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## Japan's Distressed-Debt Market

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## **IMF Working Paper**

International Capital Markets Department

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#### **Abstract**

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Sizable risk capital from outside may be necessary to accelerate Japan's corporate restructuring to replace the stock of impaired bank loans. To attract risk capital, impaired loans must find market-clearing prices. However, the asymmetry in the bid-ask prices faced by banks and distressed-debt investors continues to stall efforts to create a liquid distressed-debt market. This paper asserts that the wedge between the prices faced by different participants is primarily a result of different valuation methods employed by banks and distressed-debt investors. On the one hand, banks do not recognize "maturity default" that results in banks rolling over impaired-loan accounts, effectively turning them into perpetual debt, which is expected to capture any upside potential for value. On the other hand, distressed-debt investors presently view their investments as equity stakes that require improved cash flows, unlike the buy-and-sell distressed-collateral market that existed in the mid-1990s. We suggest that bids from distressed-debt investors may not be as low as they are deemed by local banks and the asymmetry in prices may be reduced if banks value their claims as corporate equity.

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## I. INTRODUCTION

The core of Japan's nonperforming loans (NPLs) problem lies in heavy reliance on land as collateral. In the late 1980s and early 1990s, when the real estate market was buoyant, the banking system encouraged collateral-based lending. As credit expanded rapidly during the bubble economy, there was infrequent monitoring of borrowers. The eventual collapse in land collateral, however, depleted bank capital and undermined the banking system where collateral-rich "main" banks were expected to not only monitor the insolvent debtors but also bail out the smaller "nonmain" banks during a debt restructuring.

These problems resulted in the banks postponing fundamental restructuring of distressed loans. The glut in lending had resulted in excess production capacity, reduced profitability, and weak corporate balance sheets. Although the Japanese nonperforming loans (NPLs) market—the market for collateral sales—has matured over the past decade and pricing is competitive, the subperforming loans (SPLs) market—the market for "turn round" business—is presently in its infancy and remains illiquid. Presently, the near-zero interest rate environment allows banks to continue lending to many distressed corporates and therefore delaying development of the distressed-debt market for SPLs.

Accelerating Japan's corporate restructuring will require a sizable influx of risk capital to replace the stock of impaired bank loans. To attract risk capital, distressed debt must find market-clearing prices. Hence, developing a liquid distressed-debt market is fundamental for efficient and effective corporate restructuring. A price asymmetry between banks and distressed-debt investors, however, continues to stall efforts to create a liquid distressed-debt market.

This paper asserts that the wedge between the price faced by buyers and sellers derives from different valuation methods used between banks and distressed-debt investors and not from "aggressive discounting" on the part of distressed-debt investors. Distressed-debt investors are interested in increasing the cashflow they expect. These investors assign little value to real estate collateral because they need to use real assets to generate cashflows. Collateral value is realized only at liquidation, but for these investors the initial debt-purchase discounts they have achieved reduce the probability of default and the possibility of liquidation.

On the other hand, the banks view their loans as a call option on Japan's economic revival, since they perceive an increasing probability that they will be able to recover the par value of their loans owing to higher collateral (i.e., real estate) prices. For them, the risk of bankruptcy is important. Hence, Japanese banks do not engage in fundamental debt restructuring, but simply roll over impaired-loan accounts, effectively turning them into de facto perpetual debt. The remaining high probability of default and their senior claim on collateral make the value of collateral a key determinant of their pricing. We are of the opinion that the current economic recovery can widen the existing gap between bid and offer prices because banks' estimates of the ultimate value of loan collateral may rise faster than distressed-debt investors' valuations.

Section II presents an overview of the development of Japan's distressed-debt market, focusing on factors that affect the pricing of SPLs. Section III discusses the coordination problems between the main banks and nonmain banks that provide the incentives to postpone corporate restructuring. In Section IV, we also numerically illustrate the wedge in the bid-ask prices that

frustrates trading of SPLs. Section V concludes with some policy recommendations to enhance the development of the distressed-debt market.

## **II. DEVELOPMENTS OF JAPAN'S DISTRESSED-DEBT MARKET**

### **A. The Government Encouraged the Banks to Solve Their Nonperforming Loan Problems**

The Japanese banking system has spent about 25 percent of GDP in operating and capital costs to clean up NPLs, of which the government has contributed about 7 percent of GDP. Yet, Japanese banks still hold NPLs worth 9 percent of GDP. Furthermore, other performing but substandard loans (“under-watch loans”) are estimated at around 10 percent of GDP. The protracted, predominantly private-sector-led clean up of NPLs is in sharp contrast to the experience of other mature economies. During the U.S. savings and loan crisis, the Scandinavian banking crisis, and several Asian country banking crises, the governments either resolved or nationalized troubled banks and shifted the bulk of NPLs to government-sponsored asset-management companies, thereby fiscalizing these costs.

In Japan, the government-sponsored asset-management companies have so far played a limited role in resolving the NPL problem. Instead, the Japanese government allowed its banks to remain technically solvent by the use of several tax and accounting shelters that inflate regulatory capital and allow banks to remain solvent. For example when the Financial Services Agency (FSA) introduced the tax effect accounting in 1999, banks were allowed to fully recognize deferred tax assets (DTAs) derived from loan losses as Tier 1 capital. This generous tax treatment is very different than the methodology adopted in other industrial countries. In the U.S. DTAs are allowed to be included in Tier 1 capital but are capped at 10 percent of Tier 1 capital.

In retrospect, the Japanese government allowed banks to resolve their NPL problem in two steps. First, the bank supervisors induced banks to dispose of NPLs by selling collateral provided by distressed small and medium enterprise (SME) borrowers. The FSA tightened the collateral valuation for *non viable* borrowers by requiring banks to mark down collateral to market prices. Since land prices were expected to continue their decline, banks sold their real-estate collateralized loans to limit accumulating capital losses. This subsequently created a market for distressed collateral sales.

Second, in recent years, the government has shifted the supervisory emphasis to restructuring loans to *viable* but distressed borrowers<sup>2</sup> who tend to be larger corporates. Major distressed debt players have been attracted to “turn-around” such corporates. In October 2002, the government announced the Financial Revitalization Program to promote corporate restructuring. During the same period, the FSA tightened loan assessment standards for large-sized borrowers to whom banks have extended loans that were forbearance in nature.<sup>3</sup> For example, the FSA introduced a series of strict measures that included the use of market information such as stock prices, credit

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<sup>2</sup> Viable firms are operationally profitable but after interest and debt charges are loss making.

<sup>3</sup> Forbearance typically refers to cases where banks continue to lend when ex-ante there is little prospect of repayment.

ratings and discounted cash flow analysis to evaluate the quality of NPLs. However, the distressed debt market for turn-around business has remained illiquid because banks do not sell SPLs at the price bid by distressed debt investors.

## **B. Development of Distressed-Collateral Market**

First, let us look at how the distressed collateral market has developed. In the mid-1990s, disposing of NPLs meant sales of collateral provided by nonviable SME borrowers. Banks rarely sold NPLs of relatively large corporate borrowers. The Financial Reconstruction Law of 1998 required banks to classify distressed borrowers into one sub-standard category (under watch), and four nonperforming categories. Reserving against under-watch loans is at the individual banks' discretion and is usually a single digit percent. The four nonperforming categories were doubtful, near-bankruptcy, de facto bankruptcy, and legal/judicial bankruptcy. Among these four official categories, the law and subsequent regulations define doubtful borrowers as *distressed but viable* and requires only 15 percent of the book value (net of collateral) to be set aside as loan loss reserve, while it requires 70 percent for near-bankruptcy borrowers and 100 percent for de facto and legal bankruptcy borrowers. Doubtful loans usually have concessionary interest rates (centering around 2 percent). The FSA also discourages banks from rolling over loans to near-bankruptcy and lower category borrowers.

