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LDC DEBT IN THE 1980s:   RISK AND REFORMS


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LDC Debt in the 1980s:  Risk and Reforms

ABSTRACT

With the rapid increase in LDC indebtedness in the recent decade, the issues of creditworthiness and country risk have gained new importance. This paper offers a theoretical and historical analysis of international capital markets in the presence of default risk.  The theoretical model suggests the possibility of a prisoners' dilemma in the loan market, in which a country's dominant noncooperative strategy is to default, though a welfare-improving cooperative strategy is available.  The historical analysis suggests that the IMF may play a key role in guiding creditors and debtor nations to reach cooperative solutions.

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The private capital markets of the advanced industrial economies reopened on a large scale to less developed country (LDC) borrowers in the past decade, after a hiatus of nearly forty years. Private lending to LDC sovereign borrowers grew sharply in the early 1970s, and then soared in the aftermath of the first OPEC oil shock, in 1973 (see Table 1). This momentous change reflected shifts in banking practices within an existing regulatory environment, rather than new official policy governing international capital flows. The IMF and central banks did not create the new environment, and have had to work quickly to adapt their own policies to it. Broadly speaking, this essay takes the regulator's perspective, by asking what guidelines should govern the over-sight and control of private international capital flows to the LDCs. My focus will be on the issue of LDC creditworthiness and the prospects for defaults in international loans. I do not consider an equally important aspect of the debt problem, the vulnerability of the international banks to a major default.

The salutary effects of high international capital mobility on the world economy in the past decade cannot be over-stressed. Most importantly, widespread access to foreign capital allowed the middle-income developing countries to sustain very high growth rates in the 1970s, in spite of the OPEC shocks and the sluggish growth of the developed economies. These countries . experienced real GNP growth of 5.6 percent per annum during 1970-80, little reduced from the 6.2 percent rate of the previous decade, in large part because of high domestic investment rates sustained by foreign borrowing.

Table 1. Oil-importing developing countries' current account deficit and finance sources, 1970–80

*(billions of 1978 dollars)*

| Item | Oil importers | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Low-income* | | | | | *Middle-income* | | | | |
| | *1970* | *1973* | *1975* | *1978* | *1980* | *1970* | *1973* | *1975* | *1978* | *1980* |
| *Current account deficit*[a] | 3.6 | 4.9 | 7.0 | 5.1 | 9.1 | 14.9 | 6.7 | 42.8 | 20.4 | 48.9 |
| Financed by: | | | | | | | | | | |
| *Net capital flows* | | | | | | | | | | |
| ODA | 3.4 | 4.1 | 6.6 | 5.1 | 5.7 | 3.3 | 5.3 | 5.3 | 6.5 | 7.9 |
| Private direct investment | 0.3 | 0.2 | 0.4 | 0.2 | 0.2 | 3.4 | 5.1 | 3.8 | 4.6 | 4.5 |
| Commercial loans | 0.5 | 0.6 | 0.8 | 0.9 | 0.7 | 8.9 | 13.7 | 21.0 | 29.4 | 27.1 |
| *Changes in reserves and short-term borrowing*[b] | −0.5 | −1.1 | −0.7 | −1.1 | 2.4 | −0.8 | −11.7 | 12.7 | −20.1 | 9.5 |
| *Memorandum item:* | | | | | | | | | | |
| Current account deficit as percentage of GNP | 1.9 | 2.4 | 3.9 | 2.6 | 4.5 | 2.6 | 1.0 | 5.5 | 2.3 | 5.0 |

a. Excludes net official transfers (grants), which are included in capital flows.
b. A minus sign (−) indicates an increase in reserves.

Source: World Development Report 1981, World Bank, p. 49.

On the other hand, serious economic and political stresses emerged in a number of countries and in the world financial markets, as some borrowers became seriously overextended in indebtedness. Overall, the non-OPEC LDCs increased their net debt from $57 billion in 1970, or 13.7 percent of GNP, to $221 billion in 1979, approximately 17.7 percent of GNP (Sachs [1981], Table 1). No less than 11 countries have been required to reschedule debt to official and private creditors since 1975, and in most of those reschedulings, countries have been required by creditors to commit themselves to sharply contractionary policies to restrict new international borrowing. While we shall see that many of these austerity programs have been successful in alleviating debt difficulties, their costs in terms of reduced employment and income in the debtor countries have often been very large.

The dangers of the growing international indebtedness are many-sided, with major risks borne both by creditors and debtors. Most directly, the creditors both official and private, bear the risk of an outright repudiation or default of outstanding international debt. The long history of international capital flows in the 19th and early 20th century underscores such default risk, for there is an impressive 150-year record of international defaults by sovereign borrowers, including repeated defaults by Latin American governments, Turkey, Egypt, Portugal, Russia, and others, as well as defaults by no less than 17 American states on bonds floated in Europe in the 19th century. Of course, the most recent episode of widespread international defaults occurred in 1931 and 1932, during the Great Depression, and was the cause of the collapse of inter-

national borrowing for the succeeding forty years. It is a story to which I shall return.

Until the cataclysm of the Great Depression, the cycle of defaults was considered a part of the normal working of the international financial system, and certainly not a threat to the stability of the overall economic order. Creditors received substantial risk premia on foreign loans to compensate for default or "sovereign risk", and the governments of creditors were typically content to allow their nationals to suffer defaults without significant public intervention on their behalf (however, experiences varied, as we will see below).

With the onset of the worldwide, synchronized defaults of the early 1930s, official attitudes changed, regarding both the merits of free private capital movements, and the ramifications of default. Banks, governments, and multilateral institutions have gone to great lengths in recent years to avoid sovereign default, both through positive incentives (e.g. concessionary loans in return for debtor adjustment policies) and concerted threats of strong retaliation for debt repudiation. Measured by default frequency, the set of policies has thus far been remarkably successful: there have been almost no cases of outright repudiation of debt since 1945, (examples include North Korea and Ghana, and the repudiation by Ghana was converted to a rescheduling of debt obligations after subsequent multilateral negotiations). Moreover, there is no doubt that recent events in many debtor economies would have led to default under pre-WWII rules of the game, but have instead resulted in IMF-supervised adjustment poli-

cies and debt reschedulings. Many threats remain, however. Debt reschedulings have become increasingly common (see below), and arrears in interest due have been rising steadily, now topping $5 billion. Moreover, there have been calls in recent years, e.g. by the Group of 77 in 1977, for a moratorium on LDC debt payments. Most large LDC borrowers rejected this approach though.

One reason for the plethora of pre-1930 defaults versus post-1945 rescheduling, is that the early period was characterized by <u>non-cooperative</u> strategies of creditors and debtors, while the post-1945 period is characterized by extensive bargaining and <u>cooperative</u> strategies of banks and the LDCs. Formal models of the costs and benefits of default show that there is often a prisoners' dilemma aspect to loan agreements. The payoff matrix for creditors and debtors might look as follows (the first entry in each cell is the creditor payoff):

<div align="center">Debtor Strategy</div>

| Creditor Strategy | Restrain Demand | Default |
|---|---|---|
| Reduce loans | 2, -1 | -2, 1 |
| Maintain loans | 1, 0 | -5, 2 |
| Increase loans | 0, 2 | -10, 3 |

Here, the debtor prefers to default no matter what the strategy pursued by the

creditor, and the creditor wants to call in loans no matter what action the debtor takes. The resulting non-cooperative solution yields (-2,1), which is clearly dominated by a policy of increased loans and demand restraint, yielding (0,2), which a IMF-supervised debt-rescheduling package might achieve. In situations where the IMF cannot intervene, such as Poland (which is not an IMF member) the risk of default rises accordingly.

A second reason for the reduction in defaults is most likely a shift in bargaining strength between debtors and creditors. After most defaults in the 19th and early 20th century, private bondholder committees fended for themselves in negotiations with debtor countries, and their options for retaliation were rather limited. They could not rely on steady support from the central government nor even necessarily from other financial institutions (e.g. banking houses) or foreign bond markets. Since World War II, governments themselves have become large creditors, and have also more aggressively intervened in financial market oversight, in part through the IMF. The potential scope and strength of retaliation to defaults has been considerably enhanced.

Of course, if defaults are prevented by threats of very strong creditor retaliation, there is a risk of another sort imposed on LDC borrowers. The default option can be a way for LDC borrowers to transfer economic risks to their better diversified creditors, and thus may be part of an efficient debt structure. In the past, when a large investment project failed, or a country's terms of trade shifted adversely, a default often resulted. Now, the borrowing country is forced instead to restrain consumption and growth for a number of years to satisfy its debt commitments. It is quite possible that the ex ante expected utility of both borrowers and lenders is raised by a debt package that

includes a default option with a compensating risk premium.

Aside from the direct risks of default, there is another set of concerns about LDC debt that might be termed "systemic" risks. A major default or series of defaults could lead to bank failures in the advanced economies perhaps with cascading effects through the world financial system. As Kindleberger has persuasively argued, such risks are intensified in the international banking community because of the absence of a clear international "lender of last resort". There is no settled responsibility of domestic central banks vis-a-vis the foreign subsidiaries of domestic institutions, and the IMF has abjured from a formal role as lender of last resort. Thus, the types of bank bailout operations that forestall domestic financial panics might not be forthcoming in the international setting. Unfortunately, I will be unable to pursue this theme in the current paper.

There is a similar, though less recognized, risk of cascading default originating in the supply side of the credit markets. In the event of an isolated default or failure of an international loan, there might arise a strong movement among creditor institutions to reduce exposure on LDC debt across the board. The costs of new loans or debt rollovers could rise sharply, thereby pushing a number of additional economies into default. I will suggest later that such a market reaction helps to explain the widespread defaults of 1931 and 1932, and that a similar paralysis almost gripped the international banks in 1974. The possibility of a self-fulfilling prophecy of widespread default may remain the greatest danger posed by the LDC debt today.

There is a growing and very fine literature detailing various empirical aspects of LDC borrowing, so that I may be brief in describing the recent history of international capital movements. Thus, in the first section, I outline a few stylized facts to characterize the international financial market as a basis for the subsequent analysis. Next, I present a simple theoretical model of the international capital markets under risk of sovereign default. Various points are brought out in the model: (1) rationing will be a standard device in credit allocation to sovereign borrowers; (2) rationed borrowers will have an incentive to pursue particular current account goals, and to stimulate domestic investment; (3) a cooperative solution between banks and sovereign borrowers will tend to dominate a non-cooperative solution in loan negotiations; (4) country risk rises with overall indebtedness of the country, and falls with increasing investment rates in the country; (5) defaults, in general, provide a useful, but imperfect form of insurance to debtor countries, so that an international capital market with no defaults is not necessarily our best policy target. In the third section, I briefly review the history of sovereign default, to document the major shifts in market organization between the pre-WWII and post-WWII international capital markets. Finally, in the fourth section of the paper, I analyze some aspects of borrowing in the 1970s in light of the theoretical analysis of the previous section.

I. LDC Indebtedness in the 1970s

As the description of LDC indebtdness and its growth is now well known, and is widely available elsewhere, I will merely summarize the key characteristics of the debt for later discussion.[1]

Current account deficits as a percentage of GNP rose sharply for the LDCs in the 1970s, as did the debt/GNP ratio. Table 2 shows the current account position of the LDCs, the developed countries, and the major oil exporters throughout the 1970s. The raw numbers must be adjusted for inflation, since debtor countries enjoy capital gains due to inflation on their outstanding debts (i.e. reductions in the real value of their indebtedness) that reduce the effective current account deficits in any year. [2] Thus, in 1978, for example, real LDC deficits were only about half of the official magnitude, while OPEC was really in deficit in the sense that the capital losses on its outstanding assets exceeded in value the year's accumulation of financial claims.

Current account deficits can be financed through a variety of financial arrangements, including bank or bond debt, foreign direct investment, equity investment, etc. While all types of financing reflect a claim by the rest of the world on the future income of the deficit country, only certain types of assets are typically counted as "debt." These are the fixed-income claims on the debtor country and its citizens, in the form of bank and bond indebtedness. Most data refer to gross debt, but a more meaningful measure is net debt, in which LDC claims on the rest of the world (e.g. foreign reserves of the central

Table 2  Nominal and Inflation-Adjusted Current Accounts, Major Regions, 1968-79[a]

| Item | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nominal current account (billions of U.S. dollars)[b] | | | | | | | | | | | | |
| Developed countries | 3.4 | 4.0 | 6.8 | 11.2 | 8.6 | 10.9 | −25.1 | 4.9 | −13.7 | −19.5 | 13.5 | −28.4 |
| Nonoil LDCs | −6.0 | −4.7 | −8.8 | −12.2 | −6.3 | −7.3 | −25.6 | −35.0 | −25.2 | −19.9 | −24.8 | −34.3 |
| OPEC | 0.8 | −1.3 | −0.6 | 1.2 | 0.4 | 5.4 | 54.9 | 23.5 | 26.6 | 20.1 | −1.5 | 39.7 |
| Inflation-adjusted current account (billions of U.S. dollars)[c] | | | | | | | | | | | | |
| Developed countries | 2.1 | 2.5 | 5.2 | 9.5 | 7.1 | 8.6 | −26.6 | 5.1 | −13.3 | −18.4 | 14.5 | −27.5 |
| Nonoil LDCs | −4.3 | −2.5 | −6.4 | −9.6 | −3.9 | −3.1 | −18.1 | −27.3 | −19.4 | −11.0 | −10.0 | −17.7 |
| OPEC | −0.9 | −1.4 | −0.6 | 1.1 | 0.2 | 5.0 | 51.4 | 17.9 | 22.0 | 12.7 | −12.8 | 27.3 |
| Inflation-adjusted current account (billions of 1975 U.S. dollars) | | | | | | | | | | | | |
| Developed countries | 3.3 | 3.6 | 7.1 | 12.4 | 8.9 | 10.2 | −29.0 | 5.1 | −12.6 | −16.5 | 12.1 | −21.2 |
| Nonoil LDCs | −6.6 | −3.6 | −8.8 | −12.6 | −4.9 | −3.7 | −19.8 | −27.3 | −18.4 | −9.8 | −8.3 | −13.6 |
| OPEC | −1.4 | −2.0 | −0.8 | 1.5 | 0.3 | 5.9 | 56.2 | 17.9 | 20.9 | 11.4 | −10.7 | 21.1 |
| *Addenda* | | | | | | | | | | | | |
| Interest payments of LDCs (billions of U.S. dollars)[d] | n.a. | n.a. | 2.7 | 3.2 | 3.8 | 4.9 | 6.6 | 9.1 | 11.4 | 13.2 | 19.8 | n.a. |
| Net debt of nonoil LDCs as a percent of GNP | n.a. | n.a. | n.a. | n.a. | 13.7 | 12.3 | 12.9 | 16.3 | 16.9 | 18.0 | 18.5 | 17.7 |
| Ex post real interest rate (U.S. Treasury bill minus U.S. inflation rate, percent)[e] | 0.6 | 1.2 | 0.8 | −0.3 | 0.2 | −0.5 | −3.0 | −0.2 | −0.3 | −0.8 | −1.8 | 1.9 |

