

# **Bankruptcy Resolution in Japan: Civil Rehabilitation vs. Corporate Reorganization**

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## **Abstract**

I present evidence on recent bankruptcy resolution and bankruptcy reform in Japan. Prior to bankruptcy, bank lenders are less likely to intervene than they did before. Most bankrupt firms experience abnormal president turnover around bankruptcy filings, regardless types of filings. Priority of claims is less violated in bankruptcy resolution in Japan than in the United States. A Civil Rehabilitation firm spends in bankruptcy substantially shorter than a Corporate Reorganization firm. Also, a Corporate Reorganization firms emerges quicker after the 2000 bankruptcy reform. The main difference between Rehabilitation duration and Reorganization duration is that leverage prolongs Civil Rehabilitation duration only.

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## **1. Introduction**

Bankruptcy is integral as a screening process designed to eliminate inefficient firms. Through the legal mechanism of bankruptcy, most inefficient firms are eliminated in US (White 1990). As an alternative to bankruptcy liquidation, bankruptcy reorganization provides a legal procedure in circumstances when a failing firm's recourses are most valuable if they continue operating. However, firms typically file for bankruptcy reorganization voluntarily as well as for bankruptcy liquidation. Because managers do not take creditors' loss into account in deciding whether and when to file for bankruptcy, typically firm file for bankruptcy too late than soon. Thus, a bankruptcy system, rather than helping the economy to eliminate inefficient firms, may delay the movement of resources to the best uses (White 1990).

Also, bankruptcy reorganization is costly. Bankruptcy costs are direct and indirect. Direct costs encompass are charges of legal and other professional services. Indirect costs include a wide range of opportunity costs, such as lost investment opportunities and lost sales. It is widely believed that indirect costs are significantly higher for bankruptcy than private renegotiation (Gilson et al. 1990). Private renegotiation is an alternative to bankruptcy reorganization. The alternatives are similar to obtain relief from default when creditors consent to rewrite their debt contracts. Firms and creditors' incentives to settle out of court and the renegotiation results reflect the legal and institutional costs of bankruptcy process.

So far, it has been viewed as a striking aspect of Japanese main bank system: it provides a flexible, more effective private alternative to bankruptcy reorganization, for dealing with financial distress and debt restructurings. Till the early the 1990s, bankruptcy resolution is rarely employed for large Japanese firms. Most financially

distressed large firms in Japan successfully restructure troubled debt privately with main bank intervention, rather than through formal bankruptcy. Three main reasons are considered regarding the main bank system. First, banks represent interests of various classes of claimholders, usually holding both equities and loans. Second, both debt and equities of Japanese firms are concentrated with a small number of banks, and usually banks hold largest blocks of Japanese firms. Third, Japanese firms traditionally heavily rely on bank loans (Sheard 1994).

As the 1990s' recession of in Japan persisting, however, recently quite a few publicly traded Japanese firms file for bankruptcy. This study investigates the intervention of bank lenders prior to bankruptcy filings, president turnover around bankruptcy, the indirect costs of bankruptcy such as priority violation in bankruptcy resolution as well as duration in bankruptcy, by focusing on the differences under Corporate Reorganization Law: a trustee control procedure vs. Civil Rehabilitation Law: a debtor in possession bankruptcy procedure, which takes effect after April 2000.

Out of 52 firms, active bank interventions, such as financial rescue operations and dispatch of managers are observed only for ten firms. Regardless of bank lenders' rescue operations, the ten firms failed to restructure debt privately and finally ended in bankruptcies. At the same time, the remaining 42 financially distressed firms straightly filed for bankruptcy, while bank lenders rejecting any financial rescues up until bankruptcy filing. This finding demonstrates a big change in Japanese corporate governance: Japanese bank lenders are less likely to rescue their troubled borrowing firms than they did before. This is probably because quite a few of previous debt restructurings initiated by main banks in the mid 1990s finally ended up in bankruptcies. Another reason is that the DIP (debtor-in-possession) Civil Rehabilitation procedure is not so burdensome for the debtor' managers as the Corporate Reorganization procedure

which is controlled court-appointed receiver.

Either with or without bank lender intervention, most firms experience president turnover and asset restructurings prior to bankruptcy filings. In a reorganization bankruptcy, a court appointed receiver operates the firm and works out a reorganization plan and in principle the incumbent management departs. By comparison, in a Civil Rehabilitation bankruptcy, it is possible for the incumbent debtor's management to remain to operate the firm and to work out a rehabilitation plan. Out of 27 Rehabilitation firms, thirteen presidents remain after Civil Rehabilitation proceedings commence. Among the thirteen presidents, however, nine of them seem less likely to be responsible for the management failures: they are either newly appointed or appointed by large shareholders, bank lenders.

For violation of priority of claims, priority of claims in 39 cases held among a sample of 46 publicly traded firms that filed for Corporate Reorganization Law or Civil Rehabilitation Law between January 1997 and August 2002, comparing with 29 cases of priority violation among the 37 American firms in a previous study. Priorities for secured violation are rarely violated in Japan as well as in U.S. In contrast, priority violation for unsecured creditors is more likely to occur in U.S.

The average time from filing of the bankruptcy petition under Corporate Reorganization Law to resolution of a sample of 24 firms is 2.2 years, and on average it takes 0.57 years for 27 firms to reach resolution from Civil Rehabilitation petition filing, 1.6 years less than that of Corporate Reorganization Law. Bankrupt firms emerge substantially faster after the 2000 bankruptcy. The average time from bankruptcy petition to resolution in Japan is 1.2 years, about 1.3 years shorter than the average time of a sample 37 New York and American Stock Exchange firms filing for bankruptcy in a large downturn of American economy between November 1979 and December 1986,

which is reported in previous studies on American bankruptcy resolution. Hence, internationally Japan also has a quite effective bankruptcy legal system.

The analysis on the duration in bankruptcy shows that leverage has no significant effect on duration in Corporate Reorganization. In comparison, high leveraged Civil Rehabilitation firms are less likely to quickly emerge from the process. This suggests that before the bankruptcy legal reform in 2000 financially distressed firms seem have no incentives to file for Corporate Reorganization earlier, because they would lose anything regardless of the speed of the bankruptcy legal process. If more and more managers of firms in economic difficulties realize that it is more likely to quickly emerge from Civil Rehabilitation to file for Rehabilitation soon, Civil Rehabilitation Law may provide an incentive for firms in economic difficulties to file for Civil Rehabilitation not too late in the future. Another difference is that bondholder holdouts delay the Corporate Reorganization process while it is not the case for Rehabilitation. But bondholder holdout problem is minor because only a very small fraction of bankrupt firms have public bonds outstanding, different from the case of junk bond in Helwege (1999).

Interestingly, asset size is not significant in any estimates for duration in either Corporate Reorganization or Civil Rehabilitation. In contrast, Helwege (1999), Li (1999), Orbe et al (2001), Dahiya et al (2003) all show that larger firms tend to stay longer in Chapter 11 in US. This study provides important evidence for international comparative law study. One explanation is that virtually shareholders are not entitled the right of vote in case where the company fails to fully satisfy its debt obligations with its properties both under Corporate Reorganization Law and Civil Rehabilitation Law. Therefore, the Japanese bankruptcy legal procedure is simpler than the U.S. procedure.

