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*Corporate Debt Crisis and
Bankruptcy Law During the Transition:
The Case of China*

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Comments Welcome

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**Corporate Debt Crisis and Bankruptcy Law during the Transition: the
Case of China**

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Abstract

In the journey of post-socialist transition, many enterprises have accumulated large amount of debts and in deep financial distress. There are many existing options that can be used to

China's state owned enterprises (SOE's) are facing a debt crisis. Over 80% of state enterprises have debt/asset ratios higher than 90% and a large proportion of state enterprises are running deficits and are defaulting debt services. The debt crisis not only causes distortions in investment behavior but also hampers the the process of China's further enterprise and banking reforms. In this paper, we not only analyze the causes of the debt crisis, but also argue that resolving the debt crisis requires fundamental changes in enterprise control structure. Simple accounting transactions are not enough. Based on this analysis, we propose a reorganization-oriented bankruptcy procedure, which combines elements of the Aghion-Hart-Moore (1992) procedure with special considerations to the Chinese debt crisis.

1. Introduction

One of the major obstacles for China's on-going enterprise and banking reforms is a corporate debt crisis, i.e., state enterprises have accumulated extraordinary amount of debt with a large proportion being non-performing debt. In the terminology of modern financial economics, Chinese state enterprises are highly leveraged and many of them are undergoing financial distress.

Not surprisingly, existing wisdom on corporate capital structure, which is embedded in mature market economies, is not directly relevant to China's situation. Likewise, standard practice of corporate bankruptcy procedures in market economies is only remotely applicable in China, since the required institutional and legal support is absent in China, as in any other transitional economies.¹ Therefore, new thinking is needed and new institutions have to be created in order to resolve China's corporate debt problem.

There are three purposes of this paper. In the first part, we ask: what has caused the debt crisis in China? Contrary to the dominant view in the literature, we argue that it is a mis-match between the state enterprises' control rights structure (i.e., the local government and the manager share the control of state enterprises) and the financing structure (state banks are the only source of external financing but are excluded from getting any control of state enterprises) that has caused the debt crisis. Such a mis-match is a result of China's special institutional arrangements during the reform era. In the second part, we comment and compare existing proposals for resolving the corporate debt crisis in China. We argue that all of them are short in one aspect, namely, they are deficient in causing fundamental changes in the control rights structure of state enterprises. Thus, these proposals cannot eradicate the root of the debt crisis. In the third part, we propose a reorganization-oriented bankruptcy procedure in order to adjust the capital structure and to resolve the financial distress

¹See White (1983) and Berry and Bailey (1987) for academic and practical discussions of Western bankruptcy laws, respectively.

problem at the same time. Our proposed procedure is not aimed at giving a universal formula for all state enterprises in financial distress. Instead, the procedure will endogenously generate the most suitable and efficiency-enhancing reorganization plan for each state enterprise.

2. China's Corporate Debt Crisis and Its Causes

We first look at empirical evidence of China's enterprise debt crisis. We then briefly describe the undesirable consequences of these problems and analyze the causes.

2.1. *How Severe Is the Enterprise Debt Crisis?*

A simple statistics of capital structure is the ratio of a firm's debt to its total asset value. This number has been steadily increasing over the years for Chinese state enterprises. According to Wu Xiaoling (1995), this ratio was only 18.7 % in 1980 and by 1993, the ratio had increased to 67.5%. In addition, 95.6% of the state firm's working capital was bank loan. In 1994, the debt/asset ratio increased to 79% for all state enterprises.² Not only is the average level of debt very high, the distribution seems to be highly skewed. Ke Gang (1994), estimates that in 1994 over 80% of state enterprises have debt/asset ratios higher than 90%.

How large is the size of non-performing loans in China? There has been no systematic studies on this. A rule-of-the-thumb estimate (Qian, 1995) is that 20 to 30% of the total debt outstanding is non-performing debt. This can be translated into 17 to 25% of GDP in 1993. A related statistics is the proportion of state enterprises

²We recognize that the increase in the debt/asset ratio may also have been due to the high inflation in China. With inflation, the asset value, which is most likely to be tallied by counting the original equipment value, may quickly fall behind the the debt value, which roughly keeps pace with inflation. However, we strongly suspect that this cannot fully explain the rapid increase of the debt/asset ratio.

in deficits. A widely quoted estimate is that one third of Chinese state enterprises are making losses; one third are showing modest profits after obtaining hidden government subsidies; and only the rest one third are making profits on their own. The latest official statistics (State Statistics Bureau, 1995) are that in 1994, out of 399,000 state firms, 81,000 or 20.5% were losing profit. The total amount of losses of all state enterprises was about 27.4% of the total profit earned by all state enterprises. In summary, it seems to be fair to state that at least 20% of Chinese state enterprises are in serious financial distress.

