4. Ex Post Handling of the Financial Crisis

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I. Introduction

Measures to cope with a financial crisis differ depending on whether they are taken ex ante or ex post. From an ex ante perspective, the important point is to minimize the possibility of a financial crisis. From the ex post perspective, however, which must deal with a financial crisis after it has occurred, the important point is how to stabilize and revitalize the financial system. There is a certain relationship between ex ante and ex post. Measures taken at a certain point in time to counter a financial crisis could affect the possibility of another crisis in the future. Thus, when considering ex post measures, it is advisable to maintain an ex ante perspective as well.

This and the following chapters will deal with the ex post question of how to cope with a financial crisis. We do not take up the question of why the Asian financial crisis occurred or how it could have been prevented. Instead we focus on the countermeasures that were put in place after the financial crisis had already occurred.

This chapter will not analyze any specific model. Rather it will summarize the main points that will be discussed in Chapters 5 and 6. It will also review the problem of corporate debt restructuring by examining the policy adopted after the onset of the Asian currency crisis. The paper will then try to show that an improvement in corporate governance, which is often stressed from the ex ante standpoint, is also meaningful in the ex post context.

Bank restructuring, which together with corporate debt restructuring has been an important ex post measure against the financial crisis, will be discussed in Chapter 5. The chapter will review the relationship between bank bailout measures and moral hazard in bank management by using the theory of time inconsistency, which shows the complex relationship between ex ante and ex post. Based on this review, the chapter will examine which specific measures have been adequate for bailing out banks.

One effect of the deteriorated corporate finance, which is briefly touched on in this chapter, has been an increase in the agency cost of external fund-raising. Model analysis of this agency cost and its policy implications will be discussed in detail in Chapter 6.

A currency crisis is essentially different from a financial crisis. However, many countries hit by the Asian currency crisis also suffered, albeit to varying degrees, from Asia's financial crisis. As has been pointed out in Chapter 3, the financial crisis dealt a heavier blow to Asian economies that have a bank-based financial system.

The blow of the currency crisis and financial crisis on economic growth was enormous. Nevertheless, renewed economic growth in these countries indicates that they emerged from the currency crisis in one to two years, though at varying speeds (Table 4-1). In 1999, two years after the crisis, economic growth rates turned positive in most of these countries, with the Republic of Korea's economy posting a higher growth rate than before the crisis.

However, the financial crisis left behind a lot of problems. In terms of the soundness of their management and the size of their nonperforming loans,

TABLE 4-1

GROWTH RATES OF ASIAN ECONOMIES

(%)

	1995	1996	1997	1998	1999	2000	2001
Hong Kong	3.9	4.5	5.0	–5.3	3.0	10.5	0.1
Indonesia	8.2	7.8	4.7	–13.1	0.8	4.9	3.3
Korea, Republic of	8.9	6.7	5.0	–6.7	10.9	9.3	3.0
Malaysia	9.8	10.0	7.3	–7.4	6.1	8.3	0.4
The Philippines	4.7	5.8	5.2	–0.6	3.4	4.4	3.2
Singapore	8.0	7.7	8.5	–0.1	6.9	10.3	–2.0
Taiwan	6.4	6.1	6.7	4.6	5.4	5.9	–1.9
Thailand	8.9	5.9	–1.4	–10.5	4.4	4.6	1.8
China	10.5	9.6	8.8	7.8	7.1	8.0	7.3
Vietnam	9.5	9.3	8.2	5.8	4.8	6.8	N.A.

Source: Asian Development Bank, *Key Indicators of Developing Asian and Pacific Countries*, various issues.

TABLE 4-2

RATIO OF NONPERFORMING LOANS TO TOTAL LOANS, DECEMBER 1998–SEPTEMBER 1999

(%)

	Malaysia		Korea, Republic of		Thailand	
	Dec. 1998	Jun. 1999	Dec. 1998	Jun. 1999	Dec. 1998	Jun. 1999
Commercial banks	13.0	12.8	7.4	8.7	42.9	44.6
Merchant banks	30.6	31.6	20.0	11.9		
Other financial institutions	26.8	23.9	13.1	14.5	70.2	62.3
Asset management companies	100.0	100.0	100.0	100.0		
Total financial system	19.7	21.2	16.8	19.2	45.0	45.3

Source: World Bank, *Global Economic Prospects and the Developing Countries 2000*, 1999, Table 3.2.