The study is organized as follows. Section 2 provides descriptions on bankruptcy

procedures in Japan, in particular, procedures of Civil Rehabilitation Law, which takes effect on April 2000 in response to increasing bankruptcies, as well as data descriptions on bankruptcy filings. In Section 3, I investigate bank lenders' intervention prior to bankruptcy. Section 4 tracks top management turnover around bankruptcy. Section 5 presents bankruptcy resolution and examines priority violation. In Section 6, I analyze the duration in bankruptcy. Section 7 concludes.

## **2. Increasing Bankruptcies and the Insolvency Legal System Reform in Japan**

First, let's see the time series of bankruptcy filings for publicly traded Japanese firms in years January 1987-August 2002. A bankrupt firm is identified by the reference to a bankruptcy filing under Corporate Reorganization Law, or Liquidation Law, or Civil Rehabilitation Law of *Nikkei Shinbun, the Fact book of Tokyo Stock Exchange*. Banks, housing loan companies, insurance companies and security companies are excluded, because they are deeply intervened by the government. As Table 1 shows, most of bankruptcy filings are clustered in the years 1997–2002. Eighty-seven percent of bankruptcies are filed in the years 1997-2002. This is consistent with the timing of the general recession of the 1990s, which is still persisting.

Insert <Table 1 >here

In response to skyrocketing increase of bankruptcy filings, Japan is reforming its bankruptcy legal system. Before April 1 2000, mainly two types of bankruptcy filings

are available to large corporations in Japan: Corporate Reorganization Law<sup>1</sup> and Liquidation Law. Liquidation Law, equivalent to Chapter 7 of the U.S. bankruptcy Code (henceforth the Code), provides for the orderly liquidation of a firm's assets by a court-appointed trustee. Corporate Reorganization Law is roughly equivalent to Chapter 11 of the Code, and it provides for reorganization of a bankrupt firm, which is expected to continue as a going concern. For instance, Corporate Reorganization Law imposes stay that prevents creditors from collecting on their debt, or, foreclosing on their collateral, from the date of the ruling to the date of approval of the reorganization plan, or, to the termination of the proceeding, or, for the period of a year from the date of the ruling. Even before the ruling of commencement, the court may order stay, if it is in need.

And, a reorganization plan should be approved by each class of claimholders: two-thirds or more of the total amount of the votes of reorganization creditors, three-fourths or more of the total amount of the votes of reorganization secured creditors, and the majority of shareholders. With regard to a draft which provides for the reduction or exemption of reorganization security rights, or contains other provisions affecting the security rights, the consent shall be obtained from those who possess the right to vote corresponding to four-fifths or more of reorganization secured creditors. Moreover, the consent should be obtained from all reorganization secured creditors, with regard to a draft which contents are liquidation when it is clear that it is difficult to prepare a draft plan of reorganization which contents are to continue the business as a

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<sup>1</sup> Composition Law also provided for reorganization without a court-appointed receiver. In practice, however, Composition Law filings are extremely rare for large companies. Hereafter, I focus on rather Reorganization Law and Liquidation Law in Japan than Composition Law.

going concern or through amalgamation, formation of a new company, or transfer of business. Obviously, secured creditors are entitled strong powers under Corporate Reorganization Law. On the other hand, shareholder shall not have the right of vote; in the case the company cannot fully satisfy its obligations with its prosperities.

Also the court may confirm a reorganization plan, even if the draft plan of reorganization is voted on, but there are groups fail to consent, or it is evident that it is impossible to obtain the consent from persons whose voting rights exceeding the amount as prescribed by laws, through modifying the plan and stipulating the terms which protect the rights of dissenting persons fairly and equitably. Similar to “cram-down” under US Chapter 11 discussed in White (1990), the “fair and equitable” standard closely is reflective of absolute priority rule in liquidation. If the contents of the plan are to continue the business as a going concern or through amalgamation, formation of a new company, to transfer to the new company, to assign to the others, or to preserve in the company, the properties forming pre-bankruptcy lien rights, it requires that the secured creditors retain their pre-bankruptcy lien rights on the assets and thus get payments equal to the value of their claims. If the firm is sold piecemeal, the proceeds of sale of properties to be appropriated to payment to claims with respect to secured creditors, unsecured creditors, shareholders are paid according to priority of claims. Also the trustee may pay a fair price equal to the claims of a dissenting group according priority. If no plan is submitted or adopted, the confirmed plan is insolvent, the court may rule for the discontinuance of reorganization proceedings. In that case, the court may order a shift of the firm’s bankruptcy filing to Liquidation<sup>2</sup>.

A big difference between Japanese Reorganization practice and the practice of US

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<sup>2</sup> Also a shift to Civil Rehabilitation is possible after April 2000.

Chapter 11 is that, not the debtor's management, but a court-appointed receiver operates the firm and works out a reorganization plan<sup>3</sup>. And in principle incumbent managers depart the firm, once Corporate Reorganization proceeding commences. In other words, incumbent managers experience large personal costs under Corporate Reorganization Law. This aspect is rather similar to Chapter 7 of the Code as well as Liquidation Law of Japan. Since managers are displaced and in almost all cases equity becomes worthless, managers have strong incentives to resist Liquidation or Reorganization as long as possible. This means both Liquidation and Reorganization can be inefficient procedures in terms of ex ante bankruptcy costs in White (1983).

As a response to this issue, Civil Rehabilitation Law is passed and it takes effect after April 1 2000<sup>4</sup>. The passage of Civil Rehabilitation Law has been substantially revising bankruptcy administration in Japan. One aspect is equivalent to Chapter 11 of the Code as following: the debtor's management operates the firm and works out a Rehabilitation plan or liquidation, unless an interested party can prove management is incompetent. In a case where the debtor's management is incompetent, Civil Rehabilitation Law provides the appointment of trustee. This debtor in possession aspect of Civil Rehabilitation Law aims to provide incentives for managers of failing firms to file for bankruptcy under Rehabilitation Law by reducing their personal

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<sup>3</sup> Under Corporate Reorganization Law, it is possible that a director or an executive of bankrupt firms to be appointed as a receiver. In practice, however, in most cases only lawyers are appointed. The amended Corporate Reorganization Law explicitly states the condition for a debtor's director or executive to be capable as receiver.

<sup>4</sup> At the same time, Composition Law was abolished. Small and middle firms sometimes used it. A firm was able to file for Composition only if the firm failed to meet its debt payment obligations. Typically, a firm is viewed to be unable to meet its debt payment obligations if banks dishonor its bills. This condition is equivalent to causes of Liquidation filings. Also, a composition filing should be prepackaged, in other words, the firm had to submit a Composition plan immediately as soon as the firm filing for Composition. Most severely, the court was not authorized to order stay even if it is in need. For the above reasons, Composition filings were extremely rare for large firms.

burdens.

The passage of a rehabilitation draft plan requires affirmative votes by only rehabilitation creditors who are entitled to vote and have attended the assembly and who constitute the majority of attending persons entitled to vote, and at the same hold one half or more of the total amount of the votes of the persons who entitled to vote. Generally, secured creditors may exercise their rights outside the rehabilitation proceedings. And also the court may give an approval for a person to file a rehabilitation plan that includes terms for reduction of capital, in case where a rehabilitation debtor company fails to fully meet its payment obligations with its properties. Compared with the passage of a reorganization draft plan, the approval seems simple. Different from Chapter 11 of the Code, Civil Rehabilitation Law does not impose automatic stay to protect the firm from creditors' harassment. Based on application of an interested party, however, the court may, in case where an application for commencement of rehabilitation has been filed, order a discontinuance of exercise of a security right existing on properties of rehabilitation debtor. Moreover, the rehabilitation debtor, may, in a case where collateral properties are indispensable for continuation of business of the debtor, make an application to the court for an approval of extinguishing all the security right on the properties, by paying money equivalent to the market value of the properties to the court. Main differences between Corporate Reorganization Law and Civil Rehabilitation Law are summarized at Table 2.

