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8 Debt Problems and the World Macroeconomy

Rudiger Dornbusch

8.1 Introduction

This chapter discusses the role of world macroeconomic factors in contributing to the debt crisis. I investigate what role these factors—interest rates, commodity prices, growth—played in bringing on the debt crisis, and how they facilitated or complicated the first five years of adjustment. I also ask whether and in what way the world macroeconomy is likely to contribute to the solution of the debt problem in the next five years.

The chapter begins with the presentation of a conceptual framework and a review of the behavior of key macroeconomic variables in the past quarter of a century. I then proceed to a discussion of the origins of the debt crisis and a description of the adjustment period, 1982–87. The following part reviews alternative scenarios for the period 1987–90 and their bearing on debt questions. I also ask what contribution to expect from commercial policies. The chapter concludes pessimistically that for many debtors sufficient improvement cannot be expected from a good performance of the world economy. This makes it necessary to find mechanisms that would make it possible to reverse resource flows.

8.2 External Debt and the Debt Crisis

In this part of the chapter I set out a conceptual framework in which to discuss debt problems and present the macroeconomic background to the debt crisis of 1979–82.

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8.2.1 A Conceptual Framework

The balance of payments and national income accounts give us a basic framework for analysis. The identities and relations they contain, which are true by accounting definition, provide an objective conceptual setting.

There is a debt problem when a country cannot service its debt on the contracted schedule. Debt service difficulties may either be an inability to pay the principal of a maturing debt, as is the case for Colombia or Venezuela today, or an inability to pay both interest and principal. We focus here on debt difficulties of the more serious kind where interest cannot be paid. The reason is that difficulties in paying principal, when interest is regularly paid, should not present any problem since rolling over is a routine operation. The only reason difficulties with principal can become debt problems is if creditors wish to limit their regional exposure and hence insist on payment of principal even from those countries who are good debtors.

Focusing on interest payments, the current account of the balance of payments can be separated into two components: the noninterest current account (NICA), which includes trade in goods and in all services except interest payments on the external debt, and interest payments. Interest payments can be financed by noninterest surpluses or by net capital inflows:

$$\text{(1)} \qquad \text{Interest Payments} = \text{Noninterest Current Account} + \text{Net Capital Inflows}$$

The category "net capital inflows" includes four components: reserve decumulation, direct foreign investment inflows, long-term portfolio inflows, and short- or medium-term borrowing abroad which is often called "new money." In the debt problems of the interwar period or the period preceding 1914, new money took the form of a "funding loan." Today it is concerted or involuntary lending by the commercial bank creditors and multilateral institutions.

Table 8.1 shows these current account components for problem debtor countries in the 1978–87 period.[1] It reveals the turn in the noninterest current account from a string of deficits until 1982 to a series of surpluses. In the period up to 1982 both interest payments and the noninterest deficit need financing and hence are reflected in a rapidly rising debt. Since 1983 a large part of interest is paid by noninterest surpluses and hence the increase in debt is sharply reduced. But debt is still rising, reflecting the financing of the remaining interest payments not met by the surplus and the financing of capital flight and reserve build-up.

Table 8.1 **The Current Account Deficit and External Debt: Countries with Recent Debt-Servicing Difficulties ($ billion)**

	Noninterest Current Account Deficit (Resource Transfer)	Interest Payments	Current Account Deficit	External Debt
1978	17.1	14.8	31.9	242
1979	10.1	21.8	31.9	292
1980	5.0	34.3	39.6	356
1981	20.2	47.5	67.7	430
1982	5.4	57.5	63.1	494
1983	−30.2	52.1	21.9	514
1984	−48.6	57.2	8.6	534
1985	−50.2	53.6	3.1	553
1986	−32.7	50.2	17.5	573
1987	−27.8	45.7	17.9	586

Source: IMF *World Economic Outlook.*

(2) Interest Payments = Noninterest Current Account + New Money + Other Net Capital Inflows

The category "Other Net Capital Inflows" is typically very small. There is little room for reserve decumulation, and long-term capital flows tend to be small. The only time other net capital inflows assume importance is in the case of capital flight or, less frequently, a repatriation of capital.

The discrepancy between the current account on one side and the sum of net borrowing plus non-debt-creating inflows (chiefly direct foreign investment and official aid) represents reserve changes and capital flight.

