Global Financial Crises and Monetary System

BY

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Abstract

The Asian currency crisis and the financial crisis in the Eurozone causes repeated economic turmoil at the national level. This paper examines the systems that cause such conditions from the perspective that the essential cause of financial crises is an inefficient investment by debtor countries. For analysis, we consider a tripartite model consisting of the debtor country, investors and related countries, and international organizations such as the IMF, EU, and ECB as agents of the investors. In the event of a crisis where a debtor country defaults on its debt, the agent may provide financial support to the debtor country, considering the interests of investors and relevant countries. The agent may also bear the cost and control the fiscal tightening policy of the debtor country that received the support. In this paper, we identify the incentives of debtor countries to invest and the incentives of their agents and consider under what conditions debtor countries can raise funds and make risky or inefficient investments. One of the conclusions is that if the agent's cost of controlling the debtor country is sufficiently small, the debtor country can raise the funds to finance and implement risky investments and when international organizations such as the IMF increase their funds in preparation for financial crises and clearly state that they will tighten their policies when they provide support, they may not be able to prevent risky investments from being made, making it impossible to avoid the occurrence of financial crises.

Keywords: euro economic crisis, IMF, incomplete contracts, moral hazard, soft budgeting

JEL Classification Code: E44, F31, F33, F34

1. INTRODUCTION

There has been much debate about what kind of post-crisis measures are desirable and what kind of economic mechanism should be created in the future. In this paper, we would like to consider the implications of financial assistance to a country that may default on its debt. For example, suppose a country defaults on its debt and is unable to redeem its bonds. This would naturally result in losses for the financial institutions and investors who hold the bonds. However, the ripple effect would be instability in the financial system, which in turn would hurt the domestic and international real economy. To avoid this, for the time being, financial assistance has been repeatedly provided, but the question is whether such measures are desirable for international finance as a whole.

During the Asian financial crisis of the 1990s, the IMF imposed policy efforts such as fiscal tightening as a condition for providing financial assistance to Korea and other countries. There are conflicting assessments of this. One is that the so-called IMF schedule was designed to deal with the depressed economies of Korea and other countries and that

further tightening of fiscal policy would have disrupted the economy. In this position, it would be preferable to provide financial assistance without imposing a tightening policy.

If it is clear that the cause of the financial crisis is either a policy failure or an external factor unrelated to policy, the problem is not complicated. It is enough to commit in advance that financial assistance will not be provided for policy-related problems, but only for those caused by external factors. In this way, policy incentives can be provided, appropriate measures can be taken to deal with the crisis after the fact, and the problem of moral hazard can be avoided.

However, the reality is that it is difficult to attach policy efforts to the conditions of aid loans due to asymmetric or incomplete information. If the conditions are based on objective indicators, the government may not be able to adequately respond to crises caused by external factors. On the other hand, the expectation that aid will be generous can cause a moral hazard to the government in question. This is a well-known problem of the trade-off between "efficiency" and "risk" under information asymmetry.

The optimal response will also depend on differences in perceptions of what factors contributed to the Asian financial crisis. One of these perceptions is as follows. The performance of East Asian economies, such as South Korea and Thailand, was good. For example, although there were no major problems based on indicators such as economic growth, inflation, the balance of payments, and fiscal balance, they fell into crisis because they became targets of speculative attacks. The perception is that the crisis is due to the term gap between the long-term assets and the short-term liabilities of those countries. If this is the case, then the crisis is due to short-term liquidity risk, which can be avoided by short-term lending, and prior lending commitments have the effect of preventing speculative attacks from occurring. This has the same meaning as suggested by the so-called Diamond and Dybvig (1983) and other models of banking crises. The idea is that even if the real economy is not disturbed, the collective psychology of other investors pulling out of their investments will cause capital flight and trigger a financial crisis.

Another perception is that the essential cause of the financial crisis was the real economy, as Kurugman et al. (2009) point out in their study that Asia's economic success was based on sham indicators and not actual real productivity. If this is the case, then the crisis may have been caused phenomenally by speculation, but its essential cause lies in economic fundamentals. In that case, these countries are over-invested and over-indebted, and tightening policies are indispensable to correct the causes (although there are still more methodological issues such as the duration of the tightening). In this paper, we follow this position. In other words, we believe and argue that the financial crisis is caused by inefficient investment.

