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The Debt Crisis and International Cooperation in a Financially Unstable System

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In the international environment the main determinant of both the upper and lower turning points is the policy of the centre economy of the system: the United States. However, the policy choices of the US are implemented as a response to the conflicts which arise with other actors in the international system and, in addition, the bargaining power which these actors display vis-à-vis the United States varies over the financial cycle. In other words, the build-up of financial fragility influences the outcome of conflicts which arise between the US and the other actors of the financial scene. In this respect, the turning points of the financial cycle may be considered as fully endogenous outcomes.

The two dimensions of a financial crisis

The upper turning point makes most of the outstanding debt unserviceable even if it was easily serviceable before the turning point was reached. In Minsky's terminology the share of ponzi finance in the system increases significantly. The upper turning point materializes as a consequence of a tightening of the monetary policy of the centre economy.

A tightening of US monetary policy produces several effects which worsen the financial positions of borrowing countries. It raises interest rates on debt, and it raises the dollar value of debt. This means that more goods have to be exported by borrowers in order to fulfill payment commitments for unit of debt. In addition, the overall level (or rate of growth) of exports falls as the level of world demand is curtailed by the monetary squeeze. In a word, indebted units must increase their financial outflows in a situation in which profits are severely curtailed.

When the shift in US monetary policy takes place the indebted units may be said to enter a situation of bankruptcy. However, as has been recently noted (Aivazian and Callen 1983), a bankruptcy involves two different - although related - aspects. An indebted unit is in a situation of technical insolvency when it materially lacks the finance needed to meet payment commitments. Technical insolvency however will transform itself into effective insolvency only after the creditors decide to suspend financial support, i.e. when creditors decide to deny debt rescheduling. Whether or not technical insolvency will turn into effective insolvency represents a typical outcome of conflict resolution. A conflict arises between debtors and creditors on the aumont and quality of further financial support (if any). The upper turning point may be said to have fully developed only after technical insolvency has turned into effective insolvency.

In an international environment the conflict which arises for the solution of problems posed by technical insolvency involves a large number of actors, and in addition it involves issue linkages among different areas as the actors involved include sovereign states.

The actors involved will be examined below and their behavioural models will be briefly sketched. In the second part of the chapter their interaction will be discussed so as to provide a conceptual framework for the determination of turning points. The actors involved are: private banks, borrowing countries, and international organizations.

Private banks

Banks operate in groups in the international credit markets, (Lipson 1981) hence their behaviour should be analyzed according to collective action paradigms. There are good economic reasons for taking up such a perspective. As we have already mentioned credit is a two-dimensional good, identified by its quantity and its quality. The quality of credit depends on the quality of the borrower, its creditworthiness. This in turn is, by definition, something which may not be assessed with certainty. In other words, credit is a good which intrinsically involves ignorance, at least to some degree.

Whenever credit must be granted a problem of confidence arises. Confidence is a public good (Hirsh 1977) and hence the problem of its supply arises. Collective behaviour in the banking community is a necessary condition for the supply of such a public good. Banks act as a group because this is the most effective way to build confidence and implement banking policies. Confidence is also a very fragile good which is much more easy to break down than it is to build up. Again the logic of collective action helps to explain this point (Olson 1965, 1982). As long as the group is made up of a small number of units the production of such a collective good is more efficient. Bankers may get to know each other better and thus make the exchange of information easier (Hirsch 1977). In addition, this helps to produce the most effective type of international credit: syndicated lending.

Syndicated credits are a typical example of how collective goods are produced by (relatively) small groups. Syndicated credits diversify risks among lenders when they face a single large borrower like a sovereign state (Lipson 1981).

The structure of syndicated lending favours the provision of collective goods. Leading banks set the terms of the loans while smaller banks simply provide part of the funds. In terms of collective action the leading banks bear a more than proportionate share of the cost of providing the collective good "confidence" as it is they who assess the creditworthiness of the potential borrower. Smaller banks, which quite often do not have the expertise to assess country creditworthiness, rely on the indications of the larger banks in deciding whether or not to participate in the loan. As we shall see below, this kind of structure inherently involves a big free riding problem which tends to explode when financial distress breaks out.