Sources  Nominal current account—International Monetary Fund, *Balance of Payments Yearbook*, various issues; inflation-adjusted current account—calculations by the author (see the appendix); interest payments of LDCs—Organisation for Economic Co-operation and Development, "External Indebtedness of Developing Countries: Present Situation and Future Prospects" (Paris: OECD, 1979), p. 32, and "External Debt Statistics for Developing Countries: Latest Trends" (Paris: OECD, 1980), p. 14 for year 1978; GNP for LDCs—International Monetary Fund, "External Indebtedness of Developing Countries." Occasional Paper 3 (IMF, May 1981), p. 14; debt of non-oil LDCs –table A-1 of the appendix; U.S. GNP deflator and three-month Treasury bill rate—OECD, *Main Economic Indicators*, various issues.

n.a.  Not available.

a. Developed countries refers to all industrial countries.

b. The conversion from special drawing rights (SDRs) to dollars was done at the annual average dollar/SDR rate of exchange.

c. Calculated by adding the capital gains and losses on the net external position in interest-bearing assets to the nominal current account, conventionally measured.

d. Refers to all LDCs. Figures for interest payments on total (private and public) debt for nonoil LDCs are not available.

e. Calculated as the average for the year of the difference between the quarterly three-month U.S. Treasury bill rate and the change, at annual rates, in the U.S. GNP deflator from one period to the next.

From Sachs [1981, p. 204].

Table 3. Medium-Term and Long-Term Debt of 94 Developing Countries, 1972-79

(In billions of U.S. dollars)

| | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 [1] | Average Rate of Change |
|---|---|---|---|---|---|---|---|---|---|
| Debt outstanding (end of period) | | | | | | | | | *Per cent* |
| Public debt [2] | 72.0 | 88.3 | 107.6 | 130.5 | 158.0 | 197.4 | 250.1 | 287.9 | 21.9 |
| *Official creditors* | *47.4* | *55.5* | *65.2* | *75.6* | *87.7* | *103.9* | *122.7* | *134.0* | *16.0* |
| *Private creditors* | *24.6* | *32.8* | *42.4* | *54.9* | *70.3* | *93.5* | *127.4* | *153.9* | *29.9* |
| Nonguaranteed debt | 19.1 | 23.0 | 27.1 | 36.0 | 44.2 | 46.8 | 59.6 | 71.6 | 20.8 |
| Total | 91.1 | 111.3 | 134.7 | 166.5 | 202.2 | 244.2 | 309.7 | 359.5 | 21.7 |
| | | | | | | | | | |
| Debt service | | | | | | | | | |
| Public debt [2] | 8.2 | 11.3 | 13.8 | 15.3 | 17.7 | 23.5 | 34.1 | 45.7 | 27.8 |
| *Official creditors* | *3.6* | *4.4* | *5.0* | *5.8* | *6.4* | *7.8* | *9.4* | *12.0* | *18.8* |
| *Private creditors* | *4.6* | *6.9* | *8.8* | *9.5* | *11.3* | *15.7* | *24.7* | *33.7* | *32.9* |
| Nonguaranteed debt | 3.8 | 4.1 | 6.0 | 8.3 | 11.4 | 12.7 | 14.9 | 17.0 | 23.9 |
| Total | 12.0 | 15.4 | 19.8 | 23.6 | 29.1 | 36.2 | 49.0 | 62.7 | 26.6 |

Sources: World Bank, *World Debt Tables;* OECD, Development Assistance Committee; and Fund staff estimates.
[1] Preliminary.
[2] Public and publicly guaranteed debt.

From JMF [1981], p. 5.

bank) are subtracted. In many cases, the distinction of debt and other liabilities is important, since equity claims offer yeilds that are contingent on economic performance, while bonds do not, so that risks are different with alternative mixes of "debt" and foreign ownership of domestic capital. Often, however, the distinction is misleading, particularly for evaluating total foreign claims on the domestic output stream in future years. In the case of no uncertainty, there is no legitimate distinction between the various liabilities.

Unfortunately, only data for indebtedness per se are readily available. Some of these data are shown in Tables 2 and 3. Note first the sharp rise in D/GNP for the LDCs as a whole during the 1970s. Second, it is important to point out that the vast majority (over 75%) of total indebtedness is publicly guaranteed by the government of the borrowing country. Even borrowing by private corporations is typically under the aegis of the central government. Third, there has been an enormous rise in the share of government-guaranteed debt extended by private creditors, though both official and private creditors played an important role in LDC financing in recent years.

The aggregate figures hide enormous variations in the borrowing behavior of individual LDCs. The distribution of indebtedness is highly skewed, and this is particularly true for indebtedness to private creditors. Mexico and Brazil alone account for about 40 percent of LDC net bank liabilities, and about 25 percent of total LDC gross debt. The large borrowers, who are principally major exporters of manufactures, rely heavily on loans from private creditors while the poor countries, with less access to Euromarket loans, have a much higher fraction of financing through official bilateral or multilateral credits. (See Table 4.)

Table 4. Non-Oil Developing Countries: Distribution of Debt by Class of Creditor, End of Year, 1973-81 [1]

(In per cent)

| | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 |
|---|---|---|---|---|---|---|---|---|---|
| **Total outstanding debt of non-oil developing countries** | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| To official creditors | 50.4 | 49.2 | 47.1 | 46.4 | 45.1 | 43.2 | 41.8 | 42.1 | 42.3 |
| Governments | 32.9 | 36.6 | 34.3 | 33.5 | 31.8 | 29.9 | 28.5 | 28.7 | 28.5 |
| International institutions | 12.5 | 12.6 | 12.7 | 12.9 | 13.3 | 13.3 | 13.2 | 13.4 | 13.7 |
| To private creditors | 49.6 | 50.8 | 52.9 | 53.8 | 54.9 | 56.8 | 58.2 | 57.9 | 57.8 |
| Financial institutions | 35.5 | 39.6 | 42.0 | 43.7 | 45.0 | 46.0 | 48.6 | 48.9 | 48.7 |
| Other private creditors | 14.2 | 11.3 | 10.9 | 10.0 | 9.7 | 10.8 | 9.6 | 9.0 | 9.1 |
| **Net oil exporters** | | | | | | | | | |
| Total outstanding debt | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| To official creditors | 39.6 | 36.0 | 34.9 | 33.6 | 35.0 | 35.1 | 35.0 | 34.2 | 33.1 |
| To private financial institutions | 41.7 | 52.8 | 53.9 | 56.4 | 54.2 | 54.6 | 55.9 | 57.1 | 58.3 |
| To other private creditors | 18.7 | 11.2 | 11.2 | 10.0 | 10.8 | 10.3 | 9.1 | 8.7 | 8.6 |
| **Net oil importers** | | | | | | | | | |
| Major exporters of manufactures | | | | | | | | | |
| Total outstanding debt | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| To official creditors | 27.4 | 26.4 | 25.4 | 26.1 | 25.4 | 23.5 | 21.9 | 22.7 | 23.3 |
| To private financial institutions | 54.4 | 58.4 | 59.9 | 61.4 | 62.7 | 61.6 | 64.5 | 64.2 | 63.6 |
| To other private creditors | 18.2 | 15.2 | 14.7 | 12.5 | 11.9 | 14.9 | 13.6 | 13.1 | 13.1 |
| Low-income countries | | | | | | | | | |
| Total outstanding debt | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| To official creditors | 88.0 | 86.9 | 87.0 | 87.1 | 86.7 | 86.1 | 85.3 | 84.3 | 84.2 |
| To private financial institutions | 6.2 | 7.4 | 7.3 | 7.3 | 8.1 | 9.0 | 10.3 | 12.0 | 11.0 |
| To other private creditors | 5.8 | 5.7 | 5.7 | 5.6 | 5.2 | 4.9 | 4.4 | 3.7 | 4.8 |
| Other net oil importers | | | | | | | | | |
| Total outstanding debt | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| To official creditors | 88.6 | 87.3 | 87.3 | 87.6 | 54.7 | 54.5 | 51.8 | 51.2 | 51.4 |
| To private financial institutions | 5.4 | 6.7 | 6.9 | 6.9 | 35.7 | 36.9 | 41.1 | 42.4 | 42.5 |
| To other private creditors | 6.1 | 5.9 | 5.8 | 5.5 | 9.6 | 8.6 | 7.1 | 6.4 | 6.1 |

[1] Excludes data for the People's Republic of China prior to 1977. For classification of countries in groups shown here, see the introduction to this appendix.

From JMF.

International private sector credits are almost entirely in the form of rollover, syndicated loans, with maturities of 5-10 years. These are variable interest rate liabilities with quarterly or semi-annual interest charges fixed at a pre-determined margin (spread) over LIBOR (London Interbank Offered Rate). Official credits have much longer maturities (on average in excess of twenty years), and are usually at fixed and concessional interest rates.

Importantly, there is very little participation of the LDCs in the long-term international bond markets. In contrast to the period before the Great Depression when dozens of countries and the political subdivisions made extensive use of the bond markets in London, Paris and New York, now there is almost no LDC participation. As shown in Table 1, net borrowing of non-oil LDCs in the bond market has been a small fraction of total private credits arranged in the 1970s.

Nineteenth century international debt was risky, and the market acknowledged it as such, requiring very large risk premia on LDC loans. A striking aspect of LDC bank debt in the 1970s has been the remarkably small spreads charged by banks, as seen in Table 5. The difference in interest charges on loans to the industrial versus developing countries is very small, and remarkably, there has been very little tendency for spreads to the LDCs to widen as indebtedness grew. The banks certainly act as if the prospects of default are small; perhaps we will see why in the analysis that follows.

Table 5 . Average Spreads of External Borrowing Costs over London Inter-Bank Offered Rate, LIBOR, 1974-79

Percentage points

| Item | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 |
|---|---|---|---|---|---|---|
| All LDCs | 1.13 | 1.68 | 1.72 | 1.55 | 1.20 | 0.87 |
| Typical industrial country (France) | 0.58 | 1.42 | 1.09 | 0.92 | 0.63 | 0.36 |
| Difference | 0.55 | 0.27 | 0.63 | 0.63 | 0.57 | 0.51 |
| LIBOR rate (percent per year) | 11.32 | 7.74 | 6.26 | 6.54 | 9.48 | 12.12 |
| *Addendum* | | | | | | |
| Brazil[a] | 1.1 | 1.8 | 2.0 | 2.0 | 1.7 | 0.9 |

Source: All data except for that on Brazil are from World Bank, *World Development Report, 1980*, table 3.5, p. 27. The Brazilian data are cited in Albert Fishlow, "Latin American External Debt: Problem or Solution?" paper presented at the International Seminar on External Financial Relations and Their Impact on the Latin American Economies (Santiago, Chile, March 1981), table 2, p. 10.

a. The 1980 value is 1.75.

## II.  A Model of International Borrowing and Default

To understand the risks of sovereign lending and the role of debt reschedulings, we must first characterize the nature of equilibrium in the international loan markets.  What determines a country's desired level of indebtedness, or current account deficits?  What indicators suggest that an economy is on an "unsustainable" path of foreign borrowing, so that it requires some form of policy intervention?  Finally, in what sense, if any, should sovereign borrowers pursue current account targets as a matter of macroeconomic policy?  To highlight the role of default risk, I will just briefly take up these questions in a model without defaults, and then turn  to the more realistic model in the following part.

(a)  Borrowing in a Model without Default Risk

Ignoring issues of default, the essence of "sustainability" of international borrowing lies in the nations' intertemporal budget constraint.  Consider a world of certainty, in which lenders extend credit to agents in an economy at interest rate r.  If Q is national output, C is private consumption, I is investment, G is government spending, and D is the level of international indebtedness, we have:

(1) $\qquad D_{t+1} - D_t = (C_t + I_t + G_t) - (Q_t - rD_t)$

Of course, Q is GNP and Q-rD is GDP, so that $D_{t+1}-D_t$, which equals the current account deficit, is the difference of GDP and total absorption.  Defining national savings as GDP net of private plus public consumption expenditure, $S_t = (Q_t - rD_t) - (C_t + G_t)$, we have the identity $CA_t = D_{t+1} - D_t = I_t - S_t$, where $CA_t$ signifies the current account balance.  We say that a country obeys its

intertemporal budget constraint if the present value of its debt, $(1+r)^{-t}D_t$, goes to zero as t approaches infinity. In this case, no creditor is left "holding the bag" over time, with a borrower who is merely borrowing more and more to repay interest due.[19/] Using this limiting condition (1) implies:

(2) $$\sum_{i=0}^{\infty}(1+r)^{-i}(C+G+I)_i = \sum_{i=0}^{\infty}(1+r)^{-i}Q_i - D(0)$$

or

(3) $$\sum_{i=0}^{\infty}(1+r)^{-i}[Q_i-(C+I+G)_i] = \sum_{i=0}^{\infty}(1+r)^{-i}(TB)_i = D(0)$$

TB signifies the trade balance, Q-C-I-G.