2.2. Undesirable Consequences of the Debt Crisis

There are at least three sources of inefficiencies or costs associated with the debt crisis of state enterprises.

The first source of inefficiency concerns the investment behavior of debt-laden firms. A so-called hostage effect is widely observed in China. The large amount of debt is like a hostage seized by the enterprise — unless the bank continues to finance the operation of the firm, the bank may get nothing out of its existing loans. Thus, over-investment can be a problem. This hostage effect is further aggravated by the fact that Chinese state banks have been mostly behaving like government agencies, so that banks' managers have inherited bad debts from their predecessors. It rarely pays for incumbent managers to clean up bad debts. To the contrary, keeping debtor enterprises afloat is most important for bank bureaucrats. On the other hand, under-investment can also arise. Profitable projects in a firm with a large amount of historically accumulated debts are not attractive to new financiers, who figure that a large amount of future profit will go to the existing creditors before they themselves can benefit (see Gertner and Scharfstein, 1991). These effects are well recognized in literature on financial distress in mature market economies.

The second cost of the debt crisis is that it is an obstacle to enterprise reform. Since 1994, the new direction of China's state enterprise reform has been to initiate

changes in enterprise ownership and control rights. This is mainly done through takeovers, mergers, joint-ventures, and issuing corporate shares. These operations are very difficult to accomplish for financially distressed or highly leveraged firms, since few investors would like to look at firms with huge liabilities. In fact, choosing to be highly leveraged was used as an anti-takeover strategy in the U.S. during the 1980's takeover wave. In China, Wang (1994) reports that many foreign investors insist that the state firms clean up their balance sheets before entering any investment deals.

Similarly, the debt crisis creates added difficulties for China's banking reforms. The goal of the banking reform is to convert the state banks into independent commercial banks. With the large amount of the bad loans in the banks' portfolio, it is very difficult to evaluate the performance of the state banks. More importantly, the debt crisis distorts banks lending behavior and prevents state banks from acting like commercial banks.

2.3. Causes of China's Debt Crisis

The dominant view implicitly attributes the current crisis to a reform that has been in effect since early 1980's (Gang, 1994; Tang, 1992, and Wu, 1994). As a major measure of enterprise reform, direct budgetary appropriations to the state enterprise were replaced by bank loans from the state banks (this is the so-called Bo-Gai-Dai reform). The former were provided without interest charges, while the latter come with interest. Therefore, without any investment from the owner (the government), bank loans have become the only means of financing.

Based on this observation, the dominant view among Chinese economists argues that the debt crisis is in essence a result of the government shirking its responsibilities as the owner of the state firms. According to this view, the government as the sole owner should have invested in the state firm before the debt crisis emerges. A natural solution is to let the government buy back the accumulated debt of the state enterprises.

Such an analysis missed two basic points. The first is an empirical fact, namely, bank loans to the state firms have consistently carried negative real interest rates. For example, in 1994, the nominal annual interest rate for an one-year loan was less than 11%, while the inflation rate was well over 20%. Therefore the fact that bank loans are the only channel of finance cannot be blamed for financial distress. Firms with reasonable return rates could easily have paid back their bank loans. In effect, the debtor enterprises have been subsidized by the bank lenders. The second point is related to a theoretical concept. A well-functioning enterprise with the initial investment of the owner should be able to survive and grow. It does not have to be continuously financed by the initial owner. As a matter of fact, were state enterprises fully efficient, the method of financing is immaterial to the enterprise value. This is the main message of the Nobel Laureates Modigliani and Miller in the famous M-M Proposition I. In the Chinese case, the lack of government direct investments per se should not be a cause of the debt crisis.

Among Western economists studying the Chinese economy, there are two leading explanations of why Chinese state enterprises are increasingly making losses and incurring large amount of debts. The first one argues that the entry of non-state sector has elevated the level of market competition.³ The second explanation is that the state firms choose to make loss in order to claim government subsidies.⁴ We recognize the importance of both views. However, we believe that they fail to directly explain why the debt crisis is a necessary consequence in each case. A complete story should explain why unprofitable firms continue to get loans and why the government designs its policies so that financial losers are seemingly benefiting.

We believe that there is a more fundamental and structural cause of the debt crisis other than those presented above. We argue that the debt crisis is an outcome of a mis-match between the state firms' control structure and their financial structure.

³See Jefferson and Rawski (1994).

⁴See Sicular (1995).

In modern enterprises in mature market economies, control of the daily operation is delegated to the managers or insiders of the enterprise. Control of major decisions of the firm lies with the shareholders or the owners in the common sense. However, outside creditors do retain important control rights, which are activated in the case of financial distress. Such arrangements map out the firms' control structure to the firm's financial structure and prove to be effective in aligning interests of all parties involved.⁵ As will be analyzed, the current Chinese institutional set-up flatly violates the principles embodied in these modern enterprise arrangements. The end-outcome is the debt crisis.