Larger banks are willing to bear a more than proportionate share of the costs of supplying collective goods becuse they have an interest in the development of an international credit market. By providing these collective goods they expand and control the market.

There is however another element which encourages larger banks to act as leaders in syndicated lending. This is what might be termed "implicit moral hazard". Larger banks know that in case of distress they can count on lender of last resort support from the central banks of their home countries much more

than smaller banks which are less likely to be protected by monetary authorities (Hirsh 1977, Guttentag and Herring 1983). This element de facto decreases the costs of supplying the collective good of confidence for the larger banks and hence increases their propensity to act as leaders of syndicated loans.

The structure of group behaviour we have described is put under pressure when difficulties arise, i.e. when rescheduling and bankruptcy threats become widespread. However, free riding problems also arise in boom periods (i.e. when financial fragility builds up). In the expansionary phase, smaller banks wish to increase their market share and hence they offer easier conditions to borrowers in order to increase demand for their loans (Llewellyn 1982). This deteriorates the overall quality of international lending as it increases fragility (ponzi finance is encouraged). The result is the production of a public bad which will turn out to be extremely dangerous when the overall situation turns from expansion to crisis.

The financial fragility mechanism implies that the behaviour of the agents involved undergoes a qualitative change during the different phases of the mechanism. The propensity to lend freely during expansion turns into a propensity to deny debt rescheduling in periods of distress (Strange 1979a). As a consequence collective action is much more difficult to organize in the latter case when it would be much more valuable to the banks themselves. This difficulty is, on the other hand, tied to the two-dimensional nature of credit. Since loans to different borrowers have to be considered as different goods and since and since borrowers are political as well as economic agents, it is quite difficult to agree once and for all on the rules of conduct in carrying out debt negotiations. In such a situation the only possible rule is discretionality.

Although no definite rules of conduct can be laid out, it is possible to offer a description of how decision patterns differ if we split the banks into two groups: leading banks and smaller banks.

Large and small banks

The behavioural patterns worth enalyzing are those which are obtained after the upper turning point of the financial cycle has been reached. That is, after the shift in policy of the dominant economy has produced a widespread situation of technical insolvency. The behaviour of banks will determine to what extent technical insolvency will turn into effective insolvency given the interaction with the other actors involved.

Small banks play the role of free riders in this collective action situation. When the crisis breaks out they try to get out of bad loans with as much money as possible and as fast as possible. Their free riding behaviour produces a public bad since it worsens the position of the debtor and hence increases the costs to those banks that wish to keep on lending in order to avoid ultimate bankruptcy. Small banks therefore not only exploit the public good supplied by the leaders of the credit syndicate but in addition they worsen the overall situation.

Larger banks have a much different perspective. When the crisis breaks out they have an interest in keeping the debtor afloat as long as possible. They will try to continue to finance the debt rescheduling negotiations. This interest stems essentially from four facts. In the first place, larger banks usually have a much greater amount of funds involved in loans to countries 1). When a technical insolvency emerges the creditor's interest in continuing to lend to the debtor rises with the amount of debt outstanding as the loss which the creditor would suffer as a consequence of effective bankruptcy rises proportionately.

In the second place, leader of credit syndicates have an interest in maintaining the public good of "confidence" at a minimum level, i.e. at that level below which the credit market would cease to exist.

In the third place, larger banks tend to act as a group inside the larger group which includes all banks. If a small bank goes bankrupt this will hardly affect the stability of the credit system as a whole. Instead, if a large bank goes bankrupt, the whole system might break down (Kindleberger 1978a, Kindleberger and Laffargue 1982). The chances of large banks surviving when a general crisis breaks out largely depend on collective support from other large banks. In this respect the large banks act in a "regime of oligopolistic interdependence" characterized by a high degree of cooperation, i.e. by a supply of public goods. Our discussion of the two-dimensional nature of credit should have made it clear that only cooperation allows the market for loans to operate smoothly.

In the fourth place, large banks have an interest in collective action on the part of the borrowers, i.e. they wish to avoid the formation of a debtors' cartel. This possibility will be considered again later. Here it is sufficient to note that this eventually will be minimized as long as negotiations between debtors and creditors are kept open and this requires the will on the part of the banks to keep on lending after the point of technical insolvency has been reached.