TABLE 4-3

RATIO OF NONPERFORMING LOANS, INDONESIA

(%)

	Mar. 1996	Mar. 1997	Mar. 1998	Mar. 1999
All commercial banks	10.6	9.3	19.8	58.7
State-run banks	16.6	14.2	24.2	47.5
Private foreign exchange banks	4.0	4.4	12.8	76.9
Private non-foreign exchange banks	14.7	16.5	19.9	38.9
Local development banks	18.5	13.9	15.8	17.0
Joint-venture banks	7.4	7.7	25.3	64.6
Foreign banks	2.8	2.7	24.4	49.9

Source: Takeda (2000).

financial institutions are still reeling from the lingering aftereffects of the crisis. Tables 4-2 and 4-3 show the post-crisis situation in 1998 and 1999. The 1999 figures indicate that nonperforming loans held by Korean financial institutions accounted for about 19% of their total loans, or approximately 27% of the country's GDP. These two ratios were respectively 20% and 30% in Malaysia, 45% and 60% in Thailand, and over 50% and 25% in Indonesia.[1] Malaysia managed to avoid an explicit financial crisis, but nevertheless faced the problem of nonperforming loans.

The speed of recovery in the health of financial institutions and the disposal of nonperforming loans (or corporate debt restructuring and financial restructuring) differed greatly from country to country, depending on what measures were taken. Therefore judging which ex post measures were better for coping with the financial crisis is very crucial.

TABLE 4-4

EXCHANGE RATE CHANGES DURING THE ASIAN CURRENCY CRISIS

Country	Currency	Jan. 1990	Jun. 1997	Jan. 1998	Jul. 1998	Dec. 1999
Indonesia	Rupia	1,804.85	2,446.59	9,662.50	13,962.50	7,156.00
Thailand	Baht	25.73	25.78	53.81	41.19	38.18
The Philippines	Peso	22.46	26.38	42.66	41.78	40.62
Malaysia	Ringgit	2.70	2.52	4.41	4.16	3.80
Korea, Republic of	Won	683.43	889.49	1,701.53	1,293.73	1,137.09
(Ref.) Japan	Yen	145.09	114.21	129.45	140.73	102.68
Remarks			Just before the currency crisis	Worst time (excl. Indonesia)	Worst time (excl. Indonesia)	

Source: International Monetary Fund, *International Financial Statistics*, various issues.
Note: All figures denote average monthly rates.

TABLE 4-5

CHANGES IN CURRENCY STRENGTH

(%)

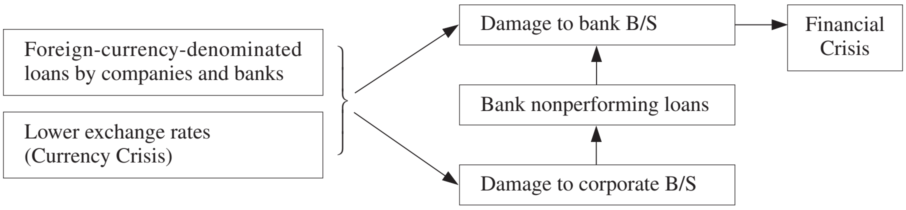
Country	Jan. 1990	Jun. 1997	Jan. 1998	Jul. 1998	Dec. 1999
Indonesia	136	100	25	18	34
Thailand	100	100	48	63	68
The Philippines	117	100	62	63	65
Malaysia	93	100	57	61	66
Korea, Republic of	130	100	52	69	78
(Ref.) Japan	79	100	88	81	111

Source: Prepared by the author based on Table 4-4.
Note: Base date = June 1997.

A major reason for the gravity of the financial crises that occurred in the wake of the Asian currency crisis was the fact that many financial institutions and business corporations relied on funds raised from overseas sources. In effect, many of their loans were denominated in foreign currencies. As exchange rates declined in the wake of the currency crisis, the burden of their loans increased. This means that the drop in currency value by more than half at the peak of the crisis more than doubled the amount of their debt burden. In Indonesia alone, the currency dropped to one-sixth its pre-crisis value, resulting in a six-fold expansion of its debts (Tables 4-4 and 4-5). With this magnitude of debt, an ordinary financial institution or business corporation cannot stave off bankruptcy.