To further interpret China's institutional failure which gives rise to the debt crisis, the following three observations are important. 1) After the reform in mid-1980's, most local governments obtained residual control of local state enterprises. Local governments can appoint enterprise managers, approve major investment plans, and collect taxes from the enterprises. Local governments are mostly interested in tax from state enterprises, as well as maintaining local full employment. 2) Local governments, in efforts to reform their local state enterprises, have in various ways granted managerial autonomy to enterprise managers, who have obtained control rights of daily operation of their firms. Managers are mostly interested in current benefits associated with their position, such as wage and welfare funds. 3) The banking sector has also been decentralized after the reform, albeit the decentralization was implemented in an odd way. On the one hand, local branches of the central bank and commercial banks have become very close to the local governments and are greatly influenced by local governments. In fact, until 1994, local bank officials had been dually appointed by both the bank's Beijing headquarter and respective local governments. After 1994, anecdotal evidence has shown that local governments still have comfortable grips of local banks.⁶ On the other hand, local banks are not exactly running balanced flows

⁵Bolton and Aghion (1994) have a simple theoretical argument for such arrangements.

⁶During a visit to a county in a coastal province in China, we asked the county governor how he can influence local bankers' decisions. He reminded us that the power and water supply and

of deposits and credits. To a great extent, they bargain with their Beijing headquarter on the amount of credit to be issued. Their Beijing headquarter again bargain with the central bank on the credit amount. In the end, this constitutes a soft credit constraint phenomenon at the local level. The local government and the enterprise manager coerce the local bank for more and more credit loans without worrying about paying them back.

These three lines of development together explain the debt crisis of Chinese state enterprises. Local governments, interested in taxes and employment, and enterprise managers, interested in on-going benefits from the firm, jointly enjoy newly obtained control rights of the enterprise. At the same time, local governments can effectively seize the control of local banks, which face soft credit constraints from their Beijing headquarters.

As results, bank credits are cheap commodities; paying back loans is of the lowest priority in comparison with paying higher wage and welfare expenses, and turning in taxes. The interest of enterprise employees and local government pre-dominate that of local banks. In the long-run, a vicious circle arises: managers expect that the local government to use its influence with the bank to rescue the state enterprise, therefore managers are not eager to control costs and avoid financial distress after getting large amounts of bank loans.

In summary, we argue that a fundamental cause of China's debt crisis is that the necessary residual control rights of bank creditors' — including the rights that should be exercisable when the debtor enterprise defaults payments — have been totally deprived by local governments and enterprise employees. Banks as the only external financiers do not have access to the control of the enterprise at all. To worsen the school service to the bank's compound are all controlled by the governor's office. Because of these practical considerations, we suspect that it will be long before local banks being totally independent of influences of local governments.

case, local banks can rely on its headquarter to cover up their losses.

3. Existing Proposals for Resolving the Debt Crisis

Several proposals have been put forward to resolve the debt crisis of Chinese state enterprises. In addition, the existing Bankruptcy Law is another alternative to deal with the debt crisis. In light of our analysis of the cause of the debt problem, we argue that these options are not adequate.

3.1. The Bankruptcy Law

An obvious option for dealing with the debt crisis is the existing Bankruptcy Law in China. However, we would argue that there are serious problems with the Law so that this option has proved to be ineffective.

The Chinese Bankruptcy Law was legislated in late 1986 and only became effective in late 1988. It has been one of the least utilized economic laws in China. As of 1993, in comparison with tens of thousands of financially distressed firms in China, only 1,417 bankruptcy cases have been filed since the inception of the Law (Wang, 1994). There are two major flaws in the design of the Bankruptcy Law that are responsible for the lack of popularity of bankruptcies in China.

The first flaw is that the existing Bankruptcy Law is mostly concerned with liquidation. The concept of re-organization is very primitive. Out of 43 articles, only 6 are concerned with reorganization. Of the 6 articles on reorganization, no rules are mentioned regarding issues such as debt-equity swap and re-financing arrangements. As a result, in reality, bankruptcy is synonymous with liquidation. In the Chinese context, where unemployment insurance and the social security system have not been fully functional, liquidation is viewed with great trepidation. No wonder the Bankruptcy Law has been unpopular. The second problem of the Law lies in its decision rules. It essentially utilizes the simple majority rule (by the nominal credit value) among all creditors to reach any decisions. In the Chinese case, this means that the bank can

dictate. The banks, as analyzed above, are generally very reluctant to do anything with financially distressed firms. Not only is this because of the “hostage effect” due to the large amount of debt in the firm, it is also due to the fact that China’s banks have been so far bureaucratic agencies. In Chinese state banks, bankers would rather have a peaceful life by continuing lending to defaulting firms than cleaning up historically inherited bad-debts and ending up with being blamed for a big drop in the banks’ balance sheets. Therefore, financially distressed firms typically can get additional loans to continue operation and do not have to file for bankruptcy.