We classify distressed borrowers/loans "subperforming" in accordance with the terminology used by the market participants. Since the regulators' definitions for loan classifications do not always reflect reality, the market has created its own definition for such borrowers. The subperforming category in the market generally includes doubtful loans and lower quality under-watch loans. *For the purpose of this paper, however, the term "subperforming" or SPL will be used more specifically to mean the "doubtful" category under the official classifications but, where necessary, also include lower quality under-watch loans, and some "near-bankruptcy" borrowers that have a potential to generate positive cash flows after sufficient restructuring.*

The large regulatory wedge (of 55 percent) for reserve requirement between doubtful and near-bankruptcy categories motivated banks to concentrate their financial (and human) resources on keeping borderline borrowers, especially large corporates, to stay in the doubtful category, through cosmetic corporate restructuring. As a result, SMEs dominated the near-bankruptcy and lower categories. Since SMEs do not usually have much franchise value, banks sold these loans at collateral values and distressed debt buyers focused on collecting loans by selling their real estate collateral. To a lesser extent, the same behavior results from the wedge (of 5 to 10 percent) between under-watch and doubtful categories, especially with respect to large corporates, whose migration from the former to the latter category requires a sizeable increase in loan loss reserves.

Nevertheless, the 1998 Law played an important role in accelerating NPL disposals. Previously, banks would tend to understate loan loss reserves because the assessment of loan loss was largely left to individual banks' discretion. Banks had had little incentive to make adequate provision for loan losses because the National Tax Agency did not—and still in principle does not—allow banks to deduct loan loss reserves from taxable income unless the borrower becomes legally

bankrupt. In addition, the introduction of tax effect accounting in 1999 also encouraged the banks to reserve for NPLs, as it allowed them to account for DTAs in their Tier 1 capital.<sup>4</sup>

The Emergency Economic Measures of 2001 further accelerated the disposal of distressed collateral owned by nonviable SME borrowers. This guideline required major banks to remove near-bankruptcy and lower category loans from their books within three years after their recognition.<sup>5</sup> Market sources estimate that the *net present value* of the annual NPL flow to the market has increased to roughly ¥3 to 4 trillion (\$24–32 billion) since 2001. This mirrors the FSA figures (Table 1) that show that Japanese banks have removed *book value* of loans worth ¥30 trillion (\$270 billion) from their balance sheets since 2001. Almost all of these NPLs are sales of underlying collateral of near-bankruptcy and other bankruptcy loans.

**Table 1. Japan: Progress in Disposal of Nonperforming Loans**  
(In billion yen)

	1995	1996	1997	1998	1999	2000	2001	2002	Mid-2003
NPL on banking book 1/ of which special mention loans	28,504	21,789	29,758	29,627 4,261	30,366 5,438	32,515 7,141	42,028 11,877	34,849 11,696	31,244 9,191
NPL off banking book 2/							9,200	15,100	5,400
Operating profit	623	631	639	645	617	626	720	4,674	3,076

Sources: Financial Services Agency, *The Status of Non Performing Loans*; and Bank of Japan, *Financial Statements of Japanese Banks*.

1/ NPLs are those reported by banks for risk-management purposes.

2/ Since 2001, the FSA has acknowledged several schemes that lead to reducing NPLs, which include transferring NPLs to special purpose vehicles, entrusting the restructuring of NPLs to RCC, and writing off NPLs.

As Japanese banks increased the sales of collateralized loans, a market for distressed loans that were collateralized primarily by real estate assets evolved. In 1995, foreign distressed debt funds were the first to buy these NPLs. In the beginning, banks sold these loans at rock-bottom prices as foreign funds made very conservative offers. Since the number of active investors was very limited, transactions were executed on a bilateral basis. Limited real estate comparables and inadequate pricing information allowed foreign buyers to earn 30-50 percent returns by simply reselling collateral.<sup>6</sup> As the number of investors in the distressed collateral market increased and as the banks improvised on using auctions in their collateral sales, the returns to investors decreased.

At present, the internal rate of return (IRR) for distressed debt investors has dropped from double digits in late 1990s to single digits. Japanese buyers have been gradually replacing foreign

<sup>4</sup> DTAs measure have been a useful rule-of thumb to proxy the extent of distressed loans as seen in the case of Resona and Ashikaga.

<sup>5</sup> The NPLs existing at the that point needed to be disposed of off the banks' book within two years.

<sup>6</sup> Although the Ministry of Land and Transportation publishes official land prices they do not reflect real market prices partly because they are used for levying land taxes. A leading investment bank took several years to educate real estate appraisers and developed a nationwide database for real estate price information.

players in the distressed collateral market, as the IRRs they demand are much lower. The collateral available exhibits increased development costs, since banks first sold NPLs with good collateral. Furthermore, the continued recession and the ensuing deflationary spiral has also reduced the value of collateral.

This has changed the nature of the simple collateral buy-and-sell transaction to a value-enhancement transaction that forces investors to improve the cash flows before selling the franchise (and exiting with good returns). Prominent distressed debt investors have established real estate management companies/funds and are running service facilities such as golf clubs, hotels and amusement parks. However, collateral-enhancing costs such as advertising and renovation are on the rise, occupancy rates for real estate are at all time lows, and profitability is low. Many foreign buyers have exited this buy-and-sell distressed collateral market.<sup>7</sup> Today, only about 10 foreign buyers are active, down from the late 1990s peak of 25 or so.

### **C. Nascent Subperforming Loan Market**

Despite government efforts to accelerate corporate restructuring, the distressed debt market for turn-around business is still underdeveloped due to banks' reluctance to sell SPLs. The government has in recent years become increasingly concerned about Japan's structural reforms and has started to implement policy measures to revitalize the corporate sector. The Industry Revitalization Law of 1999, which was revamped in 2003, gave distressed corporates a series of tax incentives and accelerated legal procedures to promote corporate restructuring. In November 2001, the FSA introduced stricter loan evaluation methods for major doubtful borrowers, based on market information such as share prices, credit ratings, and discounted cash flow analysis. In the October 2002 Financial Revitalization Program, the government stressed the importance of simultaneously resolving the NPL and corporate problems. Among other things, it created the Industrial Revitalization Corporation of Japan (IRCJ), which is mandated to coordinate restructurings of large corporates that often borrow from multiple banks. The Tax Authority has agreed that banks may deduct loan losses from taxable income if the debt restructuring plan was endorsed by the IRCJ.

The FSA also requires major banks to apply discounted cash flow analysis to NPLs when reviewing loan quality of large corporates. As a result, Japanese banks have increasingly recognized the 'doubtful' loans; they were up 66 percent in 2001. Subsequently, some of them have been upgraded, mostly reflecting the recent economic upturn. At the end of September 2003, the stock of doubtful loans stood at Y9.1 trillion or 1.8 percent of GDP (Table 1).

In light of these developments, some foreign distressed debt investors are shifting their interest from a market for distressed collateral trade to a market for corporate restructuring. A nascent market for trading loans of subperforming (but viable) borrowers has started to evolve. The four largest players in this market (Cerberus, Lonestar, Goldman Sachs, and Morgan Stanley) have roughly \$10 billion in liquid assets available for investments in Japan. They also mention that if opportunities arise, another \$20 billion could be readily available by accessing other interested international asset management firms.

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<sup>7</sup> Market sources indicate that the foreign firms that have recently left the Japan distressed-debt market, or are in the process of doing so, include ING Barings, Bank of America, Moore Capital, and others.

However, corporate restructuring has so far remained primarily bank-centered. Banks have seldom sold subperforming loans (SPLs) because the costs of reserving are still smaller than the actual losses from outright sale. As we illustrate in Section IV, we assert that the banks also view their loans as a call option on Japan's economic revival and so tend to hold on to impaired loans. By June 2002, the government granted 143 corporates the privilege under the Industry Revitalization Law but only 40 cases or so went through fundamental debt restructuring under this framework. The number of applications to the IRCJ has so far been limited, with 13 corporate cases pending.

Some regulations also support the bank-centric approach, under which Japanese banks do not have to recognize "maturity default" in which a borrower rolls over the original debt at maturity. Banks therefore continue to classify such borrowers as 'under watch' or 'doubtful' and limit the loan loss reserves ratio to within 15 percent. Kobayashi et al (2002) indicate that banks in fact extend "forbearance" lending to such borrowers. Typically, they roll over SPLs as long as the borrowers can make token repayments based on rescheduling agreements. The deferral of impairment accounting to 2005 has provided more time for misclassification. Thus, liquidity solvent but de facto balance-sheet insolvent borrowers can still be held in the 'doubtful' category where loan loss provisions are only 15 percent (when indeed these misclassified borrowers should be provisioning 70 percent).