If corporate governance and market discipline work, then private over-investment and excessive debt will be avoided. In other words, if investment behavior optimizes profit for the company, and if the company invests in companies that engage in such behavior, then the problem becomes simple. Of course, the question is whether governance and markets work, but there is a big difference between the behavior of governments compared to that of the private sector.

Since the investment behavior of governments is not necessarily aimed at explicit financial gain, it is difficult to assess their performance. However, to raise funds for the government from the outside, it is necessary to acquire funds. On the other hand, it is also important for the government to have the support of the people and to stay in power, so the governance of the government of the debtor country is a major issue because it may act against the interests of the donor. The problem is that unconditional financial assistance encourages moral hazard in the government in question and reduces efforts to reduce the deficit, so additional loans need to be conditional, even if it means a penalty.

There are also studies on incomplete contracts that assume ex-post renegotiation among traders, especially in corporate finance. When financial transactions proceed smoothly, it is up to the government to decide how to invest the funds, but in the event of default, the IMF and other institutions, as agents of investors, attempt to control policy, which is similar to the analysis of incomplete contracts in corporate finance. On the other hand, unlike corporate finance, there are inadequate institutions to lubricate renegotiations, and the Greek crisis in the eurozone has confirmed the lack of prompt action. In addition, the soft budgeting problem in the case of ex-post default assistance is similar to that of debtor countries receiving assistance.

To examine these issues and how they affect the policy decisions of the government and the behavior of investors, we will present a simple model in the next section and analyze it below. These analyses are closely related to the problem of incomplete contracts, which is the inability to make money loan contracts associated with government policy decisions.

2. Model

Let us set up a simple model to consider the behavior of debtor countries and the role of international institutions. This model is based on the model of Dewatripont and Maskin (1995) and Dooley (2000) who analyzed the soft budget problem.

First, the actors in this model are the debtor country, investors, and their agents. The debtor country is assumed to be able to implement its policies by borrowing funds from investors. The investors have funds to provide to the debtor country, but will not do so if their earnings are not sufficient. An agent would represent the investor in the event of default by the debtor country and would renegotiate and take further action. This proxy could be the IMF, the EU, or the European Central Bank (ECB). In other words, these organizations do not necessarily represent only the investors, but also the interests of the relevant countries. Therefore, if there is an impact on other than investors, we believe that this will be taken into account. As will be discussed in more detail later, when a debtor country defaults on its obligations, the agent acts to avoid the disadvantage of investors. However, the objective is not only to maximize the profit of the agent. In a situation that progresses from default to financial crisis, the external costs incurred are not only to the investors but also to the countries involved. This cost is reflected in the agent's profit. In addition, the funds provided are financed by the country concerned. If the funds provided are not recovered from the creditor country in the future, it will be to the detriment of the country. This disadvantage is not a problem for the individual investor, but it is reflected in the agent's gain from the standpoint of being the agent of the entire affiliate country.

There are two periods. At the beginning of the first period, the debtor country borrows funds. For the sake of simplicity, we will standardize and consider the procurement of one unit of funds. This unit of funding is then used to implement public investment and other policies. Two types of public investment methods are named a_1 and a_2. a_1 is a risky investment that, if executed, will yield $(1 + R_1)$ at the end of the first period with probability θ, but with probability $(1 - \theta)$ will yield zero return at the end of the first period. a_2 is a solid investment

that will provide a solid return $(1 + R_2)$ at the end of the first period. This monetary return can be seen by the investor, and the repayment of funds from the return will be executed at the end of the first period, but the amount of interest promised will be r. Here, we assume that $R_1 \geq r \geq R_2$. If the promised repayments are made, the policy will be continued into the second term, but if the repayments are not made as promised, the creditor investor's representative will renegotiate with the debtor country to decide whether to continue the policy or not. If the policy is continued, it is assumed that a non-transferable gain to the debtor country occurs in the second period depending on its circumstances. In the incomplete contract model of corporate finance, we assume a contract in which the right to control whether the policy is continued is transferred to the creditor, but the transfer of control of the country's policy is not so simple, unlike in the case of corporations. In some cases, it may not be possible to prevent the implementation of policies that do not serve the interests of creditors, despite default. This will be discussed later.