Insert <Table 2> here

As shown above, to continue as a going concern, a large Japanese firm can mainly file for bankruptcy under Corporate Reorganization Law before April 2000. As Civil

Rehabilitation Law takes effect on April 1 2000, a bankrupt firm can file for either Reorganization or Rehabilitation. In practice, corporate debtors seem to prefer civil rehabilitation filings to corporate reorganization filings, as suggested by a rush of civil rehabilitation filings soon after Civil Rehabilitation Law comes into force on April 1 2000. Table 1 shows civil rehabilitation filings increase sharply from 2000. Probably expecting that they can remain, incumbent managers of bankrupt firms are in favor to file bankruptcy under Civil Rehabilitation Law rather than Corporate Reorganization Law, or Liquidation Law. Indeed, there are four Corporate Reorganization filings but no Bankruptcy filings, comparing with nineteen firms filing for bankruptcy under Civil Rehabilitation Law, from April 2000 till September 2001.

A problem is arising from the passage and practice of Civil Rehabilitation Law. What is the priority of the two procedures, if two different interest parties file for Reorganization, Rehabilitation respectively? Including Liquidation procedure, Reorganization has the highest priority. When two interest parties are filing for Rehabilitation and Reorganization respectively; the court may order the suspension of Rehabilitation procedure upon the application the interest party filing Reorganization<sup>5</sup>. Virtually, the incumbent management has to convert to Reorganization from Rehabilitation when large creditors are against the Rehabilitation filing. The most well known case is Mycal's conversion into Corporate Reorganization. Mycal, a default supermarket chain once dismissed its president, whose appointment was initiated by the main bank, and attempted to file for bankruptcy under Civil Rehabilitation Law, while its largest bank lender opposing. Mycal finally ended up in Corporate Reorganization filing. After Mycal's conversion into Corporate Reorganization, Corporate

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<sup>5</sup> Liquidation has the lowest priority. The court may order suspension of Liquidation procedure upon the application of interest parties.

Reorganization filings increase again and a few of firms file for bankruptcy under Liquidation Law, probably because creditors oppose Civil Rehabilitation filings initiated by debtors' managers, who attempt to avoid taking responsibility for bankruptcies.

In this study, I focus on cases, where bankrupt firms are expected to continue as going concerns, in the years 1997-2002, when formal bankruptcy turns out to be common. This study is consist of a sample of 52 publicly traded firms that filed for bankruptcy under Corporate Reorganization Law, Civil Rehabilitation Law in the years 1997-2002, after deleting 3 Civil Rehabilitation firms which data is not available. I investigate following issues as: Are Japanese bank lenders still trying to rescue their troubled borrowing firms as they did before? What is going on for the incumbent management of bankrupt firms? What is the bankruptcy resolution like in Japan? How does the passage of Civil Rehabilitation Law affect bankruptcy resolution? And how long does it take for Reorganization firms, Rehabilitation firms to work out resolution?

### **3. Bank Lenders' Pre-bankruptcy Intervention**

In this section, I examine bank lenders' interventions around bankruptcy filings, by the reference to new president appointments, dispatch of directors and officers from bank, and bank lenders' rescue operations. A rescue operation is defined as one of the following consequences (i) required interest or principal payments on loans are reduced; (ii) the maturities of loans are extended; or (iii) loans are swapped with equities. Information and relevant data are obtained from Nikkei and company annual report. .

Prior to bankruptcy filings, eight firms attempt to restructure their debt, rescued by the bank lenders. They account for only 15% of the 52 firms. This result suggests that

main banks' rescue operations are not as popular as it was observed up till the early 1990s. Once, a public traded firm occasionally filed for bankruptcy under Corporate Reorganization Law, but it usually followed "a period of close involvement by the main bank in its restructuring effort" and was "triggered by the main bank's decision to curtail its activist role and risking financial exposure", as noted in Shard (1994). Even taking the fact that bank lenders appoint chairman, vice presidents, managing directors and directors into account, at least 42 firms straightly file for bankruptcy, without following a period of close involvement of the main bank in this study. Our study provides an important piece of evidence: Japanese banks jettison a large proportion of troubled borrowers even for large firms.

Insert <Table 3> here

Why do Japanese banks to jettison their corporate borrowers, once they used to readily rescue their troubled borrowers? It is helpful to first review the main features of the main bank system. Sheard (1994) argues that three main reasons are considered regarding the main bank system. First, banks represent interests of various classes of claimholders, usually holding both equities and loans. Second, both debt and equities of Japanese firms are concentrated with a small number of banks, and usually banks hold largest blocks of Japanese firms. Third, Japanese firms traditionally heavily rely on bank loans.

In comparing the U.S. and Japanese legal regimes, however, Ramseyer (1995) suggests the following hypotheses, even though he asserts that we know only that both Japanese and U.S. banks rescue a few large troubled firms and jettison most. First, Japanese firms heavily rely on bank loans than U.S. firms, in part because regulatory

restrictions on bond issuance. Second, traditionally U.S. judges have looked skeptically at creditors who intervene in a debtor's business and sometimes U.S. judges subordinate its claims, if a bank intervenes. It is called the doctrine of equitable subordination". So, U.S. banks less often rescue their borrowers, perhaps, because rescues are often unprofitable. Under lender liability law in the U.S., creditors who intervene debtor's affairs can be sued to pay various debtor liabilities. Nevertheless, U.S. banks sometimes place their representatives on the board of firms in financial distress directly and gain additional control over firms' investment and financing policies, as reported in Gilson (1990).

Recently, Xu (2003b) reports that there are 29 cases of private debt restructurings and 63 cases of bankruptcy filings. The above results suggest that, not only in Japan but also in the U.S., restructuring debt privately led by bank lenders, is an important alternative to formal bankruptcy. These results demonstrate a big change in Japan-US comparative corporate governance: similarities dominate differences in comparing the US bankruptcy wave in the 1980s and this bankruptcy wave in Japan. So far, earlier studies have found many differences in comparing a downturn of US economy and an upturn of Japanese economy in the 1980s.

What causes this convergence in US-Japan comparative corporate governance? I suggest four reasons for this substantial change of the corporate governance of financial distress in Japan. First, the passage of Civil Rehabilitation Law reduces personal costs of debtors' management, suggested by the rush of rehabilitation filings. Virtually, some presidents of failing firms are allowed to continue to operate the firms after rehabilitation as shown in the next section. Another reason is the deregulation in the domestic corporate bond market. Since the late 1980s, Japanese firms are allowed to issue public corporate bonds instead of bank borrowings. It is more difficult for banks

make concessions when there are public bonds outstanding, as suggested in James (1995, 1996). It can only be a minor reason, however. A very small fraction of bankrupt firms have public bonds outstanding. Next reason for Japanese banks to hesitate to rescue their troubled borrowing firms is that low likelihood of successful rescue operations in the early 1990s. This is consistent with empirical findings of Hirota and Miyajima (2001)<sup>6</sup>, Shikano (1995). Finally, probably the health of Japanese banks largely affects banks' rescue decisions as well. However, the failure of rescue operations has substantially hurt the health of the banks and thus the causality between banks' health and rescue decisions is complicated.