Recently, instead of selling directly to the market, banks transferred a sizable portion of SPLs (doubtful and near-bankruptcy loans) off their banking books to their own special purpose vehicles (SPVs) managed by foreign investment banks as well as to the trusteeship under the Reconstruction and Collection Corporation (RCC), a collection agency owned by the government. Two major banks transferred a total of Y6 trillion worth of SPLs to their affiliated SPVs. Although financial risks are not transferred to the third parties under these structures, the FSA allows banks to classify these SPLs as 'restructuring in progress' in line with the three-year deadline set by the Emergency Economic Measures of 2001, assuming that the third party involvement would accelerate disposals.

The supply of SPLs to the distressed-debt market thus primarily stems from the following:

- Failed life insurers who often sell their portfolio of SPLs.
- Main banks who would rather sell such claims when debtors file for judicial protection.
- Non-main banks sometimes sell SPLs on a bilateral basis provided they have sufficiently provisioned.
- Some near-bankrupt borrowers have potential to generate cash flows after sufficient cost-cutting. Many SPLs that are now reaching the market originate from such debtors.

#### **D. Price Asymmetry Between Banks and Distressed-Debt Investors**

There are large bid-offer price gaps between Japanese banks and distressed-debt buyers. Japanese banks claim (based on their mid-1990s experience involving real estate collateral sales) that distressed debt investors are myopic, bid at deep discounts to achieve double-digit returns, and destroy franchise value by liquidating viable but financially strapped borrowers. Banks also argue that their under-watch borrowers, who on average pay a 4 percent interest rate, are the most profitable part of their portfolio especially when the interest rate environment is close to zero. Although the Bank of Japan (BOJ) indicates that banks are charging higher rates for their loans,

Oyama (2002) points out that the absolute spread on loans is still low compared to the credit quality of the Japanese borrowers.

On the other hand, many distressed-debt players believe that Japanese banks are grossly under-reserved against loans that are ‘under watch’ or under the ‘doubtful’ category and therefore would realize a large loss if they sold them. Most banks set aside minimum reserves against SPLs on the assumption that the zero-interest rate environment will continue.

Many debt restructuring specialists are of the view that Japanese banks do not have the ability or incentive to assess the intrinsic value of their loan portfolio. Traditionally, Japanese banks did not follow the profitability or the cash flows of their debtors as long as the loan’s collateral and recourse rights did not lose value. During our interviews in Tokyo, many distressed-debt players were of the view that borrowers provide little information that is useful to understand their real cash flows. Market participants suggest that Japanese bankers assess their borrowers only by their financial statements and do not initiate due diligence of the debtor’s business—i.e., they do not look at the cash flows, the real value of the inventories, the market value of impaired assets, and the undisclosed/off-balance sheet liabilities.

### **III. FAILURE OF MAIN BANK SYSTEM**

#### **A. History of Main Bank System**

The banks’ reluctance to sell SPLs also derives from coordination failure between the banks. With decreasing collateral values, the capacity of “main banks” (the primary lender) to bail out the borrowers has weakened significantly. Banks have so far resolved this situation by simply refinancing distressed borrows and postponing fundamental debt restructuring.

The inability of banks to concurrently engage in debt reduction has contributed to the price mismatch faced by banks and distressed-debt investors. When debt reduction is insufficient, banks do not have the incentive to swap debt into equity, because the borrower laden with excess debt faces the risk of falling into insolvency and thus of losing all the value in equity. This means that banks do not value their debt in the same way as distressed-debt investors, who value the debt at a deep discount and usually swap it into equity. We defer the details of this argument to Section IV.

Traditionally, Japanese banks extended loans on a bilateral basis. Each bank individually negotiated with borrowers on the terms of loans, including interest rates and collateral. Syndicated loans were introduced only in 1997. Banks in principle made loans on a fully collateralized basis with recourse rights (upon liquidation) on borrowers’ residual assets. When land prices were on the increase, collateral guaranteed payment of loans in full.

Under such circumstances, banks optimized their monitoring costs by designating a main bank to a large corporate that had loans from multiple banks. Main banks relied primarily on financial returns reported by the borrower to review loan quality. Furthermore, loan contracts did not allow

for due diligence by main banks to monitor a borrowers' operation. A main bank that usually has the largest loan exposure also has the first priority to proceeds from the collateral.<sup>8</sup>

The main bank system was an efficient way for Japanese banks to diversify their portfolios under a 'protection convoy' system. Until early 1990, the Ministry of Finance had maintained informal control on banks' branch policy, thereby confining major banks' operations mostly within major cities. Similarly, regional banks operated within their respective prefectures. This arrangement allowed protection from competing banks. However, since banks did not have sufficient physical presence in other localities, they relied on each other for monitoring borrowers when loans were made outside their primary city/prefecture.

Typically, when a borrower experienced financial problems, its main bank took over all the responsibility, rescheduled repayments and sometimes dispatched staff to assist in operational restructuring. Nonmain banks were in principle not asked to bear any costs. While the economy was booming, such operational restructurings and loan reschedulings were sufficient, at least optically. Such monitoring efforts (including any reschedulings/restructurings) by main banks were assumed to be cheaper than negotiating losses with nonmain banks.

### **B. Impact of Real Estate Prices on Main Bank and Nonmain Bank Relations**

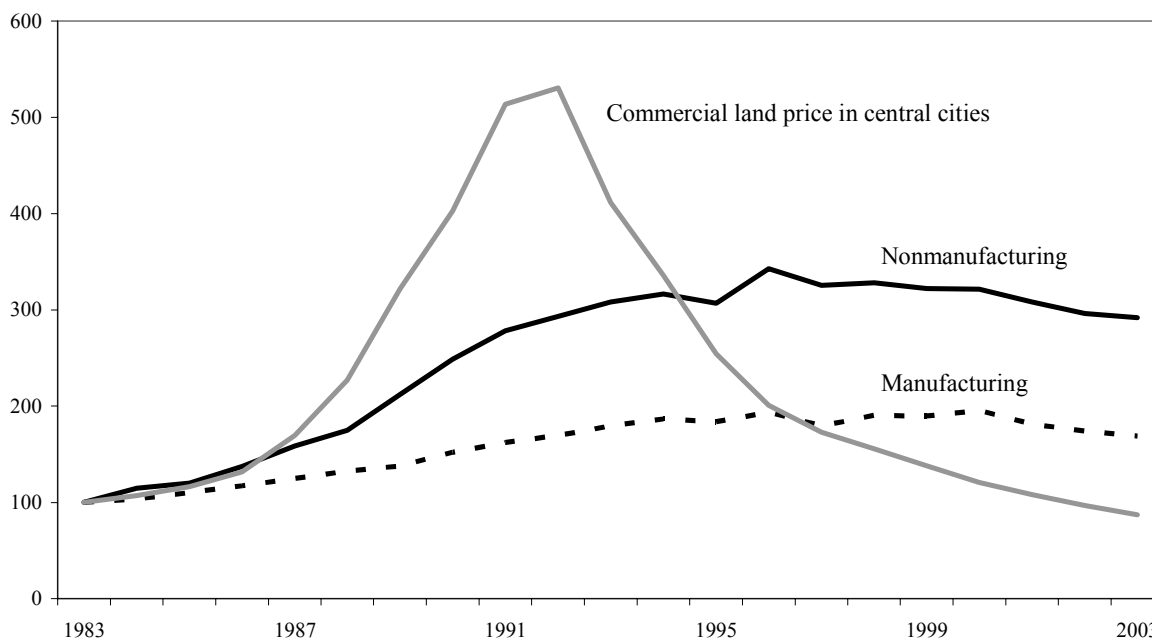
The bursting of the land price bubble changed earlier assumptions (Figure 1). According to the Japan Real Estate Institute, the average price of land for commercial use in major cities has dropped by 80 percent from its peak, suggesting that the collateral is insufficient to pay off loans. During the economic boom in the late 1980s to early 1990s, land prices had significantly overshoot their historical trends and more than doubled from the mid-1980 levels. Banks aggressively expanded collateralized credit, especially to the nonmanufacturing sectors, where loans more than quadrupled during the bubble period. Forthcoming deregulation which would reduce constraints on land use, and the belief that land prices would never fall accelerated the expansion of collateral-based lending.<sup>9</sup>

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<sup>8</sup> Nonmain banks usually take the same collateral in subordinated ranks. If there is surplus after the first ranked collateral holder has satisfied his claim, the second ranked collateral holder recovers from the residual, and so on.

<sup>9</sup> A series of regulations restricted the use of lands. For example, even in central Tokyo, small farm land was not allowed to convert to residential use. Forthcoming deregulation was expected to change that and (hence) further boost the value of land.