These expressions, then, describe the conditions for sustainable domestic spending. According to (2), the discounted present value of total future expenditures must equal the discounted present value of national output, less initial international indebtedness. Equation (3) puts this constraint in a slightly different perspective by recording that the discounted sum of future trade surpluses must equal the initial indebtedness of the economy. In other words, trade surpluses and deficits must balance over time; the question for an economy is not whether to run deficits, but rather when to run them.

The optimal timing of deficits is in general a complex function of current and future economic variables and characteristics of the economy. Speaking broadly, three considerations dominate. First, households (or governments on their behalf) seek to smooth consumption over time. A temporary drop in real

income, say because of a crop failure or an adverse shift in the terms of trade, will result in a smaller fall in consumption, with the more steady level of consumption being supported by foreign borrowing. Second, if the market rate of interest exceeds the social rate of time preference, the country will tend to save today (i.e., run trade surpluses) to enjoy higher consumption expenditures in the future. Finally, if there are favorable investment opportunities given the world cost of capital, countries will tend to run deficits today to finance the investment expenditure. There will be a tendency to equalize the marginal product of capital and the world interest rate.

When a country's trade deficit rises because of a fall in current income or a drop in the world interest rate, the rise in indebtedness signals a fall in future consumption levels, as the debt must eventually be serviced. But when a deficit emerges becuse of an investment boom, no future consumption sacrifice is implied. The economy is merely trading one asset, the debt instrument, for another, the claim to physical capital. Assuming that the latter asset has a yield at least as high as the former (which is presumably the motive for the investment expenditure), future consumption possibilities are enhanced, not diminished. For this obvious reason, measures of debt per se tell us little about the burdens of future debt service. We must focus separately on national savings and investment rates to determine the sustainable future paths of consumption.

If default is absolutely precluded, bank lending to the economy is only restricted by the condition that C, G, I $\geq$ 0. Thus, the maximum debt limit $D^M(t)$ is

$$\sum_{i=t}^{\infty} (1+r)^{-(i-t)} Q_i = D^M(t).$$

At this debt level, future absorption is restricted to zero in all periods, and national income is fully used for debt servicing. The supply of funds schedule is kinked at this point, with perfectly elastic credit at rate r until $D^M(t)$ is reached, and perfectly inelastic credit supply at that level. No interest rate will bring forth loans in excess of $D^M$. Although it is a trivial case, this kinked supply schedule illustrates that credit ceilings are fully consistent with perfect competition in the loan market. It is simply the case that the market value of all loans for $D > D^M(t)$ must be negative, and therefore such loans will not be made by competitive, value-maximizing financial institutions.

In the case of perfect mobility, all domestic investments are undertaken that have a positive present value at the prevailing world interest rate. Importantly, and in sharp contrast to the case with potential default, a rise in domestic savings has _no effect_ on domestic investment rates, and therefore results, one-for-one, in a corresponding improvement in the trade balance. We shall see that under conditions of potential debt repudiation, a rise in savings can actually raise domestic investment so much that the trade balance worsens, rather than improves.

Without doubt, the perfect capital mobility assumption is seriously deficient as a basis for current account analysis. There is solid evidence for variations in risk premia on loans to sovereign borrowers, as functions of the

borrower's savings and investment rates and overall debt levels. Moreover, there is substantial anecdotal evidence that ceilings on country borrowing are sometimes imposed in the capital markets. One theoretical response to these complicating factors in loan supply has been to assume a supply schedule for total borrowing, with the borrowing rate a rising function of total indebtedness: $r = f(D)$, $f'>0$. When this approach is pursued, countries become monosopists in the world loan market, and thus have an incentive to follow particular current account policies. Since increased national indebtedness raises borrowing costs on inframarginal as well as marginal loans, the policy authorities should ration foreign borrowing (through a quota or capital inport tax) to limit overall interest costs.

Because $f(D)$ is arbitrarily specified rather than derived, it is likely to be a misleading guide to loan supply. In particular, we shall see that the loan schedule linking r and D will depend on domestic policies, and will therefore not be invariant to policy changes in the borrowing country. In particular, by raising domestic savings rates, the authorities can shift the supply schedule outward, and thus lower borrowing costs on outstanding debt. There will, in general, be an incentive to subsidize savings.

(b) Borrowing in a Model with Default Risk

In a series of very insightful articles, Eaton and Gersovitz describe how the potential for sovereign default can dramatically alter our view of international capital mobility. They consider loans in a non-cooperative environment, and argue that a loan ceiling exists for sovereign borrowing that

is determined by the effective retaliation that creditors can achieve in the event of a unilateral repudiation of debt. If the possibilities for effective retaliation are good, the debt ceiling will be high, as there is little chance of a default. If there is no way to retaliate, the ceiling is at zero: nothing will be lent. I examine both the non-cooperative framework and a cooperative alternative, in which the debtor country can pre-commit itself to a stabilization package in order to sustain international lending.

I consider a simple framework in which loans are made in one period which may or may not be paid back in the next. If the loan is defaulted, the creditor retaliates with a cost to the debtor of a fraction $\lambda$ of national income. $\lambda$ summarizes all the possible costs of retaliation: trade disruption, exclusion from future borrowing, seizure of assets, etc. I assume that the retaliation yeilds no utility to the creditors (or that the costs and benefits of retaliation cancel), only a loss to the debtor.

For a particular debtor, a given level of debt will lead to default in some circumstances and not in others (depending on second-period income). Creditors will demand a risk premium that depends on the probability of default, which in turn depends on the sanctions that creditors impose in the event of default. Because the posibilities for retaliation are limited, there are some levels of debt that lead to default with certainty. At these debt levels, there is no risk premium that can compensate for the default risk: an absolute ceiling of indebtedness must be imposed by creditors when that level of indebtedness is

reached. Because of the borrowing ceiling, there is <u>no presumption</u> that all investments with positive present value at the world interest rate will be undertaken. The debt ceiling will rise with stronger retaliatory measures, so that it may be in the debtor's interest to <u>encourage</u> a strong response to default, in order to raise the debt ceiling, and free up capital inflows.

The default risks can now be usefully formalized. I will start with a case of certainty, and then move on to the case of uncertainty.

Suppose national output in periods 1 and 2 is given by $Q_1$ and $Q_2$, with $Q_i = Q(K_i)$, and $K_i = K_{i-1} + I_{i-1}$. The social welfare function is specified as $U(C_1, C_2) = U(C_1) + U(C_2)/(1+\delta)$, where $\delta$ is the pure rate of time reference. National indebtedness is equal to the first-period current account deficit, $C_1 + I_1 - Q_1 = D_1$, and the world safe rate of return is given by $\rho$. In the absence of default, we have the intertemporal budget constraint $C_1 + C_2/(1+\rho) = Q_1 + Q_2/(1+\rho) - I_1$, or $C_2 = Q_2 - (1+\rho)D_1$. In the no-default case, we designate $C_2$ as $C_2^N$. With default, there is no second-period debt servicing, but output is reduced in proportion $\lambda$: $C_2^D = (1-\lambda)Q_2$. The default decision depends on whether $C_2^D$ is greater than or less than $C_2$.

Under certainty, banks will agree to make loans up to the point where the country would choose to default, i.e. to the point where $C_2^D$ is just less than $C_2$. We must consider two institutional arrangements, which I will label "non-cooperative" and "cooperative," in order to determine the debt ceiling. In the first case, which is most usual, the loan agreement is reached between the country and the bank before the country's policies with respect to investment

and savings in the first period are revealed. In the cooperative setting, the country pre-counts itself to an investment-consumption plan before a loan is arranged. In this case, the bank's loan limits can be based on the observed first-period policies.

The term "cooperative' is used in analogy to the game-theoretic situation in which players may bind themselves to a particular strategy (and in which the other players recognize the binding constraint). The case in which countries credibly promise certain policies before loans are made may or may not involve true cooperation (in the everyday sense) between banks and the country. The commitment may reflect the fact that certain policies are pre-set by constitutional rules, or by IMF imposition, or by simple calendar constraints. We will have more to say on the IMF role later.

Now, in either setting, the bank is safe in extending a loan as long as $C_2^D \leq C_2^N$. Since $C_2^D = (1 - \lambda)Q_2$ and $C_2^N = Q_2 - (1 + \rho)D_1$, the loan is safe as long as $D_1 \leq \lambda Q_2/(1 + \rho)$. But $Q_2$ is a function of $I_1$, so that the loan is safe as long as $D_1 \leq \lambda Q_2(K_0 + I_1)/(1 + \rho) = h(I_1)$, with $h' > 0$, $h'' < 0$. Let $I^M(D_1)$ be the minimum level of $I_1$ such that $D_1 \leq h(I_1)$. A loan $D_1$ will be safe as long as the banks can be sure that $I_1 > I_1^M(D_1)$.

In the cooperative setting, the country announces $I_1$, freeing up loans in the amount $D_1 \leq h(I_1)$. Assuming that the borrowing constraint binds (the interesting case for our purposes) the "planner" chooses $I_1$ to maximize social welfare, subject to $D_1 = h(I_1)$. Formally, the problem is to solve

(4) $\qquad U^c = \max_{I_1} U(C_1) + U(C2)/(1 + \delta)$

$$\text{subject to:} \quad D_1 = h(I_1)$$

$$C_1 = Q_1(K_0) + D_1 - I_1$$

$$C_2 = Q_2(K_0 + I_1) - (1 + \rho)D_1$$

Implicitly, $U^c$ is a function $I_1$, and through the borrowing constraint, a function of $D_1$. This function is graphed in Figure 1. The optimum is attained at $\hat{D}_1^c$. (The superscript c denotes "cooperative").
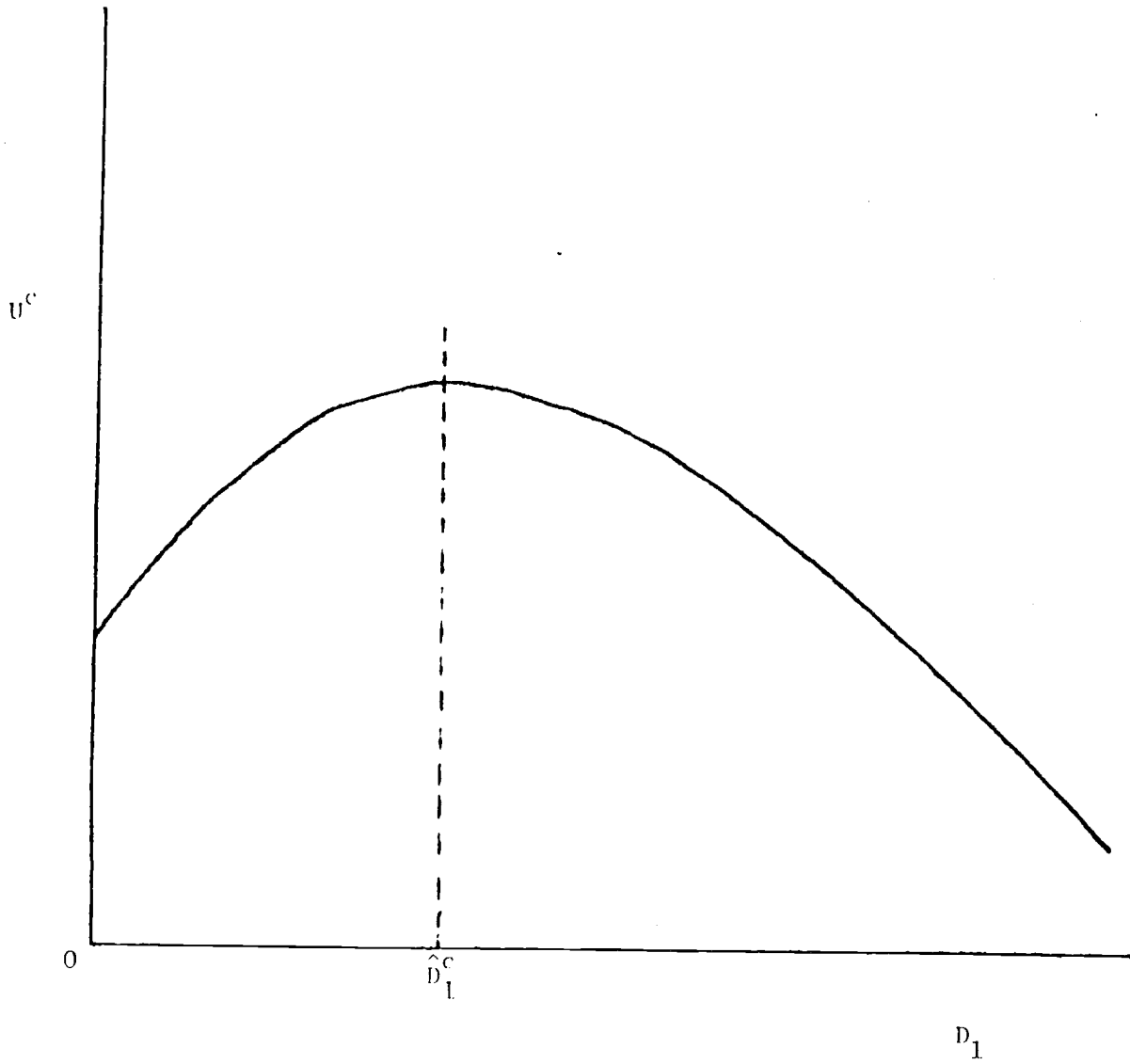
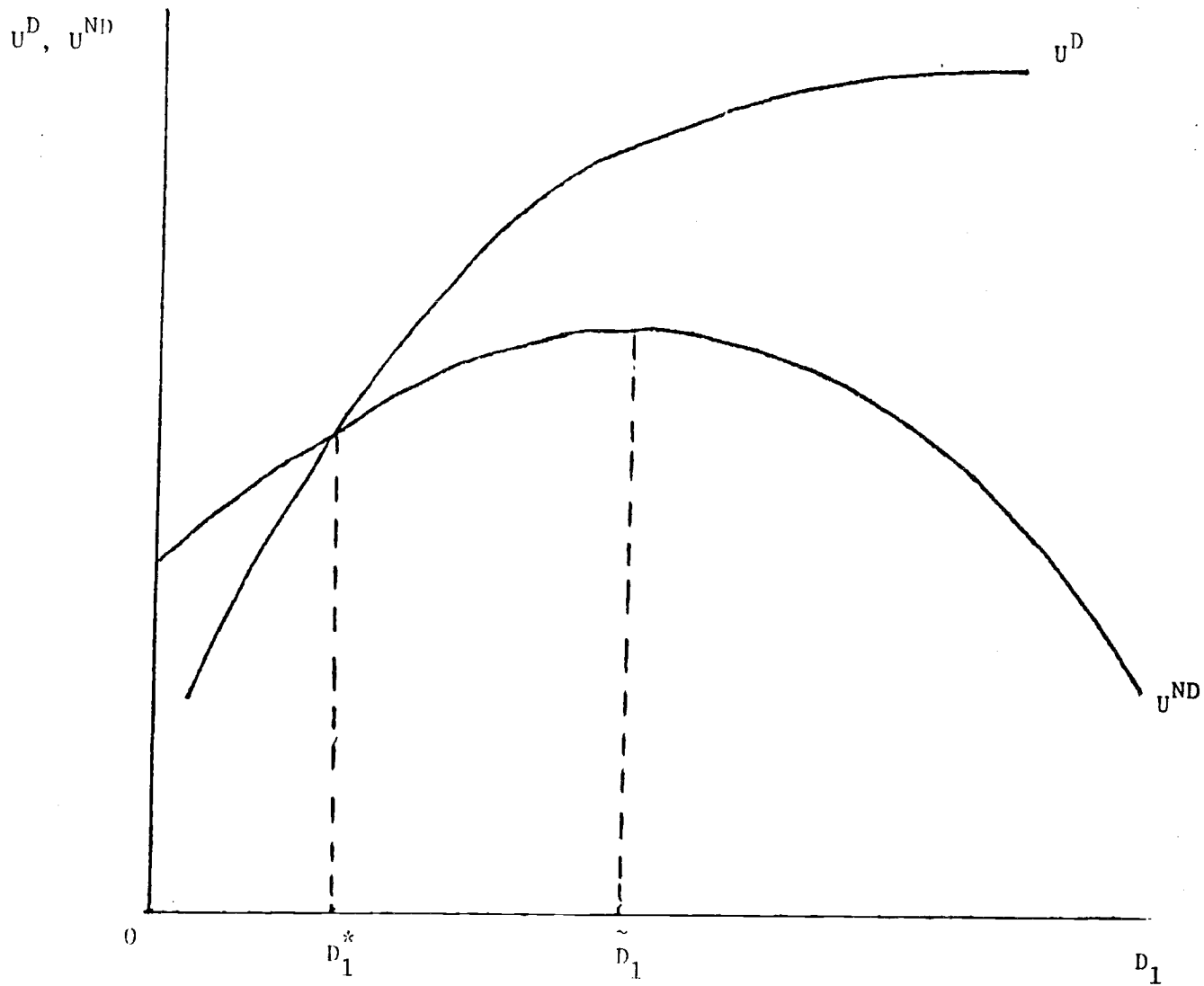Figure 1.  Utility and Indebtedness in the Cooperative Case