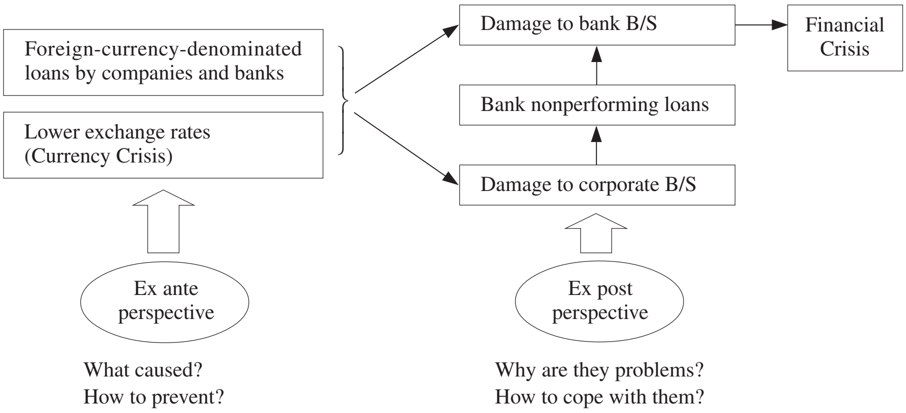
Financial institutions' direct borrowing from overseas initially triggered the financial crisis while corporate direct borrowing from overseas drove compa-

Fig. 4-1. Relationship between Asian Currency Crisis and Financial Crisis



Note: B/S = balance sheet.

Fig. 4-2. Two Perspectives: Ex Ante and Ex Post



nies into bankruptcy. Financial institutions which had extended loans to such companies found themselves burdened with a growing volume of nonperforming loans. Such nonperforming loans lowered the profits of financial institutions, creating another factor for the financial crisis. All this is illustrated in Figure 4-1.

In the ex ante context, the problems dealt with concern such questions as: how foreign-currency-denominated loans to banks and companies increased before the crisis, what factors caused the currency crisis, or what measures should have been taken to prevent the crises (see the left side of Figure 4-2). These questions have received a great deal of discussion, and still remain largely unresolved (Kunimune 1999b, 2001a; Kunimune 1998b, 2000e).

In the ex post context, on the other hand, the problems of concern are such questions as: what impact corporate balance sheet (B/S) losses and bank B/S losses have on the economy, or what measures should be taken to overcome these problems (see the right side of Figure 4-2).

As was stated above, this and the following chapters deal with the ex post problems, as illustrated in the right half of the Figure 4-2. Section II below will review the issue of company B/S losses and the problem of distorted corporate behavior (the lowest box on the right side of Figure 4-2). Chapter 5 will examine the advisability of government bank bailout measures (the highest box on the right side of Figure 4-2), which is one of the issues related to bank B/S losses.

II. Countering Distorted Corporate Behavior Caused by Deteriorating Finances

From the corporate standpoint, nonperforming loans mean a deteriorating corporate B/S. But why does a problem occur when there is a B/S loss? Basically, B/S deterioration reflects only the failure of past corporate behavior. The question is whether it will affect future corporate behavior. If it is found to have no impact on future behavior, then the solution of the nonperforming loan problem is basically a matter of redistributing income.

However, if the worsening B/S is found to have an adverse impact on future corporate behavior, solving the nonperforming loan problem becomes difficult. In this situation, the difference between measures that deal with the problem promptly or policies that put off solutions will have a grave impact on the future of the economy.

In sum, a worsening B/S does adversely affect corporate investment decisions. Reasons for this will be discussed in the following sections.

A. Debt Overhang

The phenomenon of "debt overhang" can be explained with a simple illustration. Suppose that a company is about to make an investment decision based on an expected profit of V and an investment cost of I. To simplify the story, assume that the company's initial assets are zero.

The criterion for making new investment decisions is whether the value of $V-I$ is positive. As $V-I$ shows net profit expected from investment, the company carries out investment as long as it is positive. This of course is desirable from the social standpoint as well.

However, the criterion for investment decisions changes, even for a company with the same investment opportunity, if the company has to repay the principal and interest on its debt (P). (As the company is regarded as having no assets at the outset, it has negative net worth. However, since the repayment is not due yet, the company can be regarded as not having fallen into default.)

The criterion for investment decisions this time is whether $V - I - P$ is positive or not. Compared with the previous case, the existence of debt makes the criterion more difficult. If the value of $V - I$ is within the range of $P > V - I > 0$, companies free of debt service will decide to make new investments, while those with debt obligations will not. Even in the latter case, the expected net profit from new investment would be positive. That no investment is made means a loss of social welfare. This phenomenon is called debt overhang (Myers 1997).

B. Asset Substitution

Turning next to the phenomenon of "asset substitution," generally, debtors who have limited liability tend toward more risky behavior than others. Assuming that the corporate value V is a random variable, its probability distribution can be changed by corporate management behavior d (management is supposed to be "risk neutral").