**Figure 1. Japan: Level of Corporate Debt  
(1983 =100)**



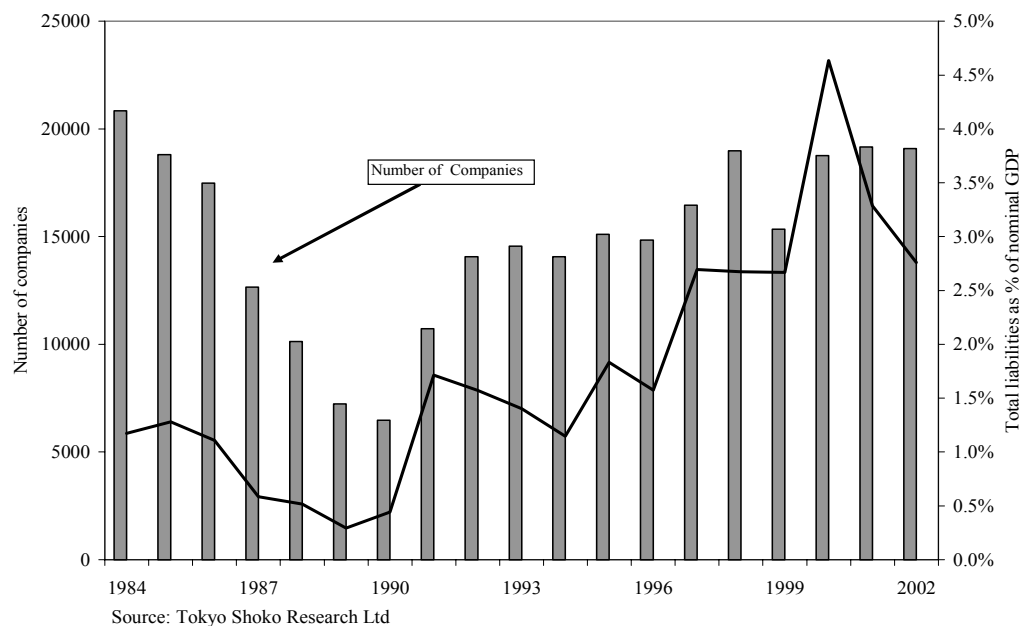
Source: Japan, Ministry of Finance, *Corporate Survey*; Japan Real Estate Institute.

Despite the decline in land prices, nonmain banks continued to expect that main banks would indemnify the nonmain banks by purchasing/replacing their loans at book value (known as “*main yose*”). In the early 1990s, at the outset of the real estate crisis, main banks agreed to assume such responsibility—an implied put option given to nonmain banks. The supervisors also acknowledged the main banks’ readiness to support their borrowers; thus, many loans were not downgraded below the “under watch” list. In this way, both main and nonmain banks avoided making provisions towards loan loss reserves. In other words, the main banks’ readiness to accept *main yose* (or, implied put option) was a benefit that they willingly gave to the nonmain banks in exchange for a favorable loan classification from the regulators (since it encouraged nonmain banks to continue financing the troubled borrowers).

With the Japanese economy continually mired in recession throughout the 1990s, the capital-strapped main banks began to refuse to allow exercise of the put option. Main banks began to require nonmain banks to assume their share of loss; the nonmain banks resisted. Since private restructuring plans must obtain a unanimous agreement, coordination failure between main and nonmain banks led to a standstill in many private debt-restructuring cases. This deadlock situation has left many distressed borrowers with deteriorating financial strength. As a result, main banks began to lose control over preventing these borrowers from failing, especially large corporates. Figure 2 shows how the size of the companies that filed for bankruptcy has increased

since 1997.<sup>10</sup> In fact, many of these borrowers were said to be categorized as under-watch or performing.

**Figure 2. Corporate Bankruptcies**



One might argue that, under the blanket guarantee, main banks also have a put option to the government. However, unlike nonmain banks, main banks would be answerable to the government—their management and shareholders have to take some responsibility. On the other hand, even in the case of the main banks' failure, it is likely that nonmain banks anticipated that the government would allow them to exercise the put option and nationalize main banks for political reasons. This asymmetric expectation may have led to a coordination failure between main and nonmain banks.

Only judicial proceedings can result in mandatory haircuts or reduction in loan value that apply to both main banks and nonmain banks. In the United States, the threat of filing a bankruptcy proceeding often prompts voluntary loss-sharing among creditors. In contrast, main banks in Japan cannot easily resort to the same threat since the judicial rehabilitation has generally been too expensive. In judicial proceedings, the recovery value of unsecured debt can often drop below 10 percent of par value. For example, after news of a judicial settlement for Mycal, the secondary market prices of its bonds collapsed from roughly 50 cents on the dollar to about 2 to 3 cents on the dollar.<sup>11</sup>

<sup>10</sup> Data from Teikoku Data Bank indicates a similar trend for listed companies. These developments forced all major banks but Mitsubishi-Tokyo to become undercapitalized and led to an injection of public capital in March 1999.

<sup>11</sup> Similarly when Yaohan went under judicial bankruptcy, the retail investors received about 30 cents on the dollar while the institutional investors received only 3 cents on the dollar.

Forbearance culture under the main bank system had postponed the use of judicial bankruptcy system and allowed franchise value to deteriorate until distressed firms become deeply insolvent. Traditionally, Japanese firms helped each other in times of distress by accepting longer-dated promissory notes to defer payments on the assumption that their respective main banks will turn them around without dishonoring these notes. The common use of long-dated promissory notes along with a reluctance to file for bankruptcy led to a rapid accumulation of debt.<sup>12</sup> In practice, default on these promissory notes has long been, and, to a large extent, still is, a necessary condition before judicial proceedings can commence. The introduction of the Civil Reconstruction Law in 1999, which is modeled after Chapter 11 of the U.S. Bankruptcy Code, increased voluntary bankruptcy filings by debtors, but it does not address this cultural issue, which inhibits debtors from using formal bankruptcy proceedings.

The very act of filing for judicial bankruptcy proceedings led to an immediate deterioration in franchise value and became a self-fulfilling prophecy. To avoid losses via judicial proceedings, main banks have increased forbearance lending to distressed borrowers, which often accompanies cosmetic operational restructuring, and are actively involved in preventing downgrades of large corporates from the doubtful category to the near-bankruptcy category (also from the 'under watch' category to the doubtful category). Fujiwara (2002) suggests that Japanese banks in recent years may have internalized their credit costs stemming from distressed borrowers by softening the loans terms and providing additional liquidity.<sup>13</sup> Some analysts are of the view that banks agree to debt-restructuring plans that fall short of rehabilitating distressed borrowers but are sufficient to keep them current on their repayments for a year or two.<sup>14</sup> In fact, since 1999, the number of cases of debt forgiveness by banks has increased (Figure 3). However, it is important to note that there were only 196 registered cases of debt forgiveness between January 1990 and March 2003. Furthermore, in many of these cases, the rates of haircut on the debts seem insufficient for rehabilitation; some borrowers have subsequently received a second round of debt-forgiveness.

Risk-sensitive foreign investors have seldom purchased equity of distressed debtors *before* they file for judicial rehabilitation. Instead, they purchase SPLs at discount and swap them into equity or purchase a good part of the debtors' franchise and inject capital, only *after* judicial proceedings have commenced. However, the supply of such SPLs is relatively scarce, because main banks have every reason to avoid judicial proceedings.

