Bankruptcy Policy Reform and the Productivity Dynamics of Failing Firms: Micro-evidence on Korea

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Introduction

In the unfolding process of the Korean financial crisis in 1997, an inefficient corporate bankruptcy system played a damaging role in the Korean economy.[1] Prior to the crisis, in 1996 and the first three-quarters of 1997, numerous large firms faced with bankruptcy actively sought shelter under the court-administered rehabilitation procedures. Yet, the poor bankruptcy system failed to select the right targeted firms to undergo the rehabilitation procedure among the increasingly large number of financially distressed firms. Meanwhile, the uncertainty and delay in dealing with failing firms clearly added to the distortion in the resource allocation process of the economy before the crisis broke out.

In other words, the exit barriers for large firms seemed to have deteriorated the efficiency of resource allocation before the onset of the crisis. Prior to the crisis, the Korean corporate bankruptcy system had a tendency to work as a de facto exit barrier. For example, before the reform, the producers with persistently declining productivity were much more likely to be accepted in some rehabilitation procedures if they were regarded as having "high social value", such as a large output or employment share in the economy.

It is then natural for post-crisis Korea to launch a sweeping reform of the corporate bankruptcy system. As is the case with other structural reforms in the corporate sector, the reform of bankruptcy policy was pushed forward based on the belief that they were essential for preventing recurrent economic crises plaguing the economy. Yet, the past experience of crisis-hit countries suggests that there is a strong possibility that incomeplete or poor reforms will often lead to recurrent crises afterwards. Despite this, to the best of our knowledge, there are few empirical studies to examine how reforms of bankruptcy policy in post-crisis Korea affect the efficiency of resource re-allocation.

Against this backdrop, the present paper aims to address the issue of evaluating the effect of bankruptcy policy reform on the efficiency of resource re-allocation. By employing the firm-level panel data, the paper will examine how the post-crisis reform of bankruptcy policy affects the productivity dynamics of failing firms. In the analysis, we will focus on the bankruptcy procedures administered by the courts. This can be justified as follows. Faced with bankruptcies, failing firms would resort to in-court settlements only if trying all the possibilities of out-of-court settlements did not work. Keeping discipline in the in-court bankruptcy system would have far-reaching consequences on the out-of-court bankruptcy system, because the discipline in the in-court settlements would work as an effective and credible threat to failing firms in other stages.

We examine whether the firms accepted by the court-administered rehabilitation procedures after the reform, would have less persistent problems in their pre-bankruptcy total factor productivity (TFP) performance than those before the reform. We expect that, if the reform of the in-court bankruptcy procedures is successful, only the unfortunate firms will be accepted by the rehabilitation programs, whereas failing firms with persistently declining productivity will be rejected. Successful reforms of the corporate bankruptcy system would imply an improvement in the efficiency of resource re-allocation.

The outline of this paper is as follows. In section 2, we explain the corporate bankruptcy system in Korea prior to the economic crisis. In section 3, we discuss the key elements of the post-crisis bankruptcy reforms. In section 4, we examine the effect of the post-crisis bankruptcy policy reform in Korea on the resource re-allocation process using the firm-level data. In section 5, we conclude this paper.

Corporate bankruptcy system prior to the economic crisis

Exit barriers for large firms

In Korea, economic growth in the past had been possible through the growth or restructuring of

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[1] This paper is based on section 2 of Lim and Hahn (2003).

existing firms rather than through the dynamic process of entry and exit. In the developmental era when profitable new markets were rapidly emerging, the poor corporate bankruptcy system did not significantly distort the resource allocation of the economy. This was because resources could be easily reallocated from declining sectors to emerging profitable sectors. Under these circumstances, through rationalisation programs, the government played an active role in reallocating resources from failing firms to other existing firms. During the developmental era, most failing firms did not use the bankruptcy procedures overseen by the courts.[2]

In particular, most small- and medium-sized bankrupt firms were effectively liquidated on a non-judicial basis. The debt of bankrupt firms was usually collected on an individual basis under the Civil Procedure Act. Most assets of the bankrupt firms were already subject to mortgage or to security and little were left for unsecured creditors. Additional procedures for the collection of debt were not needed.