Figure 2.  Utility and Indebtedness in the Non-Cooperative Case

In the non-cooperative (NC) setting, $D_1$ is set first and then $I_1$ and $C_1$ are chosen given $D_1$. For given $D_1$, the planner always evaluates two courses of action, defaulting (D) and not defaulting (ND), and chooses the course with higher utility. Formally,

$$(5) \qquad U^{NC} = \max (U^D, U^{ND})$$

$$U^D = \max_{I_1} U(C_1) + U(C_2)/(1+\delta)$$

$$\text{subject to} \quad C_1 = Q_1 - I_1 + D_1$$

$$C_2 = (1-\lambda)Q_2(I_1+K_0)$$

$$U^{ND} = \max_{I_1} U(C_1) + U(C_2)/(1+\delta)$$

$$\text{subject to} \quad C_1 = Q_1 - I_1 + D_1$$

$$C_2 = Q_2 - (1+\rho)D_1$$

These functions are graphed in Figure 2. Note that for $D_1 \leqslant D^*$, the country will not default, while for $D_1 > D^*$ it will. Obviously $D_1^*$ is the credit limit that banks will impose in the non-cooperative case. Since $U^{ND}(D_1)$ is rising at $D^*$, the country will choose to borrow up to $D_1^*$.

Since the country defaults if and only if $D_1 > D^*$, it is a direct implication that:

$$(6) \qquad I_1 \geqslant I^M(D_1) \text{ if and only if } D_1 < D^*.$$

That is, for $D_1 \leqslant D^*$ the bank knows that investment will be sufficient to

guarantee repayment, while for $D_1 > D^*$, it will be insufficient. Therefore, if we super-impose $U^{ND}$ and $U^C$ as in Figure 3, we find that they touch at $D^*$. Otherwise $U^{ND} > U^C$._/

Figure 3 allows up to draw the following crucial conclusions. In the non-cooperative game, the country reaches $U^{ND}(D^*)$. In the cooperative game, it reaches $U^C(\hat{D})$ which exceeds $U^{ND}(D^*)$. If default is entirely ruled out (e.g. by a "world policeman"), it can reach a $U^{ND}(\tilde{D})$, which is the optimum optimorum. The possibility of default reduces the country's utility by freezing its credit line. Under certainty, the borrowing country should insist on high penalties for default, for as $\lambda$ approaches 1, $D^*$ approaches $\tilde{D}$.

It is crucial to understand the role of cooperation in raising welfare. The country is better off to borrow $\hat{D}$ and invest $I^C(\hat{D})$ than to borrow $D^*$ and invest $I^{ND}(D^*)$. But if given the chance to borrow $\hat{D}$ it prefers to invest less, $I^D(\hat{D}) < I^C(\hat{D})$, and to default. Thus, without a commitment by the country to maintain a high level of investment, the bank will not lend D.

The importance of the cooperative regime is even more striking when the country enters the "first" period with pre-existing indebtedness, which we will denote as $D_0$. With initial debt the planner's problem is slightly changed. In the cooperative setting the problem is

(6) $\qquad U_{D_0}^C = \max U(C_1) + U(C_2)/(1 + \delta)$

$$\text{subject to} \quad D_0 + D_1 = h(I_1)$$
$$C_1 = Q_1(K_0) + D_1 - I_1$$
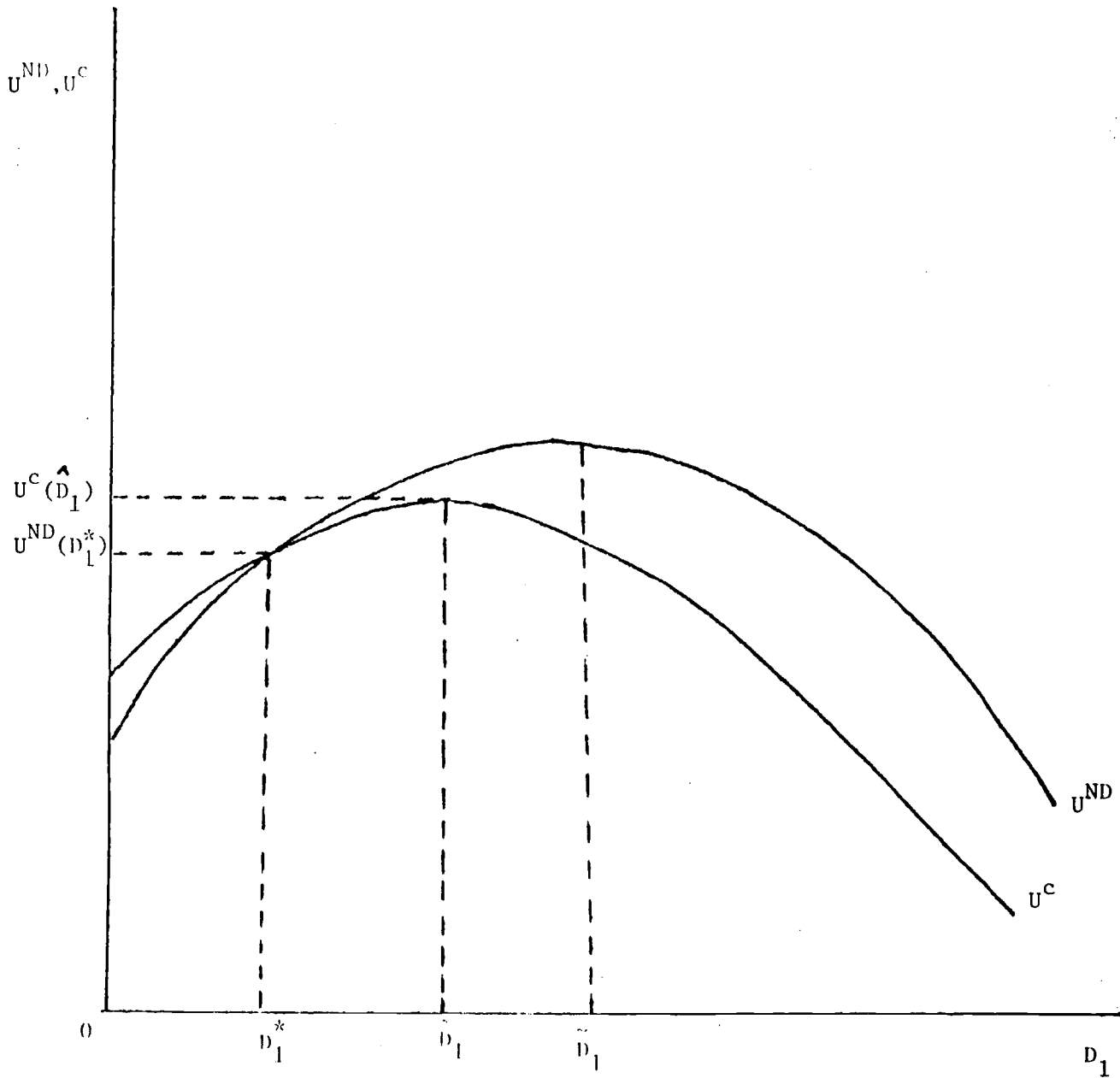$$C_2 = Q_2(K_0 + I_1) - (1 + \rho)(D_0 + D_1)$$

Figure 3. A Comparison of the Non-Cooperative and Cooperative Solutions

(It is actually possible that $D_0 > h(I_1)$ for all $I_1$, in which case a cooperative solution will not exist). In the non-cooperative case, we again have:

(7) $\qquad U_{D_0}^{NC} = \max (U_{D_0}^{ND}, U_{D_0}^{D})$

$$U_{D_0}^{D} = \max_{I_1} U(C_1) + U(C_2)/(1+\delta)$$

$$\text{subject to} \quad C_1 = Q_1 - I_1 + D_1$$
$$C_2 = (1-\lambda)Q_2(I_1+K_0)$$

$$U_{D_0}^{ND} = \max_{I_1} U(C_1) + U(C_2)/(1+\delta)$$

$$\text{subject to} \quad C_1 = Q_1 - I_1 + D_1$$
$$C_2 = Q_2 - (1+\rho)(D_1+D_0)$$

Again, let $D_{D_0}^{*}$ be the cut-off point such that the country defaults if first-period loand $D_1$ exceed $D_{D_0}^{*}$. It is possible that $D_0$ is sufficiently high so that $D_{D_0}^{*} = 0$, (in other words the country simplyl plans to default in the second period, no matter how much it is loaned in the first period).