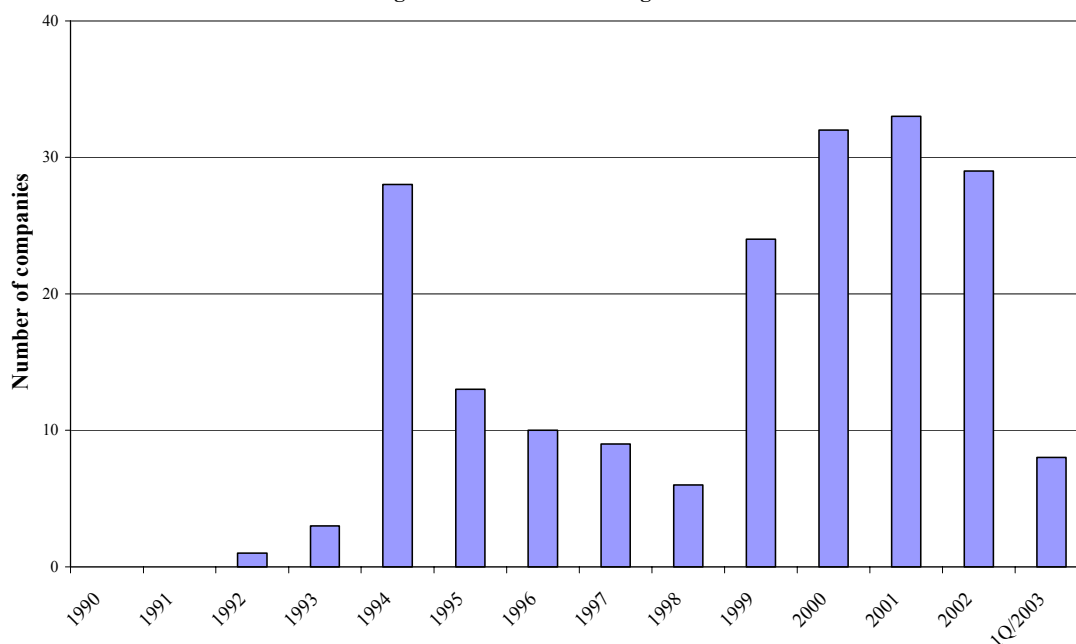
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<sup>12</sup> Banks usually required owners of distressed corporates to make personal pledges and thus foreclosed their properties in the event of default.

<sup>13</sup> Instead of writing off loans as credit loss, a bank that rolls over an impaired loan, loses the opportunity cost of lending the amount elsewhere, presumably to a more credit worthy corporate.

<sup>14</sup> Short-term horizons (for a year or two) are largely a function of the bank's 'annual loss budgets'. In any case, market participants are unanimous that there is no long term vision for fundamental restructuring.

Figure 3. Cases of Debt Forgiveness



Source: Teikoku Data Bank.

### C. Coordination Problem Between Main Banks and Nonmain Banks

The deadlock between main and nonmain banks stems from three factors. **First, nonmain banks may still believe that the government will bail out major national and regional banks, which are typically the main banks for a majority of borrowers.** However, this does not always guarantee that nonmain banks can put their loss to nationalized main banks. The government may, either implicitly or explicitly, require nonmain banks to share the losses, as allegedly happened in the case of Daiei, a retail department store chain. In fact, the government established the IRCJ partly as a tool to encourage nonmain banks to share appropriate losses. In addition, the FSA has recently started to tighten loan assessments for regional banks as witnessed in the case of Ashikaga Bank.

**Second, market participants suggest that debt restructuring for corporates remains largely a function of the bank's annual budgets for loan loss provisions, with little regard for the debtors' fundamental debt-restructuring needs.** If this assertion is warranted for the entire banking system, (i.e., if the entire banking system is undercapitalized), the government should consider recapitalization, the banking system, because the situation is a systemic concern and the government needs to fill the shortfall one way or another. On these lines, the recent move for the government to establish a framework for pre-emptive capital injection to weak banks could be a step in the right direction, provided it will improve the efficiency of the banking system and reduce the excess capacity.

However, given the zero-interest-rate environment, undercapitalization may not be as crucial a cause of the deadlock as it seems. The entire banking system generates annual operating profit (a flow) worth Y 4 trillion or 0.9 percent of GDP, compared to cumulative balance of the *stock* of doubtful loans at 1.8 percent of GDP. These facts suggest that the banking system can engage in

debt restructuring steadily, albeit slowly. Furthermore, in 2003, major banks were able to raise capital in the market.<sup>15</sup> Moreover, it is possible that if the regulatory wedge for reserve requirement, as explained in Section II, was reduced, fewer financial resources would be wasted on cosmetic efforts to keep borderline borrowers from migrating into lower grades.

**Third, main banks may project sizeable upside gains (potential future value) in their SPLs and therefore perceive disproportional loss-sharing to be more expensive than the costs of postponing debt restructuring.** They will be the primary beneficiary from an economic recovery and/or a rise in real estate prices—main banks usually have the largest collateral coverage on their loans. In fact, land prices in central Tokyo area have recently picked up. On the other hand, nonmain banks' expected payoff from such upside scenario is relatively limited. Thus, the different payoffs each group faces also contribute to the coordination failure between main banks and nonmain banks.

**We assert that the third factor is most commanding at this conjuncture.** However, all three factors in practice seem to coexist and interact each other. Tight budgets for loan loss may have encouraged banks to make optimistic projections when reviewing loan quality, while the assumed blanket guarantee may have weakened market monitoring on such practices. Lastly, the expected recovery value on loans may have led main banks to postpone debt reduction.

#### IV. CAUSES OF PRICE MISMATCHES IN SUBPERFORMING LOAN MARKET

How do existing bank regulations and the main bank system, described in the preceding sections, cause price distortions? Why do distressed debt investors constantly underbid SPLs? If a bank and a distressed debt investor measure the present value of a company identically, then whoever can add more value through corporate restructuring should bid higher. Logically, distressed debt investors should be able to bid higher than the bank's offer price since they are more experienced in turn-around management than the local banks. However, local banks assert that distressed debt investors bid too low to acquire SPLs.

In this section, we illustrate how a structural wedge between bid and ask prices may develop, due to bank regulations and the main bank system. Distressed debt investors discount SPLs to a level at which contracted interest payments compensate for default risks, and then swap the debt into equity to capture the upside potential ("equity play")—they face little default risk. Banks, on the other hand, retain potential future recovery value by rolling over SPLs at book value ("perpetual-debt play"). Inflexible regulations on loan loss reserves and failure to coordinate debt reduction among themselves prevent banks from swapping SPLs into equity. Absent debt reduction, equity would likely have little value while default risk remains significant. Moreover, unlike (legal) perpetual debt, the rollover loan is treated as collateralized senior debt when the borrower goes bankrupt, and therefore, banks are more interested in the collateral value than the distressed debt investors. This approach by the banks reflects the respective banks' views on the future change in the borrowers' default probability and the future value (i.e. beyond the maturity of SPLs) of the real estate collateral.

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<sup>15</sup> For example, Sumitomo, Tokyo Mitsubishi, and Mizuho Banks.

The main thrust of the following analysis is that we attempt to establish the actual bid and offer prices in the market by using actual pricing models and transactional data. Our assumptions are few and have been verified by various market participants in Japan.

### **A. Equity Play on SPLs: Distressed-Debt-Fund Player View**

First we examine how distressed debt investors decide on their bid price. In the corporate restructuring business, distressed debt investors often swap purchased loans for equity to capture upside gains from the underlying business franchise freed from debt repayments. In fact, they have almost no choice but to take positions as sizeable (private) equity players when bidding for SPLs (after having exhausted the buy-NPLs-sell-collateral transactions in mid-1990s).

Distressed debt investors, as equity players, are more interested in increasing the cashflow than recovering from the sales of collateral. These investors assign little value to the collateral because debt haircuts reduce the probability of default and the possibility of liquidation—collateral value is realized only at liquidation. In addition, these investors' subordinated status as equity holders reduces the weight of the real estate in the valuation of their equity. Their recovery value from the collateral is only the residual value after senior creditors take the prior claims on the collateral. Thus, the distressed debt players swap the collateralized loans into equity, give up their senior creditor status, and use the collateral to borrow cheap money for the operation of the SLP borrowers.

Distressed debt investors evaluate distressed borrowers by their cash flow, discounted by the internal rate of return on equity (IRR). They purchase SPLs only if their investment exceeds a required IRR ( $r^e$ ) within their investment horizon, which is usually up to five years. Some distressed debt funds suggested that their IRR is around 15 to 20 percent. However, such levels of returns may be higher than available in the market, even after considering default risks. Distressed debt investors, therefore, resort to leverage to lower required returns on invested assets. The leverage factor is a few times equity and the borrowing rate,  $r^b$ , is at around LIBOR + 400 basis points. Then,  $r^a$  is expressed as:

$$r^a = (r^e + l r^b) / (1 + l),$$

where

$r^a$  : rate of return on assets

$r^b$  : borrowing rate

$l$ : leverage factor

We examine how leverage is typically used by distressed investors to achieve their target returns. Table 2 shows that distressed debt investors can buy assets with a total return  $r^a$  as low as 6.8 percent by leveraging their equity 3 times and still manage to achieve their IRR of 15 percent. A leverage of factor of three is consistent with the actual market practice engaged by distressed debt investors in Japan.