For large firms, however, the "too big to fail" argument played a role in exit barriers in the sense that inefficient firms were often allowed to operate with some explicit or hidden subsidies from the government. Some large bankrupt firms were periodically bailed out by the government through various rationalisation measures that were undertaken, for example, in the mid-1980s. These measures also undercut the use of formal bankruptcy procedures.

Since the early 1990s, however, the poor corporate bankruptcy system began to distort the resource allocation of the economy. The distortion grew increasingly until the outbreak of the financial crisis in 1997. Some failing firms began to use the court-administered bankruptcy procedures, but the court-administered bankruptcy system was often abused by the controlling shareholders of failing firms.

By enacting the Rule on Corporate Reorganisation Procedure in 1992, the Supreme Court began to move in the direction of improving judicial bankruptcy procedures. Among other things, the new rule established the conditions for the initiation of corporate reorganisation proceedings. These included high social value, financial distress and possibility of rehabilitation; interestingly, economic efficiency was not a requirement for corporate reorganisation. This new rule helped the in-court corporate bankruptcy settlements to work as a de facto exit barrier for large firms. For example, the producers with persistently declining productivity were much more likely to be accepted in some of the rehabilitation procedures if they were regarded as having "high social value" such as a large output or employment share in the economy.

Exit barriers from the controlling shareholders of failing firms

Prior to the economic crisis, the controlling shareholders of failing large firms often sought to take shelter under court-administered rehabilitation procedures. Yet, an inefficient bankruptcy system failed to keep discipline in selecting right target firms for rehabilitation procedures among an increasingly large number of financially distressed firms.

Some notorious episodes of abuse of the corporate reorganisation procedure by the controlling shareholders of failing firms led the court to amend the system in 1996. In particular, the court argued that the shares of controlling shareholders responsible for a firm's failure should be wiped out. This revision produced an unanticipated outcome: the owners of failing firms looked for other possibilities that would allow them to maintain their control. They found such an alternative in the composition procedure. The composition procedure was originally designed for small and medium-sized firms with simple capital structures, but there was no explicit limit on firm size until the law was later revised. What made the composition procedure popular was the fact that the existing management maintained control.

As shown in Table 1, filings for composition exploded from nine cases in 1996 to 322 cases in 1997 and to 728 cases in 1998. In the first three quarters of 1997, before the onset of the crisis, many large firms facing bankruptcy sought to file for the composition procedure. Among these firms, the case of Kia Motors deserves special mention since it played an important role in the unfolding

2 One technical hurdle to the use of judicial bankruptcy procedures was the Act on Special Measures for Unpaid Loans of Financial Institutions. The Act gave the Korea Asset Management Corporation (KAMCO) the authority to hold auctions of the assets of bankrupt firms before court procedures began. It stopped the Corporate Reorganization Act from operating in practice since the auction of assets by KAMCO effectively preempted the corporate reorganization process. In 1990, the Constitutional Court declared this provision unconstitutional, paving the way for the wider use of judicial bankruptcy procedures.

Table 1

Bankruptcy filings before and after the crisis
– Number of cases, % –

Bankrupcy procedure	1995	1996	1997	1998	1999	2000	2001	2002[a)]
Reorganisation	79 (76.0)	52 (65.8)	132 (26.8)	148 (14.9)	37 (9.1)	32 (13.2)	31 (12.3)	19 (15.3)
Composition	13 (12.5)	9 (11.4)	322 (65.5)	728 (73.3)	140 (34.4)	78 (32.2)	51 (20.2)	23 (18.6)
Liquidation	12 (11.5)	18 (22.8)	38 (7.7)	117 (11.8)	230 (56.5)	132 (54.6)	170 (67.5)	82 (66.1)
Total	104 (100)	79 (100)	492 (100)	993 (100)	407 (100)	242 (100)	252 (100)	124 (100)

Note: [a)] From January to October. - Numbers in parentheses denote the percentage.