Because has been compared with that of a downturn in the U.S. economy corporate governance of an upturn in Japanese economy, the extent of roles of main banks in financial distress is exaggerated. It is worth to point out that private debt restructure initiated by banks is alternative to formal bankruptcy, while formal bankruptcy is increasing its importance in this downturn of Japanese economy. The two systems are complementary but not substitute, not only in US but also in Japan when the economy is confronted with a bankruptcy wave. I believe my study complements to comparison studies on Japan and U.S. corporate governance in the 1980s. Further research on what is driving such convergence is needed in comparative corporate governance study.

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<sup>6</sup> Hirota and Miyajima (2001) find that Japanese banks are less likely to intervene in financial distress in the 1990s than they did after the oil shocks in the 1970s, and that even bank lenders are involved; the timing of top management turnover and the recovery of profit are slower in the 1990s than in the 1970s. Shikano (1995) points out that the successes of rescue operations are mainly due to the industrial recovery rather than the improvement of relative performance of rescued firms in the 1980s. In the late 1990s, many Japanese firms are being forced to exit confronted with the competitive pressure from Chinese economy, as a large number of U.S. firms were confronted with the strong competitive pressure from Japanese economy. Consequently, the delay of industrial recoveries diminishes the likelihood of successful bank interventions in the late 1990s.

#### **4. Management Turnover**

As a first frequently employed debtor-in possession bankruptcy procedure, it is emerging an important theme how the incumbent management is treated around Rehabilitation. Because all incumbent managers depart once a receiver in reorganization is appointed by the court, I first look into president management turnover prior to Corporate Reorganization filings, when I compare management turnover in Reorganization and that in Rehabilitation. Starting four years before the year of Corporate Reorganization filing, I track president changes. As reported in Kaplan (1992), in normal top management succession, a retired president remains as Chairman with representative directorship. Except normal management succession, death or illness, Table 4 shows that fifty-seven percent of firms experience president changes, from date -4 to the date of Corporate Reorganization filing, measure in years. In two firm-years former directors of bank lender were appointed, and in one case a former director of the top shareholder was appointed, respectively. After turnover, most former presidents remain honorary positions such as chairmen but without representative directorship, advisory directors, part-time directors, directors without other titles, or consultants in original companies. Two of replaced presidents were removed down to vice presidents. No intended positions/occupations are available for the remaining four replaced presidents, who probably departed the original companies.

Insert <Table 4> here

In the same way, I track the president changes for Rehabilitation firms. Panel B in

Table 4 documents 29 abnormal president changes experienced by 27 firms around Civil Rehabilitation filing. Excluding 2 bankrupt firms caused by fraud of management, firms experienced abnormal president turnover account for 86% of all firms. Probably being forced to depart, half of presidents after replacement hold no specified positions or occupations. Including one president, who intended to resign, the number of firms, about 90% of all firms experienced president change once around Rehabilitation filings. I also keep track of presidents who remain after rehabilitations commence. Out of 13 cases, 4 presidents' appointments are initiated by bank lenders; large shareholders prior rehabilitation; and therefore it seems less problematic for them to continue to control the firms. Another 5 insider presidents have careers as president less than 2 years. At all, there are only 4 insider presidents who seem more responsible for bankruptcy but turn out to remain after rehabilitation. This result strongly suggests that, whatever legal procedures a bankrupt firm chooses, the president is less likely to remain and not to take the responsibility of poor performance, which causes bankruptcy.

Insert <Table 5> here

On the other hand, this finding also suggests that Civil Rehabilitation Law probably reduces the personal burdens for incumbent managers. Under Corporate Reorganization, all incumbent directors and officers have to incur heavy personal costs because all of them should depart. After Rehabilitation filings, however, at least thirteen presidents continue to take office. This turnover rate is higher than that in other countries, but it is much lower than 100% turnover rate under Corporate Reorganization

law<sup>7</sup>. The rush of rehabilitation filings of large firms soon after the passage of law supports this viewpoint. There is only three-year history of DIP bankruptcy practice; more evidence in the future is needed to examine what roles of DIP plays.

## **5. Priority Violation**

Deviations from absolute priority can be regarded as indirect costs of formal reorganization. Jensen (1989) argues that deviations of priority arising from provisions of formal reorganization process in U.S. violate debt contracts. In this section, I identify 24 Rehabilitation plans, and 22 Reorganization plans that are confirmed. Table 6, 7 summarize violation of priority for the firms examined. Participants in a reorganization bankruptcy approve a reorganization plan, leaving room for negotiations among the various classes of claimholders and for violation of priority of claims. Priority of claims can be violated for both secured creditors and unsecured creditors. Priority of secured claims is violated in 14% (3/22) of the cases. But the percentage of claims paid to secured creditors is still as high as 90% in each case. Shareholders received nothing and thus priority for unsecured creditors holds in all cases of Reorganization. Under Rehabilitation Law, secured creditors may exercise their rights outside the Rehabilitation proceedings. The Rehabilitation debtor may, however, in a case where collateral properties are indispensable for continuation of business of the debtor, make an application to the court for an approval of extinguishing all the security right on the properties, by paying money equivalent to the market value of the properties to the court. I do not find any cases of extinguishing security right in practice. Thus we can take a

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<sup>7</sup> Professor Soogeun Oh points out that high turnover rate of presidents might the evidence that DIP is not the incentive in Japan as much as other countries.

view of no violation of priority for secured claims in Rehabilitation. However, priority of claims for unsecured creditors is violated for 17% (4/24) of the cases in Rehabilitation.

Insert <Table 6,7 > here

At all, the priority of claims for secured creditors is less likely to be violated in Japan. It only counts for 6% (3/46). As well in US, priority is less likely to be violated for secured firms. Virtually, priority of claims for the secured creditors is maintained in 92% (34/37) in the resolution for 37 exchange-listed firms filing for bankruptcy between 1980 and 1986 reported in Weiss (1990). On the other hand, however, the priority violation for unsecured creditors is more likely to occur in US than in Japan. The percentage of violation of priority of claims for unsecured creditors is as high as 70% (26/37). In sum, strict priority of claims in 39 cases (85%) held among a sample of 46 publicly traded firms that filed for Corporate Reorganization or Civil Rehabilitation, comparing with 8 (22%) cases of maintenance of priority among the 37 cases in Weiss (1990).

It is not surprising that priority of claims is less violated for secured creditors, since secured creditors are protected well even there is automatic stay under Reorganization Law, and secured creditors are outside the procedure under Rehabilitation Law. One reason for high percentage of maintenance of priority of claims for unsecured creditors probably is that typically financial institutions such as bank lenders; insurance company lenders hold proportional equity of a borrowing firm. This mitigates the conflict between shareholders and unsecured creditors. Next, in practice shareholders virtually do not have the right of vote, because most Reorganization companies fail to fully pay

claims of unsecured creditors. Most importantly, the bargaining power of shareholders is much weaker in Reorganization where court-appointed trustees control reorganization than that in the debtor-in-possession reorganization workout process, in particular for owner or family controlled firms. Consequently, there are no priority violations of claims for unsecured creditors in Reorganization.