For simplicity of the problem, let $r = R_2$. That is, assume that the investor claims the corresponding revenue if it is a sure revenue. Then, if policy a_1 is implemented and fortunately brings in revenue $(1 + R_1)$, debt repayment will be implemented and the policy will continue into the second period. In that case, the debtor country will have a non-transferable gain π_1. In the unfortunate event of zero revenue, the country will default on its debt, and the debtor country and the agent will renegotiate and decide whether to support the country or not, and whether to change the policy of the debtor country.

If support is provided to the creditor countries after renegotiation, the policy will be continued, but if no support is provided, continuation into the second phase will be impossible. In this case, a corporation would be liquidated by transferring the assets of the debtor, but there are various difficulties involved in implementing a national debt liquidation. If not liquidated, but not supported by default, there would be significant external effects of financial instability.

If supported, the claims of the general fund donors would be protected. Assume that there are two possible policy changes in the second phase of the debtor country if it renegotiates and receives support. One is to put debt repayment first and tighten the policy. This would yield a monetary return L equal to the amount of repayment promised in the first period and the repayment of support, and a non-transferable gain π_2 to the debtor country.

The second is the case where no tightening policy is implemented. Suppose that no monetary revenue is generated in the second period, but non-transferable gains π_3 are generated. In this case, the recovery of the agent's support becomes impossible. There will be no loss as a proxy for investors, but there may be a loss as a proxy for the whole. Therefore, the agent naturally wants to have the tightening policy implemented, but since the agent's right to control the debtor country is not sufficient, suppose that the agent incurs

the cost C of negotiating and monitoring to have the tightening policy implemented. This cost is not a problem for an individual investor, but it is reflected in the agent's gain as a representative of the relevant country as a whole.

Proxies may want to make their support conditional on a tightening policy, of course. Whether this condition can be attached or not, and whether the condition can be made to be complied with, depends on the relationship between the debtor country and the agency. During the Asian currency crisis, the IMF schedule, which enforced a tightening policy, worked well. However, as this strong tightening policy was criticized in various ways, it tended to take into account the economic growth of the debtor country, and support and tightening policies may not necessarily go hand in hand. As in the case of Greece a few years back, the people voted to reject the tightening policy. Then, considering the disadvantages to the relevant countries if they choose not to provide support, it may be necessary to consider the possibility of providing support in the end. When a large company goes bankrupt, it may not be efficient to assist, but considering the external costs, it may have to be done. This is the so-called "Too big, to lose" situation. In this case, there is a possibility of extracting support with a large disadvantage as a hostage.

If a default occurs and no support is provided, we believe that there will be a financial crisis and many negative external costs in addition to the loss of the investor's invested capital. Taking this loss into account, the agent makes a decision. The agent's gain, in this case, will be $Z(< 0)$. This external cost reflects the cost not only of the investor but also of the relevant country. The debtor country is also assumed to have a non-transferable gain of $\pi_4 (< 0)$.

If the debtor country implements policy a_2, it will certainly bring in revenue $(1 + R_2)$, so debt repayment will be implemented and the policy will be continued in the second period. In this case, the non-transferable gain of the debtor country is π_5 income.

The gain of a non-transferable debtor country varies in magnitude depending on the circumstances, as described above. We believe that this gain reflects the fact that the government of the debtor country remains in charge of the government itself, or that public support for the government rises.

Three factors influence this. The first is the size of the monetary gain from the first-period policies. The larger this is, the larger this gain will be. The second factor is whether or not support is received. If the country receives support, the gain of the debtor country will be reduced. In other words, it is not desirable for a debtor government to be forced to receive support when its policies fail. However, despite defaulting on the debt, the lack of support is likely to cause further economic turmoil and thus the gain will be negative. The third question is whether to take tightening measures. A tightening policy would have the effect of decreasing the gain since it would place the burden on the people of the debtor country. Considering these factors, the size of the non-transferable gain of the debtor country is as follows.

$$\pi_1 > \pi_5 > \pi_3 > \pi_2 > 0 > \pi_4$$

Let's organize the model into five cases for a quick review of its structure.

1. The debtor country implements policy a_1, which fortunately brings in a gain $(1 + R_1)$, and the repayment of the debt to investors is carried out. The policy continues and the debtor country incurs a gain π_1 in the second period.

2. The debtor country implements policy a_1 and unfortunately, the revenue goes to zero and the debt repayment to investors is not implemented. Through renegotiation, the proxy will support and cost C to force the debtor country to adopt a tighter policy. That way, the investor's repayment will be carried out and the burden of supporting the agent will be recovered. In addition, the support will continue the policy in the second phase, and the debtor country's gain π_2 will be generated.

