector, first and foremost, it is vital to arrive at a credible valuation of the bad loans which reflects accurately the decline in their economic values to facilitate the speedy disposals of bad loans or provide adequate loan-loss provisions. At present, Japanese banks set aside loan-loss reserves based on the past corporate bankruptcy rates. But the figures derived using the present method is considered inadequate,

and additional losses are likely to be incurred when bad loans are disposed of. It is widely suspected that many under-capitalized banks are inclined to postpone the final disposal of their bad loans in fear of incurring such a loss, thus undermining further market confidence in the banking sector. To remedy such a shortcoming, the discount cash flow method focused on the future expected income stream could be introduced to calculate the required loan-loss reserves. Of course, there likely to be stiff resistance to a change in the accounting method, since banks are extremely reluctant to face a considerable increase in the loan-loss reserves derived from the new method and the consequent temporary nationalization with the injection of public money. The implementation of the new method boils down to political will to overcome the resistance of vested interest groups.

(2) Preferential Tax Treatments of Bad-Debt Disposal

On the other hand, there is also the urgent need for creating a favorable environment that makes it easier for the banks to unload bad loans. This is particularly true of tax reforms intended to facilitate the bad-debt disposal. The problem of counting deferred tax refunds as part of the bank core capital was extensively analyzed earlier. It was further pointed out in this connection that the deferred tax credits in the composition of bank capital is less important in the US than in Japan due to major differences in the tax treatment of bad-debt disposal. The US banks enjoy more favorable tax advantages of various types in writing off bad loans than their Japanese counterparts, as discussed in detail earlier. To recapitulate, the US banks can dispose of bad loans tax-exempt at their own discretion whenever they consider certain loans unrecoverable without the intervention of tax authorities. Another advantage of the US banks is the carry-forward deduction of the current deficits from the future gross profits with the maximum carry-forward period of 20 years compared with 5years in Japan. Furthermore, the carry-back credit of taxes paid to make up for the current deficits is also much more generous in the US with the carry-back period of 2 years, (a maximum of 10 years during the Savings and Loans crisis in the 1976-1986), while the allowable period is one year and the law is currently frozen in Japan. It is not surprising to find that few US banks rely on the deferred tax credit rule under such favorable general tax treatments of bad-debt disposal.

The Financial Services Agency submitted to the Ministry of Treasury in August 2002 a tax reform proposal which provides a number of temporary favorable tax treatments of the banks disposing of bad loans like the US banking sector. Its purpose was to minimize the recurrence of deferred tax credit problem and at the same time spur the speedy disposal of bad loans. The proposal includes the following three favorable tax treatments only limited to the

banking sector. They are (1) the total amount of loan-loss reserves set aside is considered as a loss and tax-exempt; (2) the current freezing of the laws concerning the carry-back refund of past taxes to fill the current deficit holes will be lifted and the maximum carry-back period will be extended from the present one year to 15 years; and (3) the maximum carry-forward loss deduction period will be increased from the current 5 years to 10 years. The total cost of this tax-break package is estimated to be around 9.5 trillion yen. It is inevitable that the question of fairness arises as the tax-break proposal is applied only to the banking sector and benefits no other sectors. The criticism is well justified. But the urgent need for creating a new environment conducive to the speedy and decisive clean-up of bad loans can not be overemphasized, and the proposal would merit serious consideration.

(3) An Effective and Workable Framework for the Injection of Public Funds and Corporate Accountability

Needless to say, it is desirable that the banks are profitable enough to dispose of their non-performing assets from their current operating profits without government support as in the case of most big US banks today. However, this cannot be expected to happen in the present fragile Japanese banking system laden with a heavy load of bad loans. There seems be no other alternative but for the injection of public money into the ailing banks to remove their non-performing assets from their books. The hitch here is that the use of public funds usually means nationalization or placing the troubled bank under direct government control coupled with the possible pursuit of top management responsibility. Risking their own job, few top bank managers are likely to step forward to seek government support. Rather they would prefer to muddle through the crisis by postponing the write-off of bad debts. Worse yet, under the existing deposit insurance laws (預金保険法) (and also under the expired early financial revitalization laws (早期健全化法)) public funds can be injected only on request from the bank.

The thorny issue entangled with the use of public money is the specification of top management responsibility of the bank receiving special support. On the one hand, if the government intention to pursue vigorously management responsibility as a condition for the use of public funds is known in advance, no bank would request special support. On the other hand, if strict managerial responsibility is not pursued, substantive restructuring and managerial reform cannot be expected, and financial revitalization program is likely to remain half-completed with a costly waste of tax money. This is a classic case of moral hazard problem. Equally contentious is also the concrete specification of management responsibility,

as the recent government financial revitalization report failed to do in this regard. For instance, it would be unfair and unreasonable to ask the current top management to assume full responsibility for the entire amount of bad loans, since previous managers are likely to be also accountable in varying degrees for NPLs. Furthermore, management responsibility issues entail a wide spectrum of difficult and detailed adjustments. Some of their examples are the cancellation of retirement pension, stock options, and other fringe benefits as well as more substantive matters such as the wholesale change of top management team, and possible criminal and civil law suits against corporate frauds and negligence. As mentioned before, public money was injected into big city banks in 1999. At that time, the guideline for determining management responsibility to be pursued by the government was focused on the extent to which the business revitalization plan submitted by banks at the time of injection of public money was achieved within a specified period of time. On hindsight, the criteria proved to be too lenient and seems to be much influenced by the concern that few banks would apply for public money at the time. Today there is no workable legal framework or practical guidelines for management responsibility in connection with the injection of public money. Therefore, it seems to be of utmost urgency to develop a new legal mechanism which permits the possibilities of compulsory injection of public money if deemed essential, and more stringent standards for corporate accountability, although the banks may balk at such a tougher stance.