Deviations in favor of equity holders seem more likely to occur in Rehabilitation, since the incumbent management is potentially allowed to remain. However, unsecured creditors can vote against a rehabilitation plan in which priority is violated for unsecured creditors. Notice that only unsecured creditors are exclusively entitled the right of vote. Consistently there are only 4 (17%) cases of priority violation for unsecured creditors in the 24 cases of Rehabilitation. The percentage of priority violation for unsecured creditors in Rehabilitation is higher than that in Reorganization, but still much lower than that in US bankruptcy resolution.

## **6. The Duration in Bankruptcy**

In the remaining part of this paper, I address the following questions empirically: How are firm characteristics related to the speed of bankruptcy resolution in Japan? Does the bankruptcy reform in Japan facilitate a faster conclusion of bankruptcy? What incentives does Civil Rehabilitation Law provide to distressed firms? To the best of our knowledge, mine is the first empirical study on these issues. The length of the bankruptcy legal process is important because it can affect the eventual outcome as well as the value of firm's assets. Some indirect bankruptcy costs, such as lost sales, lost investment opportunities may rise with time in bankruptcy, as suggested in Giammarino (1989), Gertner and Scharfstein (1991), Mooradian (1994) and Roe (1987). In detail,

bargaining and coordination problems may delay both Reorganization and Rehabilitation processes. Empirical studies of Helwege (1999), Li (1999) and Orbe et al (2001) show that firm size the duration in bankruptcy for U.S. firms. Recently, Dahiya et al (2003) find that DIP financed bankrupt firms are quicker to emerge and also quicker to liquidate.

Insert <Table 8> here

Individual duration data for 25 Reorganization firms and 27 Rehabilitation firms is shown in Figure 1. In this dataset, only one Corporate Reorganization observation is censored; that is, when this study has finished the firm still stays in Corporate Reorganization. As shown, the shortest stay in Corporate Reorganization is 0.84 years. And the latest Corporate Reorganization firm takes 3.5 years to exit. For Civil Rehabilitation, the shortest stay is 0.35 years and the longest duration is 0.91 years. Out of 27 Civil Rehabilitation firms, 26 firms exit from bankruptcy faster than the fastest Corporate Reorganization firm. As Table 8 shows, the average time from filing of the bankruptcy petition under Corporate Reorganization Law to resolution of the sample of 24 firms is 1.9 years. And on average it takes 0.6 years for 27 firms to reach resolution from Civil Rehabilitation petition filing. It is 1.3 years shorter than that of Corporate Reorganization Law. The fact suggests that the passage of Civil Rehabilitation Law facilitates a faster exit from bankruptcy. So the main purpose of Civil Rehabilitation Law is achieved.

Also, the bankruptcy legal reform has a strong impact on duration under Corporate Reorganization. From 1997 to 1999, Table 8 shows that on average 16 firms take 2.2 years to reach resolution. But the mean Reorganization duration is 1.2 years.

Reorganization firms to exit from bankruptcy 1 year faster post 2000 bankruptcy reform. It is the same for median durations. Figure 3 indicates individual Corporate Reorganization duration data before and after the bankruptcy reform. The shortest stay time in Corporate Reorganization is 1.18 years and the latest time is 3.54 years in the period 1997 – 1999. Post the bankruptcy reform, the shortest and latest are 0.84 and 2.04 respectively.

Insert <Figure1, 2, 3> here

The recent bankruptcy reform in Japan is highly influenced by the U.S. Bankruptcy Code, in particular, Chapter 11. The bankruptcy duration in U.S. also provides an important benchmark to evaluate the bankruptcy duration in Japan. Franks and Torouts (1989) report an average of 4.5 years for 16 firms filing before the revision of the U.S. bankruptcy Code in 1979, and 2.7 years for 14 firms filing afterward. Similarly, Weiss (1990) reports that on average a firm spends 2.5 years in bankruptcy for 37 New York and American Stock Exchange firms filing for bankruptcy in a large downturn of American economy between November 1979 and December 1986. The average time from the filing of the bankruptcy petition to the resolution in Japan is 1.2 years, taking Corporate Reorganization and Civil Rehabilitation as a whole. It is about 1.3 years less than the U.S. average bankruptcy duration. After the 2000 bankruptcy reform, it is even faster. The result is summarized at Table 9. Limited to bankruptcy duration, Japan has a quite effective legal system.

Insert Table 9 here

To analyze how firm characteristics are related to the speed of bankruptcy resolution in Japan, a log-logistic survival model is employed. That is, the period from a firm filing for reorganization or rehabilitation, until the approval of a plan by the court. Conditional on the firm characteristics  $x = [x_1, \dots, x_K]'$ , the probability that the length of time spent in bankruptcy  $T \geq t$  is  $S(t, x) = 1/(1 + \exp(P(\log(t) - \beta'x))$ , where  $\beta = [\beta_1, \dots, \beta_K]'$ . Likelihood function is  $\prod_i [Pf(P(\log(t) - \beta'x_i))^{\delta(i)} [S(P(\log(t) - \beta'x_i))^{\delta(i)}]$ , where  $\delta(i)$  is right censoring indicator. A positive (negative)  $\beta_k$  implies that  $x_k$  has a positive (negative) effect on the duration in bankruptcy.

Insert <Table 10>here

Table 10 reports data descriptions of firm characteristics for firms filing for reorganization, rehabilitation respectively, at the last fiscal year end prior to the bankruptcy filing. In all cases, the accounting data are for the last fiscal year before the bankruptcy filing. The variables are:

*LOGASSET*—the natural log of the book value of total assets as reported for the last fiscal year before the bankruptcy filing

*LEVERAGE* — the ratio of the total liability to the total assets

*PUBLIC BONDS/LIABILITY*— the fraction of public bonds outstanding in the total liability

*POST2000*— a dummy variable that takes the value one if the Reorganization filing took place after 1999, otherwise 0

*COLLATERAL/ASSET* — the ration of the value of assets used as collateral to the total assets

My first concern is whether the bankruptcy legal system provides an incentive for

financially troubled firms to file for bankruptcy soon. As shown in Table 10, bankrupt firms are typically high leveraged. This implies that the managers of a financially distressed firm have a strong incentive to hope for a miraculous reverse of fortune rather than to file for bankruptcy soon. The more loss a bankrupt firm has suffered, the higher is the leverage. Consequentially, *LEVERAGE* can be a good proxy for how late a firm files for bankruptcy. As Baird (2001) points out, a firm in desperate straits does not bode well for the bargaining process in bankruptcy. Therefore, higher leveraged firms could take more time to exit from bankruptcy. I expect a positive coefficient for *LEVERAGE*.

I use *PUBLIC BONDS/LIABILITY* as a proxy for severity of holdout problem. Usually, consent from a diffuse set of bondholders is extremely difficult to obtain. Bondholders' atomistic actions may holdout and prolong the bankruptcy process. A firm with a high fraction of public bonds outstanding in the total liability is more likely to stay longer in bankruptcy. I therefore expect to find a positive coefficient for *PUBLIC BONDS/LIABILITY*. For U.S. firms, the findings of James (1995, 1996) suggest that the debt structure significantly affects the firm's ability to restructure its debt privately. By contrast, Helwege (1999) finds that bondholder holdouts are not a significant problem, as firms with proportionately more bonds have shorter default spells.