Here, two cases will be considered. One is when the company has no debt. The other is when the company is facing debt service worth P.

When the company has no debt, corporate management behavior would be:

(i) $\max_{d} E(\mathrm{V})$.

When the company has debt, the behavior would be:

(ii) $\max_{d} E(MAX[V - P, 0])$.

The solution of maximization problem generally differs for these two cases. However, when V exceeds P at probability 1 (the lowest limit of the value range of random variable V is larger than P), (ii) becomes $\max_{d} E(V - P)$, and its solutionbecomes the same as in (i), because P is constant. When the possibility of the company falling into default is zero, the existence of debt would not cause any distortion in corporate management behavior. By contrast, when the probability of V exceeding P is low (or when the possibility of the company falling into default is high), the existence of debt is likely to cause distort corporate behavior.

The only concern for management is that V exceeds P. When V falls short of P, an inevitable default follows which can drive the company into bankruptcy, but the management is indifferent to how far the company is in deficit. This can induce highly risky investment behavior which bets on hefty profits for succeed, but huge loss for failure.

The existence of this induced behavior is one of the central issues in the agency problem between borrower and creditor. When the existence of debt drives corporate management to assume more risk than otherwise, substituting safer investments or assets for riskier ones, it is called asset substitution.

C. Agency Cost and Corporate Investment

The foregoing section briefly touched on the agency problem between borrower and creditor, pointing to the possibility that the existence of debt can prompt a debtor into highly risky investment behavior (which represents a sort of moral hazard). What is called agency cost is the sum of (1) economic loss caused by the agent's (debtor's) insincere behavior to the principal (creditor), and (2) the cost needed to prevent such insincere behavior of the agent.

Because a company's worsened financial position aggravates the agency problem with its creditors and increases agency cost, the company has to offer a higher interest rate when it wants to borrow. Thus the increased cost of raising funds because of the company's worsened B/S adversely affects its investment behavior.

Moreover, should the company suffer a business failure, a different sort of agency problem can arise between the creditor and debtor over how to cope with the failure or bankruptcy? This is also included in the agency cost involved in the company's debt. However, as bankruptcy does not always occur, the cost for probable bankruptcy should be discounted.

The existence of such agency cost is likely to increase the cost of raising funds. This is because potential lenders will not lend money without a surcharge for the expected agency cost added onto the market interest rates.[2]

Now suppose that two companies have the same managerial conditions but are in a different financial situation. One has good finances while the other is in a worsened financial situation. The former, with smaller agency and fund-raising costs, is likely to be more active in making new investments. The latter is likely to be reluctant to make such investments. The difference in financial conditions alone can thus influence corporate behavior.

At the time of the Asian currency crisis, many companies that had loans in foreign currencies suddenly suffered deteriorated financial conditions due to the drop in exchange rates. From the standpoint of agency cost, this increased the cost of fund-raising and eroded new investment. In effect there was financial deterioration across the board, leading to a decrease in investment throughout the economy. This caused a downward economic cycle.

D. Countermeasures

1. *Prompt and Efficient Handling of Bankruptcies*

Since B/S deterioration has an adverse effect on corporate behavior, as stated in the preceding sections, it is very important to take as prompt and efficient measures as possible to correct this problem. If the deterioration is enough to cause a company to default on its debt payments, the country's institutional procedures for handling bankruptcies will come into play.

In developing countries the financial legal systems have remained much in need of improvement, and they often had to start with the enactment of bankruptcy laws. It was only after the currency crisis that a new bankruptcy law was introduced in Indonesia and Thailand. This is an elementary step for any legal system, and the establishment of such laws is very important in the developing countries. In this endeavor, these countries can refer to the legal codes adopted in the developed countries. However, while referring to the advanced legal system, it may be necessary to modify it to suit the countries' own conditions.

Bankruptcies must be dealt with not only promptly but also efficiently, meaning that an appropriate decision must be made whether to liquidate the company or allow it to survive. This decision will depend on the importance given to the company's liquidation value (the value to be gained by selling the residual assets) or its going-concern value (the discounted present value of the future operating cash flow to be gained through survival).[3]

To improve the handling of bankruptcies, not only do bankruptcy and other relative laws need to be enacted but the judicial system and the education and training of judicial personnel also have to be improved.