(4) Stock Conversion as a Policy Tool to Accelerate the Banking Reform

As described earlier, the government purchased 7.5 trillion yen worth of banks' preferred stocks with the option of conversion to common stocks in due course of time. The purchase amounted to over 70 % of the total stock values issued in 1999, when the government injected public money into big city banks to strengthen their capital position. Most of these preferred stocks are now due for conversion, although none of the shares held by the government have been yet converted. When converted, the government becomes a majority share holder with the power to speed up banking reforms such as a top management change and interventions in other important managerial and operational aspects of the banking business. This is practically tantamount to nationalization. Precisely because this is such a powerful tool with the risk of many potential side-effects, it is advised that this policy tool be used selectively and flexibly with extreme caution, only in a critical situation where the bank teeters on the brink of bankruptcy or even before reaching that critical stage.

Possible collateral damages that may emanate from the use of this tool are considerable. Firstly, when the number of the bank's common stock increases suddenly due to this

conversion, there is concern over the dilution of value per stock. If the share price of the big city bank closely watched by many investors plummets accordingly, this may destabilize financial markets. Secondly, at the time of conversion, if the current market prices of converted shares drop below the levels initially expected and the total market value of converted common shares becomes smaller than the initial amount of public money injected, the government would incur losses at the taxpayers' expense. Thirdly, the government intervention of this sort may make a significant dent on the private sector initiative to improve itself on its own strength.

Despite many potential risks involved in the use of share conversion, one can visualize easily that this policy tool can be highly useful under certain special circumstances. As mentioned before, under the existing laws, the injection of public money is possible only when requested by the bank. And the bank is usually disinclined to do so because of the fear of virtual nationalization, even if the bank in question is on the verge of insolvency and government bail-out is the only alternative left. In such a dire case, the government could use this share-conversion as a tool to forcibly intervene to forestall a financial crisis. In this context, the stock conversion option as one of many policy tools for financial stabilization would merit our serious consideration.

(5) Time-Framed Quantitative Targeting

No matter how sound and logical a policy prescription for ending the bad-debt crisis one may formulate, it may wind up on the shelf as a textbook case study without concrete quantitative targets and a realistic timetable for achieving them. The quantitative target in this regard could be conceived in the terms of a maximum desirable ratio of bad loans to the total assets for all the banks, a target rate of return on total assets or a target ratio of bad debts to GDP, etc. For instance, the actual ratio of bad loans to total assets for the Japan's entire banking sector is estimated to be 5.2% as of March 2002. Note that the ratio is the figure derived by the banks themselves and hence could be considerably underestimated. Next it is necessary to select a target ratio against which the actual ratio is to be compared. Such a target ratio could be selected and calculated from financial data for the most recent periods of financial stability. Unfortunately there is no such a ready reference period for Japan. As the second best alternative, the data for the US banks, which have just cleaned up the major bulk of bad loans could be used as a reference ratio. The US ratio of bad loans to total bank assets today is estimated somewhere between 0.6% to 1%, and this US ratio could be set as a target.

As equally important as the selection of a quantitative target is the specification of a time-table for implementation. It is essential that the target period must be feasible and

realistic in terms of time and resource constraints. Previous success stories in other countries such as the U.S, Sweden, South Korea show that it takes a minimum of 5 to 10 years to clean up the bad-debt problem. It seems far-fetched to believe, therefore, that Japan can overcome the bad-debt crisis relatively in the short span of 2 or 3 years, particularly considering the sheer size of bad-debt loads, which is estimated around 10% of Japan's GDP, roughly 4 time the U.S. ratio at its worst time of financial instability.

Moreover, the preparation of a time-table for the disposal of bad loans must also consider the time period required for mobilizing necessary resources to carry out the temporary nationalization of failed banks. The real magnitude of bad loans is estimated to be an enormous sum, anywhere between 50 to 100 trillion yen or even 150 trillion yen according to some analysis. Therefore, it is critically important not only to determine where to find a huge amount of public money, for instance through the issuance of government bonds or massive borrowing from private banks, or other sources, but also to determine the time required to mobilize a huge sum of public money. More importantly, the government is ill-prepared in terms of manpower resources to implement a large-scale clean-up operation through nationalization. The implementation of a large-scale nationalization program may call for a great number of specialists and professionals in diverse fields such as public accountants, industrial economists, lawyers, consultants, corporate managers, real estates assessors, etc., who are experienced and well-versed in banking and corporate restructuring and liquidation. In the absence of a ready pool of such professionals and specialists, it would be extremely a time-consuming and daunting task to train or mobilize needed manpower resources. The preparation of a time-table for the program implementation should not overlook this important aspect of manpower planning. Finally, the implementation schedule should be realistic, feasible and credible in the sense that once a target is set, the maximum efforts must be made to assure its achievement. If the bank should fail to achieve a given time-bound quantitative target for any reason, the government should be willing to compel the failing bank to take appropriate corrective measures, and in some cases ready to mete out a severe penalty such as the cancellation of banking permit;

(C) Improving Profitability in the Banking Sector

(1) Fostering Self-Sustained Earning Capacity in the Banking Sector

The ultimate solution to the problem of bad loans is the bank's self-sustaining earning capacity, since it is essential that the bank must generate sufficient profits to cover the loss resulting from writing off bad loans and at the same time strengthen its capital position, apart from normal operational expenses. Unfortunately, the Japanese banking system has been

mired in the pitifully low or negative profit zone for the entire last decade and beyond up to today since the bubble burst in 1990. As shown in figure 9, the return on equity (ROE) of the Japanese banks compares unfavorably, conspicuously and consistently, with other countries throughout the 1990s. Most countries (the US, the UK, Switzerland, Spain and Sweden) registered a healthy double digit figure during the period, except for Germany with its ROEs remaining within a range of 5-9 %, and France with its ROEs hovering around zero % in the 1993-1997 crisis period, but recovering nicely to a 10 % level after extensive post-crisis privatization. By sharp contrast, Japan's ROE was dragged down to a near-zero or negative value (-7 % in 1995, -14 % in 1997, and –7% in 1998) throughout the 1990s. Worse yet, one can readily observe a sharply contrasting pattern in terms of the way in which the economy rebounds from a slump between Japan and the rest of the countries compared. It is worth noting that the US, France, Switzerland and Sweden all had undergone a period of deteriorating profitability, but it was relatively of short duration and all quickly recovered from the slump. In stark contrast, the Japan's problem of low profitability has become increasingly severe and chronic over the last decade. Moreover, a recent study (Kawamoto 2002) shows also marked differences in other indicators of profitability between Japan and other developed countries. For instance, the average return on assets (ROA), which reflects productivity of assets, was 1.86 for the US, 0.6 for Germany and near zero for Japan in the 1995-1999 period. Profit margins were 3.32 for the US, 1.64 for Germany and 0.44 for Japan during the same period.