The impact of asset size on bankruptcy duration is measured by *LOGASSET*. Asset size can be a proxy for difficulties of bargaining and coordination among creditors. I expect a positive coefficient for the *LOGASSET*. Previous studies of Helwege (1999), Li (1999), Orbe et al (2001) and Dahiya et al (2003) all show that larger firms tend to stay longer in Chapter 11 in US. *COLLATERAL/ASEET* is used as a proxy to capture the difference that secured creditors may exercise their rights without following the Corporate Rehabilitation proceedings while secured creditors must follow the Corporate Reorganization proceedings. I also control for the bankruptcy legal reform by including

the dummy variable *POST2000* for Corporate Reorganization duration.

Insert <Table 12, 13> here

Table 12, 13 give the log-logistic estimates for duration in Corporate Reorganization, Civil Rehabilitation respectively. Comparing Table 12 and Table 13, we can see that results are quite different. First, I find that *LEVERAGE* has no significant effect on duration in Corporate Reorganization. This suggests that before the bankruptcy legal reform in 2000 financially distressed firms seem have no incentives to file for Corporate Reorganization earlier, because they would lose anything regardless of the speed of the bankruptcy legal process. In comparison, high leveraged Civil Rehabilitation firms are less likely to quickly emerge from the process. In addition, Civil Rehabilitation is a Debtor-in-possession procedure. If more and more managers of firms in economic difficulties realize that it is more likely to quickly emerge from Civil Rehabilitation to file for Rehabilitation soon, Civil Rehabilitation Law may provide an incentive for firms in economic difficulties to file for Civil Rehabilitation earlier. More future practice is in need to test this hypothesis. Also, it is important to examine whether the debtor's managers are more likely to remain if they file for Rehabilitation soon.

Another difference is that *FRACTION PUBLIC BONDS* prolongs Corporate Reorganization duration while it does not for Civil Rehabilitation. Because only a small fraction of Corporate Reorganization firms have public bonds outstanding and thus the holdout problem of bondholders is a minor reason<sup>8</sup>. Interestingly, *LOSASSET* is not significant in any estimates for duration in either Corporate Reorganization or Civil

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<sup>8</sup> Detailed discussions of Professor Soogeun OH and Professor Sung-In Jun are gratefully acknowledged.

Rehabilitation. The results are similar when log of total liability is included instead. In contrast, Helwege (1999), Li (1999), Orbe et al (2001), Dahiya et al (2003) all show that larger firms tend to stay longer in Chapter 11 in US. This study provides important evidence for international comparative law study. One explanation is that virtually shareholders are not entitled the right of vote in case where the company fails to fully satisfy its debt obligations with its properties both under Corporate Reorganization Law and Civil Rehabilitation Law. Therefore, the Japanese bankruptcy legal procedure is simpler than the U.S. procedure. Also I find that *COLLATERAL/ASSET* has a positive sign for Rehabilitation duration but a negative sign for Corporate Reorganization duration. But none of them is significant.

In summary, a Civil Rehabilitation firm spends in bankruptcy substantially shorter than a Corporate Reorganization firm. Also, a Corporate Reorganization firms emerges quicker after the 2000 bankruptcy reform. Internationally, a bankrupt firm exits faster than a U.S. firm filing for Chapter 11, which has strong influences on the bankruptcy reform in Japan. Moreover, a higher leveraged Civil Rehabilitation firms stay longer than does a lower leveraged one. It is not the case for Corporate Reorganization. Despite short Civil Rehabilitation duration, the practice during the first three years after the passage of Civil Rehabilitation law provides no hard evidence in support that financially distressed firms file for bankruptcy earlier than before. Rather, Civil Rehabilitation firms have higher leverage ratios than Corporate Reorganization firms. Also, recovery rates for unsecured creditors are as low as before. However, these are partially due to that many firms were waiting for the passage of Civil Rehabilitation law rather than filing for Corporate Reorganization. This is emerging an important theme in the future.

## **7. Conclusion**

As the 1990s' recession of in Japan persisting, however, recently quite a few publicly traded Japanese firms file for bankruptcy. A big difference between old Japanese Corporate Reorganization Law practice and US Chapter 11 is that, not the debtor's management, but a court-appointed receiver operates the firm and works out a reorganization plan. And in principle incumbent managers depart the firm, once Corporate Reorganization proceeding commences. In other words, incumbent managers experience large personal costs under Corporate Reorganization Law. This aspect is rather similar to Chapter 7 of the Code as well as Liquidation Law of Japan. Since managers are displaced and in almost all cases equity becomes worthless, managers have strong incentives to resist filing for Liquidation or Reorganization as long as possible. This means both Liquidation and Reorganization can be inefficient procedures in terms of ex ante bankruptcy costs.

As a response to this issue, Civil Rehabilitation Law is passed and it takes effect after April 1 2000. The passage of Civil Rehabilitation Law has been substantially revising bankruptcy administration in Japan. One aspect is equivalent to Chapter 11 of the Code as following: the debtor' management operates the firm and works out a Rehabilitation plan, unless an interested party can prove management is incompetent. In order to facilitate speedy conclusions of the bankruptcy legal process, this debtor in possession aspect of Civil Rehabilitation Law aims to provide incentives for managers of failing firms to file for Civil Rehabilitation not too late by reducing their personal burdens.

This study seeks to evaluate the 2000 bankruptcy reform in Japan. I investigates the intervention of bank lenders prior to bankruptcy filings, president turnover around bankruptcy, the indirect costs of bankruptcy such as priority violation in bankruptcy

resolution as well as duration in bankruptcy, by focusing on the differences under Corporate Reorganization Law: a trustee control procedure vs. Civil Rehabilitation Law: a debtor in possession bankruptcy procedure, which takes effect after April 2000.

In summary, recently Japanese main banks are jettisoning quite a few of their troubled borrowers and are less likely to intervene they did before. And most bankrupt firms experience abnormal president turnover around bankruptcy filings, regardless types of filings. Priority of claims is less violated in bankruptcy resolution than that in the United States. Civil Rehabilitation firm spends in bankruptcy substantially shorter than a Corporate Reorganization firm. Also, a Corporate Reorganization firms emerges quicker after the 2000 bankruptcy reform. Internationally, a bankrupt firm exits faster than a U.S. firm filing for Chapter 11, which has strong influences on the bankruptcy reform in Japan. Most importantly, Civil Rehabilitation Law may provide an incentive to firms in economic difficulties to file for bankruptcy not too late, although future evidence is in need. I believe our study complements previous studies that investigate private debt restructurings initiated by bank lenders till the 1980s.