**Table 2. Leverage and Return on Assets**

When $r^b = 4\%$ ,				
Leverage =		1	2	3
$r^a =$	(when $r^e = 15$ )	9.5	7.7	<b>6.8</b>
	(when $r^e = 20$ )	12.0	9.3	8.0

Source: IMF staff estimates.

These numbers suggest that distressed debt investors' bid for SPLs based on the weighted average return on their overall equity and debt portfolio, or  $r^a$ . Such returns are in line with what distressed debt investors have made in international markets.<sup>16</sup> As comparison, R&I, a Japanese rating agency indicates that corporates rated BBB- (or the lowest niche for investment grade) paid credit spreads of 6 percent on 5-year bonds during 2002.

Whether an equity player agrees on the price offered by the bank or not depends on the feasibility of the debtor generating sufficient actual return to clear the required  $r^a$  for a given  $r^e$ . Using  $r^a$  as a discount rate, distressed debt investors determine the bid price as follows.

Assume that a distressed debt investor purchases a distressed loan at  $X_T$ , which generates a constant annual return of  $R$  between the years  $T+1$  and  $T+n$ , and at the end of the  $n$  years sells all equity at the price  $X_{T+n}$ . Then,

$$X_T = \sum R / (1+r^a)^t + X_{T+n} / (1+r^a)^n$$

For the matter of simplicity, assume that the resale price is the same as the purchase price (i.e.,  $X_T = X_{T+n}$ ). Then,

$$X_T = R / r^a \quad (1)$$

Japanese bankers suggested that they charge a concessionary interest rate of around 2 percent on the SPLs/doubtful loans. Although equity players achieve their target  $R$  through a combination of debt reduction, cost cutting, and business improvement, in this section, we ignore the effect of operational restructuring (We defer discussion of the effect of improved cash flow to Section 3). For now, we simply assume that debt repayment at concessionary rates is almost equivalent to 100 percent of the debtor's cash flow.<sup>17</sup> In other words,  $R$  in equation (1) equals the inherited interest rate on the debtor's book.

Table 3 shows the debt haircut required to achieve the  $r^a$  of 6.8 percent is between 63 to 78 percent. These correspond to distressed debt investors' bids of 22 to 37 cents on the dollar.

<sup>16</sup> See Singh (2003), "Returns from Distressed Debt", IMF Working Paper, 03/161

<sup>17</sup> A Bank of Japan study (2004) indicates that corporates rated BB and below, *on average*, use 70 percent of their annual cash flow to repay debt. Doubtful borrowers would likely have higher ratios.

**Table 3. Haircut Factor and Bid Price to Achieve 6.8 Percent Return on Assets**

R (Interest rate inherited on books (%) )	1.5	2	2.5
Haircut to adjust for the above payment of interest (%)	77.9	70.6	63.2
Bid price, cents on the dollar (1 minus haircut factor)	22.1	29.4	36.8

Source: IMF staff estimates.

## **B. Perpetual Debt Play on SPLs: Bank's View**

*Unlike distressed debt investors, Japanese banks seldom resort to debt-equity swaps because restoring distressed corporates to positive net worth requires coordinated debt reduction among main and nonmain banks. Needless to say, if the bank swaps a SPL into common stock, the upside gain of this call option becomes theoretically unlimited. However, the option is out of the money until the net worth of the borrower turns positive. In other words, as long as the remaining debts (senior claims) exceed liquidation value, the equity has limited value. A partial debt for equity swap is very risky due to coordination problems.*

Because they fail to collaborate on debt reduction, banks instead keep rolling over SPLs. This strategy can be reconstructed as holding a call option with a ceiling (i.e., the book value of principal and interest payments). By infinitely rolling over the full book value of the impaired loan, a bank can practically turn it into perpetual debt (or preferred stock), which generates option value. Suppose that today's liquidation value is viewed as a strike price, then the call option is at or in the money with its value having a potential to go as high as the book value.<sup>18</sup> Let us call holding this claim as the "perpetual debt play."

Under this strategy, banks attach higher value to the real estate than distressed debt investors do. Unlike legal perpetual debt, the rollover loan is treated as collateralized senior debt when the borrower goes bankrupt, and therefore, unlike equity, it always has a positive value. By contrast, as we pointed out earlier, distressed debt investors are more interested in increasing the cashflow.

If his/her potential upside gain is sufficiently large, the equity player should be able to price a SPL higher than perpetual debt player whose upside gain is capped. However, if perpetual debt players are more optimistic about the potential upside gains, their reservation prices could be higher. *Japanese banks as perpetual debt players seem to have a relatively optimistic view of the real economic recovery and the real estate market turn around—the primary collateral for their SPLs.*

<sup>18</sup> Given that the land price, a proxy for the liquidation value, has already gone down to 20 percent of the peak value and that it has recently picked up in the central Tokyo, the liquidation value appears to have stabilized sufficient to be used as a strike price.

### Box 1. Evaluating SPLs: Some Empirical Evidence from Debt-Reduction Cases

The present value of SPLs can be roughly observed from a limited number of debt reduction cases that involved debt-equity swaps by main (and quasi-main) banks. These cases represent a relatively fair view of main banks' assessment of the present value of the distressed borrowers because the value of the equity must be at least the best estimate of the market value.<sup>19</sup> Empirical data below suggests that the present value of SPLs varies widely, reflecting the sensitivity to underlying restructuring scenarios, but generally higher than bid prices in Table 3. Note that these present values are also a function of recovery plans, whose goals are often set 3 to 5 years ahead.

Cases of Debt Restructuring (In ¥ 100 million)					
Name of company	Initial Loan	Present Value	Debt Equity Swap and New Capital		
	A	B	B/A (in percent)	C	C/A (in percent)
Ichita	284	71	<b>25.0</b>	5	1.8
Chiyoda Kakou Kensetsu	839	373	<b>44.5</b>	18	2.1
Daikyo	10,729	5,243	<b>48.9</b>	600	5.6
Mitsui Kensetsu	4,226	2,493	<b>59.0</b>	205	4.9
Kumagai gumi	10,572	6,455	<b>61.1</b>	200	1.9
Itsuzu Motor	10,682	6,782	<b>63.5</b>	1,000	9.4
Daiei	25,641	16,948	<b>66.1</b>	2,300	9.0
Sumitomo Kensetsu	3,149	2,097	<b>66.6</b>	300	9.5
Hazama	4,224	2,861	<b>67.7</b>	82	1.9
Hasekou	5,211	3,970	<b>76.2</b>	1,500	28.8
Toyo Shutter	287	245	<b>85.4</b>	10	3.5
Kenwood	1,224	1,076	<b>87.9</b>	250	20.4
Dia Kensetsu	3,188	2,880	<b>90.3</b>	32	1.0
Nihon Bankin	1,480	1,383	<b>93.4</b>	150	10.1

Source: Nomura Research Institute

### Bank's view of pricing SPLs: analytical and numerical examples

Banks seem to use the discount cash flow method when calculating the present value of SPLs after the FSA required major banks to apply this method to assess the present value of doubtful loans. The Bank of Japan also published a paper (BOJ, 2003) to promote this method, in which the value of SPLs is divided into two scenarios, i.e., the recovery value in the case of default and the value of the principal and interest payments in the case of survival. According to it, today's value of a SPL can be denoted as:

$$V(\text{SPL}) = \sum_{i=1}^n [(p_i - p_{i-1})L + (1 - p_i)I_i] / (1 + r_i + \xi_i)^i$$

<sup>19</sup> Note that we excluded equity from the present value because (i) in some cases of debt-equity swap new money was involved (e.g., Hasekou and Kenwood) and (ii) the value of equity swapped from the loan appears to represent only a few percent of the initial book value in most cases.

Where

$p_i$  : probability of default at period  $i$

$L$  : value of the loan at liquidation (here, assumed to be constant over the periods)

$I_i$  : income from the loan at period  $i$  including the repayment of the principal

$r_i$  : risk-free rate

$\xi_i$  : risk premium on the unexpected default loss required by banks

We assume  $r_i$  to be zero, in line with the interest rate environment in Japan. Furthermore,  $\xi_i$ , the risk premium on the unexpected default loss is also assumed to be zero since although  $\xi_i$  is positive, this premium is a few basis points (relative to the zero interest rate environment).