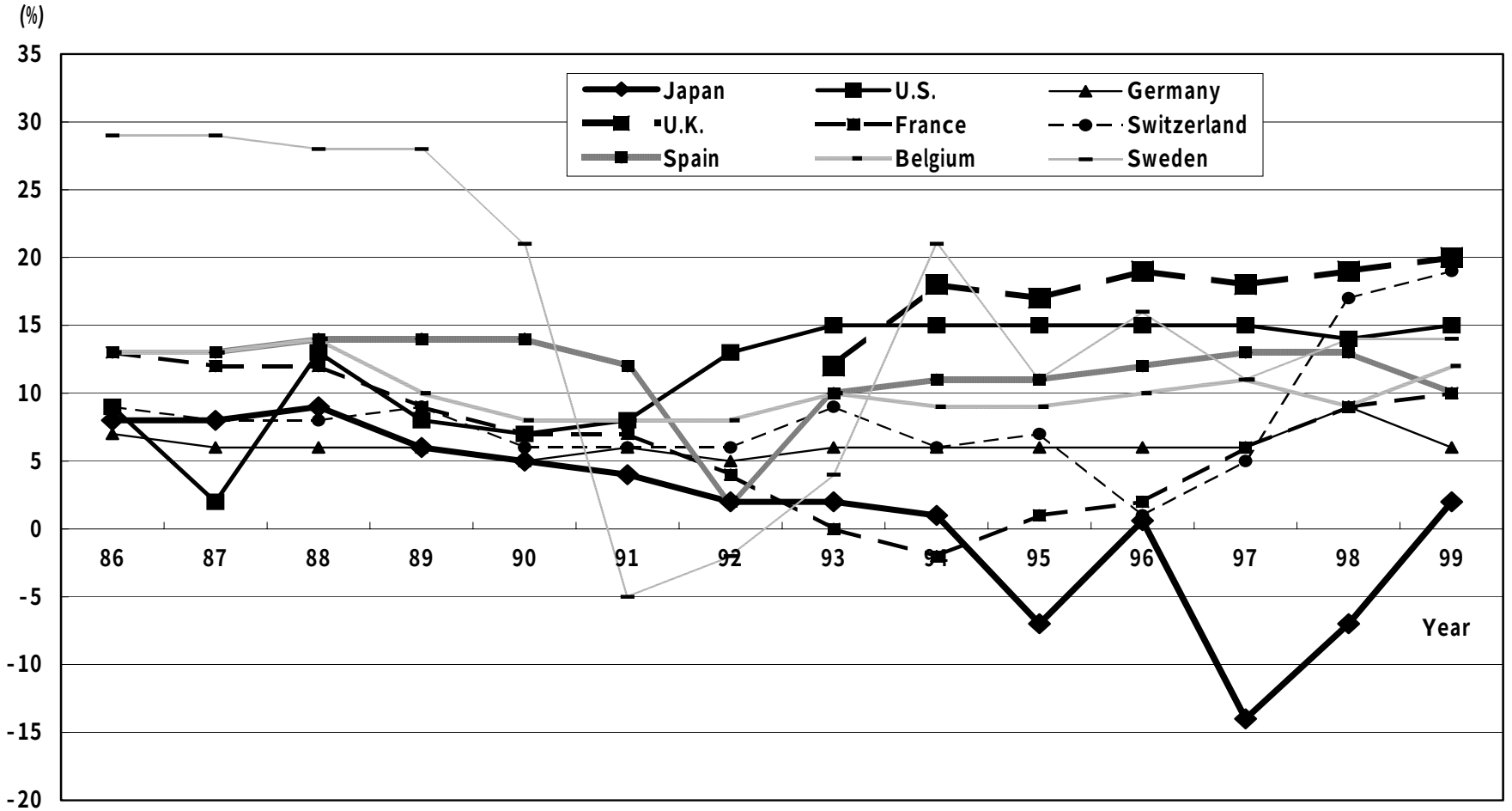
Basically there are two major ways to increase profits, namely cut costs or raise revenues. Recently, four major banking groups have all launched a major cost-cutting campaign, although some analysts consider them too little and too late. They include among other things the consolidation of branch banks, reduction of labor costs, and mergers or management collaboration with other banks. For instance, Mizuho Holding Group announced in the September 2000 financial report its rationalization plan to reduce the total business expenses by 20 % by 2005. The plan is to be realized by downsizing manpower by 6,300 out of the total number of about 30,000 employees by the end of 2004, and at the same time by trimming the employees' salaries by a maximum of 20 %. Other bank-holding groups have also a similar restructuring plan focused on reorganization through mergers, consolidation, and manpower cost reductions. Despite all these cost-cutting measures, the profitability of big banking groups as a whole has not improved over the same period a year before and continued to be mired in wretchedly low or negative profit levels.

The real problem of the Japanese banks is that most banks heavily depend on cost-cutting measures and meager profit margins from security investments, particularly low-yield government bonds as a major source of revenues, since profits from their core business, lending, have stagnated at very low levels. Demand for loans has dried up. With no sight of rapid economic recovery, it is becoming increasingly difficult to find new profitable lending opportunities. Worse yet, firms are lightening their debt loads by paying off high-interest cost obligations. In this deflationary environment, it seems almost out of question for the banks to map out a more profitable strategy of charging differential interest rates according to the risk premium of individual loans. Unsecured business loans where higher interest- rates can be applied is still at its embryonic stage of development.