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<Table 1> Time Series of Filings for Bankruptcy under Corporate Reorganization Law, Civil Rehabilitation Law and Liquidation Law of Japan in Jan/1987-Aug/2002

Year	Number of Corporate Reorganization filing	Number of Civil Rehabilitation filing	Number of Liquidation filing	Total
'87-'9			0	10
6	10	-		
'97	6	-	0	6
'98	4	-	3	7
'99	2	-	0	3
'00	3	7	1	11
'01	3	12	1	15
'02*	8	11	5	24

\*Jan/2002 – Aug/2002

Banks, security companies, housing loan companies and insurance companies are excluded

<Table 2> Main Differences between Corporate Reorganization Law and Civil Rehabilitation Law

Corporate Reorganization	Civil Rehabilitation
The firm continues as a going concern	The firm continues as a going concern
A court-appointed receiver in reorganization take the control, while the debtor management departs the firm	The debtor management continues to take the control (debtor in possession), unless the debtor management is incompetent, for instance, management frauds. And the court may appoint receivers in case of the incompetence of the debtor management based on an application of an interest party
The court may order stay to protect the firm from creditor harassment after the filing , if it is in need. And stay effects upon the ruling of commencement of Corporate Reorganization.	The court may order a stay to protect the firm from creditor harassment, for the time until the ruling is given. Also the court may order a discontinuance of exercise of a security right existing on properties. And in a case where collateral are indispensable for continuation of business, the rehabilitation debtor may make an application to the court for an approval of extinguishing all the security rights on the properties, by paying money equivalent to the market value
A reorganization plan should be approved by secured creditors, unsecured creditors and shareholders. But shareholders cannot have the right of vote in case where the company fails to fully satisfy its obligations with its properties.	Unsecured creditors approve a rehabilitation plan. Generally, secured creditors may exercise their rights without following the rehabilitation proceedings. And capital may be reduced without shareholders' approval in case where the rehabilitation company fails to fully satisfy its obligations with its properties.

<Table 3> Involvement of Bank Lenders

Number of firms intervened by bank lenders	
Required principal payments on loans are reduced	5
Required interest payments on loans are reduced	5
Bank lenders dispatch managers	10

<Table 4> Intended Positions/Occupations Reported in Nikkei of Replaced Presidents, Who Did Not Remain Chairmen and Representative Directors. Management Changes Tracked for Four Years, Starting Four Years Before the Year of Bankruptcy filing.

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*Panel A: Corporation Reorganization filings*

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Number of managers holding specified positions/occupations

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Chairman	3
Vice president	2
Advisory with directorship	2
Part-time director	1
Consultant	5
No information	3

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*Panel B: Civil Rehabilitation filings*

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Number of managers holding specified positions/occupations

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Director and Chairman	3
Advisor with directorship	1
Director but no other titles	5
Consultant	3
Managing director of other group firm	2
No information	15

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<Table 5> The Careers of Presidents Who Remain after Rehabilitation

	President career less than 2 years	President career more than 2 years
Outsider	1	3
Insider	5	4

<Table 6> Summary of Claims Resolution for 22 Public Traded Firms Filing  
Bankruptcy under Corporate Reorganization Law in January 1997 - August 2002

Firm name	Percentage or description of claim paid		
	Secured creditors	Unsecured creditors	Shareholders
<i>Priority violated for secured creditors only</i>			
YAOHAN JAPAN	90%	3%	0
DAI-ICHI HOTEL	90%	4%	0
SASAKI GLASS	90%-100%	3% - 8%	0
<i>Priority held</i>			
KYOTARU	100%	20%	0
TOKAI KOGYO	100%	8%-2%	0
TADA	100%	13%	0
DAITO KOGYO	100%	8%	0
TOSHOKU	100%	8%	0
MITSUI WHARF	100%	36.9%—100%	0
ASAKAWAGUMI	100%	5%-10%	0
LONGCHAMP	100%	9%	0
JDC	100%	9%-10%	0
NIKKO ELECTRIC INDUSTRY	100%	10%	0
KOKOKU STEEL WIRE	100%	6.50%	0
NAGASAKIYA	100%	0.50%	0
LIFE	100%	47.72%-	0
JAPAN METALS & CHEMICALS	100%	?	0
SATO KOGYO	100%	4%	0
NISSAN CONSTRUCTION	100%	7% - 100%、	0
KEISHIN WAREHOUSE	100%	8%	0
HOKO FISHING	100%	23% -100%	0
HOKUBU	100%	25%	0

<Table 7> Summary of Claims Resolution for 24 Public Traded Firms Filing  
Bankruptcy under Civil Rehabilitation Law in April 2000 - August 2002

Percentage or description of claim paid		
Firm name	Unsecured creditors	Shareholders
	<i>Priority held</i>	
TOYO STEEL	NA	0
AKAI	NA	0
SOGO	5%	0
FUJII	50%	0
MARUTOMI GROUP	15%	0
FUJI CAR MFG.	8%- 10%	0
IKEGAI	1.59%	0
FOOTWORK INTERNATIONAL	NA	0
BETTER LIFE	10%	0
OHKURA ELECTRIC	1.50%	0
ERGOTECH	NA	0
AOKI	2%	0
KOTOBUKIYA	0.70%	0
SHOKUSAN JUTAKU SOGO	NA	0
KITANOKAZOKU	6%	0
SOGO DENKI	NA	0
NAKAMICHI	NA	0
IZUMI INDUSTRIES	NA	0
ISEKI POLY-TECH	NA	0
DAI NIPPON CONSTRUCTION	2%	0
	<i>Priority violated for unsecured creditors only</i>	
NICHIBOSHIN	4.14%	1%
KAWADEN	22.43%	21%
HAKUSUI TECH	NA	10%
FUJIKI KOMUTEN	5% - 100%	100%

<Table 8> Descriptive Statistics for Bankruptcy Durations

DURATION	Mean	Std.Dev.	Median	Minimum	Maximum	Cases
Bankruptcy 1997-2002	1.17974	0.825093	0.83833	0.350833	3.54	51
Bankruptcy '97-'99	2.19917	0.628218	2.17	1.18333	3.54	16
Bankruptcy '00-'02	0.713714	0.338252	0.57833	0.350833	2.04083	35
Reorganization '97-'99	2.19917	0.628218	2.17	1.18333	3.54	16
Reorganization '00-'02	1.19479	0.369926	1.1287	0.838333	2.04083	8
Reorganization '97-'02	1.86437	0.730035	1.8462	0.838333	3.54	24
Rehabilitation	0.571173	0.143058	0.54833	0.350833	0.9125	27

<Table 9> Mean Time From Bankruptcy Petition to Resolution: US versus Japan

JAPAN (current paper)		
Corporate Reorganization	2.2 years	24 firms
Civil Rehabilitation	.57 years	27 firms
Whole	1.2 years	51 firms
Before 2000	2.2	16 firms
Afterward	.71	35 firms
U.S.A. (Franks and Torouts (1989))		
Before 1979	4.5 years	16 firms
Afterward	2.7 years	14 firms
U.S.A. (Weiss (1990))		
After 1979	2.5 years	37 firms

<Table 10> Descriptive Statistics for 25 Publicly Traded Firms Filing for Corporate Reorganization in 1997- August 2002 and 27 Publicly Traded Firms Filing *Civil Rehabilitation* in April 2000 - August 2002.

*LOGASSET* is the natural log of the book value of total assets as reported for the last fiscal year before the bankruptcy filing. *LEVERAGE* is the ratio of the total liability to the total assets. *PUBLIC BONDS/LIABILITY* is the fraction of public bonds outstanding in the total liability. *COLLATERAL/ASSET* is the ration of the value of assets used as collateral to the total assets. T-statistics are shown in parentheses.