3.2. Proposals Based on Debt Cancellation

A simple solution of the debt crisis is based on the idea of a large-scale debt cancellation between the enterprise and the bank. The basic argument for such a solution is very simple, namely, a large amount of the non-performing debt is actually due to enterprises’ financial losses caused by government policies. For example, the artificially low coal price made coal mines unable to pay back bank loans. Therefore, by this argument, the Ministry of Finance (MOF), as the the ultimate financier of state-owned enterprises, should be responsible for most of the outstanding bank loans.

One good example of such proposals⁷ calls for that the MOF “borrows” X billion RMB (the Chinese local currency) from China’s central bank, the People’s Bank of China (PBOC). The MOF directly hands over the X billion loans to state enterprises in financial distress. The enterprises, upon receiving these loan, pay back the commercial banks their historically accumulated non-performing debts. The commercial banks, which all have loans outstanding from the PBOC, use the newly obtained funds to pay back the PBOC. The end-result of such transactions is that all except the MOF obtain cleaner balance sheets, while the MOF becomes further indebted to the PBOC.

We believe that there are two major problems with the debt-cancellation ap-

⁷See Wu (1995).

proach. First, the major winners of the proposed transactions are commercial banks and the state enterprises in financial distress. As a matter of fact, they obtained cleaner balance sheets without paying anything. Then, what prevents them from repeating their irresponsible lending and borrowing actions in the future? In other words, how can the MOF commit not to do the same cleaning-up transactions again? In Hungary, the lack of such a commitment has made non-performing debts a repeated phenomenon (see Bonin and Schaffer, 1994). In China, campaigns of similar nature failed to eradicate the problem of excessive inter-firm debts, or the so-called "triangular debts". Second, how can the MOF have the information to distinguish truly non-performing debts from strategically claimed non-performing debts? How can the MOF initiate fundamental changes to improve enterprise efficiency in order to prevent future debt crisis from occurring? In summary, we are doubtful that the debt-cancellation approach can fundamentally improve the current situation, other than temporarily relieve the symptoms of the debt crisis.

3.3. Proposals Based on Debt-Equity Swap

The basic idea of these proposals is that banks should take over the control of the financially distressed state enterprises through debt-equity swaps. It can be envisaged that commercial banks in China create investment banking departments. The commercial banking section has debt positions in the investment banking department, which in term, holds shares of the state enterprises.⁸

The key premise of the debt-equity swap plan is that banks are better residual control rights holders of the state enterprises in financial distress. In general, this may well be the case. In fact, this is idea behind the popular debt-equity swap in the West for dealing with financial distress. In China, however, we are suspicious that this will work. In our above analysis of the cause of the debt crisis, we have argued that Chinese banks have been extremely passive and bureaucratic. Their dependence

⁸See Zhou (1993) for an early proposal of this kind.

on local governments is likely to continue given the basic political set-up in China. These will be in the way of banks' effective control of state enterprises. In addition, given that the banks have been passively financing the state firms, they have had very limited knowledge of the operation of the firms. Blindly transferring their control to state banks is unlikely to be efficiency enhancing. What is needed is a procedure that does not uniformly regulate that the bank take over the state enterprise but instead allows the bank negotiate with all parties involved and therefore endogenously generate a holder of residual control rights of the enterprise.

3.4. Proposals Based on Debt Centralization

A third kind of proposals can be summarized as debt centralization. For example, it can be imagined that the central government creates a Bank of Bad-Debts (BBD). The BBD takes over essentially all of the excessive debt of state enterprises. The BBD then classifies the debt. Truly non-performing debts will be covered by the state, while recoverable ones will be eventually transferred to corresponding banks. The goal is that state banks will all end up with clean balance sheets so that their transition to truly commercial banks will be made easier. See Lau and Qian (1995) for a concrete proposal along these lines.

We recognize that debt centralization is indeed a short-cut to cleaning up historical debts of state banks, which is necessary for commercialization of state banks. As a matter of fact, the strategy of debt centralization has been implemented in Hungary and Poland to some extent. However, we worry about the microeconomic inefficiencies in such centralized methods of cleaning historical debts. The success of these centralized approaches depends crucially on the efficiency of the newly established central organization (BBD) in handling bad debts. The BBD needs to have the necessary information and incentives in order to do a good job in cleaning up the bad debt. With sweepingly fast transfers of debts to BBD, highly valuable information of

the local governments and the original lending banks is not fully utilized.