What is needed more than anything else to improve markedly the bank's profitability on a sustainable basis is a fundamental reform and restructuring of management system going beyond traditional cost-cutting tactics and reorganization through mergers and acquisitions. The banks have to consider seriously how to rationalize and operate their assets more efficiently and aggressively beyond traditional domains of lending and security investments to uplift their profit rates. To improve the revenue structure, the banks should develop expertise capacity not only for loan-risk assessment, but also for a wide range of advisory services such as corporate restructuring, rationalizing and securitizing of client corporate assets. The nature of services that the corporate customer expects from the banks is changing today. It is not the bank credit, but the bank expertise that is much more highly valued.

Moreover, one should not hesitate to withdraw from unprofitable lines of activities and concentrate on a small number of profitable core businesses. If profits can not be improved at home because of deflationary slump, one should venture to operate funds in foreign countries where rapid growth is expected. In addition to advisory services on corporate restructuring and portfolio management mentioned above, other financial business areas with high profit potentials include asset-backed guaranteed securities, fund management services, international syndication, financial derivatives, project finance, corporate liquidation and rehabilitation. Undoubtedly, all of these fields would require experts and specialists equipped with new financial engineering skills and knowledge. In order to fill a skilled-manpower gap, one should be willing to recruit them from outside including foreign sources, and at the same time develop a merit-based pay system and other incentive schemes designed to attract and

Figure9 . Trends for the Banking Sector ROE in Selected Countries(1986-1999)



Source:Kawamoto(2002)

retain high-power experts and specialists. The management strategy should include meeting such skilled manpower requirements as an integral part of the overall plan.

The government should be expected to initially create a favorable institutional framework to facilitate the disposal of bad loans or other problems so that the banks can start afresh . Once such a favorable environment is provided, what follows after that is all up to bank management. Top managers who lack confidence and ability to sustain profitability even under an adverse condition should be removed. What matters most here is that the banks circulate money to where it is most profitable and bring interest income and dividends to investors. When households and businesses benefit from the bank's profitable management of their money, consumer spending and business investment will perk up, and the banks' earning capacity will also improve. This is exactly what is expected of top bank management to accomplish.

(2) Structural Factors for Enhancing Profitability in the Banking Sector.

(i) *Over-capacity in the Banking Sector*

There exist three major interrelated structural factors affecting adversely the banks' profitability. They are excess capacity in the banking industry, stunted capital markets, and the mammoth government banks. We will discuss each of these issues in order. It is evident that too many banks are today fiercely competing in the industry characterized by low profitability. The excessive competition in the overcrowded banking sector is partly the legacy of post-war industrial policy which fostered heavy reliance on indirect finance for economic growth through the tightly-regulated financial markets under the convoy system (護送船団方式) of the former Ministry of Finance (MOF) and the gross negligence of capital market development. Since the bubble burst in 1990, deflationary stagnation has progressively worsened, and share prices continued to slide to all time low levels. As a result household savings have concentrated in the banking sector, seeking safety of bank deposits rather than investment in risky capital markets.

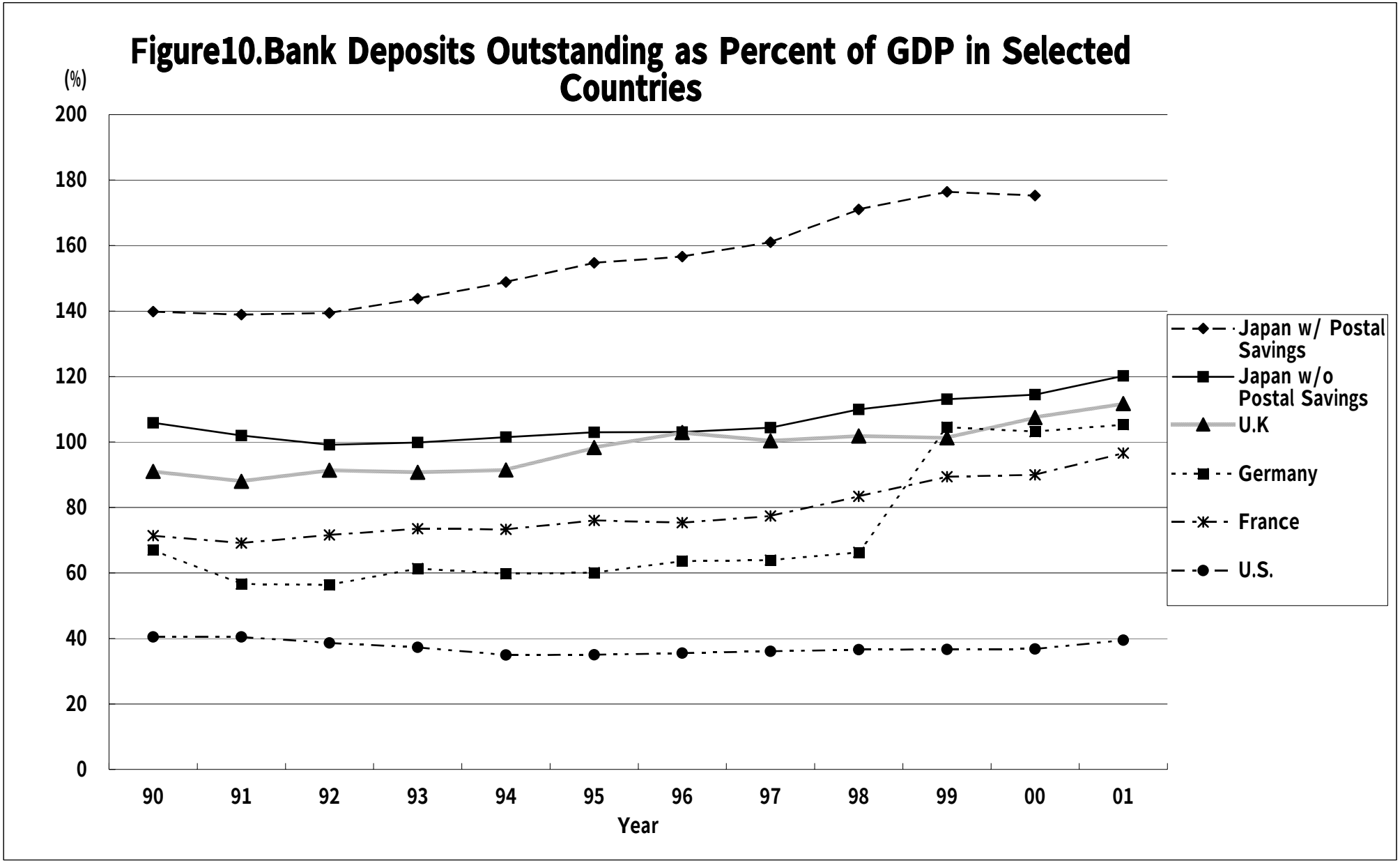
The problem of over-banking and over-reliance on bank intermediation in the Japanese economy is clearly shown in figure 10, where the ratios of bank deposits over GDP in selected developed countries are graphed and compared for the period of 1990 to 2001. Japan is all conspicuously in a category by itself, breaking away from the rest of the group compared. Its ratios monotonically climbed from a 140 % level in 1990 to a 180 % level in 2000. The Japan's figures include postal savings which accounts for roughly over 30 % of total deposits. Even if postal savings are excluded from the total figures, the ratios remain