In general, it may be argued (Aronson 1979) that large banks have a strong interest in international cooperation. When conflict in the international economy increases, financial and monetary instability also increase and this decreases the possibility of sound international credit management.

In conclusion, one might apply Hirschman's (1970) "exit, voice and loyalty model" to the small vs large banks relations. Small banks have a high propensity to use the exit option when a crisis breaks out, while larger banks will generally be more loyal to their loan commitments and will eventually raise their voice aganist both free riding by small banks and, occasionally, by other large banks which might be tempted to break the rules of collective action.

Borrowers

Sovereign borrowers usually do not act as a group. They might, however, be tempted to pursue collective action by establishing a cartel when the crisis mechanism increases their difficulties. An analysis of the behavioural pattern of borrowers has been produced in the growth-cum-debt and in the country-risk literature which will not be discussed here. Here we will consider the options open to the borrower once the technical crisis breaks out. In such a situation, the loan has obviously already been granted and the real issue which the borrower must face is the alternative between trying to adjust in order to maximixe debt sevicing and trying to increase its bargaining power in order to obtain better conditions from the creditors.

The ultimate weapon in the hands of borrowers is unilateral repudiation of debt. This possibility, however, would be remote since it would imply extremely heavy costs for the insolvent borrower, not only in terms of denied future access to international credit markets but also to all other kinds of economic and trade relations with the banks' home countries which easily amounts to the whole group of western countries. Banks therefore run a low risk of running into effective repudiation.

What a country is in a position to do, however, is to use its bargaining power in order to improve its credit terms and resheduling conditions. The

threat of repudiation of outstanding debt, or of part of it, may therefore be used as an instrument in order to hit a much more realistic target.

One should also add that (American Express Bank 1982) banks may be hurt differently according to the financial variable involved. As a consequence a borrower engaged in conflictual bargaining may choose the amount of financial injury it wishes (or is able) to inflict on the lender. A financial injury list might be exposed in terms of increasing damage produced to banks by the refusal of debtors to meet commitments as follows: loss of future due principal, loss of arrears of principal, loss of arrears of interests, loss of future due interests. Receipt of interest payments is critical for a bank as this will determine the degree of credit performance.

The problem then arises of trying to assess the bargaining power of the borrower in debt negotiations.

Eaton and Gersovitz (1981) have presented an analysis of the mechanics of international credit markets under the assumption that countries are rationed by banks in function of the probability that a country will repudiate its debt. The higher the probability the higher the amount of rationing, i.e. the lower the amount of credit granted.

It is possible to develop Eaton's and Gersovitz's model (1981) in order to establish links between the bargaining power of a country in the credit markets and its economic performance and structural characteristics. The idea is simple. The lower the costs to a country of being excluded from international credit, the higher is its bargaining power. The costs may be associated with a number of economic variables that will be listed below. We will introduce some additional variables which take account of political factors as well. The inclusion of political elements is extremely important if one wishes to distinguish (Lipson 1979) between the capacity and the willingness of borrowers to engage in a confrontation with banks.

If we assume systemic conditions as given (i.e. the trend of world demand, the level of interest rates and so on) the borrower's bargaining power will be higher:

- the lower the variability of export earnings. Since a country faces a given inflow of imports for a given rate of growth of output a high volatility in export earning will increase its need of distress finance. This means, inter alia, that raw material-exporting countries will have a much lower bargaining power as their export revenue will be greatly affected by exogenous volatility (2)

- the lower the average propensity, to import. This determines not only the import coverage which is needed for a given rate of growth of output but also the vulnerability of the country to trade retaliation by other countries

- the lower the rate of growth of per capita income which is financed by debt. This point may be better understood if we recall the distinctions of financial positions discussed in chapter 6. The higher the proportion of speculative finance investment in the country the higher is dependence on future lending. In general (3) the higher is its bargaining power.

Scale variables such as population size will increase the bargaining power of the debtor especially if they are associated with a relatively high level of per capita income as they are indicators of politically and economically important countries. From a strictly economic point of view a large and relatively properous country constitutes an important export market for the firms of countries to which creditors belong as well. In this case, banks and firms might share a common interest against the borrower and this will decrease its bargaining power.