3. The debtor country implements policy a_1 and, unfortunately, its revenue falls to zero and repayment of the debt to investors is not implemented. Through renegotiation, the proxy will support, but will not allow the debtor country to take a tightening policy. In this case, the support will protect the investor's claim, but because of disadvantages such as the amount not being the full amount or the delay in repayment, we assume that the compensated benefit to the investor will be $r_1(r_1 < r)$. Since the agent's recovery of support will be impossible, the agent's gain will be impaired. For simplicity, we assume that the agent's gain is only minimally guaranteed (zero). In addition, the support will result in a gain π_3 distributed to the debtor countries in the second period.

4. The debtor country implements policy a_1 and unfortunately, the revenue goes to zero and the debt repayment to investors is not implemented. Renegotiation creates a financial crisis because of the lack of support, resulting in serious negative gains π_4 and Z for the debtor country and the agent, respectively.

5. The debtor country implements solid policy a_2, bringing in solid revenue $(1 + R_2)$. As debt repayments to investors are made, this will continue into the second phase of the policy, with the debtor country gaining π_5.

The gains of the debtor country and the agent in each case can be organized as shown in Table 1.

3. Analysis of Debtor Countries and Investor Behavior

Investors will have the option of providing funds to the debtor country or managing other assets. Assume that the rate of return on risk-free asset management is R_2 as in debtor countries. Since we assume that $R_2 = r$, we assume that funds will be provided to the debtor country if revenues equal to or greater than this are expected to be guaranteed. On the other hand, if we expect that providing funds to a debtor country will bring only lower returns, we assume that no funds will be provided to the debtor country.

Table no. 1: Gains of Debtor Countries and Agents

	Debtor Country	Agent
1	$(R_1 - r) + \pi_1$	r
2	π_2	$r - C$
3	π_3	0
4	π_4	Z
5	π_5	r

A debtor country cannot commit to implementing a policy before it raises funds. Therefore, investors predict the behavior of debtor countries by their incentives, anticipate the rate of return on their funding, and decide whether to fund.

First, consider the incentives of debtor countries. First, consider the case where the debtor country implements policy a_1. If the policy fails and there is zero revenue, then the agent will be asked to provide support. Not providing support would also result in a negative gain for the agent, so it would support the debtor country if possible. If the condition $r - C > 0$ is satisfied, the agent will force the debtor country to tighten its policy in case of default. Therefore, in this case, either Case 1 or Case 2 will be realized. Therefore, the expected gains of the debtor country and the agent are as follows.

Debtor country $\quad \theta\{(R_1 - r) + \pi_1\} + (1 - \theta)\pi_2$

Agent $\quad\quad\quad (1 - \theta)(r + C)\theta r$

If the condition $r + C < 0$ is satisfied, the agent will not force the debtor country to take tightening measures in case of default. Therefore, this case will be realized either in case (1) or case (3). Therefore, the expected profits of the debtor country and the agent are as follows.

Debtor country $\quad \theta\{(R_1 - r) + \pi_1\} + (1 - \theta)\pi_3$

Agent $\quad\quad\quad \theta r$

Next, consider the case where the debtor country implements policy a_2. In this case, case (5) will be realized, and the gain of the debtor country and its agent will be as follows.

Debtor country $\quad \pi_5$

Agent $\quad\quad\quad r$

Given all this, how do investors predict the policy choices of debtor countries? First, let us look at the incentives of the debtor country's policy choice under the condition that the proxy is supportable and $r - C > 0$. We further assume the following situation regarding the debtor country's incentives.

$$\theta\{(R_1 - r) + \pi_1\} + (1 - \theta)\pi_2 > \pi_5$$

In such a case, it is more desirable for the creditor country to choose policy a_1 than policy a_2 because the proxy can provide support with a tightening policy even if the policy fails for the debtor country. Thus, the agent's gain is $\theta r + (1 - \theta)(r - C)$. However, since ordinary investors do not bear the cost C of having the policy tightened, the gain will be r, which means that funds will be provided to the debtor country. In other words, there is a moral hazard that investors will take advantage of the cost borne by the proxy, which will lead to the implementation of riskier policies.