2. *Mediation of Corporate Debt Negotiations*

There are both legal and private methods for dealing with bankruptcy. Large-scale bankruptcies with many interested people involved sometimes cannot be settled without resorting to legal procedures. Conversely, small-scale cases involving few interested people can effectively be handled privately. When the possibility of rehabilitating the company is high, voluntary consensus among the interested parties is easier to reach and private methods are more advisable.

However, it is only the rules of public (legal) negotiations that government policy can control directly. The government is not in a position to set the rules for private negotiations. Nevertheless, established legislation does have an indirect impact on private negotiations. The reason is that when a court decision is more or less predictable, the predicted judgment would serve as the starting point for private negotiations. As such, it will reduce the cost of negotiations. Well-established public legislation can thus be expected to have a positive impact on private negotiations.

In some Asian countries after the currency crisis, their governments set up special organizations and adopted policies for these organizations to act as intermediaries in promoting private debt negotiations. However, as will be discussed in the next section regarding nonperforming loan settlement, governments should involve themselves in private debt negotiations only exceptionally as an ex post measure for countering a large-scale financial crisis.

If such intermediation can really reduce the costs in private debt negotiations, it would be an efficient policy. However, it is difficult to measure the effect of the policy, and therefore difficult to judge its efficiency. For instance, Thailand set up the Corporate Debt Restructuring Advisory Committee (CDRAC) which intermediated many negotiations on corporate debt. This helped lower the ratio of bank nonperforming loans to a certain extent. However, because the government was not involved in ascertaining whether corporate rehabilitation plans were actually implemented, many problems occurred, including cases of default, after negotiated agreements had been concluded. As Thailand lagged behind other countries in bank restructuring, this might have distorted the incentives for banks to play a leading role in corporate restructuring. Since banks with deteriorated financial positions might not have wanted to face their bad-loan problems squarely and covered them up, this probably led to putting off the problems rather than really restructuring indebted companies.

The Thai government also allowed financial institutions to exclude successfully renegotiated loans from the category of nonperforming loans on their books. Combined with the distorted incentives of banks, the policy ended up being a cover for putting off the real solution to the bad-loans problem. Both sides in negotiations were inclined to reach agreement even when the feasibility of company rehabilitation was doubtful. It is advisable, therefore, to correct bank behavior by immediately implementing bank restructuring first, and then proceed with the promotion of private debt negotiations.

Other examples of such mediation efforts include the Corporate Debt Restructuring Committee (CDRC) in Malaysia and the Indonesian government's arbitration committee called the Jakarta Initiative. In Korea a syndicate of lending banks, which was established under the strong government promotion, is presently engaged in private debt negotiations.

3. *Intensive Government Intervention for Disposing Nonperforming Loans*

Under ordinary economic conditions, a government would never consider buying up nonperforming loans more directly and negotiating with creditors on behalf of the debtors. But this exceptional approach can be resorted to when the government judged that the problem is too large for the private sector alone to handle.

In some Asian countries in the aftermath of the currency crisis, the

TABLE 4-6

NONPERFORMING LOANS TRANSFERRED TO ASSET MANAGEMENT COMPANIES

(%)

	Indonesia	Korea, Republic of	Malaysia	Thailand
Ratio of nonperforming loans transferred to AMCs (all financial institutions)	60.5	43.6	27.1	6.3
Month of computation	Sep. 1999	Sep. 1999	Dec. 1999	Dec. 1999

Source: Computed by the author from the World Bank, *East Asia: Recovery and Beyond* (Washington, D.C.: World Bank, 2000), Table 4.3.

nonperforming loans held by the financial sector expanded to such a huge amount that the government began to examine the intensive handling of these loans. In Indonesia, Korea, and Malaysia, a large portion of nonperforming loans was transferred to the asset management company established by each government, as shown in Table 4-6.

Of course, such purchasing should be made at adequate (estimated) market prices, rather than at book value, otherwise it would be tantamount to giving the creditor a needless subsidy. Nevertheless it is difficult to evaluate this sort of government intervention because it has both positive and negative points.

One problem is asymmetric information. The government's information about the debtor is likely to be less than that held by the creditor. If so, the creditor is in a better position than the government in dealing with the debtor.

On the positive side, direct involvement enables the government to put pressure on ill-intentioned debtors in cooperation with the police and court. Here the government has greater leverage than do private-sector creditors.

Secondly, when the healthy management of banks is spoiled by a financial crisis, it is possible that these banks may fail to deal properly with nonperforming loans. When the behavior of management becomes distorted, banks are greatly inclined to put off the disposal of their nonperforming loans.

Thirdly, the number of creditors can be reduced. If the government can acquire the debts of from all the creditors, it would become the only creditor, helping to resolve the conflicting interests of the creditors.