clearly above those of all other countries as shown in the graph. The fact that the Japan's ratios are extremely high relative to those of other countries may be indicative of a state of highly distorted Japanese financial markets with the preponderant weight of indirect finance over direct finance. It may also reflect a massive movement of individual assets seeking low-return safety rather high returns with risk in an uncertain economic condition in recent years. By sharp contrast, the US ratios showed a stable pattern, remaining under the 50 % mark consistently throughout the period. It may imply that the US capital markets are relatively more sophisticated and well-developed and individual investors' participation in direct finance is also higher in the US than any other countries. On the other hand, the UK's ratios remained highest among European countries, steadily rising from a 90% level at the outset to around 110% level at the end of the period. The ratios of both Germany and France stayed within a range of 50-80 % until 1998, but sharply edged up to a 100% mark in recent years. It is apparent that the solution of over-banking problem is a necessary condition for improving the banking profitability and fundamentally revitalizing financial markets. In practice, it is extremely difficult to determine the optimal number of banks in the banking sector. Even if such an optimal size is known, it is highly uncertain if the government could coerce the banks to reorganize and consolidate the number of banks and scale of operation. Perhaps, the government could exert influence on the banks to alleviate the over-banking problem through participation in the corporate decision-making, when the government becomes a major share-holder through the conversion of preferred stocks into common stocks, the issue discussed earlier. Such a strategy may merit serious consideration as an option to solve the problem.

(ii) *Stunted Capital Markets*

In 1997, the " Big Bang" financial reform program was launched to drastically deregulate, and improve the efficiency and transparency of the Japan's capital markets commensurate with global standards. As applied to the security markets, the financial reform aimed at rebuilding sound and revitalized markets to serve as a vital financial engine of growth for the economy. It was hoped that the financial engine of growth would serve as a catalyst for financing new high value-added and job-creating firms and venture enterprises, offering a wide range of attractive financial products, and promoting the active participation

Figure10.Bank Deposits Outstanding as Percent of GDP in Selected Countries



Source: International Financial Statistics Yearbook 2002, Bank of Japan

of individuals and institutional investors in stock markets. At the same time, it aimed at building capital markets that would promote fair, efficient and transparent security transactions.

Today, 5 years after the financial "Big Bang", the reality is farther than ever from this ideal model. The foundation of the Japanese security markets is steadily sinking. Domestic investment funds including 1400 trillion yen worth of financial assets owned by the Japanese households have stayed away from domestic stock markets and instead entrusted their assets with postal savings and deposits at commercial banks at near-zero interest rates, or escaped to foreign assets. The Nikkei 225 stock average is today at the near two-decade lows of ￥ 8500 range, and likely to slide further. The capitalization value of the first group of the Tokyo Stock Exchange fell to 250 trillion yen, down by 60% compared with the value at the peak of the bubble. Over 200 corporations saw their stock prices slipping below the 100 yen level. A number of foreign security companies such as Merrill Lynch and NASDAQ are retreating from the Japanese markets. New listing in the Tokyo Stock Exchange dropped to around 90 this year from 150 in the past two years, and expected to continue to decline Meanwhile, the Japan's security-dealer population continues to shrink.

There were some notable reforms. They include a substantial reduction of commissions, emergence of internet security transactions, expansion of windows for investment trust at the bank, and the incorporation of the Tokyo Stock Exchange. However, these piecemeal reforms appear utterly insufficient as compared with the initial grandiose design of rebuilding globally competitive security markets.

The sound and efficient capital markets would not only expand the scope of profitable investment opportunities for the banks, but also vital for financial stability. Once Mr. Alan Greenspan, the US Fed chairman, said that the good capital market is like a spare tire for the vehicle. When the banks become dysfunctional, firms and households could turn to capital markets as another important source of finance, and thus financial crisis can be averted. The critical task facing the Japanese economy is how to reorient individual savers to a system of direct finance characterized by investments in securities and investment trust from the old system of indirect finance primarily based on bank-deposit type savings. To develop efficient and sound capital markets, it is necessary to accelerate a fundamental structural reform of the security markets and provide necessary infrastructure including prudential supervision and preferential tax treatments to stir up the interest of individual investors in the security markets.

(iii) *Government-Run Financial Institutions*

One of the main causes for the low profitability of the Japanese private banks is the preponderant presence of government-run financial institutions, which compete directly against private banks everywhere in financial markets. It is particularly true of home mortgage markets. In other countries, home mortgage loans are traditionally regarded a stable and lucrative revenue source of private banks. In Japan, private banks provide about 100 trillion yen worth of home mortgage loans to individuals , while the amount supplied by the government-run Home Finance Corporation (住宅金融公庫) is roughly around 67 trillion yen. When the banks' home mortgage loans as percent of their total portfolios are compared in different selected countries, the ratio is a meager 13.9 % compared with considerably higher figures ranging between a 30 to 40 % in the US, Germany and the UK[19]

It is evident that the possibility of exploiting this lucrative home mortgage markets by private banks is impeded by the government financial institutions. For instance, a trial estimate by Kawamoto (2002) shows that if the entire home mortgage loans supplied by Home Finance Corporation were diverted to regional banks, this could lift their low lending rates by a whopping 20 to 30 %. Undoubtedly, this would be a shot in the arm for many regional banks starved of profitable investment opportunities.