Next, we consider the incentives of the debtor country to make policy choices under the condition that the proxy is supportable and $r - C < 0$. We further assume that the situation regarding the debtor country's incentives is as follows.

$$\theta\{(R_1 - r) + \pi_1\} + (1 - \theta)\pi_3 > \pi_5$$

In this case, it is expected in advance that when a debtor country fails to implement a policy, the proxy will provide support but will not be able to force a tightening policy on the debt. Under that expectation, it is more desirable for the debtor country to choose policy a_1 than policy a_2. Therefore, the realization will be either case (1) or case (3). This means that the agent's earnings will be θr. The investor's earnings in this case are protected by the support of the proxy, which will be $\theta r + (1 - \theta)r_1$, which is less than r. Therefore, the investor will not fund such a debtor country. Therefore, the risky policy a_1 will not be implemented.

If $r - C > 0$ and $\theta\{(R_1 - r) + \pi_1\} + (1 - \theta)\pi_2 < \pi_5$ satisfies, or if $r - C < 0$ and $\theta\{(R_1 - r) + \pi_1\} + (1 - \theta)\pi_3 < \pi_5$ satisfies, then the debtor country voluntarily chooses a solid policy a_2, and the agent's or investor's return is guaranteed to be r, so it can provide funds to the debtor country.

Next, consider the case where support is not possible due to inadequate proxy funding or high agency costs. In this case, when the risky policy fails, no support is provided to the debtor country. In other words, case 4 will occur. Therefore, if the debtor country chooses policy a_1, either case (1) or case (4) will occur. In this case, the expected gain of the debtor country will be $\theta\{(R_1 - r) + \pi_1\} + (1 - \theta)\pi_4$. Since the negative value of π_4 is expected to be quite large, there is a high probability that $\theta\{(R_1 - r) + \pi_1\} + (1 - \theta)\pi_4 < \pi_5$ will be valid. In this case, the debtor country will choose the firm policy a_2 because no support is expected. Then, of course, investors are guaranteed to benefit from r.

Let's summarize the above considerations.
1. If the cost of controlling a debtor country by proxy is sufficiently small and ex-post-tightening policy commitments can be made, the debtor country may choose risky policies.

2. If the cost of controlling a debtor country by proxy is sufficiently large that it cannot commit to a tightening policy ex-post, the debtor country will be unable to raise funds and risky policies will not be chosen.

3. If the agent can commit not to support the country after default, the debtor country will not choose a risky policy.

4. The Financial Crisis and the state of the Financial System

In light of these factors, we will examine the factors that cause financial crises and the countermeasures that can be taken. In this simple model, the origin of a financial crisis is the policy failure of the debtor country. To avoid this, it is important to prevent debtor countries from adopting risky policies. As

mentioned above, the choice of risky policies is conditional on the incentives of the debtor country. In other words, if a risky policy is fortunate enough to succeed, the gain is large. In the event of failure, the policy must be continued with the support of a proxy, and non-monetary gains must be guaranteed. Another condition is that the agent can commit the debtor country to an ex-post tightening policy. Once these conditions are met, the debtor country will be able to raise funds and implement risky policies. Eventually, with the support of proxies, a deadly financial crisis will be averted, but the burden on proxies will not be alleviated.

When a financial crisis occurs, the IMF and the EU, for example, plan to top up the number of funds and prepare to help avert the crisis. Also, under the IMF plan, the IMF is trying to gain more control over the ex-post policies of debtor countries. While these are expected to be ex-post policies against financial crises, it should be noted that they will not necessarily have the effect of averting the occurrence of a financial crisis. However, it does not mean that we conclude from the model results that support is undesirable when a debt default occurs. In this simple model, the root cause of default is the risky policy of the debtor country. In reality, however, there is no such thing as a perfectly safe policy, and there is no such thing as a policy that guarantees certainty of return. In other words, defaults do not necessarily occur only because of the policy choices of the debtor country. Therefore, a system that does not provide support in emergencies to prevent risky behavior will also burden debtor countries with greater risk. This trade-off between efficiency and risk is a fundamental issue in designing systems under uncertainty.

Next, let us consider the possibility that debtor countries strategically manipulate the costs of taking control from their proxies. For the debtor country, accepting a tightening policy would mean lowering its gains. Suppose, therefore, that it can raise its cost C by resisting the proposed tightening policy. This would allow the debtor country to avoid tightening policy and earn a larger gain as a result. However, if investors are aware of such a debtor country's strategy, no funds will be provided to such a country. Therefore, it would be more desirable for debtor countries to commit to promptly accept the tightening policy proposals of their proxies. However, whether or not there is a way to commit is a question to be considered.