Source: Supreme Court of Korea.

of the crisis in mid-1997. The debtor and the creditors initially wanted to apply for different procedures: Kia initially filed for composition, but shortly thereafter creditors chose to file for corporate reorganisation. When both procedures are filed in this way, the filing for corporate reorganisation overrides the one for composition. In the end, the court accepted Kia Motors into corporate reorganisation, but the uncertainty and delay in dealing with large failing firms such as Kia clearly added to the uncertainty in the economy before the crisis broke out.

Post-crisis bankruptcy policy reforms

The economic crisis of 1997 put the existing corporate bankruptcy system, both judicial and non-judicial, under great strain. The number and scale of bankruptcies soared. Table 1 shows that the filings for judicial bankruptcy procedures rose dramatically in 1997. This internal pressure on the system was a driving force for the changes in laws and procedures, although the IMF and the IBRD also demanded improvement in the corporate bankruptcy system as a condition for the bailout package.

After the economic crisis, the Korean government made reform efforts to remove exit barriers along two separate lines: one is the court-administered bankruptcy procedure, and the other, the pre-bankruptcy informal arrangements for corporate restructuring. Whereas the workout procedure played an important role in dealing with the largest failing firms, the court-administered bankruptcy system had an impact on the way the medium-sized failing firms are restructured.

In this paper we focus on the policy reform in the court-administered bankruptcy system. Except for the small-sized firms with simple capital structure, the court-administered bankruptcy procedures are usually the last stages for failing firms to resort to if the interested parties cannot agree on the pre-bankruptcy informal arrangements for corporate restructuring. For the pre-bankruptcy informal arrangements, one of the most effective disciplines should come from the discipline of the court-administered bankruptcy procedures. In this sense, the court-administered bankruptcy system plays a crucial role in the whole bankruptcy system. In out-of-court administered settlements, the interested parties' incentives would be directly affected by the structure of court-administered bankruptcy settlements.

Bankruptcy policy reform in 1998: Economic efficiency criterion and the removal of the exit barriers for large firms

The most important element in the post-crisis court-administered bankruptcy system is the following. The court established an economic efficiency criterion to qualify for judicial bankruptcy procedures and implemented it tightly. Instead of economic efficiency, the old system was based on high social value and prospects for rehabilitation. A comparison of the value of a distressed firm as a going-concern with its liquidation value is now required for the initiation of all judicial bankruptcy proceedings.

This new criterion contributed much to removing the de facto exit barrier for large firms that had

existed in the in-court bankruptcy system prior to the crisis. Remember that, in the system prior to the crisis, the producers with persistently declining productivity were much more likely to be accepted into a rehabilitation procedure if they were regarded as having "high social value", such as a large output or employment share in the economy.

The 1998 revision represented the most substantial change in the system since the enactment of the corporate bankruptcy laws in 1962. But pressed for time in the wake of crisis, the government did not succeed in initiating a fully comprehensive revision, which accounts for the second round of reform in 1999. Through these two revisions, the role of the courts in the corporate bankruptcy process increased significantly; if it were not for the workout procedure introduced as an out-of-court settlement process in 1998, the role of the courts would have even been larger.

Besides the economic efficiency criterion, the 1998 revision tried to speed up proceedings. Time limits were introduced for the critical steps in the proceedings such as the decision on stay, the report of debts and equities, the approval of reorganisation plan, and other steps. Other important changes in the 1998 revision include the following. First, to induce a more active role for the creditors, the reform also established a creditors' conference. Second, to enhance the capacity of the court to deal with bankruptcy cases, the court receivership committee was introduced as a special advisor on the critical steps in the proceedings. Third, the process of wiping out the shares of controlling shareholders was also strengthened and made more transparent. Fourth, to prevent the abuse of the composition procedure, some critical changes were also made to the Composition Act. Large firms with complicated capital structures were not allowed to enter composition. Table 1 shows the impact of this change: the number of composition filings decreased sharply from 728 in 1998 to 140 in 1999.