Moreover, as an equally, if not more, important issue, there is mounting concern over the ubiquitous presence of postal-deposit institutions, an equivalent of a mammoth government-run bank with the government guarantees of the interest and principals deposited, exerting tremendous competitive pressure on the private banking sector. A network of 24,000 postal offices offers ordinary deposits and savings with a fixed maturity, up to 10million yen, and sells life insurance in addition to normal postal services. The sheer size of postal operation poses a serious threat to the profitability of private banks. The postal saving deposits outstanding at the end of 2002 was around 235 trillion yen, over 3 times the deposits of the largest private bank, Mitsui Sumitomo Bank(三井住友銀行) (67 trillion yen at the end of March,2002), and its postal insurance assets amounting to 123 trillion yen, exceeding four times that of the Japan's biggest life insurance company, Japan Life Insurance co.(日本生命保険) with a 34 trillion yen worth of total assets of individual subscriptions. Postal services enjoyed economies of scope as well as scale with its nationwide network of postal offices, and also an competitive advantage as a government-run financial institution unencumbered by profit motives and insolvency. In recent years individual investors have shifted a considerable

[19] For further details, see Y. Kawamoto (2002)

portion of their financial assets (estimated to be worth around 14 trillion yen today) to the postal savings away from private financial institutions such as banks and insurance companies. The shift reflects their search for security and safety in the midst of deepening deflation and financial instability. In short, the presence of a gigantic government-owned financial institution has worsened the over-banking and consequent low-profitability problem in the banking sector and stalled the much-needed improvement of financial markets and particularly bond markets.

While maintaining overwhelming economies of scale and scope over the private banks, the postal services attempt to further boost their competitive edge by encroaching upon many traditional banking business areas. A good illustrative example is their recent nationwide undertaking to install automated teller machines (ATM, 現金自動預け払い機) in collaboration with private businesses and to expand their financial products. Postal system has proved to be an effective device to mobilize scarce capital for infrastructure investment and other development programs at the early stage of economic development in the absence of adequate financial and capital markets. However, at the advanced stage of development, the system has outlived its usefulness and has been extensively privatized long ago in many developed countries. In Japan, the postal system is today an anachronistic dinosaur blocking the development of free, fair and transparent global standard financial markets launched by the Big Bang financial reform in 1997. The postal system stands in the way of reviving the ailing banks that are desperately struggling to end bad-loan mess. The only way out of this morass is to privatize the postal operation. The recent attempt to privatize postal services after a series of past failures has proved to be also a half-hearted measure and failed to overcome the powerful anti-reform resistance of the vested interest groups united by postal bureaucrats and legislators supported by postal interests. The original privatization plan was severely diluted to create almost impenetrable entry barriers for the private sector to enter, and succeeded in maintaining the status quo in the disguised form of public corporation mandated to improve its efficiency adopting private management techniques. The prospect for uplifting the profitability and revitalizing of the banking sector looms indeed far away without genuine and fundamental overhauling of the postal system through a large-scale privatization.

(D) Political Will and Bold Leadership

The Japanese economy has been afflicted by the worst decade-long slump since the Great Depression. The deepening economic distress is reflected in many different forms: sluggish output growth, steadily declining general price levels, asset-market deflation, a fragile banking system, widespread balance sheet problems, zero short-term interest rates, an

unsustainable public debt burden approaching 140 percent of GDP, and entrenched political establishments resistant to reform. The repeated injection of fiscal and monetary stimulus shots retarded or even impeded structural adjustment. Easy monetary and fiscal policy exacerbated deflationary slump since inefficient but politically well-connected firms are allowed to survive through wasteful public works, subsidies and zero interest-rate finances. In turn this perpetuated excess capacity which is the major cause of deflation. In this regard, there is one important lesson to be learned from the Great Depression in the 1930s. The effects of the massive economic stimulus packages of the New Deal Policy proved to be short-lived. It was only after the fundamental structural and technical change realized during the World War II and the post-war period that the US economy extricated itself from the depression. Today also in Japan, successive huge anti-deflation stimulus packages whose scale easily exceed that of the US during the Great Depression have been repeatedly injected into the depressed economy, but very little to show for them except a mountain of national debt, and the rising anxiety and uncertainty therefrom. Perhaps, there is a limit to the effects of anti-deflation policy without structural reform.

The root cause of the worsening deflationary slump seems to be the dysfunctional banking system caused by the failure of the government to clean up bad loans. Banks keep rolling over bad loans rather than removing them from their balance sheets. As described above, this sustains over-capacity and deepens deflation, as unprofitable firms are rescued and resources are locked in unproductive sectors such as construction, real estates and retailing, stalling economic growth. It seems essential, therefore, that the government should force banks to accelerate the disposal of bad loans, which would cause unprofitable firms to close down. Monetary and fiscal policy could then used to soften the painful unemployment and other short-term economic shocks of the bad-debt disposal.

However, there are many formidable political huddles to clear in cleaning up the bad-debt mess. First, for every bad loan, there is an insolvent borrower, many of whom are big supporters of politicians in major political parties, who are frightened by the prospect of rising unemployment. Strong political support will be needed to overcome the resistance of vested interest groups to reform.. Second, banks will need a huge sum of public funds to clean up bad loans, since banks are severely undercapitalized. As discussed in detail in the main text, deferred tax refunds (繰り延べ税金資産) which materialize only when they start making profits account for about a half of big bank's core capital of 17 trillion yen. If the deferred tax credits, unrealized equity losses of 3 to 4 trillion yen, and preferred shares owned by the

government are subtracted from the big banks' capital, banks have little capital left to fill the holes.