The degree of involvement of multinational enterprises in the country will increase the country's bargaining power also for the obvious reason that the capital of foreign firms might be frozen by the host government in retaliation against suspension of bank lending.

The amount of official lending increases the bargaining power of the country for political and economic reasons.

Bargaining power obviously increases with the amount of debt outstanding.

Political variables include the kind of regime or, at least, the perception of the regime's friendliness in the opinion of the government of the country to which banks belong (4). Friendly regimes might have greater bargaining power than hostile ones. However this may produce ambiguities. Internally strong regimes might paradoxically have less bargaining power than weak ones as the fear of a regime change might induce the creditors' government to put pressure on creditors in order to avoid such an event. This might be desiderable for banks as well since they do not know what kind with respect to debt.

Conversely, new regimes have a high bargaining power as they may refuse to consider commitments assumed by previous governments. (5).

Political bargaining power may also be considered in terms of issue linkage (Tollison and Willet 1979); if a debtor nation is of political interest to the government of the country to which lenders belong, the borrowing country may wish to bargain for political aquiescence in exchange for financial relief (6). In other words, the borrowing country will use its political bargaining power to improve its financial terms of trade. If such a situation materializes banks are, in a sense, sustained by their own government, who might also bear the cost of the financial arrangement in exchange for political support. Such a situation may, however, increase the financial risk involved as a problem of "political moral hazard" arises. If the borrower belongs to a political or military alliance, group behaviour complications might arise since preferential financial treatment might also be requested by other members of the alliance. If the lender government wishes to keep the alliance from weakening, it must bear additional costs in terms of additional financial support. In other words, it must bear the costs of supplying a public good which are additional with respect to the traditional ones (Olson and Zeckhauser 1966), which derive from the establishment of a linkage between finance and politics.

The bargaining power of a country is also affected by the general state of the international economy. During a deflation debt servicing costs usually increase while export decreases, hence the propensity to repudiate debt increases. A deflation, therefore, has an ambiguous effect on the bargaining power of borrowing countries (Llewellyn 1982). This is increased as their propensity to repudiate debt increases but it is lowered as the default option is considered unrealistic. However, this ambiguity may be partially eliminated if we recall that banks are differently hurt by different types of payment suspension from borrowers. When a deflationary environment makes servicing conditions stricter a country may decide to increase the harm it inflicts on lenders by suspending payment of principal and threatening to suspend repayment of interests (i.e. to declare a moratorium on debt).

A deflationary environment increases the propensity of borrowing countries to act as a group, i.e. to form a debtors' cartel. This is a major topic which can only be treated superficially here. Economic theory of cartels suggests a number of conditions that must be met for a cartel to be formed and to survive. The problem here is different as we must explain why the formation of such a cartel has met so many difficulties.

A typical collective action problem is involved. Since a cartel provides a collective good to its members (increased bargaining power), the problem of who will supply it arises. The problem will be solved if one of the borrowers acts as an "hegemon" by supplying this public good (i.e. assuming a collective action leadership in bargaining with banks). The costs of supplying the public good lie in the fact that the banks will try to undermine this leadership by offering better credit and repayment conditions to other members of the group, thus creating free riding incentives.

It will be in a country's interest to act as the leader of a cartel if that country has an overwhelming interest in the formation of such a cartel. This may be the case if a particular country's outstanding debt is overwhelmingly larger than that of other borrowers. In this case its propensity to repudiate will be higher and hence its interest in supplying such a public good will also be higher. Experience of these last few years suggests that this kind of incentive distribution is not present in an amount large enough to allow for cartel formation. What is present is an incentive to what might be termed "linked behaviour" rather than straightforward collective action. During negotiations, which are conducted using a case by case approach, single countries might hold back their own requests in order to await for results in other country cases and then apply the conditions obtained from other countries as a starting base.

The free rider problem in international debt represents the strongest disincentive to the formation of a debtors' cartel. This may appear more clearly if we consider what the target of such a cartel would be. It is unlikely that a cartel would pursue effective global debt repudiation. Rather, one would expect that cartel members would seek better conditions in debt resheduling negotiations. However, such a target is unlikely to form a strong base for cartel formation once debt negotiations are already under way. Debt rescheduling negotiations cannot be carried on indefinitely as the flow of funds must continue in both directions if the international credit mechanism is to be kept alive. Lenders must continue to obtain new funds just to run their economies while banks must receive interest payments in order to avoid debt cancellation and the risk of financial collapse.