4. A Reorganization-Oriented Bankruptcy Procedure

In this section, we propose a plan for resolving the debt crisis of Chinese state enterprises. Before doing so, we would like to explicitly lay out the objectives and criteria of our proposal.

4.1. The Objectives of the Proposal

The first objective of our proposal is to enhance the efficiency of financially distressed firms through changes in the control right structure. We argue that a fundamental cause of the debt crisis is a mis-match between the state enterprises' control right structure and the financing structure. Thus, simple accounting transactions can only temporarily solve the debt crisis and are not enough to cure the problem from the root. We argue that the debt crisis provides an opportunity to affect fundamental changes in the control structure of the state enterprise so as to enhance the long-run efficiency. The challenge is to design a procedure which can endogenously choose the most efficient parties to control the enterprise.⁹

The second objective is incentive compatibility. First, this means that for firms already in financial distress, the parties involved in the debt restructuring should have incentives to participate in the process. The existing Bankruptcy Law fails to pass this criteria. Second and more importantly, this criteria means that for both the creditor and the debtor, the overall experience of financial distress should be painful and punishing enough so that both of them would not like to see it happen again in the future. Both parties will have incentives to avoid financial distress. In other words, long-term incentive compatibility has to be maintained.

The third objective or criteria is informational efficiency. The parties involved in

⁹At the same time, the procedure should separate viable enterprises from non-viable one, as argued by White (1994).

the financial distress usually have better information than outsiders. The procedure should make the best use of this information when resolving the financial distress. This objective requires that the procedure should invoke decentralized negotiation and bargaining. A centralized procedure unavoidably loses useful information.

4.2. The Procedure

There are two components of our plan. The first is a procedure to endogenously decide the most efficient restructuring plan and the most effective residual control right holders of the enterprise. The second component is a scheme for compensating the potential losers of the debt crisis. The compensation scheme is essential in the Chinese context in order for creditors (especially the banks, which have bureaucratic inertia to debt reorganization) to have incentives to agree to reducing the nominal amount of large debts. Eventually, when the economy-wide debt crisis is resolved, the compensation component can be taken out of the procedure.

4.2.1. The Enterprise Restructuring Center (ERC)¹⁰

Due to the large amount of non-performing debt, it is necessary to create a special national agency to handle the debt crisis. For convenience, let us call it the Enterprise Restructuring Center (ERC). Eventually, when the debt crisis has been subdued, the ERC may be eliminated and its function can be taken over by bankruptcy courts. In the mean time, it is not crucial which government agency controls the ERC, since as will be seen, the ERC has rather limited roles to play.

Essentially, the ERC has no discretion over how the debt is restructured and which

¹⁰The ERC may actually take on more duties than those we describe here. We notice that China's current Commercial Banking Law does not allow commercial banks to hold directly equity shares of enterprises. To circumvent such legal restrictions, our procedure can be slightly modified. Namely, in the case of the bank becoming the control right holder of the bankrupt firm, the equity shares will be transferred to a trust created by the ERC. The trust should also obtain the key bank personnels involved in the bankruptcy case in order to maintain its expertise in controlling the enterprise.

re-organization plan to choose. However, the ERC can use its funds to compensate the loss incurred by creditors in the due course of the procedure. There are two budgets of ERC. The first one is called soft-money, which are used to cancel bad debts and to re-capitalize commercial banks on the paper. In other words, the soft-money is to be given to banks to replace bad loans. To the extent that the total credit-issuance of these banks are unchanged, the soft-money/bad-loan swap will not cause inflation.¹¹ The soft-money are taken by the ERC from the state and need not be returned. They are grants in nature. The ERC has a fixed amount of soft loans each year. The second budget of the ERC is on hard-money. The hard-money is used to compensate non-financial creditors and workers. Unlike the soft-money, the hard-money may cause inflation. Therefore, the total amount of hard-money is under control by the central government.

4.2.2. The Triggering of the Procedure

Creditors are given discretions to force the firm to file for bankruptcy with the ERC. For example, it can be designed that a creditor can do so if it is owed over X1 amount of interest payment for over M months or X2 amount of principal for Y years. Once the enterprise has filed with the ERC, the ERC appoints a committee to take over the operation of the firm until it emerges from bankruptcy.¹² This is important given that legal and accounting rules in China are not complete as in mature market economies so that managers of bankrupt firms may easily run down the firm and leave the creditors with an empty shell.

4.2.3. Classifying and Re-Assigning the Rights of Concerned Parties

Monitored by ERC officials, all concerned parties are called in and register their

¹¹We expect that the central bank will still have to tightly control the total amount of credit issuance as a means of macroeconomic control in the near future.