Suppose that (a) $D_{D_0}^{*} = 0$; and (b) a cooperative solution exists. The graph of this situation is shown in Figure 4. This is precisely the Prisoner's dilemma alluded to in the introduction. In the non-cooperative case the bank loans nothing, since $U^D(0) > U^{ND}(0)$. A cooperative agreement would allow loans up to $\hat{D_1}$,
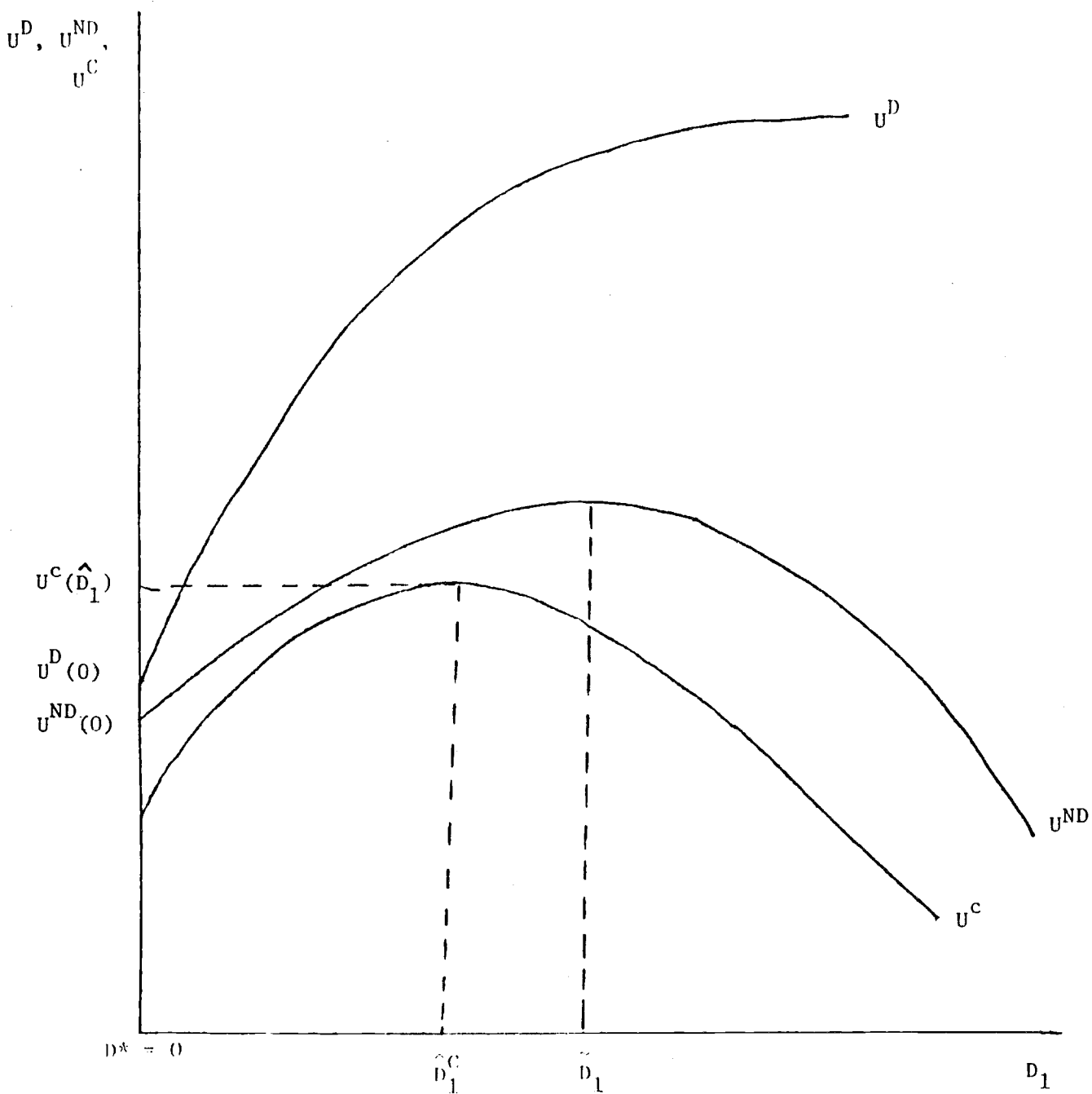
Figure 4. The Prisoner's Dilemma in International Loans

making both the bank and the country off (since $U^c(\hat{D}_1) > U^D(0)$). The cooperative agreement would pre-commit the country to a substantial investment program. Again, if the country is absolutely barred from default it can reach $U^{ND}(\tilde{D})$, which exceeds $U^c(\hat{D})$ and $U^D(0)$.

There is another important problem that can occur in financial markets that we must consider. Suppose that banks refuse to issue loans to the country in the first period, even though there is a range of debt for which the country would re-pay its loan. Since a loan freeze is part of the penalty, embodidied in $\lambda$, that attaches to a default, a unilateral freeze on loans reduces the <u>net</u> penalty associated with default, and makes default more likely. Formally, a freeze on credit reduces $U^{ND}(0)$ relative to $U^D(0)$; with $U^D(0) > U^{ND}(0)$ the country will choose to default. In this sense, a loan freeze by banks in response to a worry about default can be self-fulfilling.

It is important to supplement this analysis with uncertainty, for two reasons. First, it is only through unexpected events that a bank gets trapped holding the bad debt of a sovereign borrower; only with uncertainty (or irrationality) will defaults actually occur. Second, under uncertainty the default option becomes a vehicle for the banks to assume some of the risk of LDC investment projects. It may provide an imperfect form of insurance in a world with incomplete financial markets. I am now carrying out a detailed study of defaults under uncertainty in a many-period model, and I just touch on the highlights of that analysis now.

Once uncertainty is added to the model, we find that creditors (assumed to be risk neutral) will make loans with a positive probability of default, as long as there exists an interest rate premium that can compensate for the risk. In this case, changes in the penalty for default, $\lambda$, affect not only the credit ceiling on loans, but also the risk characteristics of investments from the point of view of both debtor and creditor. Under uncertainty, high penalities for default make the borrower better off, by raising the country's credit ceiling. Under certainty, higher penalties may actually lower the country's welfare. Though the ability to borrow is enhanced, the "insurance" aspect of defaults is diminished, since the penalties for default become more severe. Thus, the $E[U(C_1,C_2)]$ may fall (E denotes "expectation"). In general there will be an optimal $\lambda^*$ for the debtor country, for which $E[U(C_1,C_2)]$ is maximized subject to the constraint that risk neutral creditors achieve the expected yield $\rho$. Along with $\lambda^*$ there is an optimal non-zero probability of default, $\pi^*$.

The usefullness of default as a risk-spreading mechanism depends on the alternative financial assets that are available to the debtor country. For instance, if the investment returns depend on easily identifiable exogenous conditions (e.g. weather), there may well be an insurance market available to reduce or eliminate risk (for example, hurricane insurance is commonly held by many Carribean countries). More typically, insurance will not be available for investment where: (1) the ex post returns to investment are not easily monitored; or (2) where unmonitored inputs, e.g. labor effort, play an important role in the production process, so that moral hazard precludes full insurance of the project. For similar reasons, foreign equity participation in the investment projects may be unachievable.

In these cases, default can be important. Of course, defaults provide a very imperfect mechanism for diversifying risk, since the retaliation which follows a default is pareto inefficient (the debtor loses $\lambda Q_2$, while the creditor welfare, by assumption, is unchanged). Recontracting in the event of default may not be a viable option for restoring pareto efficient outcomes moreover, especially if the creditor is unable to verify whether the investment project in fact failed. Because of the inefficiency of default, the debtor country will remain with substantial risks even under optimal contracts with default allowances.

From a regulatory perspective, then, the interesting question is how $E[U(C_1,C_2)]$ and the probability of default vary with the costs of default $\lambda$. Do we perform a service to would-be borrowers by constraining their default option? Does raising $\lambda$ necessarily reduce the probability of default? In general, there is a welfare tradeoff in raising $\lambda$: credit ceilings rise, but so do the risks of physical investment for the debtor. There may well exist an interior optimum for $\lambda$. Interestingly, the probability of default is not necessarily a strictly decreasing function of $\lambda$. This is because a rise in $\lambda$ tends to increase total indebtedness, and thus the benefits of default as well as the costs.

Now we turn to the historical evidence on defaults, where we shall see the relevance of the preceeding theoretical analysis.

## III. Defaults in Historical Perspective

The concern over LDC debt is anything but new. The history of international capital movements since at least the early 19$^{th}$ century is characterized by large scale borrowing of developing regions, and large scale defaults. Many of the same debates over prudential standards, government guarantees of foreign loans, rescheduling of debt, and so forth, have been pursued for 150 years. And even many of the actors have remained the same. A number of Latin American countries that are still among the most problematic for foreign loans first entered the London bond market upon independence in 1822-25, and defaulted soon after, setting in train a hundred years of alternating solvency and default. It is good to keep in mind, though, one actor whose perspective has changed: the United States shifted from the world's greatest recipient of capital inflows in the 19$^{th}$ century to its greatest creditor in the next, and in the process has been both perpetrator and victim of sovereign defaults.

The striking comparison of pre-1930 and post-1945 international lending lies not in scale or even sophistication, but in the changing "rules of the game." In both periods, the experience is rich, tangled, and contradictory, and governing rules have always involved inexact and evolving standards. Nonetheless certain broad generalizations are possible. In the earlier period, defaults were a recurrent phenomenom, across countries and over time. Many countries defaulted on debt as many as five times in the course of the nineteenth century. Defaults were typically settled in negotiation with private bondholder committees, on terms which rarely preserved more than a small fraction of the capital value of

the original asset. After this partial repayment of debt, the debtor country was typically free to resume borrowing on the international exchanges, subject of course to high risk premia on its debt. Contrary to the popular image of British or American gunboats bearing down on delinquent debtors, true only in a few such spectacular episodes, governments were usually very reserved in debtor-creditor conflicts. The British government rarely allowed its foreign policy goals to be dictated by the fortunes and misfortunes of British financiers. Only in cases where private and foreign policy goals closely coincided, as in mid-nineteenth century Egypt and Turkey, did Britain ride the debt situation for larger political ends, ending up with no less than sovereignty in Egypt (1882) for its efforts.

The post-1945 period has thus far operated on a very different basis. At least until the late 1960s, the great bulk of LDC debt (excluding foreign direct investment) was in the form of official bilateral or multilateral loans, or government-guaranteed suppliers credits, often on concessional terms. Thus, debt problems directly involved creditor governments, rather than the private market alone. Typically, debt service problems with official creditors have been handled in negotiations between the debtor country and a multilateral nego-tiating body of creditor governments, most often in the so-called Paris Club. In this forum, creditor governments have often acceded to debt restructuring, grace periods on loan amortizations, and lengthened maturities, but in strong contrast to the earlier experience, have almost never allowed for an explicit reduction in the principal owed or interest due. Of course, some of the diff-

erence with the earlier period is more apparent than real, for when interest
rates are already on a concessional basis, a lengthening of debt maturities
amounts to a reduction in the market value of liabilities.

Since the re-emergence of large scale private lending, the private creditors
have even more strongly resisted the substitution of debt relief for debt
rescheduling. In no sense is private debt rescheduling merely a polite phrase
for default, as many observers have suggested. The essence of the reschedulings
has been the preservation of the capital value of outstanding debt. While in
the 19th century, a default settlement often included a conversion of the
defaulted bonds to new bonds (at par) with a reduced coupon rate, in the recent
period, the debt reschedulings have often included an increase in interest rates
on the outstanding debt, to compensate creditors for the greater risk of the
extended maturaties and the transactions costs of rescheduling. Moreover,
arrearages and delinquencies on debt payments are capitalized and added to the
liabilities of the debtor. Assuming that the rescheduled debt is not ultimately
defaulted, the private creditors apparently suffer only small if any capital
losses in the great bulk of debt reshedulings.

To a great extent, the difference in pre-1945 and post-1945 experience is
the difference in non-cooperative and cooperative outcomes. There was no formal
mechanism available for a debtor country to commit itself to particular behavior
in return for a loan agreement. The only contract between debtors and
bondholders occurred after a default, in order to reach a settlement on the
outstanding claims. After World War II, the creditor clubs and ad-hoc commit-
tees of bank representatives have repreatedly negotiated with debtor countries

on the verge of default. Moreover the IMF has played the role of arbiter, in designing stabilization programs for the debtor country that provide the basis for pareto-improving cooperative agreements with private and official creditors. We should not suppose that the stabilization programs are therefore gladly endorsed by the debtor country. The programs have indeed been economically and politically painful -- but still less painful than outright defaults.

In the following few pages, I pursue this contrast in historical experience, focussing on some structural features, such as bond versus bank debt, official versus private credit, and the role of the IMF, that might help to explain the historical shift.

(a)  Defaults before World War II: Causes and Remedies

Table 6 presents a sampling of sovereign defaults until World War II, to illustrate thier frequency and scope.  That defaults were a normal and accepted part of the financial system can be judged by two facts: (1) a default in one country typically did little to interfere with the flow of capital to other LDCs; and (2) a default usually resulted, after several years, in a formal settlement with bondholders that allowed renewed large-scale borrowing by the debtor. Almost all of the publically-held liabilities of the borrowing countries in this period were in the form of long-term publically-held bonds rather than bank debt.  The principal role of the great banking houses in developing-country finance was in underwriting debt, and so defaults rarely had the direct effect of bringing down a banking house.  The Baring crisis of 1890 is the stunning exception to the rule, which shows that underwriting itself can be a dangerous business.  When an 1888 loan for Argentina was cooly received in the bond market, the Baring Brothers "felt obliged to lend to Argentina through acceptance credits.  Falling raw material prices in 1890 made it impossible for the Argentine government to meet these credits as they came due," and the great banking house itself succumbed to bankruptcy.  (See Kindleberger [1978]).

An illustration - in the extreme - of the default cycle that characterized many 19th century countries is provided by Winkler [1933] for the case of Guatemala, which I reproduce in Table 7.  Far from a permanent bar to flotation of new debt issues, Guatemalan defaults were regularly renegotiated to permit new borrowing.  And though it may appear that bond-holders acted irra-

Table 6

Periods of Sovereign Default,

1820-1932: Some Examples


| | |
|---|---|
| Mexico | 1827-1870, 1914-end of period |
| Peru | 1825-1849, 1876-1889, 1931-end of period |
| Venezuela | 1834-1841, 1847-1859, 1864-1876, 1878-1880, 1892-1893, 1897-1905 |
| Greece | 1827-1878, 1893-1898, 1932-end of period |
| Portugal | 1837-1856, 1892-1902 |
| Turkey | 1875-1881, 1930-end of period |
| Egypt | 1876-1881 |


Note:  The dates are representative of major demarcations between credit-
worthiness and default.  Within many of the intervals, settlements were
reached with creidtors which restored creditworthiness for a brief
period, but which collapsed shortly thereafter.

Sources:  See Bouchard [1951] and Wynne [1951] in particular, but also Feis
[1930], Modden, Nadler and Sauvain [1937], Kindleberger [1978], and
Winkler [1933] for further examples.

Table 7

The History of Guatemalan Debt, 1825-1928*

1825    First loan of £163,000 to Central American Federa-
        tion contracted at 73 per cent, bearing interest at
        6 per cent per annum.