This means that it is in the interest of both banks and borrowers to maximize the speed at which negotiations are carried out in order to avoid the mounting of financial instability. Since banks already act as a group (i.e. they act as a group even when financial conditions are in "equilibrium"), it will be easier for them to prevent the formation of a debtors' cartel by encouraging free riding attitude, i.e. by proposing easier conditions to single borrowers. In other words, the very factors which strengthen collective behaviour among banks weaken incentives for collective behaviour among borrowers.

The IMF

Many students of international finance claim that the International Monetary Fund acts (or should act) (7) as the lender of last resort of the international fincancial system. We have discussed in chapter 4 why this is not the case. There is no single LLR in the international system as this function may be undertaken only with respect to transnational banks, i. e. banks belonging to national financial systems. As we have already seen (Bagehot 1873, Guttentag and Herring 1983) the traditional LLR function is to rescue single banks or intermediaries in order to prevent financial distress from spreading throughout the system and degenerating into a full-fledged financial crisis. In

this respect, the body which may most closely approximate this function in the international system is the Federal Reserve since the US banking system represents the most important segment of international credit markets.

The role the IMF has carried out in these last few years in debt crisis management is different. It adds up to providing "new creditworthiness" to indebted countries in exchange for stabilization programmes. Restoration of creditworthiness is a necessary (although not always a sufficient) condition for obtaining new credit from the private banks in situation programmes of distress. We must also recall that the stabilization programmes imposed by the IMF involve froms of political bargaining with the debtor's government. Political involvement and decision-making is, in general, outside the role of a LLR.

The IMF is not even, as some argue, a Central Bank (Scaperlanda 1978) as it does not control the supply of world money and it does not control monetary policy worldwide (8). It may at most be considered as an official intermediary between debtors and creditors as it organizes bargaining between them.

What the IMF really does is to provide a very precious collective action leadership as it organizes groups of banks in collective bargaining with borrowing countries. It provides a collective good as it develops a function of group leadership. It provides a collective good as (Lipson 1981) it provides information to banks involved in resheduling (9). Information given to banks is the seal of creditworthiness (Cohen 1982) and it is the signal that banks can, once the stabilization programme has been implemented, start lending again. In the other words, the IMF solves the "Bagehot problem" (Hirsch 1977) as it bears the cost of deciding if the lending climate is again safe enough. Only in this respect can it be said that the IMF carries out a Central Bank function.

Since creditworthiness requires the supply of a public good, a free rider problem on the part of the banks is involved. As long as the stabilization programme is perceived as succesful by banks they will try to lend at higher interest rates, justifying them with the higher risk involved once single banks have regained freedom of action. This deteriorates the quality of the public good supplied by the IMF since higher interest rates mean higher risks of insolvency and hence the creditworthiness seal imposed by the IMF stabilization programmes may be outdated.

The collective leadership function carried out by the IMF is not without costs. In order to appreciate this more fully one the objective function of the IMF itself should be more explicity defined.

The IMF is an international organization which operates as a club (Fratianni and Pattison 1982). The goal of such an institution is to maximize its standing in front of club members, i.e. the member countries which include both borrowers and lenders. In addition, the IMF relies on member quotas to operate successfully and it is also relatively vulnerable to funding procedures (Lipson 1981, Dreyer and Schotter 1980). The IMF is therefore "naturally oriented" to act as an intermediary since it relies on the support of both sides of the international financial market in order to maximize its utility. This means that, on the one hand, stabilization programmes must be severe enough to represent a seal of creditworthiness perceived as "hard" enough by lenders. On the other hand, they must be implemented by debtors in order to be accepted as creditworthiness informaton, hence they must be "soft" enough to be politically and economically acceptable to borrowers.