The above equation can be simplified to:

$$V(SPL) = pL + (1 + r^l)(1 - p)I$$

Where

$r^l$  : rate of accumulated return on  $I$

$p$  : accumulated probability of default

$I$  : book value of the loan

Given the investment horizon to be 5 years,  $r^l$  is 0.1 (or accumulation of 2 percent interest for 5 years). Then:

$$V(SPL) = pL + 1.1*(1 - p)I \quad (2)$$

Let us introduce  $d$ , as the ratio of the present real estate value to the peak real estate value in 1991. Since  $L$ , liquidation value, is a direct function of  $d$ ,  $L$  is roughly equal to its collateral value. Thus  $d=1$  in 1991. Also  $\max L = dI$ .

Substituting the maximum upside potential (the call option) in equation (2), we get

$$V(SPL) = pdI + 1.1*(1 - p)I$$

or,  $V(SPL) = [(pd + 1.1*(1 - p))] I \quad (3)$  and is used in Table 4

According to Japan Real Estate Institute, the average commercial land prices in six major cities fell to 20 percent from its peak 1991, i.e.,  $d=20$  percent today. For the matter of simplicity, assume the value of  $I$  to be \$1. Thus, substituting these numbers in equation (3), we further get

$$V(SPL) = 0.2p + 1.1*(1 - p) \quad (4)$$

and is used in Table 4

**Potential future value (PFV) of the SPL (in addition to today's value)**

In the perpetual debt play, banks can take into account the potential future value (PFV) of a SPL. Suppose, among other factors, banks expect their collateral value to go up and the default probability on their loans to go down in a few years. Let  $f$  denote the future state, which assumes a 30 percent increase in the collateral value ( $d_f = 1.3d = 0.26$ ), and a simultaneous drop in the default probability by 10 percent points ( $p_f = p - 0.1$ ). Replacing  $d$  and  $p$  in equation (4) with  $d_f$  and  $p_f$ , we also get

$$\text{PFV (SPL)} = 0.26*(p - 0.1) + 1.1*[1 - (p - 0.1)] \quad \text{--- (5) and is used in Table 4}$$

Figure 4 visually illustrates these assumptions.

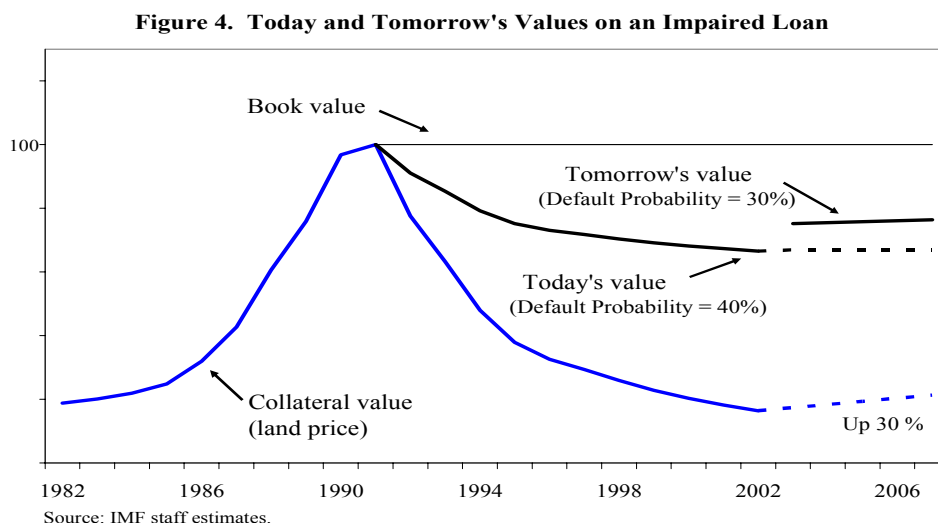


Table 4 summarizes today's value ( $V$ ) and potential future value (PFV) of doubtful loans under various default probability scenarios. The range of values is generally in line with empirical evidence (See Box 1). The base scenario (shaded column) shows the case where the accumulated 5-year default probability ( $p$ ) is 40 percent<sup>20</sup> and today's value  $V$  of the doubtful loan is accordingly 74 cents. The "future state" assumption, where land values rise 30 percent and cumulative default probabilities are reduced from 40 percent to 30 percent, gives an additional value of 11 cents (i.e., the PFV totals 85 cents) in this scenario. This case for collateral value ( $d_f$ ), i.e., a future pick-up in real estate prices in 5 years (estimated at 30 percent) is possible, in line with its historical trend. Some industry observers endorse this assumption, pointing to the fact that land prices in central Tokyo area have recently picked up.

<sup>20</sup> The latest S&P and Moody's data indicate that cumulative average 5-year default rates for corporates rated between B and C range from 30 to 60 percent. R&I, a Japanese rating agency, also reports that the accumulated 5-year default rate for Japanese corporates rated B and lower is on average 20 percent (R&I, *News Release*, 2003).

**Table 4. Today's Value and Potential Future Value**

	p	30%	40%	50%
Value today (SPL)	(d = 0.20)	83	74	65
	P <sub>f</sub>	20%	30%	40%
Potential future value (SPL)	(d <sub>f</sub> = 0.20*1.3)	93	85	76

Source: IMF staff estimates.

Notes: f denotes future state where collateral value increases 30 percent, while the probability of default decreases 10 percent simultaneously.

Both the recovery of collateral value and reduced default probabilities lie behind the improvement in loan value from 74 to 85 cents in this case. Incidentally, in a calculation related to Table 4, the perpetual debt hypothesis can also explain the price wedge faced between main and nonmain banks. With zero collateral value, a nonmain bank evaluates the same loan at 77 cents (calculated separately outside Table 4), as opposed to the main bank's 85 cents.

### **C. Bargaining Between Distressed-Debt Investors (Equity Players) and Banks (Perpetual Debt Players)**

Tables 3 and 4 show how a wide wedge between bid and offer prices can develop because of asymmetric pricing. Against the banks' offer price of 85 cents in the base scenario above, the distressed debt investors bid 30 cents on doubtful loans. Even in the worst scenario for banks, in which the default probability (p) is 50 percent and a zero increase in real estate price, the banks' offer price stays at 65 cents, far above the 30 cents bid for doubtful loans. This wedge explains why there are few SPL transactions in the distressed debt market.

For distressed debt investors to bid higher, they must be able to improve the debtor's cash flow through cost-cutting and other operational restructuring. For example, to achieve a bid of 85 cents on the dollar, the investors must generate the return of 5.8 cents (i.e.,  $R = X_T \times r^a = 85 \times 6.8$  percent from equation (1)) on their investments (Table 5). Assuming a distressed debt investor controls a majority (51 percent stake) of the firm and inherited the interest rate of 2 percent on the 49 percent stake held by the bank, the investor needs to improve the actual return on his/her investment by 95 percent to match the price.<sup>21</sup>

Banks can also provide some room for narrowing the gap. For example, banks can account for potential future gains in the form of equity through debt-equity swap. Banks can also make more conservative default assumptions (say, from 40 to 50 percent), because logically Japanese banks would likely understate the default rates by extending forbearance lending to their borrowers. Then, the banks' offer price can go as low as 65 cents on the dollar in the above example. Under this scenario, distressed debt investors would still need to improve actual return on their

<sup>21</sup> To elaborate, the debtor originally pays banks 2 cents on every \$1 loan. After corporate restructuring, the new investor must pay banks (who have not sold their loans) 2 cents on every \$1 loan. The distressed debt investor targets a return of 5.8 cents on every \$1 loan that the investor has bought at 85 cents. Thus, in the example above, the average return on every \$1 dollar must be  $(2 + 5.8) / 2 = 3.9$ , which is 95% larger than the original 2 cents i.e.,  $(3.9 - 2) / 2 = 0.95$ .

investment by 61 percent to make a price match. This example at least illustrates an increased possibility of prices being matched (We encourage the readers to look at Appendix II to examine the price wedge in the under-watch loans).

**Table 5. Required Earnings to Achieve Market-Clearing Price**

( $r^a$  = 6.8 percent, interest rate(inherited) on the books = 2 percent )

Market-Clearing Price	65	74	85
Required actual return ( $R^a$ ) (percent)	4.4	5.0	5.8
Required cash flow improvement (percent)	61%	76%	95%

Source: IMF staff estimates.