1827    Guatemala assumes 5/12th of debt, or £67,900.

1828-55 Default.

1856    Settlement on basis of loan and arrears being con-
        verted into £100,000 5's; Guatemala recognizes
        1/3rd of original debt, or £54,433. Interest in ar-
        rears estimated and cut down to £45,567. 50 per
        cent of customs given as security.

1863    Private loan of £11,300 for construction arranged in
        London.

1864    Loan of 1863 defaulted.

1869    Loan contracted for £500.000 at 70-½ per cent, bear-
        ing interest at 6 per cent per annum. Sinking fund

        of 3 per cent per annum. Import duties given as
        security.

1876    All loans defaulted.

1878    1/3 interest due April 1, 1876 on 1869 loan, paid
        in November 1878.

1884    Settlement made. Because of political disturbances,
        agreement not carried out.

1887    Loans of 1856 and 1869 and back interest funded into
        new 4 per cent loan; sinking fund of ½ per cent
        applied to semi-annual drawings at par; secured
        on duties levied on each package of foreign mer-
        chandise that may be imported into country through
        any of ports, also on maritime revenues; payments
        made to a committee composed of representatives
        of foreign bonds, internal bonds and railways. Im-
        porters to pay pledged revenues to committee.

1888    Terms of 1887 accepted and £922,700 of 4 per cent
        loan created as follows: £100 of 1856 loan and
        back interest amounting to £62/1/8 exchanged for
        £144/14 new 4's; £100 of 1869 and £72/10 interest
        for £152/4; £100 of 1863 loan and £19/11/8 in-
        terest for £144/14 of new 4's. Internal debt settled
        on basis similar to foreign debt.

1894    All loans default and committee suspended.

1895    New arrangement: Internal and external debt ex-
        changed into £1,600,000 new 4's; £100 of 1888
        loan exchanged for £75 new bonds. Internals at
        rate of £80 ($500) for £75 new 4's; non-cumula-
        tive sinking fund of £15,000 to purchase bonds.
        Secured by special tax of 6s per quintal of coffee
        exported; proceeds paid to agents of bondholders.

1895-96 Negotiations for new loan of £658.500 with Hamburg
        bankers; secured on excess of coffee warrants after
        providing for external debt. These new terms were
        drawn up without consultation with Council.

1897     New arrangement with German bankers, again without consulting Council of Foreign Bondholders.

1898     Duty on coffee, which had been "irrevocably fixed" is reduced—new agreement reached providing for payment of interest on external debt at rate of 2 per cent in cash for 3 years, and 2 per cent in certificates which were to be exchanged for 4 per cent bonds after June 30, 1901.

1899     Coffee duty again reduced—subsequently raised.

1900     Contract of 1895 again violated.

1901–02 New agreement provides for payment of interest due December 1902 and June 1903 at rate of 1½ per cent and of later coupons at rate of 3 per cent. Arrears funded into new bonds; as security, all customs are pledged. Congress so mutilated terms that Committee did not submit it to holders.

1903     New agreement; as security Government gives 30 per cent of import duty, payable in gold. Agreement not ratified by Government; export duty on coffee changed again.

1904     New agreement provides for issuance of new bonds with interest at rate of 1½ per cent in 1905; 2 per cent in 1906; and 3 per cent thereafter. Government refuses to ratify agreement.

1903–08 Agreement reached with American Syndicate which made advances against coffee export duties and import duties payable in gold. Documents deposited with American Legation in Guatemala and holders given right to ask American Government for protection in case of violation of terms by Guatemala— thus, special security of 1895 is assigned to others.

1908     New agreement with American syndicate for $5,000,000 loan.

1912     Coffee duty established at original rate.

1913     Arrangement of 1895 resumed on following terms: Government to deliver to bondholders warrants for payment of coffee export duties enough to cover interest for 1913-14; in exchange for certificates of 1898, Government issues £29,656, 4's; for back coupons. Deferred certificates were issued with no interest. At end of 4 years, bondholders were to deal with Government regarding these certificates.

1917     Sinking fund not resumed as provided for in 1913 Agreement.

1919     Resumption of sinking fund.

1924     Railway loan of $3,000,000 contracted at 8 per cent.

1925     Additional tax imposed on coffee exported.

1927     Railway bonds issued to the amount of $1,950,000 at 8 per cent per annum.

1928     External loan of $2,515,000 issued at 8 per cent per annum. New 4 per cent external loan for £844,603 issued to take care of deferred interest certificates of 1913.

tionally in continuing to hold Guatemalan debt, it must be stressed that these assets carried an enormous risk premium, with yields-to-maturity often 500 basis points above British government consols. Indeed, without a careful calculation it is difficult to know whether the realized return on a century of Guatemalan debt exceeded or fell short of the return on safe assets, even with the history of repeated default.

There is no simple set of factors that underlay most defaults in the early period, with the history recording cases of flagrant economic mismanagement, external shocks (e.g. terms-of-trade deterioration), war and war indemnities, crop failures, and failed investment schemes, as proximate causes of default. Kindleberger [1978] notes that the least successful loans were those undertaken to maintain real consumption levels in the event of external shocks to income, and that foreign borrowing to match a rise in domestic investment tended to fare more favorably. He also adds, however, that "productive loans in the developing countries are not very productive," so that the distinction between government consumption and investment expenditure is not as sharp as might be supposed.

The classic case of "consumption loans" are debts to finance war indemnities, as in the Davies and Young Loans to finance German reparations after WWI. An indemnity requires a pure income transfer, which must be matched by a decline in consumption relative to income. A loan may be undertaken to smooth the required consumption decline over time. Effectively the loan is financing a short-term decline in the national savings rate, on the presumption

that the savings rate will rise later. But, as we shall see, a drop in the national savings rate is a strong predictor of rising default probabilities. Loans to finance military expenditure or to wage war have the same risky character, and help to explain the widespread defaults during the 1820s of a number of newly-independent Latin American countries.

Borrowing to finance consumption or military expenditure is no guarantee of default. Indeed, creditors must expect a high enough probability of debt repayment that, when coupled with the risk premium, the expected rate of return on the loan at least matches the return on safe assets. Exogenous shocks, at least partially unanticipated, must precipitate the default decision, unless creditors simply misjudge the debtor's intentions or economic position. The triggering event is often external, such as a recession in the developed countries that reduces export demand and the debtor's terms of trade. As Madden, Nadler, and Sauvain [1937] (hereafter MNS) point out, "During the nineteenth century, every major downward swing of the business cycle caused the failure of governments and other foreign borrowers to meet their external obligations." (p.107) The links of business cycles and default hold clearly in the 1830s, 1870s, and 1890s. Alternatively, an individual country may experience a terms-of-trade shock, such as when the spread of artificial fertilizers substantially reduced the price of Peruvian guano, thus contributing to Peru's default in 1876.

The most significant of all default episodes, in magnitude and in intellectual and institutional legacy, occurred in 1931-32 in the depths of the Great Depression. Its lessons are still relevant to us for several reasons.

The defaults occurred at a time when much of the banking community and public had become convinced that default risk was a thing of the past, and so it is a good antidote to such facile thinking today. Just as in our defaultless era, "Investors in foreign bonds had not suffered any losses for a long time; on the contrary, they had repeatedly made sizable profits. This pleasant state came to be regarded as normal; investors assumed that the world had entered a period of permanent, defaultless prosperity."[4/] More importantly, the episode points up one of the potential sources of hazard in international capital mobility: a speculative rush from foreign bonds with no international lender of last resort or forum for debt rescheduling. To explore this episode, it is useful first to survey the wreckage. On the New York bond market alone, some or all of the obligations (including national, provincial, and municipal entities) of no less than fifteen Latin American countries, thirteen European countries, China and Canada were in default in 1935 (MNS, pp. 308-318). Approximately 39 percent of the par value of all foreign bonds on the New York exchange were in default at the end of that year (MNS, p. 123). On all of the world's exchanges defaults totalled about $22.4 billion at the beginning of 1934 (Winkler [1933], p. xii). So much for America's first large-scale involvement as a major world creditor!

A major part of the default mechanism in 1931-32 is typical: the depression in the developed countries sharply reduced the terms of trade of primary producing regions, substantially raising the real value of the debt in terms of national incomes throughout the world. As in earlier business cycles, defaults

were to be expected, and certainly in greater magnitude in 1931-32 than earlier, given the severity of the cycle.

Moreover, the incentives to remain solvent also fell. Since the costs of default include a squeeze on trade flows and an exclusion from foreign borrowing, an exogenous reduction in trade or an inability to borrow even without defaulting can lower the incentive to maintain debt servicing. Both events seem to have occurred in 1930, about six months prior to the onset of widespread defaults. The declines in income in the U.S. and Europe had already reduced agricultural prices in the primary production regions. On top of this shock came rising trade protectionism in the U.S. and then elsewhere. The Smoot-Hawley Tariff of June, 1930, provided another blow to the terms of trade of the developing countries. More importantly, the capital markets appear to have "shut down" to the developing countries after mid-1930. While $_____ billion of foreign debt was floated from January to June, 1930, there was not a single foreign issue, outside of Canadian borrowing, from that date on. The foreign defaults, led by Bolivia, began six months later on January 1, 1931. Bolivia was soon followed in sequence by Peru, Chile, Brazil, Colombia, and a dozen other Latin American countries.

The restriction on foreign borrowing is clearly related to a sharp rise in the perceived risk of foreign loans. Risk spreads on foreign debt widened enormously in the second half of 1930, as shown in Figure 1. Political violence in Brazil was greeted by investors with panic concerning all Latin American issues, and Latin American bond prices fell up to fifty percent in the course of a single week (October 3-10, 1930), as shown by the following examples:

## Moody's Bond Yield Averages by Ratings
### 40 Foreign Bonds Compared with High Grade Domestic
### (Inverted Scale)
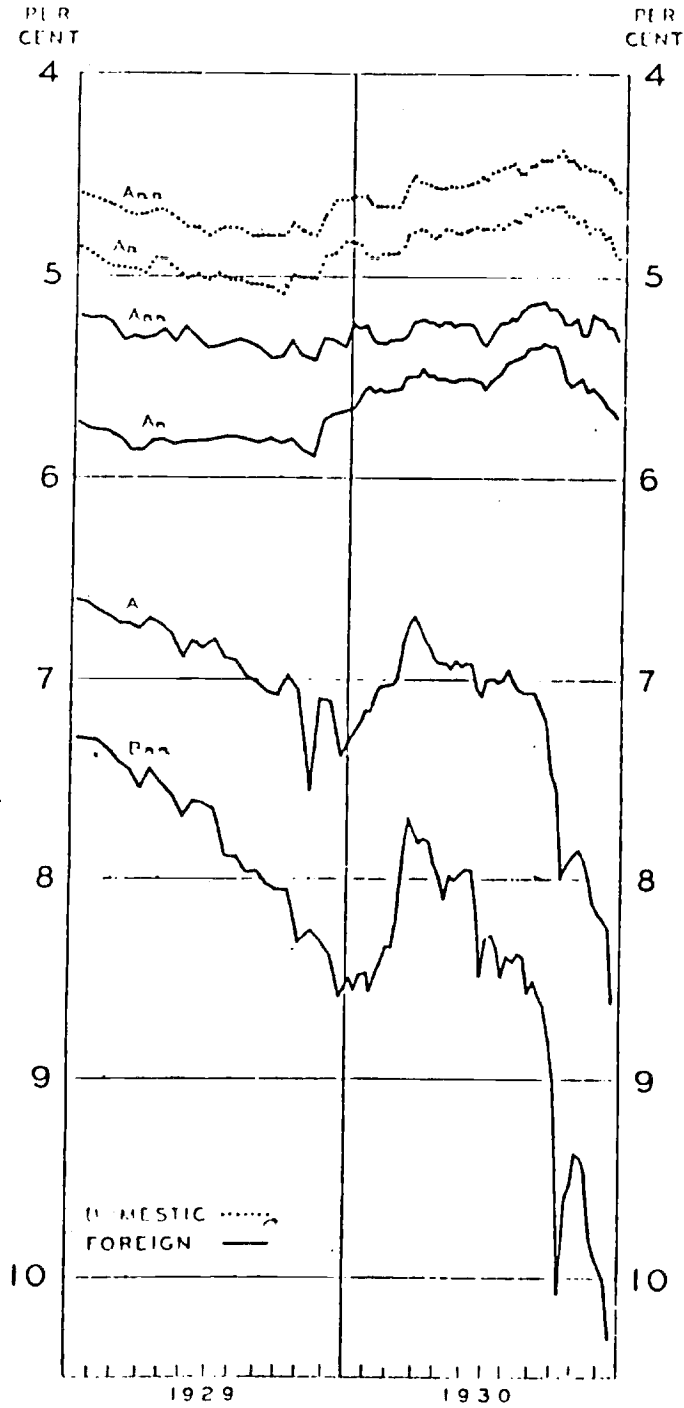


Note: Each curve is based on average yields to maturity for 10 bonds. The list of 10 foreign bonds includes 20 government, 15 municipal and 5 corporation issues.

|  | Closing Price<br>October 3 | Closing Price<br>October 10 |
|---|---|---|
| Argentine 6s | 95 | 54 7/8 |
| Bolivia 8s | 76 3/4 | 66 |
| Brazil 61/2s | 73 | 481/2 |
| Chile 6s | 831/2 | 71 |
| Colombia 6s | 66 5/8 | 58 |
| Uruguay | 101 | 88 |

Source:  Financial Chronicle, Vol. 131, p. 2264, 1930

Once the defaults began there was no return.  The market environment during

1931 is vividly described in the Financial Chronice (January 16, 1932):

> Foreign obligations, both on behalf of governments and on behalf of cor-
> porations, were under taboo all through the year.  The financial upheaval
> through which Europe was passing appeared to have put a complete embargo
> upon flotations of that description.  This was long before the suspension of
> gold payments by Great Britain and several other countries in September.  No
> foreign government issues of any kind were placed in the United States
> during 1931 with the exception of $50,422,000 of Canadian municipal issues,
> and these latter, too, became out of the question when the Canadian dollar
> suffered such heavy depreciation following the action of Great Britain in
> passing off the gold standard.