¹²This follows the European approach to corporate bankruptcy. See White (1991).

claims on the bankrupt enterprise. Secured creditors (those with collaterals) are set aside from the unsecured creditors. The unsecured creditors and owners are divided into the following four kinds: A) workers of the firm, who are owed wage payments and may be unemployed in the case of liquidation or layoffs; B) non-financial creditors (such as the “triangular-debt” holders); C) banks; D) the incumbent residual control right holder or the managing agency of the enterprise (most likely the local government). For simplicity, let W , E , and B represent the total amount of debt the first three classes claim.

A few words on the determination of W is necessary here. W must first include delayed wage and benefits (welfare) payments to workers. This is easy to identify. More complicatedly, W must also include workers’ potential losses resulting from enterprise restructuring. Historically, Chinese state employees have been promised life-time job security and welfare benefits. To induce workers’ cooperation in re-organizing the firm, these promises must be partially fulfilled. To avoid excessive delay due to negotiations, we propose that in the case of layoff, W include a lump sum amount of compensation equivalent to n (say $n = 36$) months of standard wage. This means that W depends on the chosen re-organization plan (some of them may not involve layoffs).

Following the design of Aghion, Hart, and Moore (1992), the existing claims on the bankrupt enterprise is replaced by the following new security structure. A) The workers obtain 100% of the shares of the enterprise. B) The non-financial creditor (say a triangular-debt holder) has an option to buy shares of the bankrupt enterprise from the worker at a price of W for 100% shares. C) The bank obtains an option to buy shares of the enterprise from the non-financial creditor at a price of $W + E$ for 100% shares. D) Finally, the current residual right holder (i.e. the owner, or the managing agency) has an option to buy shares of the firm from the bank at a price of $W + E + B$ per 100% shares. For convenience, let us call the workers the highest priority claimholder; the non-financial creditor the second-highest priority claimholder; the bank the third-highest priority claimholder; and the current owner

the lowest priority claimholder. Of course, once a lower priority claimholder offers to buy shares at the specified price, the higher priority claimholder must sell.

There are two sets of reasons for this seemingly strange arrangement. The first set of reasons are explained by Aghion, Hart, and Moore (1992). This new security structure focuses all classes of claimants on how to find the best future value of the firm, since a high expected value of the firm benefits everybody. In conventional arrangements, the low priority creditor (say the bank) prefers risky ways of disposing of the bankrupt firm (such as reorganization), while high priority creditor (say the worker) prefers low risk ones (such as liquidation).¹³ For example, workers know that they only own a small amount of debt and liquidating the asset can surely pay them the debt. A reorganization plan is riskier than liquidation in the sense that it may make the enterprise very successful tomorrow and it may also make the enterprise worth nothing tomorrow. Workers definitely would choose liquidation in order to avoid any risk. On the other hand, the bank may prefer reorganization, since it may be the only hope that the bank may get something back tomorrow. When these two groups of creditors can trade at the price given above, the low priority creditors can buy out the high priority creditors so that these conflicts are avoided. This way, the decision on the future of the bankrupt firm is made based on the expected value of alternative plans.

The second set of arguments are ours. In the Chinese context, as in other transitional economies, creditors typically do not sign contracts with debtors regarding the payment order. This leaves the maximal freedom for the designers of bankruptcy procedures to redefine the priority order. The redefinition is done in order to achieve efficient outcomes. We reason that workers' claims should be put as the highest priority in order to minimize social costs. Between the non-financial creditors and the banks, we argue that the non-financial creditors typically have better information about the bankrupt firm's operation than banks, which have been rather passive in

¹³Also, there are other conflicts among claimholders. See Brown (1989).

giving out loans to the firm. The non-financial creditors are usually other state enterprises which have business connections with the bankrupt firm. Because of these connections, we argue that they are often the most capable residual right holders of the bankrupt firm. If the non-financial creditors are placed lower than the bank, then it is likely that they will not be part of the final shareholders at all, since they typically cannot afford to buy back the banks' loan. Thus, they may not be able to participate in the decision of choosing the reorganization plan at all. In the current set-up, they may be bought out by the banks. However, with the money they obtain, they can still buy some shares in order to make use of their knowledge of the firm.

4.2.4. Choosing the Reorganization Plan

After the new rights structure is assigned, the ERC solicits reorganization plans from the general business community. The reorganization plan can be as radical as simple liquidation or can be as mild as having few operational changes in the enterprise. The ERC neither makes comments nor exert any influences on these plans, except for requiring clear expositions of each plan.

After a certain period of time, say three to six months, the ERC opens up all plans to the general public and the claimants. Evaluating the competing plans, the claimants have two options. They can sell their rights to outsiders. Alternatively, they may exercise their rights and buy shares of the bankrupt firm. Notice that since W is dependent on the finally reorganization plan, the trading which involves workers may carry contingent prices. Upon closing the trade, there will be new shareholders of the firm. These shareholders will vote for the best reorganization plan for the firm.