A compromise plan can also be followed whereby a credit collection organization established by the government can buy up badly deteriorated portions of nonperforming loans (unrecoverable loans, for example), while the other better loans can be left for banks to handle. The badly deteriorated nonperforming loans are those that banks have failed to manage adequately. Their removal from bank B/S would not cause a great loss in their value. For the management of nonperforming loans that are not significantly deterio-

TABLE 4-7
METHODS FOR TRANSFERRING NONPERFORMING LOANS TO THE GOVERNMENT-ESTABLISHED ASSET MANAGEMENT CORPORATIONS

	Indonesia	Korea, Rep. of	Malaysia	Thailand
Is the buying price beneficial to the bank?	No	Assets were initially purchased above market-clearing prices with recourse. Since Feb. 1998 efforts have been made to purchase at market prices.	Purchased assets are valued by independent outside auditors.	The government initially set up no asset management corporation. (Set up in July 2001.)
Type of assets transferred	Worst assets	No particular strategy	Loans larger than 5 million ringgits, and mostly loans secured by property or shares	

Source: Excerpted from the World Bank, *East Asia: Recovery and Beyond* (Washington, D.C.: World Bank, 2000), Table 4.5.

rated, information held by banks on individual debtors is helpful. Nonperforming loans were acquired in this way in Indonesia. As shown in Table 4-7, however, Asian government strategies for buying up nonperforming loans differs noticeably from country to country.

4. *Improving in Bankruptcy Resolution and Corporate Governance and Reducing Agency Cost*

While legal reform in the resolution of bankruptcies, as discussed above, is useful as a direct measure against the distorted behavior of companies on the verge of bankruptcy, it also acts to reduce agency cost. This is because the agency cost for issuing debt includes the cost of the agency problem arising from the occurrence of bankruptcies. An improvement in the handling of bankruptcies indirectly helps lower debt-issue costs by reducing the costs incurred in case of bankruptcy. In this way, the improvement can also mitigate the problems of companies that do not fail but face higher fund-raising costs caused by high agency costs.

Another factor for reducing agency cost is the introduction of measures to improve corporate governance, including stricter accounting standards and stronger demand for the disclosure of information on listed companies. Discussions about corporate governance were originally directed at disciplining corporate management on the basis of the principal-agency relationship between corporate managers and fund suppliers such as creditors or shareholders. An improvement in corporate governance should consequently have a direct impact on agency cost.

The issue of corporate governance is often discussed from the ex ante perspective and is aimed at maintaining good corporate governance so as not to weaken the financial system and prevent a financial crisis. What we have pointed out in this chapter is that an improvement in corporate governance is also significant as an ex post measure for overcoming Asia's financial crisis.

III. Conclusion

This chapter dealt with the Asian financial crisis from the ex post perspective of how to cope with the crisis after it occurred. The chapter summarized points of discussions as an introduction to Chapters 5 and 6, and reviewed the problem of corporate debt restructuring in the aftermath of the Asian currency crisis. The chapter cited debt overhang, asset substitution, and dwindling investment due to higher agency cost as problematic behavior of companies with deteriorated financial balance sheets. As a means for countering such behavior, the chapter discussed such steps as prompt and efficient handling of bankruptcies, promotion of private debt negotiations, the government's disposal of nonperforming loans, and an improvement in corporate governance.

Chapter 5 will deal with the issue of bank restructuring which, along with corporate debt restructuring, is an important ex post measure for overcoming the financial crisis. The chapter will review the relationship between bailout measures for banks and moral hazard in bank management, using the concept of time inconsistency to show the complex relationship between ex ante and ex post measures. Based on this discussion, the chapter will examine what measures are adequate for bailing out banks.

Chapter 6 will analyze a theoretical model and the policy implications of increased agency costs resulting from external fund raising, which were pointed out in the present chapter as one of the effects of deteriorated corporate financial conditions.

Notes

This chapter, together with Chapter 5, has been revised based on Kunimune (2001b).

1 The Indonesian figures show only bank nonperforming loans.
2 Here, the agency cost related to the creditor-debtor relationship is explained, but another type of agency cost arises when funds are raised through stocks.
3 However, when there are numerous creditors with claims of varying nature, some of them will be preferred and other subordinated, or some will have their claims secured and others will be unsecured. Therefore it is possible that their collective decisions will not reflect a correct evaluation of the company's going-concern value or its liquidation value. For details, see Hart (1985) and Ikeo and Seshimo (1999).