In this case the urgent need for the injection of public money is evident. The real problem is the magnitude of public funds needed to help banks to clean up the bad-loan problem once for all. It may amount to as much as 150 trillion yen. Again strong political support needs to be mobilized to raise such an enormous sum of public money, and also to temporarily nationalize some insolvent banks. Precisely in fear of nationalization, banks will strongly resist the use of public funds. Strong political pressure will be needed to force banks to accept the injection of public money. Furthermore to force banks to accept tough conditions for a bail-out, current laws would have to be revised, a political process that is likely to be complex and time-consuming.

In sum, to push proactively financial reforms and unload bad loans from banks, it is essential to persuade politicians, bureaucrats and the public to support them. To settle for a half-measure will repeat the past mistakes and would perhaps bring about worse consequences this time. It is still fresh in memory that in 1998-1999, Mr. Yanagizawa (柳沢) as the first financial services agency czar earned praise for overseeing the nationalization and liquidation of two big banks, former Long-term Credit Bank and Japan Credit Bank, and injecting public money into another 16 banks. Ironically, the banks are today in worse shape than before after 4 years since the half-baked reform measures were carried out. Only this time, economic environments are a lot worse; stock markets at all-time lows, enfeebled enterprises, heavier public debts, and gloomy world economic outlooks. This time a half-baked reform plan would mean a waste of more money, and a lot more costlier in terms of shrinking income and lost jobs.

As the recent Korean experiences showed, only a strong political will backed by bold and decisive leadership will bring this formidable challenge to the banking crisis to a successful conclusion. Raising the national consciousness of the banking crisis as a matter of utmost urgency and building up a national consensus to assign the highest priority to ending the banking crisis is a prerequisite to opening Japan's road to economic recovery from the decade-long deflationary slump. It sounds like a tiresome cliché to state that all will boil down to political will. There is a prescription to end the crisis. But the political gridlock remains a formidable stumbling block to reform. It will take a strong political will and courageous leadership to break through this political barrier. The cliché never sounds truer and more urgent than ever today.

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APPENDIX

A1. Bad-Debt Disposals by All Banks, 1993-2000 (¥ trillion)

Year	Amount disposed	Cumulative total disposed
93.3	1.6	1.6
94.3	3.9	5.5
95.3	5.2	10.7
96.3	13.4	24.1
97.3	7.8	31.9
98.3	13.3	45.2
99.3	13.6	58.8
00.3	6.9	65.7
00.9	2.3	68

Source: Data Bank, Financial Services Agency, Japan

A2. Old-Debt and New-Debt Balances by All Banks (¥ trillion)

Year	Old Debt Balance	New Debt Balance
97.3	19.95	1.85
98.3	14.95	14.85
99.3	13.6	16
00.3	20.5	9.9
00.9*	27.8	4

A half-year figure for the September 2000 period
Source: Data Bank, Financial Services Agency, Japan

A3. Price Indices for Urban Lands

Year	Total Average	Commercial	Residential	Industrial
85	33.6	25.6	38	39.6
86	38.4	33	41.7	41.6
87	48.3	44.2	52.9	48.7
88	61.8	62.6	65.2	58.1
89	76.9	78.3	75.1	77.2
90	100	100	100	100
91	103	103.3	102.1	103.8
92	87	87.5	83.8	90.1
93	71.4	67.9	68.1	78.8
94	63.2	55.3	62.3	72.9
95	54.7	41.9	57.4	67.2
96	48.6	33.1	54	63.3
97	44.9	28.5	52	60.6
98	42.6	25.6	50.8	58.4
99	39.5	22.7	48.5	54.8

00	36.1	19.9	45.7	51
01	33.1	17.8	43.3	46.2

Note: 31 March 1990=100
6 major cities: Tokyo, Yokohama, Nagoya, Kyoto, Osaka, Kobe
Source: Japan Real Estates Research Institute

A4. Bad-Loan Disposals by US Top 10 Banks, July-September 2002 ($million)

Bank	BL disposed	Net profits
City group	2362	3920
JP Morgan. Chase	1620	40
Bank of America	804	2235
Wacchovia	224	913
Wells Fargo	415	1444
Bank One	573	823
Fleet Boston	486	579
US Bank Corp.	329	860
Sun Trust	98	343
National City	120	374

Source: Nikkei, 18 October 2002

A5. Bad-Loan Disposals by Japanese Big Banks, 1993-2003 (￥trillion)

FY	Net Profit	Bad Loans Disposal
93/2	3	1.7
94/3	2.9	3.2
95/3	2.7	4.9
96/3	4.6	9.4
97/3	4.8	5.2
98/3	3.5	10
99/3	4	10.3
00/3	3.4	4.3
01/3	3.5	4.2
02/3	4.2	8
03/3	3.65	3

Note: estimate for 2003
Source: Goldman Sachs Securities

A6. Stock Price Indices

Year	Nikkei Stock Average	TOPIX	Banks
1970.01	6.50	6.47	2.16
1970.02	6.06	6.01	2.04
1970.03	5.84	5.75	2.02
1970.04	5.64	5.53	2.05

1971.01	6.00	5.87	2.26
1971.02	6.76	6.74	2.81
1971.03	6.84	6.93	3.38
1971.04	6.55	6.57	3.38
1972.01	8.01	7.88	4.08
1972.02	9.45	9.36	5.93
1972.03	10.91	11.09	7.19
1972.04	12.78	12.73	8.00
1973.01	14.03	14.33	8.48
1973.02	12.83	13.14	7.86
1973.03	13.20	13.36	7.98
1973.04	12.10	11.87	6.99
1974.01	12.19	11.64	6.80
1974.02	12.72	12.07	6.70
1974.03	11.67	11.07	5.93
1974.04	10.28	9.90	5.61
1975.01	11.11	10.78	6.27
1975.02	12.27	11.85	6.32
1975.03	11.45	11.30	6.05
1975.04	11.67	11.39	5.98
1976.01	12.55	12.31	6.25
1976.02	12.66	12.46	6.21
1976.03	12.97	12.86	6.42
1976.04	12.79	12.88	6.59
1977.01	13.74	13.78	6.73
1977.02	13.74	13.68	6.67
1977.03	14.01	13.86	6.77
1977.04	13.63	13.46	6.74
1978.01	14.09	14.00	6.81
1978.02	15.04	14.93	6.95
1978.03	15.33	15.39	7.15
1978.04	16.23	16.03	7.37
1979.01	16.70	16.48	7.79
1979.02	16.96	16.27	7.81
1979.03	17.43	16.33	7.92
1979.04	17.65	16.35	8.01
1980.01	18.32	16.83	8.34
1980.02	18.62	16.91	8.38
1980.03	18.84	17.28	8.50
1980.04	19.52	17.91	8.57
1981.01	19.74	18.51	9.08
1981.02	20.65	20.23	9.71
1981.03	21.26	21.22	9.98
1981.04	20.68	20.22	10.29
1982.01	20.70	20.36	10.81
1982.02	20.08	19.76	10.77