4.2.5. Compensating Losers

A crucial step of the proposed procedure is to *partially* compensate losing creditors — those who cannot fully recover their loans to the firm. Without the partial compensation, creditors may not have incentives to restructure the firm, due to both

the hostage effect and the bureaucratic nature of the state banks discussed above. Yet, full compensation is not desirable, since then creditors may not have incentives to screen future borrowers as carefully as social efficiency requires.

The compensation formula varies with different classes of creditor. For workers, ERC compensates 100% of the potential loss. For non-financial creditors, the ERC may pay α proportion of their loss. For the bank, the ERC pays β proportion of the loss. α and β can be different and are specified before hand. In addition, as mentioned above, the ERC funds used to compensate the creditors may come from different budgets of the ERC. Those going out to banks is essentially a permit to cancel debts between the state bank and the enterprise. The soft-money of the ERC is used for this purpose. Its purpose is to re-capitalize the bank. To the extent that aggregate control of the bank's lending is maintained, re-capitalizing the state banks is not inflationary. Compensating the workers and non-financial creditors is a different story. This requires real resources which should be from the ERC's budget of hard money.

4.3. An Example

To simplify the illustration, suppose that the non-financial creditor (NFC) is another state enterprise, which is a triangular debt holder. The NFC is owed a debt in the amount of Rmb100,000. A bank is owed Rmb200,000. There is also a potential creditor, the worker, who would be owed Rmb10,000 should s/he be laid off after the restructuring.

The worker is initially allocated 100% of the company's equity. The NFC is given an option to buy the equity from the worker with a promise to pay the worker Rmb10,000 if the worker is fired due to reorganization. The bank is given an option to buy the equity by offer the above promise to the worker and Rmb100,000 to the NFC. Finally, the original owner of the company (e.g., the local government) is given an option to buy the equity from the bank for $\text{Rmb}100,000 + \text{Rmb}200,000 = \text{Rmb}300,000$

plus the promise to worker.

After a period of time of soliciting re-organization plans, the ERC reveals the plans and the parties can make an assessment of its worth (possibly with the help of an outside expert, such as an investment bank). At this point, the enterprise, the bank, and the original owner are given a period of time, say one month, to exercise their options under the ERC's supervision and assistance (e.g., disclose relevant information regarding the reorganization plan). During this period, there can be a secondary market of equity and options. The ERC becomes a clearing center for such securities. When outside investors are allowed to participate in this market, they may become the final owner of the company. In some circumstances, this could be the optimal solution. However, to simplify the illustration, we assume this will not happen here.

The company's equity holders (i.e., those who hold equity in the company at the end of the fourth month) vote for the best proposals available for the bankrupt firm.

There are many scenarios and it is useful to discuss them one by one. To further simplify the matter, suppose that all organizational plan calls for firing the worker so that worker has to be paid Rmb10,000 in order to give up his/her control.

Case 1: The best plan is liquidation and values the company at less than Rmb10,000, say Rmb8,000. Then, no creditors will want to exercise their options, and the worker will end up with the total equity. The ERC will compensate the worker in the amount of $\text{Rmb}10,000 - \text{Rmb}8,000 = \text{Rmb}2,000$. At the same time, without compensations from the ERC, neither the NFC nor the bank would receive any payoff. To partially compensate their losses, for example, the ERC pays 80% of Rmb100,000 to the NFC, and 60% of Rmb200,000 to the bank. Notice that all compensations are made by the ERC's hard money, except that to the bank.

Case 2: The best reorganization plan calls for firing the worker and under this plan the firm is perceived to be worth more than Rmb10,000, but less than Rmb110,000, say Rmb50,000. Then the NFC will choose to buy out the worker, but the bank and the original owner will not wish to exercise their options. The NFC becomes the final owner of the firm. Without subsidies from the fund, the NFC would only

receive a payoff of Rmb40,000, which equals the value of the company (Rmb50,000) minus the NFC's payment to the worker (Rmb10,000). The NFC would incur a loss of $\text{Rmb}100,000 - \text{Rmb}40,000 = \text{Rmb}60,000$. To partially compensate the NFC, the ERC should make a cash transfer of $0.8 \times \text{Rmb}60,000 = \text{Rmb}48,000$. As a result, the NFC's final payoff will equal $\text{Rmb}40,000 + \text{Rmb}48,000 = \text{Rmb}88,000$. This is paid out with hard money. The fund should also use its soft-money to provide $0.6 \times \text{Rmb}200,000 = \text{Rmb}120,000$ to the bank. Notice that the NFC, now the owner of the firm, should have the incentive to vote for the optimal plan since its payoff is positively correlated to the firm's value, but have no incentive to get into another triangular debt affair again because the Rmb88,000 payoff is less than the full value of its Rmb100,000 loan.