Admittedly, it is very hard to judge whether the market reaction was a

rational response to a _fait_ _accompli_ of widespread default, or whether the panic

itself brought on the default.  In markets with multiple equilibria and self-

fulfilling prophecy, a complete structural model is necessary to find out "what

might have been."  But since the panic selling of _all_ Latin American bonds seems

to have occurred in response to bad news concerning only one debtor, it appears

that imperfect information and a bandwagon effect played a vital role in the

default process.  In either interpretation, the market fell into the no-loan cum

default box in the creditor-debitor game described in the introduction.

The remedies to default were as varied as the causes in the period before World War II. Most typically, the default was followed after a number of years by a negotiated settlement between the defaulting government and a private bondholders' committee. In more spectacular cases, military intervention was occassionally threatened or pursued, as when Germany, Great Britain and Italy blockaded Venezuela in 1902-03. Not only did the intervention succeed in restoring debt service payments, but an arbitration in the Hague in 1904 awarded priority to the intervening countries over other claimants (including the U.S., France, Holland, Belgium, and Spain) on the theory "that they had incurred the expenses of an intervention which resulted in benefits to others as well." The rewards of a job well done! Ten to twenty years leater, the U.S. was active militarily throughout the region in customs house seizures to guarantee debt servicing. The most spectacular of all interventions resulted in loss of sovereignty of the debtor country, as when France installed Maximillian Mexican Emporer in 1861 after a joint military operation with Britain and Spain. The British occupation of Egypt (1881-1907) followed joint attempts of Britain and France to enforce Khedival debt obligations.

Most authorities concur, however, that "It cannot be said that military action in support of bondholders is now or ever was an important phase of inter-national relations," (Borchard, p. 269).[5/] Much more frequently, governments of private creditors did not interfere in default claims, except to prevent discrimination by the defaulting country in favor of creditors of another country. Private bondholders committees carried the burden of negotiation with the defaulting countries. Their main weapon was their power to enforce the

exclusion of new debt flotations on the national stock exchanges. More

occassionally, the bonds themselves carried explicit default provisions, e.g.

for arbitration or collateral. Even more rarely, countries have acceded to

foreign control or supervision of customs receipts, etc. in addition to exclu-

sions of further borrowing.

Given these coercive devices, defaults were almost always followed by nego-

tiation between creditors and debtors. A hallmark of such negotiations was an

evaluation of the debtor's "capacity to pay", in order to determine a degree of

debt forgiveness for the defaulting country (see Cizauskas [1978]). Most fre-

quently, existing debt was consolidated and extended, with a significant reduc-

tion in interest and principal due. Interest arrearages were often totally

forgiven in the new debt package. Dozens of examples of these settlements may

be found in Borchard, op. cit., p. 323-330. More novel types of settlements

also merit mention. The Peruvian debt from loans of 1869, 1870, and 1872, was

forgiven in return for franchises to the operation of railroad and steamboats in

Peru, and to certain rights in grain production. Bondholders were assigned pro-

rata share in a newly created Peruvian Corporation that took control of these

assets.

(b)   The Debt Situation Since 1945: Reschedulings in Lieu of Default

The period since World War II must be divided into an early and recent

phase.   The legacy of the Great Depression defaults sharply restricted the

access of developing countries to the private capital markets until the late

1960s.   Capital flows until that time were dominated by development loans of

multilateral agencies (usually concessional) and supplier credits typically

guaranteed by export-import agencies of the creditor countries.   There was no

shortage of debt difficulties in this period, even with the far more limited

scope of loans.   But there were also no defaults : Governments acting in ad hoc

multilateral creditor groups, alongside of the IMF, used both positive incen-

tives and threats to avert defaults, now viewed by the leading nations as a

major threat to world economic stability.

From its inception in the early 1950s, the "creditor club" mechanism has

offered debtor countries the prospect of debt rescheduling and extended debt

maturities in exchange for commitments to a stabilization program to alleviate

the debt difficulties.   As shown in Table 8, there have been 47 creditor

reschedulings, involving 16 countries, during 1946-1980.   The stabilization

programs that underlie the reschedulings are almost always negotiated between

the debtor country and the IMF, and allow the debtor to draw loans for balance-

of-payments support at concessional rates (technically, the country borrows from

its "upper tranche" credits at the IMF, once a stabilization program is

approved.)

Both as to the nature of credit relief and the form of the stabilization

program, there are consistent patterns that have emerged over time (see IMF

[1980a, 1980b] for discussion). The agreements cover debt falling due within a specified consolidation period (usually 1 or 2 years within the date of the rescheduling), and most or all of that debt is rescheduled (or rolled over). Typically the consolidation period includes three intervals: a period prior to rescheduling for which debt payments are in arrears; a period in the future during which debt is unconditionally rescheduled; and a follow-up period, for which the debt will be rescheduled conditional on the successful completion of an IMF stabilization program. Frequently, a grace period is allowed, in which no interest or amortization is required. Interest arrearages are not forgiven, though they too may be consolidated into new debt obligations. The interest rate on restructured debt is generally left to be negotiated bilaterally between the debtor and creditor countries.

The IMF stabilization programs that underlie the debt rescheduling are similarly systematic, and are far more controversial. As described by Guitian, for example, the stabilization programs typically focus on three factors: a reduction in domestic credit creation, a cut in fiscal expenditure (in part to support the first objective), and a restoration of price incentives in controlled sectors of the economy. The last plank has two purposes: to increase efficiency of production generally, and to relieve claims on the budget in the form of subsidies to commodities subject to controlled prices. This set of policy prescriptions has been strongly attacked by many academic economists. We will examine the efficacy of the programs likely in the final section of the paper.

The list of official debt rescheduling records that many countries participate repeatedly in the Paris Club process. This reflects the narrow con-

solidation period of rescheduled debt, and not any evidence that the earlier

stabilization programs have been unsuccessful.  The consolidation period is kept

short ot provide automatically for periodic review of the stabilization efforts.

With the very sharp increase in private sector loans to the LDCs, a substan-

tially more complex environment has emerged.  The vulnerability of private debt

depends importantly on public sector behavior, and vice versa, so that strategic

behavior of the debtor countries, the official creditors, the IMF, and the banks

all are interconnected in a complicated game.  As one example of this, each

creditor is concerned that rescheduled debt not be used merely to pay off the

debts of other creditors.  The Paris Club regularly requires that a debtor

country that reschedules debts to official creditors undertake to reschedule

debt to private creditors on comparable terms.  The public creditors attempt to

prevent the debtor from using the Paris Club rescheduling merely to pay off its

private sector debt.

The recent history of private capital market transactions shows clearly that

banks sacrifice little if anything in asset values in multilateral debt

rescheduling.  The lesson of the Paris Club is even more decisively true for the

private banks: reschedulings are not defaults, in that they convey no debt

relief except with regard to maturity structure.  With respect to outright debt

repudiation, North Korea provides the only case involving private credit

in the post-war period.

While we do not have as much public information about private credit resche-

dulings as we do about the Paris club undertakings, recent experiences for

Jamaica, Nicaragua, Peru, Sudan, Turkey, and Zaire between 1975 and 1980 allow

some general points to be made.  Most importantly, credit availability to the

countries fell when expansionary domestic policies and often external shocks led to a significant _fall_ _in_ _national_ _saving_ _rates_. For most of these countries, service payments fell into arrears before the rescheduling, and the private reschedulings ere preceded by Paris Club negotiations. In the private reschedulings, the debt restructuring itself provided for grace periods of about three years and total maturities of five to seven years. Interest rates were at spreads of 1 3/4 - 2 percentage points above LIBOR. Importantly, in most cases, the implementation of the rescheduling was made contingent upon successful performance under an IMF Stabilization plan.

It is often asserted that banks are too reluctant to declare defaults, and that they allow bad debts to accumulate in order to avoid a debt repudiation. The combination of debt rescheduling and IMF stabilization program can in principal allow the banks to walk the line between default and unchecked debt accumulation. We will investigate in Section IV whether the programs have indeed been successful in their assigned task.

The IMF seems to provide a crucial ingredient in arrangeing a cooperative settlement between creditors and debtors. It remains an open question whether such agreements could be directly reached between the banks and country, without the involvement of an outside institution. The answer seems to be "no," for commercial bankers are very wary of undertaking the kind of bargaining and monitoring roles that are central to the IMF. The case of Peru in the mid-1970s provides a case in point, for the banks and Peru tried unsuccessfully to mimic an IMF program without the IMF. The experiment was a debacle, and eventually the IMF had to enter the scene.

Cline [1981, pp. 305-306] has described this case in some detail:

> In March 1976 the Bermudez government sought a large balance-
> of-payments loan from major U.S. banks, without a prior IMF
> standby agreement.  The government felt that agreeing to IMF
> conditions would be unacceptable politically, although in its
> discussion with the banks, the government proposed a program
> very much like that which might have secured IMF support.
> Partly out of fear of a more liftist coup if Bermudez lost
> power, the banks eventually agreed, but only after the regime
> demonstrated willingness to take unpopular stabilization
> measures...
>
> The program called for an initial $200 million in loans with
> a second $200 million to follow after several months, con-
> tingent on government adherence to the policy purchase.
> Signed only by the end of 1976, the package soon demonstrated
> the frailty of such direct intervention by banks; for reasons
> of data availability, technical capacity, and political sen-
> sitivity, it proved impossible for the banks to enforce their
> lending conditions, and adverse publicity for the interven-
> tion (plus its ineffectiveness) caused the leading banks to
> resolve that they would not become entangled in similar
> packages in the future but would rely on the IMF as the moni-
> toring authority.

IV. Prospects for LDC Debt in the 1980s

In light of our theoretical and historical discussion, there are three prin-
cipal concerns that surround the current debt situation. First, is the threat
that Kindleberger [1977] raises that "the problem of developing-country debt today
is that the proceeds of loans of developing countries, and even of Britain,
France and Italy in the last 31/2years, have been used to finance consumption and
that the recycling has postponed default but cannot be continued indefinately."
(1977, p. 14). He argues that the "analogy of [oil recycling] with reparations
recycling is exact," since both involve a fall in savings rates to avoid a
necessary fall in real consumption standards, and then reminds us of the fate of
reparations loans. In this gloomy view, we would predict in the coming years
either  explicit defaults or a steady accumulation of bad debt by banks, who
continue to loan out of fear of a default.

A second potential concern lies on the opposite end: that the costs of
defaults are so large and the effectiveness of debt reschedulings and stabiliza-
tion programs so consistent, that many LDCs are forced to bear extraordinary,
and unwarranted risks in the development process. Should defaults or debt
relief be encouraged by policy authorities in some cases?

Third, there is the risk that credit suppply to the LDCs might suddenly
shrink because of a bank failure, an isolated default, a coup, etc., with the
result of provoking a chain of further defaults and panic. Is the cooperative
mechanism strong enough to prevent a clamp-down on foreign loans?

The concern over "consumption loans" to finance oil imports seems not to be

warranted for the LDCs as a whole, during 1973-78.   While the timing of sharp
rises in LDC indebtedness certainly coresponds to the oil price hikes, there is
no logical corollary that the debt is therefore paying for oil imports.   Indeed,
as I pointed out elsewhere (Sachs, 1981), the current account deficits for
non-OPEC, oil-exporting developing countries rose at least as much relative to
GDP as for oil-importing developing countries (Table 9)!   Indeed, the debt/GNP
ratio for middle-income oil-exporters (excluding Iraq, Saudi Arabia, Libya and
Kuwait) rose from 10.9 percent in 1970 to 24.5 percent in 1980, while it rose
from 10.2 percent to only 14.8 percent for the middle-income importers.   The LDC
debt problem is not neatly explained by oil import dependence.

One clue as to the LDC adjustment process is provided in Table 10, from the
World Bank.   The oil-importing LDCs responded to the rise in fuel prices by
compressing non-oil imports as a percentage of GDP and expanding exports.
Incredibally, Brazil held the dollar value of merchandize imports flat for four
years after the oil price increase.   In strong contrast to the Kindleberger
position, savings rates actually rose in the period.   (If the inflation-
correction mentionned on p. 9 is used to adjust the savings data, savings rates
would rise even more strongly than in Table 10.)

The large deficits of the middle-income developing countries arose in this
period because very large increases in investment rates exceeded more moderate
increases in savings rates, and not because of a fall in savings rates per se.
In the aggregate for nine large LDC debtors, the savings-investment relations
were as follows (from Sachs, 1981, p. 235):

Table 9. Current Account as a Percentage of Gross Domestic Product, Nonoil LDCs, 1973-79

| Category | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 |
|----------|------|------|------|------|------|------|------|
| Net oil-importing countries | −1.9 | −5.4 | −5.7 | −3.7 | −2.8 | −3.1 | −4.0 |
| Net oil-exporting countries[a] | −2.9 | −4.4 | −7.1 | −4.9 | −4.4 | −4.2 | −3.3 |
| All nonoil LDCs | −2.0 | −5.2 | −6.0 | −3.9 | −3.0 | −3.2 | −4.0 |

Source: *IMF Annual Report, 1980*, table 9, p. 30.
a. Bahrain, Bolivia, the Congo, Ecuador, Egypt, Gabon, Malaysia, Mexico, Peru, the Syrian Arab Republic, Trinidad, Tobago, and Tunisia.