## V. POLICY SUGGESTIONS

In accordance with our findings, we propose seven policies to facilitate more transparency in the valuation of SPLs and thus a sound development of the distressed-debt market in Japan. Rigid loan-loss-reserving rules and the impasse between main banks and nonmain bank on debt reduction have allowed the banking system to create de facto perpetual debt that includes an upside option owing to the collateral. However, the distressed-debt investors do not discount SPLs as aggressively as some industry observers believe. They leverage their equity positions to adjust their return on assets in order to discover a matching price. We are of the opinion that the current economic recovery may widen the existing gap between bid and offer prices because banks' estimate of their loan-collateral will be higher now than in the past few years. To narrow this gap, we recommend the following policies:

- Supervisors should pay more attention to the impact of debt rollovers in loan valuation that stems from the present opaque accounting rules that allow for potential upside gains. Rollover loans should be downgraded if the borrowers' net present values and not net book value are negative ("maturity default rule"). A gradual introduction of impairment accounting should make it possible to draw such distinctions between borrowers.
- Banks should consider swapping potential upside gains in SPLs for equity.<sup>22</sup> There is nothing wrong with expecting the upside gains. However, holding such gains by rolling over SPLs weakens the incentive to restructure distressed corporates. Indeed, such debt-equity swaps have taken place, and, in some cases (Haseku and Kenwood), new money was lent to the corporates as part of the debt restructuring. Such equity exposure to a corporate, however, should be priced off market signals such as the secondary-market prices of the corporate's bonds or/and the corporate's stock price on the Nikkei index.
- Coordination failure between main and nonmain banks remains an impediment to a comprehensive debt restructuring. Supervisors should discourage nonmain banks from adopting "go-slow" tactics by applying the same loan-assessment standards to both main banks and nonmain banks. In contrast, lenient standards for nonmain banks could lead them to assume that the government would bail them out if they waited long enough.

<sup>22</sup> Typical routes to gaining equity exposure includes perpetual subordinated debt, preferred stock, or common stock.

- Increasing the use (and threat) of judicial restructuring. Coordination failure between main banks and nonmain banks also stems from a lack of readily available legal procedures to bind dissenting minority creditors. An increase in bankruptcies will also enhance the potential recovery value from the judicial system and enhance the (limited) data on default probabilities. Some market participants endorse more frequent use of judicial rehabilitation at an early stage to reduce the stigma attached to insolvency proceedings and thus mitigate the deterioration of the debtors' franchise value.<sup>23</sup> On this point, one idea would be to mandate the IRCJ to facilitate more frequent and earlier uses of judicial rehabilitation.
- Regulations such as those that disallow restructured loans to be upgraded *even after sufficient debt reduction* should be revised, since they effectively prohibit banks from purchasing distressed loans. This will not only motivate banks to accelerate debt restructuring but also enhance the transparency of Japanese bank's balance sheets.
- Regulators could reduce the large regulatory wedge (of 55 percent) for reserve requirement between "doubtful" and "near-bankruptcy" categories. A revised schedule based on a more gradual scale may reduce the bias toward classifying loans as "doubtful". A wider use of discounted-cash-flow analysis, on "watch" borrowers and SME borrowers, for example, could also be introduced.
- Observers of the Japanese banking system should pay more attention to the positive role of distressed-debt investors. Japanese investors have not been fully educated about the distressed-debt market and the general prejudice toward these "vultures" has resulted in their reluctance to invest in local distressed debt. However, local investors such as Norinchukin Bank, Daido Life, and Tokyo Marine have shown initial interest in alternative investments and may become conduits for local money that will compete with foreign distressed-debt funds.

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<sup>23</sup> In this connection, it may be prudent to discourage the practice of requiring owners of small and medium sized companies to provide personal assets as collateral. In fact, the Civil Code is now under review to limit this practice.

## APPENDIX I

### APPENDIXES

#### I. The Impact of Japan's Recovery on Under-Watch Loans: Some Analytics

Loans that are classified as 'under-watch' are usually associated with very little loan loss provisions (about 5%). Until recently, with limited annual loss budgets, banks had a bias towards classifying loans as under-watch and not as 'doubtful' loans—loan loss provision for the latter is about 15%. Banks usually earn relatively attractive interest rates on under-watch loans vis-à-vis doubtful loans and thus under-watch loans are unlikely to be sold in the market. FSA data indicates that roughly ¥ 50 trillion are classified as under-watch loans against roughly ¥ 9 trillion worth of doubtful loans.

We extend Tables 3 and 4 to illustrate possible bid prices for under watch loans by distressed debt firms and future valuations of such loans by banks. It is unlikely that these loans will come to market since (i) distressed debt funds do not bid in the 50-60 cents to the dollar range and (ii) banks are unlikely to sell their 'jewel' loans that earn premium interest rates (roughly 4% or so)

**Table 3a. Haircut Factor and Bid Price to Achieve 6.8 Percent Return on Assets**

	<u>Doubtful</u>	<u>Under-Watch</u>
R [Interest rate (inherited) on books (%) ]	2.0	4.0
Haircut to adjust for the above payment of interest (%)	70.6	41.2
Bid price, cents on the dollar (1 minus haircut factor)	29.4	58.8

Source: IMF staff estimates.

**Table 4a. Today's Value and Potential Future Value**

		<u>Doubtful</u>		<u>Under-Watch</u>
p		50%	40%	20%
Value today (SPL)	(d = 0.20)	65	74	100
P <sub>f</sub>		40%	30%	10%
Potential Future Value (SPL)	(d <sub>f</sub> = 0.26)	76	85	111

Source: IMF staff estimates.

Notes: f denotes future state where collateral value increases 30 percent, while the probability of default decreases 10 percent simultaneously.

With the upturn in Japan's economy leading to higher collateral values associated with bank loans, the gap between the bid the distressed debt firms and the ask price by the banks will increase. Such bid-ask gaps will be even more pronounced for under-watch loans and it is very unlikely that these loans will come to the market during a Japanese recovery (Table 5a).

**Table 5a. Required Earnings to Achieve Market-Clearing Price**

(r<sup>a</sup> = 6.8 percent)

	<u>Doubtful</u>		<u>Under-Watch</u>	
Interest rate(inherited) on the books	2 percent		4 percent	
Market-Clearing price (from Table 4)	74	85	100	111
Required actual return (R <sup>a</sup> ) (percent)	5.0	5.8	6.8	7.5
Required cash flow improvement (percent)	76	95	35	44

Source: IMF staff estimates.

## APPENDIX II

### II. Is UFJ and Mizuho's Special Purpose Vehicle (SPV) a Middle Way Solution ?

The special purpose vehicles (SPVs) established by some major banks can be seen as a device to narrow price gaps between banks and equity players. Typically, banks sell SPLs to SPVs in exchange for equity and become a 100 percent common equity holder. However, banks entrust the disposal of SPLs to leading foreign investment banks and other foreign and domestic financial institutions.

Market sources suggest that such structures act as catalyst to change the mindset from a perpetual debt player to an equity player. Take the UFJ-Merrill Lynch deal for example. UFJ transferred about Y1 trillion worth of SPLs (doubtful and below)<sup>24</sup> to a SPV at net book value. UFJ holds the SPV's equity in exchange for the transferred NPLs. Merrill Lynch holds a preferred stock worth Y120 billion and manage the SPV by arms length from UFJ.

Some analysts regard this UFJ-Merrill Lynch deal as a way for both the "seller" (UFJ) and "buyer" (Merrill Lynch) to resolve price mismatches, as they *do not have to agree on prices ex-ante* but share profits as they materialize. In addition, by having the buyer as preferred shareholder, the bank becomes a junior claim holder—the one who is pushed out of the money if the value of the loans decreases. Merrill Lynch also holds stock option in the SPV to share upside gains.

Most market participants agree however that the success of these SPVs remains to be seen. Some are skeptical of these schemes. They suspect that these SPVs are only shell companies to warehouse SPLs in response to the "two-year, three-year rule" set by the Financial Revitalization Plan. The net book value (book value minus loan loss reserves) could be still above the present value and incur the SPVs considerable losses. For all major banks, the source of loss budgets would likely remain as a function of their operating profits, which inevitably sets the speed of liquidating the SPVs' balance sheets. Many view that foreign investment banks have not (yet) invested sufficient fund to share credit risks with Japanese banks. Their investments in preferred shares are substantially smaller than the liquidation value of these SPVs and therefore fully secured in practice.

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<sup>24</sup> Officially, loans classified as doubtful, near- bankrupt, de facto bankrupt and legally bankrupt are labeled as NPLs. As defined earlier, in this paper, SPLs are loans classified as 'doubtful' and some that are classified as 'near bankrupt'— i.e., borrowers that still have viable business.

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