The debtor country obviously has an interest in accepting the stabilization programme as long as it wishes to continue to receive funds from the banks. If the debtor perceives the stabilization programme as too hard this

might increase its propensity to repudiate debt. If the banks perceive the programme as too soft they will increase their propensity to free ride, i.e. to get as much money as they can and run out of the deal to the extent that they no longer consider the borrower creditworthy. In both cases the IMF will lose support, i.e. it will fail in its role as an intermediary and so it will minimize its utility. IMF operations are also very sensitive to the phase of the financial cycles. During the boom years its power had been largely diminished by the fact that countries did not resort to IMF finance in order to avoid stabilization programmes, while private banks did not care about looking for an IMF seal of creditworthiness as they were operating in a euphoria situation and they did not wish the Fund to impose (eventually) resultation on their lending practices.

The way in which the "Bagehot problem", consequently, is solved varies over the financial cycle. In the boom phase banks and borrowers solve it by themselves since the general expansionary conditions produce a generalized perception of creditworthiness. Things change drastically during the crisis when the quality of credit is disrupted and only collective leadership can solve the Bagehot problem. In other words, the different solution of the Begehot problem over the cycle means that different macroeconomic environments alter the quality of microeconomic behaviour which is reflected in a different ability (and willingness) of agents to produce collective goods.

Turning points as conflict resolutions

The upper turning point is the result of a change in the policy of the dominant nation. An endogenous explanation of such a turning point requires the discussion of the operation of the whole international political economic system. The descripton of such a global model is beyond the scope of this book. We have tried to assess in chapter 4 the behaviour of the United States from an international political economy point of view. In chapter 10 we will provide a schematic representation of the relevant interconnections which should be included in a global politico-economic model. One point, however, may be made clear. The upper turning point is endogenous not to the (international) financial system but to the international politico-economic system.

The change in the course of the economic policy of the United States at the end of the previous decade may be considered, as we have seen in chapter 5 and 6, as the factor which has led to the upper turning point of the international financial cycle. This dramatic change can be explained by factors which do not directly concern the relationship between US policy and the international debt mechanism. Explanatory causes may be found in the politico-economic motivations of the United States' desire to stop inflation and to put the dollar and the American banking industry back at the top of the international financial system; in a word to regain as much as possible the power which had been eroding over the previous decade. In this respect, the upper turning point may be seen as a US response to oligopolistic conflicts.

International financial mechanism, on the contrary, may explain much more effectively why a lower turning point implies both that monetary conditions are eased and that LLR intervention takes place and that world demand expands so that units may increase realized profits. The crucial point is whether pressures arising within the financial system may lead to such a lower turning point, i.e. produce a significant change in US economic policy.

Interactions between US policy and the international debt mechanism take place at different levels. We may identify three levels:

a) The US may intervene directly or indirectly on rescheduling and refinancing agreements between the borrowers and the banks alongside the IMF,

or in direct support of some particular borrowers if political and/or economic motivations suggest it (As in the case of Mexico).

b) The fed may intervene as LLR in support of US banks exposed towards indebted countries.

c) The US administration may shift its stance on policy issues allowing for higher growth and/or easier monetary policies.

Only cases b) and c) may be defined as policies leading to a true turning point in the model of the international financial cycle described in chapter 7. Both must accrue in order for a full turning point to develop, i.e. a point from which the financial mechanism produces a new expansionary wave. In order for this to take place two fundamental conditions must be met. In the first place "long-term creditworthiness" must be restored (Keynes 1931, Kalecki 19831). Short term creditworthiness, such as that provided by IMF intervention, is not enough since the lenders must revise their expectations about the future profitability of lending and not just about the ability and willingness of borrowers to repay outstanding debt.

In the second place, the general evolution of the economy must be characterized by a high (and growing) level of expected profits for indebted units, that is, a high and growing level of exports for borrowing countries.

The problem under discussion thus comes down to the following issue: to what extent will the outcome of level a) negotiations produce enough pressure on the US authorities to induce them to take steps b) and c) as well?

The outcome of level a) negotiations depends on the interaction of the choices of the three actors we have considered in the previous paragraphs: the debtors, the banks and the IMF. (see fig. 8.1). In particular, the outcome of the conflict between debtors and creditors largely depends on the ability of the IMF to find an effective solution to the problem for which it is institutionally equipped: the production of short term creditworthiness. The more solid the short term solution produced by this intermediation process, the lower are the dangers of a non-cooperative solution arising. In this latter case the lower turning point may need to wait for a full-fledged debt-deflation process to develop before the authorities (the US authorities but also the other lender countries involved) decide to implement levels b) and c) as only at that stage pressure from the international financial system might be strong enough to induce a shift in the course of monetary and fiscal policy.