Table 1 0.Performance indicators, oil-importing
developing countries, 1970–90
*(percentage of GDP)*

| Item | 1970 | 1975 | 1978 | 1980 |
|------|------|------|------|------|
| *Constant (1978) prices* | | | | |
| Fuel imports, net[a] | 3.3 | 2.6 | 2.8 | 2.7 |
| Nonfuel imports | 21.8 | 21.0 | 19.9 | 20.2 |
| Exports | 19.2 | 19.7 | 21.1 | 21.6 |
| Savings | 19.9 | 19.2 | 20.8 | 21.5 |
| *Current prices* | | | | |
| Current account deficit | 2.4 | 5.1 | 2.3 | 4.4 |
| Fuel imports, net | 1.0 | 2.9 | 2.8 | 5.2 |

a   In constant 1978 prices, this ratio reflects the relationship
tion and the volume of oil imports.

From World Development Report 1981, World Bank, p. 14.

| | Average | |
|---|---|---|
| | 1965-73 | 1974-79 |
| I/GNP | 20.4 | 22.6 |
| S/GNP | 20.6 | 21.9 |
| CA/GNP | -1.8 | -3.1 |
| Debt/GNP | 8.5 | 19.0 |

The investment boom, and a matching decline in the OECD, led to a hefty shift in the locus of world investment, as shown in Table 11. This high rate of capital formation helped to fuel the rapid growth of the middle-income LDCs throughout the 1970s.

Of course, it is not fortuitous that the big debtor countries maintained high savings rates in this period. To a large extent, the high savings rates permitted these countries to continue to borrow heavily on the international market, for the reasons explored in the previous section. In many cases, with Brazil the best known, large scale borrowing in fact followed upon significant domestic financial reforms that raised home savings rates (domestic savings rose from 21.1 during 1960-64, to 21.8 during 1965-69, to 23.8 during 1970-74, before slipping back to 21.3 for 1975-77, following the oil shock). Mexico, Phillipines, South Korea, Taiwan, and Thailand among the large nine borrowers, had large increases in savings rates after the 1973 oil shock (comparing 1965-73 and 1974-79). (See Sachs [1981], pp. 234-235.)

Table 1.1 Fixed Investment and GNP, Major Regions, Selected Years, 1960-78

Percent unless otherwise specified

| Item | 1960 | 1965 | 1970 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 |
|---|---|---|---|---|---|---|---|---|---|
| Investment of LDCs (billions of U.S. dollars) | 8.3 | 12.2 | 24.9 | 91.4 | 58.1 | 70.9 | 76.4 | 81.2 | 101.6 |
| Investment of developed countries (billions of U.S. dollars) | 160.8 | 252.7 | 399.1 | 677.5 | 725.5 | 829.9 | 957.1 | 1,175.3 | n.a. |
| Investment of LDCs as a proportion of total investment | 4.9 | 4.6 | 5.9 | 5.8 | 7.4 | 8.5 | 8.4 | 7.8 | 8.0 |
| GNP of LDCs as a proportion of total GNP | 5.6 | 5.0 | 5.6 | 5.9 | 6.9 | 7.1 | 7.4 | 7.2 | 7.1 |
| Investment of developed countries as a proportion of their GNP | 17.8 | 19.2 | 20.0 | 21.8 | 21.1 | 20.0 | 20.0 | 20.4 | 20.9 |
| Investment of LDCs as a proportion of their GNP | 15.7 | 17.7 | 20.9 | 21.4 | 22.8 | 24.2 | 23.1 | 22.4 | 23.6 |

Sources: LDCs and developed countries are the same as those in tables 8 and 9. The investment and GNP data are from International Monetary Fund, *International Financial Statistics*, series 93e and 99a, respectively.

n.a. Not available.

From Sachs [1981, p. 239].

The large debtor countries enjoy continued access to international loans though many display high Debt/GNP or Debt/Exports ratios. Since they also have high savings rates, the debt levels reflect high investment, and are therefore not a prima facie matter of concern. More generally, a leading banker has stated that developing countries "with good economic management are able to borrows much in excess of any debt-service requirement," giving these countries "strong incentives to pursue policies that maintain their creditworthiness with private banks." Most reschedulings can be traced to a combination of "bad luck" (e.g. excessive government spending in light of the terms-of-trade shift), which shows up as a fall in domestic savings.

Some examples of investment and savings developments for countries that rescheduled public debt between 1975 and 1980 are found in Table 12. In all cases, there is some drop in savings rates after 1970-73, though it is apparently slight for Turkey. In these cases, and in many other similar examples, the extent of bank lending available to the debtor country fell sharply as the savings rate deteriorated. A freeze on new lending, in line with the credit-ceiling model described earlier, seems to take hold before the debt rescheduling process begins. When new loans are unavailable to finance interest and amortization payments, the country typically begins to accumulate arrearages, at which point it signals its need for a debt rescheduling, and its willingness to undertake a stabilization program.

An important question for us is whether the stabilization programs in fact stabilize, or merely protect the banks from the onus of an explicit default.

Very broadly speaking, the record is one of mixed, though substantial success in moderating current account deficits, but often at significant political and economic costs to the debtor.     Clear examples of success in recent years include Chile and Peru, who have both restored high economic growth and declining external indebtedness relative to GNP.   Following its 1975 rescheduling, Chile's Debt/GNP ratio fell from 59.6 percent (1975) to 37.2 percent (1979).   Similarly, Peru's fell from a high of 66.3 percent in the year of its rescheduling (1978) to 58.0 percent in the next.   And in both cases, real economic activity and savings picked up one year after the rescheduling.

More serious dilemmas exist for countries like Zaire and Sudan, for which stabilization programs have imposed very significant costs on output and growth. In Zaire, for example, real consumption levels and GNP have been declining sharply and continuously since the first rescheduling in 1976.   In 1979, the Debt/GNP ratio was a whopping 51.8 percent, though the debt amounted to a mere $3.8 billion.   Continued stringent policies will undoubtedly reduce this debt, though at further extreme hardship to the very poor country.   In the pre-1930 arrangements, Zaire would have long ago defaulted.   And if economic prospects subsequently improved, it would have redeemed a fraction of the value of the debt.   Unluckily, Zaire provided the first case of rescheduling of the private banks in the 1970s, and the stand that they took was consequently stern.   The IMF should create mechanisms in the future to allow for greater debt relief of such countries.

I close the analysis by returning to an indirect risk in international lending, that an event such as a default or bank failure might dramatically shrink the market for international loans.   While the system of creditor clubs

Table 12  The Current Account, Saving, and Investment in Countries with a Debt Rescheduling in 1974-78

Percent

| Country and item | Average, 1970-73 | 1974 | 1975 | 1976 | 1977 | 1978 | Year of debt rescheduling |
|---|---|---|---|---|---|---|---|
| **Chile** | | | | | | | |
| I/GNP | 13.2 | 12.6 | 10.5 | 9.0 | 9.2 | n.a. | |
| S/GNP | 11.5 | 12.9 | −0.2 | 7.0 | 5.9 | n.a. | 1975 |
| CA/GNP | −2.9 | −0.8 | −6.7 | 1.4 | −3.3 | n.a. | |
| **Gabon** | | | | | | | |
| I/GNP | n.a. | 55.8 | 91.5 | n.a. | 67.1 | n.a. | |
| S/GNP | n.a. | 63.2 | 47.8 | n.a. | 50.7 | n.a. | 1978 |
| CA/GNP | n.a. | 7.4 | −43.6 | n.a. | −16.4 | n.a. | |
| **Peru** | | | | | | | |
| I/GNP | 12.7 | 15.3 | 17.5 | 16.9 | 14.9 | 14.5 | |
| S/GNP | 15.6 | 13.3 | 9.7 | 10.9 | 9.2 | 15.3 | 1978 |
| CA/GNP | 1.0 | −5.8 | −10.1 | −7.1 | −6.2 | 0.2 | |
| **Sierre Leone** | | | | | | | |
| I/GNP | 13.2 | 12.0 | 13.4 | 12.7 | 11.9 | 12.8 | |
| S/GNP | 13.4 | 16.3 | 6.3 | 4.6 | 8.2 | 7.7 | 1976 |
| CA/GNP | −0.4 | 0.2 | −9.7 | −7.8 | −6.0 | −4.7 | |
| **Turkey** | | | | | | | |
| I/GNP | 17.0 | 17.7 | 18.9 | 22.6 | 22.7 | 20.1 | |
| S/GNP | 22.8 | 21.9 | 21.8 | 21.7 | 21.3 | 22.6 | 1978 |
| CA/GNP | 5.0 | 2.8 | −0.5 | −1.9 | −3.6 | −0.1 | |
| **Zaire** | | | | | | | |
| I/GNP | 28.4 | 32.0 | 28.9 | n.a. | n.a. | n.a. | |
| S/GNP | 21.5 | 19.0 | 9.5 | n.a. | n.a. | n.a. | 1976, |
| CA/GNP | −10.8 | −13.0 | −22.8 | n.a. | n.a. | n.a. | 1977 |

Sources: All data except that for Turkey are from the International Monetary Fund, *International Financial Statistics*. The definitions of S, I, and CA are the same as those in tables 8 and 9, although no adjustment for inflation is made for these countries. The data for Turkey are from the Organisation for Economic Co-operation and Development, *National Accounts of OECD Countries, 1950-1978* (Paris: OECD, 1980), and are similarly defined.

n.a. Not available.

From Sachs [1981, p. 246].

and IMF oversight probably moderates this risk to some extent, there is no

guarantee that the FUnd could effectively keep private credit lines open in the

event of a major panic.  Indeed, the ;market responses in 1974-75 to the

Herstatt and Franklin National Bank failures only reinforce the fears of a major

calamity emanating from the credit supply side.  As a recent IMF report records,

> the bank failures had major consquences or interbank rela-
> tionships and international lending.  Tiering of interbank
> deposit rates become considerably more pronounced and many
> small and medium-sized banks withdrew from the market,
> leaving more of the recycling up to those big banks which
> tended to receive deposits themselves.  Japanese banks also
> retreated from the market because of prudential concerns,
> particularly on the funding side.  Connected with these
> events was an adrupt hardening of lending terms and a decline
> in new credit commitments.

An important reason that this restraint did not have more serious consequences

is that the drop in real interest rates across the board in 1974-75 far exceeded

the rise in spreads on loans to the LDCs, so that overall credit terms improved

for those countries for which credit was available.

Some steps were taken in 1974-75 to protect the capital markets from a chain

of bank failures, including the "1975 Concordat of the Cooke Committee" of the

Group of Ten (and Swiss) central banks, which vested primary responsibility for

the solvency of foreign bank branches with the home-country central bank.[28/]  A

second step was a tightening of central-bank supervision over the off-shore

portfolios of domestic banks.  These are useful measures to prevent a breakdown

in confidence over the solvency of commercial banks in the international

markets.  The inability of medium-size banks to compete on the interbank market

in late 1975 is probably vitiated by the clarification and tightening of central

bank responsibility.  But it seems much less likely that the steps taken in

recent years would guarantee continued lending to LDCs in the event of an initial "shock" that <u>starts</u> with an LDC default or debt repudiation.  To use the old cliche regarding monetary policy, infusions of central bank reserves in such a case might be like "pushing on a string," without guaranteeing continued loans to the LDC.

## V. In Lieu of a Conclusion

This essay merely raises some of the issues involved in a complicated and controversial topic. I have even ignored one major aspect of the risks of international lending: the vulnerability of the international banking system to a large default or debt moratorium. I have had to handle in a very cursory way the strategic aspects of LDC negotiations with official and private creditors in recent years. This is especially troubling since gaming behavior is at the core of many of the risks to international debt today.

The theoretical analysis stresses that the riskineses of debt (or the creditworthiness of a sovereign borrower) depends on (1) the overall savings and investment behavior in the borrowing country; and (2) the institutional set-up within which loans are extended. On the first point, a sharp rise in indebtedness that reflects high investment rates is far less risky than a comparable increase in debt that is financing a drop in savings rates. For this reason, country-risk indicators such as debt-GNP ratios or debt-service ratios can only tell a partial story; the important criteria for creditworthiness must focus on the reasons for rising indebtedness. On the second point, the IMF has a key role in arranging package deals that commit sovereign borrowers to stabilization programs in return for continued credit flows. When such arrangements cannot be negotiated (as in Poland), the risks of default rise substantially.

With regard to the recent borrowing experience, I have tried to suggest a reason for optimism. One must focus on the underlying economic factors leading to the high levels of borrowing in order to get a clear view of the dangers therein. Both the ability to repay debt and the disincentives to default rise to the extent that indebtedness reflects high levels of domestic investment rather than low levels of savings. And at least for the major borrowing

countries, such a pattern is evident in the 1970s (unfortunately the data for savings behavior after the second oil shock, in 1979-80, are not yet in). According to the theoretical discussion, this co-occurance of high investment rates and large lending to the LDCs is not merely fortuitous; rational creditors will raise their exposure on sovereign debt in line with high savings and investment rates of the borrower. In any event, there is no facile relationship between oil-import dependence and deficits in recent years, which is a good thing for the borrowers, creditors, and the international community as a whole.

## Footnotes

1. For good recent summaries, see IMF [1980a,1989b], Aronson [1977], World Bank [1981].

2. See Sachs [1981, pp.264-268] for a discussion.

3. It is easy to see that $U^{ND} > U^C$ for all values of $D_1$. Both $U^{ND}$ and $U^C$ are the maximum values of $U(C_1)+U(C_2)/(1+\delta)$ subject to various constraints. The solution for $U^C$ is subject to the same constraints as for $U^{ND}$, plus the added constraint $D_1 = h(I_1)$. Since $U^C$ is subject to an added constraint, $U^C$ must be $< U^{ND}$.

4. Mintz [1951], p.   . The Mintz study offers a brilliant analysis of the international loan market in the 1920s.

5. This paragraph relies on Borchard [1951].

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