1982.03	19.43	19.22	10.70
1982.04	20.88	20.48	11.06
1983.01	22.15	21.52	12.65
1983.02	23.58	22.97	12.77
1983.03	24.96	24.43	12.86
1983.04	25.83	25.18	12.91
1984.01	27.81	28.42	17.98
1984.02	28.89	29.87	22.94
1984.03	28.44	29.02	21.36
1984.04	30.68	31.32	24.36
1985.01	33.21	34.69	32.52
1985.02	34.46	35.95	35.38
1985.03	34.66	37.11	38.89
1985.04	35.28	37.15	35.37
1986.01	37.36	39.54	36.03
1986.02	44.53	46.38	39.93
1986.03	49.34	53.25	45.59
1986.04	48.36	53.32	45.52
1987.01	55.40	63.52	68.82
1987.02	66.52	77.09	97.52
1987.03	68.11	74.92	85.61
1987.04	63.98	69.11	75.19
1988.01	66.57	71.77	80.14
1988.02	75.01	78.99	84.05
1988.03	75.99	78.72	79.25
1988.04	78.46	80.49	82.70
1989.01	86.88	88.75	91.03
1989.02	91.87	90.40	88.63
1989.03	94.35	94.31	94.74
1989.04	100.00	100.00	100.00
1990.01	97.02	95.00	95.45
1990.02	85.33	83.71	81.01
1990.03	75.82	74.87	70.56
1990.04	64.87	63.47	60.87
1991.01	68.50	67.22	70.51
1991.02	70.19	70.80	75.95
1991.03	63.01	64.82	71.17
1991.04	64.60	65.00	73.43
1992.01	58.10	56.64	60.52
1992.02	48.29	48.10	44.51
1992.03	45.91	46.41	47.56
1992.04	46.93	47.18	51.01
1993.01	47.25	47.66	51.59
1993.02	55.47	58.05	60.86
1993.03	55.91	59.97	68.10
1993.04	50.56	55.88	63.43

1994.01	53.32	57.32	61.03
1994.02	55.83	59.78	63.27
1994.03	55.79	59.26	60.82
1994.04	53.36	56.14	57.65
1995.01	48.83	50.94	53.61
1995.02	43.50	46.39	50.83
1995.03	47.21	49.94	52.29
1995.04	50.67	53.45	54.74
1996.01	56.21	57.70	58.08
1996.02	60.08	61.10	60.31
1996.03	57.77	58.18	56.36
1996.04	56.91	56.46	54.32
1997.01	50.11	50.16	42.04
1997.02	53.64	53.27	42.86
1997.03	52.50	53.54	45.82
1997.04	45.02	45.84	35.27
1998.01	45.27	45.38	34.82
1998.02	42.64	43.95	30.77
1998.03	41.79	42.69	26.42
1998.04	38.64	39.31	25.00
1999.01	39.66	41.03	26.85
1999.02	45.96	48.91	31.99
1999.03	48.57	53.73	33.62
1999.04	49.80	57.78	36.81
2000.01	53.39	60.96	29.75
2000.02	48.89	58.44	29.66
2000.03	45.17	54.89	27.26
2000.04	40.63	50.55	26.85
2001.01	36.25	45.84	24.27
2001.02	36.86	48.19	23.19
2001.03	30.80	41.62	20.38
2001.04	28.72	38.06	16.58

Note: Nikkei and Topix, 29 December 1989=100 (Nikkei, 38,915 yen)
Source: Nikkei Data Base

A7. Banking Sector ROEs in Selected Countries (1986-199) (%)

Year	Japan	U.S.	Germany	U.K.	France	Switzerland	Spain	Belgium	Sweden
86	8	9	7		13	9		13	29
87	8	2	6		12	8	13	13	29
88	9	13	6		12	8	14	14	28
89	6	8	6		9	9	14	10	28
90	5	7	5		7	6	14	8	21
91	4	8	6		7	6	12	8	-5
92	2	13	5		4	6	2	8	-2
93	2	15	6	12	0	9	10	10	4

94	1	15	6	18	-2	6	11	9	21
95	-7	15	6	17	1	7	11	9	11
96	0.6	15	6	19	2	1	12	10	16
97	-14	15	6	18	6	5	13	11	11
98	-7	14	9	19	9	17	13	9	14
99	2	15	6	20	10	19	10	12	14

Source: Kawamoto (2002)

A8. Bank Deposits Outstanding as Percent of GDP in Selected Countries, 1990-2001

Year	Japan w/ Postal Savings	Japan w/o Postal Savings	U.K	Germany	France	U.S.
90	139.9	105.8	91.0	67.0	71.4	40.5
91	138.9	101.9	88.0	56.6	69.1	40.4
92	139.4	99.1	91.4	56.3	71.6	38.7
93	143.8	99.9	90.8	61.4	73.5	37.3
94	148.8	101.5	91.4	59.8	73.3	34.9
95	154.8	103.0	98.3	60.1	76.1	35.0
96	156.6	103.0	102.9	63.6	75.4	35.6
97	161.0	104.4	100.3	63.9	77.4	36.1
98	171.0	110.0	101.9	66.3	83.4	36.6
99	176.4	113.0	101.3	104.5	89.4	36.6
00	175.3	114.5	107.5	103.2	90.0	36.8
01		120.2	111.7	105.3	96.6	39.5

Source: International Financial Statistics Yearbook 2002, the Bank of Japan