The success of the IMF as a negotiator is crucially dependent on the support it receives from the financially powerful members and from the US in the first place. If the US is willing to provide the IMF with enough funds, its ability to impose adjustment conditions will be higher. In this respect the willingness of the US to support the solution of the crisis at level a) may be cosidered as the price which has to be paid in order to avoid heavier involvement later at levels b) and c).

If IFM action proves effective it may be possible to find a "short term internal solution" to the debt crisis. This form of limited cooperation (Lipson 1981) does not in itself represent a final solution to the problem but it may be sufficient to buy time in the hope that the general economic conditions will soon improve. From the US point of view this implies that if level a) is successful, then the debt problem will not represent in itself a strong pressure for a change in general policy. As a result, the lower turning point of the cycle is esogenous as shifts in general economic conditions will take place as a consequence of pressures from other sources operating on US policy.

A strong IMF bargaining position may be not sufficient to restore even a limited space for crisis management, however, if generally adverse economic conditions persist. If this is the case, the propensities of the parties

involved in debt resheduling negotiations to reach an agreement may decrease. Borrowers will increase their propensity to repudiate debt while banks will be faced with an adverse situation as the propensity of smaller banks to increase free riding behaviour will decrease the group loyalty of lenders.

Both these pressures will eventually mount on US policymakers as borrowers will increase political pressure for financial support and reflation and banks will increase demand for LLR intervention and easier monetary conditions. These pressure for a change in policy will add to pressures coming from the other industrialized countries for easier monetary and economic conditions. In other words, oligopolistic conflicts within the North will add their pressure to debt conflict in North-South relations.

The involvement of non-American Western banks in debt resheduling negotiations is another factor which could give rise to conflict within the North. In this case, the US might try to discriminate between support to US banks and support to non-US banks while political elements may also be involved (10).

To sum up, we have tried to show why an endogenous explanation of the turning points requires the full statement of the policy behaviour. This implies that turning points may be considered as endogenous only if one considers the international system from a global perspective.

We have tried to assess the behavioural mechanisms of the actors involved and some of the interactions which may arise in the management of the debt crisis. This still leaves us far from having developed a full-fledged model of the management of the international financial crisis. One final point should however be emphasized. Students of international debt problems have recently suggested (Sachs 1982, Simonsen 1984) that game theory techniques should be applied to the discussion of this problem. As a matter of fact, the interactions between players which take place in crisis management correspond to a typical game situation. Existing game theory models applied to debt problems, however, suffer from two major shortcomings.

In the first place, they usually take into consideration only two actors (borrowers and lenders) and ignore (also due to the expendially rising formal complexity which n-persons game situations involve) the roles of the other actors who, as we have seen, are crucial to an understanding of the problem.

In the second place, they accept the view that only two extreme situations may arise, either full cooperation or absence of cooperation (prisoner's dilemma). Here again limitations arise due to the present state of development of formal game theory. In this case, however, the cost of sacrificing realism for formal rigour seems to be unbearably high. Intermediate cases may be considered and, in fact, real world situations usually fall into this area. The point we wish to make in this respect is that, as has been recently pointed out (Keohane 1984, Runge 1984), the amount of limited cooperation which is established is positively associated with the amount of information that each actor has on the propensity to cooperate of the remaining players. In other words, the system is characterized by a degree of uncertainty (in Keynes' sense, Keynes 1936) in each agent's expectations concerning the behaviour of the others. Consequently actors must form expectations on which to decide the amount of cooperation (supply of public goods) they are willing to provide.

The crucial point is that the information available increases with tha number and quality of institutions present in the system. This amounts to saying that the propensity to cooperate positively depends on the quality of the existing regimes. Whether or not the financial crisis will ultimately be

resolved, with the determination of a full-fledged upper turning point, depends on whether or not the conflicts going on in the international system over the establishment of monetary and financial agreements can be resolved, i.e. on the possibility of reaching a state of cooperative equilibrium in oligopolistic interdependence. Or, to put it differently, the problem is whether the existing institutions (public goods) are sufficient to increase the propensity of actors to cooperate, that is, to increase the supply of public goods themselves.