Case 3: The best restructuring plan fires the worker and it evaluates the firm to be worth more than Rmb110,000, but less than Rmb310,000, say Rmb250,000. Then the bank will choose to buy out the worker (by making a Rmb10,000 cash transfer) and the NFC (by paying Rmb100,000 cash), but the original owner will not want to exercise its option. The bank becomes the final owner of the firm. Without subsidies from the ERC, the bank would only receive a payoff of Rmb140,000, which equals the value of the firm (Rmb250,000) minus the bank's cash transfer to the worker (Rmb10,000) and the NFC (Rmb100,000). The bank would incur a loss of $\text{Rmb}200,000 - \text{Rmb}140,000 = \text{Rmb}60,000$. To partially compensate the bank's loss, the ERC should make a soft-money compensation of $0.6 \times \text{Rmb}60,000 = \text{Rmb}36,000$. As a result, the bank's final payoff will be $\text{Rmb}140,000 + \text{Rmb}36,000 = \text{Rmb}176,000$. Notice that under the scheme the bank will have an incentive to pick the best plan but no incentive to extend bad loans again.

Case 4: The best plan is also to fire the worker and is perceived to value the company at more than Rmb310,000. Then the original owner will choose to buy out

the worker, the NFC, and the bank. The ERC does nothing.

4.4. Further Analyses of the Procedure

There are three prominent features of the proposed procedure that make the procedure useful for a transitional environment. First, it is politically un-controversial enough to be feasible in a transitional economy. Workers' interests are well taken care of, while the efficiency criteria is maintained. Whenever the value of the firm is higher than the cost of paying off the workers, the workers will be fully paid off. Otherwise, workers will get the control of the firm and be compensated for their uncovered loss. The latter case is likely to arise when the firm is to be liquidated. The administrative aspect of the procedure can be kept non-political, since the ERC is essentially neutral in decision making. Its role should be easily accepted by many different interest groups.

Second, the bankruptcy procedure aims at reorganize the control right structure of the state enterprise. We argue that this is the most important cause of the debt crisis in China's state enterprises. Under the modified Aghion-Hart-Moore procedure, all concerned parties are engaged in bargaining, negotiations, and trading of their rights. The more competent creditors will stay while the less informed and less concerned ones tend to opt out.

Third, in the long-run, our proposal should be incentive compatible. Both the non-financial creditor and the bank are only partially compensated for their losses. This way, financial distress is costly for them. In the future, they should have incentives to carefully evaluate their borrowers before getting into lending relations. This should help reduce the probability that the debt crisis re-occurs.

Unlike previous proposals, our bankruptcy procedure endogenously chooses the re-organization plan and new owner or the residual control right holders for the bankrupt firm. It allows the widest possible choice of new control right holders of the enterprise. We believe that under our procedure, non-financial creditors, or triangular

debt holders, have good chances to obtain the control right of the firm. They can be better owners than both the bank and the local governments. They have better knowledge of the operation of the bankrupt firm than the bank and they face harder budget constraints than the local government due to their looser connection with the bank. We expect that this enterprise-control-enterprise structure will be popular in China in the near future.

5. Summary

Since the reform started, Chinese state enterprises have accumulated large amount debts. A large proportion of the debt is non-performing debt, since a significant proportion of state firms are running deficits. Indeed, there is an on-going corporate debt crisis in China. The debt crisis distorts investment decisions in the state sector; hampers further enterprise reform efforts; and impedes the progress of the much needed banking reform.

In contrast to common believes, we argue that China's debt crisis is caused by a mis-match between the control structure and the source of financing. That is, the local government and the enterprise managers have the control of the enterprise, but the state banks as the financiers do not have the control and rather function at the mercy of the local governments. Thus, a key to resolve the debt crisis is to initiate fundamental changes in the control structure of state enterprises. However, we do not believe that a sweeping reform of granting residual control of state enterprises to banks can solve the problem, due to the existing political set-up. Instead, what is needed is a flexible and well-defined procedure to generate reorganization plans and new owners for the state enterprises on a one-by-one basis.

Based on our analysis of the fundamental cause of the debt crisis, we propose a bankruptcy procedure which is aimed at changing the control structure of the state enterprises. Our procedure adopts the basic elements of the Aghion, Hart, and Moore (1992) procedure, which allows the creditors to exchange their claims

after re-defining their rights. The unique features of our proposal include a scheme to partially compensate the potential loss of creditors and to install exogenously a priority order among the creditors. The partial compensation scheme is designed to encourage state banks to participate in the reorganization procedure. The new priority order is aimed at creating the most effective control structure of the debtor enterprise after its emerging from bankruptcy procedures.

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