Reorganization firms				
	Mean	Med.	Std.Dev.	Cases
<i>ASSET (millions of yen)</i>	204.60	114.90	309.08	25
<i>PUBLIC BONDS/LIABILITY</i>	0.0370377	0	0.08173	25
<i>LEVERAGE</i>	0.891696	0.924708	0.112048	25
<i>COLLATERAL/ASSET</i>	0.310112	0.274631	0.221833	25
Rehabilitation firms				
	Mean	Med.	Std.Dev.	Cases
<i>ASSET (millions of yen)</i>	54.54	22.71	90.47	27
<i>PUBLIC BONDS/LIABILITY</i>	0.0124753	0	0.027838	27
<i>LEVERAGE</i>	1.29515	0.933156	1.08802	27
<i>COLLATERAL/ASSET</i>	0.315463	0.28956	0.178389	27

<Table 11> A Log-logistic Duration Model Estimates for *Corporate Reorganization*  
(Observations = 25, Sample Period = January 1997 - August 2002)

*LOGASSET* is the natural log of the book value of total assets as reported for the last fiscal year before the bankruptcy filing. *LEVERAGE* is the ratio of the total liability to the total assets. *PUBLIC BONDS/LIABILITY* is the fraction of public bonds outstanding in the total liability. *POST2000* is dummy variable that takes the value one if the Reorganization filing took place after 1999, otherwise 0. *COLLATERAL/ASSET* is the ration of the value of assets used as collateral to the total assets. T-statistics are shown in parentheses.

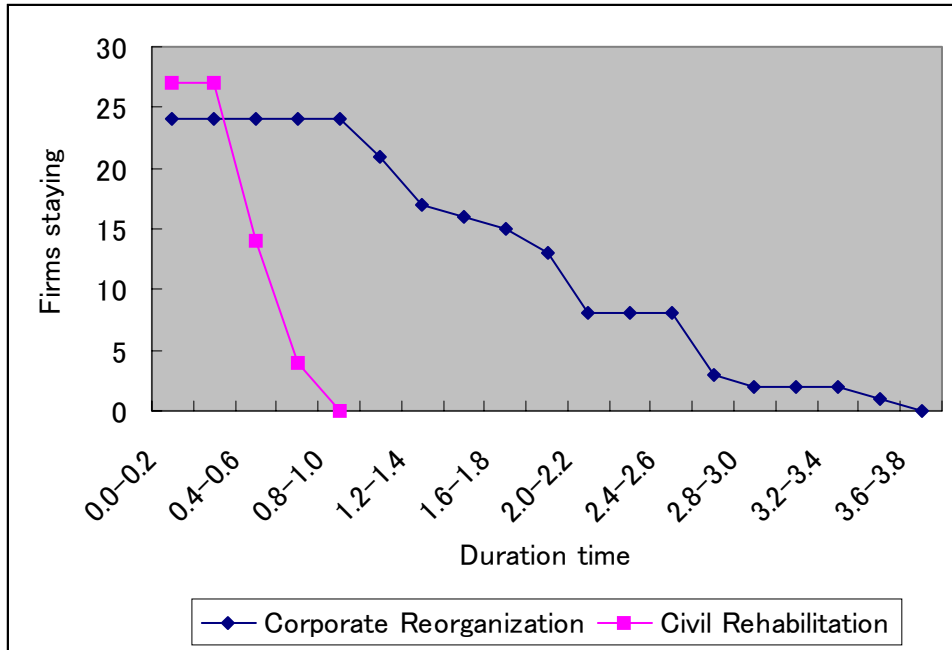
	1	2	3	4
	Coeff.	Coeff.	Coeff.	Coeff.
Intercept	0.705486 (11.6998)	-0.0223176 (-0.0328258)	0.990461 (1.96033)	0.771971 (7.30856)
LOGASSET		0.0401323 (1.09195)		
<i>LOGASSET</i>			-0.322699 (-0.58478)	
<i>LEVERAGE</i>	1.4701 (2.5805)	1.29372 (2.21183)	1.32855 (1.84759)	1.35662 (2.37226)
<i>PUBLIC BONDS</i> <i>/ LIABILITY</i>				-0.207777 (-0.866803)
<i>POST2000</i>	-0.589809 (-5.12935)	-0.599946 (-5.76521)	-0.567918 (-4.88233)	-0.591076 (-5.36098)
Log likelihood	-1.561122	-1.000966	-1.343801	-1.143118

**<Table 12> A Log-logistic Duration Model Estimates for *Civil Rehabilitation***  
**(Observations = 27, Sample Period = April 2000 - August 2002)**

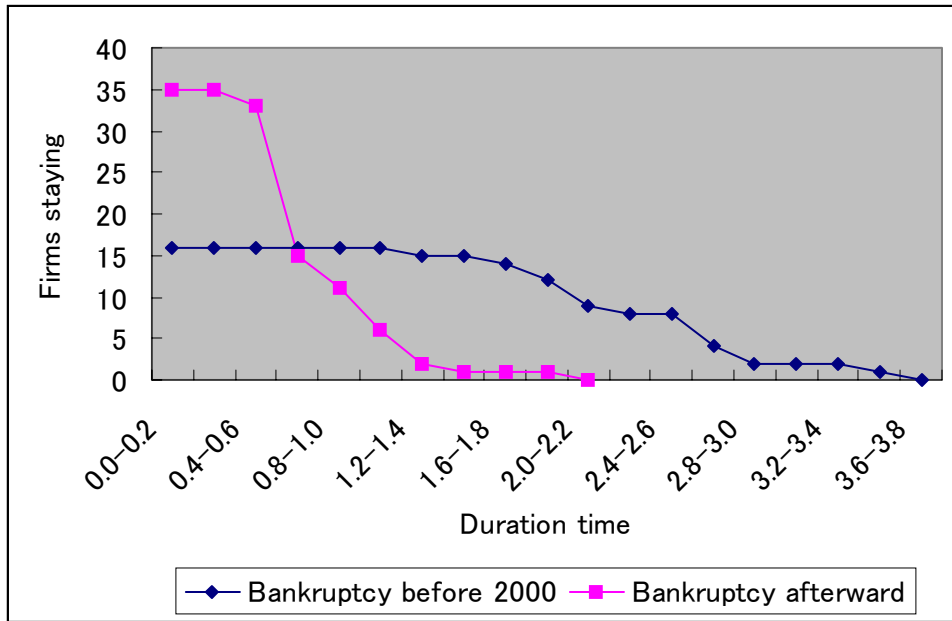
*LOGASSET* is the natural log of the book value of total assets as reported for the last fiscal year before the bankruptcy filing. *LEVERAGE* is the ratio of the total liability to the total assets. *PUBLIC BONDS/LIABILITY* is the fraction of public bonds outstanding in the total liability. *COLLATERAL/ASSET* is the ration of the value of assets used as collateral to the total assets. T-statistics are shown in parentheses.

	1	2	3
	Coeff.	Coeff.	Coeff.
Intercept	-0.806931 (-9.30073)	-0.507509 (-0.425925)	-0.807226 (-8.27132)
<i>LOGASSET</i>		-0.0167208 (-0.236265)	
<i>LEVERAGE</i>	0.0769746 (2.54459)	0.0741412 (2.10828)	0.0770385 (2.48213)
<i>PUBLIC BONDS</i> <i>/ LIABILITY</i>			0.0119631 (0.00834607)
<i>COLLATERAL/ASSET</i>	0.347913 (1.66904)	0.32633 (1.45694)	0.34815 (1.62838)
Log likelihood	4.854069	4.965625	4.854102

<Figure 1> Stay Time: Civil Rehabilitation versus Corporate Reorganization



<Figure 2> Stay Time: Bankruptcy Before 2000 versus Afterward



<Figure 3> Stay Time: Corporate Reorganization Before 2000 versus Afterward