In this respect, the solution of the problems posed by international financial instability is ultimately the solution of international cooperation tout court. This point will be discussed in the final chapter of this book.

NOTES

1. See evidence discussed in
2. See
3. Eaton and Gersovits 1981 do not discuss this point.
4. This implies introducing an additional actor into play: the government to which banks belong.
5. A typical case is the change of attitude of Argentina's government after the return to democracy following the defeat in the Falkland war.
6. The interaction between political and financial factors in country risk determination is briefly analyzed in the appendix to chapter 9.
7. The extreme liberal positon (Vaubel 1983) holds that the IMF might seriously worsen the operation of the international financial system if it increases the moral hazard of private banks.
8. Given the irrelevance of SDR in international liquidity.
9. An attempt undertaken by private banks to organize rescue operations without the support of the IMF failed in the case of Peru's debt. See Aronson 1979.
10. As in the Polish case, See Moffit 1983.

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APPENDIX

Turning points in the financial cycle

In this appendix we present a graphical expositon of the financial cycle and of the interaction of quality and quantity of credit in the determination of turning points. The interaction of lenders and borrowers produces an increase in the amount of debt in the expansionary phase wich takes the form of a cumulative process away from equilibrium. This process however does not go on indefinitely. An upper turning point will materialize as a consequnce of changes in the international system which will eventually produce changes in the behaviour of both lenders and borrowers. Such a change in behaviour is (also) a consequence of the bidimensional nature of credit. As a matter of fact, quality and quantity of credit vary inversely over the cycle although not in a mechanical way. The full operaton of the financial cycle (i.e. the determination of turning points) requires that both quality and quantity of credit reverse their direction.

Quantity (C) and quality (R) of credit are reported on the vertical axis of fig. A.0.1. Quality of credit (borrower's creditworthiness) decreases when the amount of credit increases according to the mechanisms described in the previous chapter and appendix. This implies that, in the boom phase, C acts as the explanatory variable of R. The quality of credit starts to deteriorate with the approach of the upper turning point (crisis) and it eventually collapses (R moves from a to b). The discontinuous behaviour of R may be explained by the fact that lenders do not substantially change their creditworthiness assessment until the situation approaches the crisis point. Credit continues to grow for a while after the crisis as a consequence of forced lending. Banks will continue to lend even if quality of credit has sharply deteriorated in order to avoid that technical bankruptcy, which occurs at point a, is transformed into effective bankruptcy.

The amount of credit will then slowly decrease in the deflation phase as a consequence of the withdrawal of banks from the market. Quality of credit will remain constantly low as long as this withdrawal proceeds. It should be noted that the amount of credit deterioration (the distance between points a) and b) crucially depends on the effectiveness of the rescue plan and on the ability of lenders of last resort in providing the public good of creditworthiness. The greater the efficacy of intervention the lower the fall in the value of R. In the deflation phase the causal link between C and R is inverted. The low value of R now determines the fall of lending as banks have changed their perception of borrowers creditworthiness.

As the amount of loans decreases and the adjustment programs of borrowers enter into effect the quality of credit slowly starts to pick up again. However the slight improvement in R is, in itself, not sufficient to produce a full recovery. In order for this to materialize a strong improvement in the quality of credit continues to decrease even if R starts to grow at the end of the recovery phase. The recovery fully takes place as R jumps from c) to d). This is the result of a radical change in profitability conditions resulting from a substantial increase in the level of effective demand which arises from a major shift in the policy of the leader country of the international economy. At this point expectations of growing profitability encourage banks to return to lending (i.e. the market is characterized by a new wave of "euphoria"). At this stage a new boom phase may start.

To sum up, the way in which quality and quantity of credit interact varies in the different phases of the cycle. C determines the behaviour of R in the boom (R deteriorates) while it is determined by R in the deflation (C

decreases). Both turning points however must be explained by the introduction of major shifts in the international environment and in the policy of the leader countries. In addition, while the upper turning point (crisis) is jointly determined by the change in the environment and by the perception of lenders of the value of R, the lower turning point (recovery) requires the full intervention of lender of last resort and effective demand conditions to materialize.