The other major problem is that the model does not make explicit the gain of the debtor country if it is unable to raise funds. For simplicity's sake, the model does not assume any policy options if financing is not available. In this model, there is no way to commit to a firm policy, so funding is not possible without an interest rate above R_2 ($r > R_2$). This would create a credit crunch problem, which is different from a financial crisis, in that it would not be possible to raise funds to implement a firm policy.

At high-interest rates, even a firm policy would result in default, so risky policies may be chosen. If we assume a third policy option here, a "more robust policy," and identify its gains, the incentives of the debtor country will be revealed

and its policy decisions can be analyzed. However, such a policy would require the government to respond by either cutting back on spending or raising taxes. This would place a heavy burden on the people of the country concerned, and the gain could be quite small. If the incentives for risky policies are outweighed, the problem will not be solved. In the end, there is no other way to solve the fundamental problem than to reduce the incentives for risky policies.

Consider the effect of changing incentives on debtor countries' policies. The fact that $\theta\{(R_1 - r) + \pi_1\} + (1 - \theta)\pi_2 > \pi_5$ satisfies the incentives for the debtor country to take a risky policy a_1 when the proxy can achieve a tighter policy. Three factors can be cited for this condition to hold. The first is that θ (the probability that a risky policy will succeed) is sufficiently large. Second, R_1 (the return on a successful risky policy) is sufficiently large. Third, π_2 (the non-monetary gain of the debtor country when it receives support and tightens its policy) is large enough. The first two are constraints of the economic environment and cannot be manipulated in the system design. If so, can we imagine a system where π_2 takes a small value to prevent the above incentives from being established? What would be the negative effect of receiving aid itself and the negative effect of tightening policy? If it is degrading to the dignity of the state to receive outside financial support and to be controlled to tighten policy, the negative effects may be greater. To further enhance this negative effect, a variety of tangible and intangible penalties for default may play a role.

It is also effective for debtor countries to make commitments (if possible) that increase the cost of risky policies. For example, the recently proposed collateralized bonds would be effective. If the cost of default can be made explicit, the country can commit to a firm policy and raise funds at a lower interest rate.

Another point that was not considered in the model of this paper is the constraint of debtor countries' funds. The model assumes that policies cannot be implemented without external funding, and that debt repayment is not possible without monetary revenues. However, as a practical matter, as discussed above, there is a possibility of debt repayment by raising funds through tax hikes or other means that involve a burden on the public. How does the analysis change if this is taken into account? If there is an incentive for risky policies and the option of repayment through higher taxes even if the country defaults on its debt, the incentive for investors to provide funds will be guaranteed. For example, if there is still room in terms of income and assets for the country as a whole, and there is room to raise taxes at a lower cost, risky policies will be implemented and funded.

In addition, the model above did not refer to the efficiency of policies, but risky policies may be more efficient for debtor countries. It is not always desirable to have a rigid policy. Non-transferable gains are not necessarily economically meaningless. It is a benefit to the country's citizens that cannot be ignored when examining the efficiency of a policy.

5. Conclusion

A simple model was used to analyze the debtor country's financing, policy decisions, investor funding, and agent behavior in the case of a possible financial crisis. It was found that the IMF and the EU's accumulation of funds and control of the debtor country's policies in response to a financial crisis may not necessarily produce the desired results.

This conclusion essentially stems from the incompleteness of the contracts for borrowing and lending funds between debtor countries and investors. In other words, although the policy decisions of the debtor country can be observed, it is impossible to conduct fund transactions on corresponding terms. From this, the various care taken by the agent in the event of default becomes a factor that creates incentives for risky policies in the debtor country and incentives for investors to provide funds. Therefore, the organization that is the agent that coordinates them is expected to work to compensate for the deficiencies of incompleteness.

However, there are many practical difficulties, such as the extent to which one state can enter into policy decisions, and the disposal of state assets in the event of default. These are also emphasized in Tirole (2002). This is because, unlike in the case of corporate finance, enforceable legal and judicial frameworks are not fully developed. Therefore, it is necessary to come up with a means by which both the debtor country and the organization acting as its agent can commit in advance.

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