Bankruptcy policy reform in 1999: Mandatory liquidation system

Despite these changes, the 1998 revision left room for further reform. To some extent, in fact, the 1999 revision filled the gap between initial reform proposals and what was finally passed in the 1998 revision. In the 1999 revision process there was initially debate on the inclusion of an automatic stay in the new law. Under an automatic stay, the debtors' assets are automatically protected on filing from the creditors' rush to secure their claims. The pros and cons of the automatic stay were both strong. The final compromise was to speed up the initiation of the proceedings to within one month of the filing.

An automatic stay can contribute to the rehabilitation of failing firms after bankruptcy. On the other hand, the debtor might use the court to avoid a formal default and thereby evade criminal punishment under the Illegal Check Control Act. According to the Illegal Check Control Act, the managers or owners of failing firms who issued bad checks are criminally liable. This was developed to overcome the informational asymmetry between the debtor and the creditors. Dealing with highly unreliable accounting information, creditors would be much less willing to lend money to debtors without such recourse. The debtors are in effect forced to make a credible commitment to repayment by risking incarceration in case of default.

The new revision also facilitated an efficient transition between corporate reorganisation and liquidation. After the initiation decision, the court must compare the going-concern value of the firm with its liquidation value. If the liquidation value turns out to be larger than the going-concern value, the court must declare the liquidation of the firm. Donga Construction was the first large firm to go down this path; the company was liquidated in early 2001. This change could be regarded as one that contributes to an efficient working of the market mechanism.

However, the system of mandatory liquidation for the failing firms produced an unintended outcome. Failing firms do not want to use the judicial rehabilitation procedures since they feared the possibility of forced liquidation. Resolving this problem remains as one of the major future tasks in the Korean judicial bankruptcy system.

Bankruptcy policy reform and the productivity dynamics of bankruptcy cohorts

From the perspective of designing a corporate bankruptcy system, one of the important issues is how to tell (or to elicit information on) whether the financial distress of the insolvent firm is temporary or persistent. One way to resolve this issue empirically is to analyze the productivity of insolvent firms. We construct total factor productivity

measures for the firms in our data set and analyze them to evaluate the performance of the corporate bankruptcy system in place after the economic crisis. We also analyze the time series of failing firm's productivity before and after bankruptcy.

For the firm-level panel data, we use detailed financial information on the firms that have external audit reports. According to the Act on External Audit of Joint-Stock Corporations, a firm with assets of 7 billion won or more must issue audited financial statements. The data thus include all the firms with assets of 7 billion won or more. For this data, firm productivity is estimated using the chained-multilateral index number approach. In addition, the information on corporate bankruptcy was gathered from such sources as the Courts, Financial Supervisory Service and the Bank of Korea.

Remember that one of the important changes in the 1998 revision was the introduction of the economic efficiency criterion. Now, the court compares the going-concern value of the firm with its liquidation value for the initiation of judicial bankruptcy proceedings. A preliminary check shows that the 1998 to 2000 bankruptcy cohorts suffered less from persistent difficulties than the 1997 cohort. For the 1997 cohort, several years before they went bankrupt and were accepted into one of the rehabilitation programs, their productivity was lower than solvent firms. Rehabilitation mechanisms applied to such firms are most likely doomed to failure from the start. Rehabilitation must target firms that go bankrupt because of temporary bad luck but that have high potential for recovery. In contrast, for the 1998 to 2000 cohorts, this is not the case. The introduction of the economic efficiency criterion, introduced in the 1998, appears to have affected the choices of target firms. Note that the 1998 reform was made at the beginning of that year.

These hypotheses can be tested statistically as follows. Table 2 shows regressions of productivity on a set of the dummy variables referring to the spe-

Table 2

Productivity dynamics of bankruptcy cohorts before and after bankruptcy policy reform
– Firms undergoing corporate reorganisation or composition –

Independent variables: Dummy variable denoting a specific cohort interacted with year and industry dummy	Dependent variable: productivity				
	(1) For the 1996 cohort	(2) For the 1997 cohort	(3) For the 1998 cohort	(4) For the 1999 cohort	(5) For the 2000 cohort
1993	–0.0687115 (0.1739958)	–0.0820866 (0.0596231)	–0.0069199 (0.035766)	0.0251072 (0.0527104)	0.0092007 (0.0795996)
1994	–0.0629782 (0.1739847)	–0.0815479 (0.0602887)	–0.0366698 (0.0347451)	–0.0219148 (0.0500552)	–0.0277665 (0.0750421)
1995	–0.0588727 (0.1739736)	–0.1367584** (0.0588782)	–0.0390412 (0.0339194)	0.0127083 (0.0474052)	–0.0821738 (0.0711893)
1996	–0.3647536 (0.2245488)	–0.1347013** (0.0595412)	0.0070321 (0.0334223)	0.0317036 (0.0470457)	–0.0124563 (0.0700231)
1997	–0.2869542 (0.2245442)	–0.2780865** (0.063298)	–0.0574577 (0.0356012)	–0.0368554 (0.0460487)	0.0304901 (0.0689116)
1998	–0.1409918 (0.1739603)	–0.2565868** (0.0650112)	–0.3211885** (0.0447192)	–0.1993039** (0.0648769)	–0.0003248 (0.0711459)
1999	–0.1321559 (0.2245506)	–0.1544865** (0.0700572)	–0.1599611** (0.0466198)	–0.1475066** (0.0722738)	–0.2036022** (0.091783)
2000	–0.1572699 (0.2245766)	–0.1793303** (0.0765336)	–0.1627449** (0.0488477)	–0.2222749** (0.0778949)	–0.3875751** (0.1376069)
Year dummies included	Yes	Yes	Yes	Yes	Yes
Industry dummies included	Yes	Yes	Yes	Yes	Yes
Number of observations	40,205	40,476	41,025	40,588	40,373

Notes: Numbers in the parenthesis are standard errors. –
* Significant at the 10% significance level. – ** Significant at the 5% significance level.

cific year bankruptcy cohort interacted with the year dummy. Only the particular cohort and the group of solvent firms are included in each regression. The reported coefficients mean the productivity differential between the specific bankruptcy cohort and the group of solvent firms.

Table 2 shows that for the 1997 (corporate reorganisation or composition) bankruptcy cohort, the coefficients reported are negative from 1993 to 2000, and significant from 1995 to 2000. The 1996 bankruptcy cohort shows a similar pattern, but standard errors are large due to the small number of the 1996 cohort. On the other hand, for the pre-exit years of the 1998 to 2000 bankruptcy cohorts, the coefficients are small and significantly negative only around the time of bankruptcy.

Concluding remarks

As discussed in the third section, the most important element in the post-crisis court-administered bankruptcy system was the implementation of an economic efficiency criterion. The court established an economic efficiency criterion to qualify for judicial bankruptcy procedures and implemented it tightly: A comparison of the value of a distressed firm as a going-concern with its liquidation value is now required for the initiation of all judicial bankruptcy proceedings.

Instead of economic efficiency, the old system was based on high social value and prospects for rehabilitation. Note that the prospects for rehabilitation could vary depending on the amount of subsidies from the creditors and the government. Compared with the old system, the new system removed the possibilities for interested parties (for example, controlling shareholders, labour union, or local/central governments) to resist the exit of the firms without economic value. In other words, the new system contributed much to removing the de facto exit barrier for large firms that had existed in the in-court bankruptcy system prior to the crisis. Under the new system, the producers with persistently declining productivity were less likely to be accepted into a rehabilitation procedure, although they were regarded as having "high social value", such as a large output or employment share in the economy.

This paper has found that the failing firms, accepted in the court-administered rehabilitation procedures after the bankruptcy reform had less persistent problems in pre-bankruptcy TFP performance than those before the reform. We interpreted this finding as lending support to the argument that bankruptcy policy reform improved the efficiency of resource reallocation after the crisis in the sense that efforts to rehabilitate firms with persistently low productivity are likely to lead to inefficient outcomes.

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