The noninterest deficit is often called the net resource transfer since it measures the net imports of goods and services (other than interest) over which a country acquires command. Noninterest deficits are the normal pattern for developing countries in which saving is low relative

Table 8.2 **Financing of Problem Debtors' Imbalances ($ billion)**

	1979–82[a]	1983–86[a]	1987
Current account deficit[b]	39.5	7.8	14.8
Non-debt-creating inflows	7.1	4.6	5.1
Net borrowing	49.4	11.6	16.3

[a]Period average.

[b]Deficit on goods, services, and private transfers.

to investment. Noninterest deficits are the channel through which resources are transferred from rich to poor countries to support capital formation and growth in the developing world. Private and public lending forms the financial counterpart. Using the national accounts identities we can represent the financing of investment from the resource point of view as follows:

(3) Investment = Saving + Real Resource Transfer from Abroad

Table 8.3 shows the real resource transfers and the investment rates for Latin America. The table brings out strikingly the decline in investment as a counterpart of the real resource transfer abroad. The shift in resource transfers is almost exactly matched by a decline in investment.

The essential distinction between pre-crisis and post-crisis is the turn of the net resource balance, with debtor countries now making net resource transfers to creditor countries.

8.2.2 Debt Crises

Any debt crisis involves the inability of debtors to meet timely payments of interest and principal. Thus the gap between interest payments that are due and the noninterest current account is the chief characteristic of a debt problem. Four factors then can be identified as leading to a debt problem:

1. With an unchanged willingness to roll over debt and provide a given flow of new money, an increase in real interest rates raises the financing requirement. The imbalance between new money requirements and credit voluntarily supplied brings about a debt crisis.
2. A deterioration in the noninterest current account, because of domestic macroeconomics or because of a worsening in the terms of trade or a fall in export demand, opens a financing gap.
3. An increase in world inflation leads to an increase in nominal interest rates and hence to an early *real* amortization of the external debt. Although real interest rates are unchanged there is a cash flow problem for debtors.
4. With an unchanged interest rate and noninterest current account, creditors decide that exposure is excessive and therefore limit

Table 8.3 **Resource Transfers and Investment as a Percentage of GDP**

	1973–82	1983–85
Gross investment	24.3	18.5
Noninterest surplus	−0.6	4.7

new money commitments and require that maturing principal be paid off.

I now proceed to identify the impact of world macroeconomic events on debtor countries. Specifically, given policies such as the real exchange rate and fiscal policy, how has the world macroeconomy been one of the factors leading to the debt crisis; how has it influenced the evolution of the debt problems since 1982; and what implications can be anticipated from alternative scenarios of the world economy in the coming years? World interest rates, growth, and commodity price trends are at the center of the discussion.

A special interest, however, attaches to their joint behavior. For example, what if the interest payments a country owes increase but the noninterest deficit also increases? And at the same time creditors become unwilling to increase their exposure? The financing equation then no longer adds up and something must give. When a debt crisis occurs and outright default or arrears are not the answer, creditors are often coerced into involuntary lending and debtors undergo adjustment programs to turn their noninterest deficits into surpluses. Creditworthiness must be reestablished. Now debtors have noninterest surpluses that finance the interest payments. But there may still be a part of interest payments financed by net capital inflows or "new money."

With this background in mind we can turn to the main world macroeconomic variables that had an influence in creating the debt crisis.

8.3 The World Macroeconomy: An Overview

Figures 8.1 to 8.4 highlight the chief external variables for debtor countries: the interest rate, the real interest rate, the real price of commodities, and world economic activity. Figure 8.1 shows the London interbank offer rate for dollar deposits (LIBOR). The contribution of interest rates to the debt crisis is shown by the peak level of an interest rate in excess of 18 percent in late 1981.

The interest rate effects appear through two separate channels. One is associated with the level of nominal rates, given the real rate of interest. When higher inflation increases the nominal interest rate the effect on debtors is a shortening of the effective maturity of the debt. The *real* value of the debt is amortized at a faster pace. As a result debtors may experience liquidity problems.

Interest rates also, of course, hurt debtors when real rates increase. In this context it must be decided in terms of at which rate of inflation the real interest rate should be assessed, and there is considerable difficulty in identifying the correct inflation rate. Alternative candidates might be the debtor countries' GNP deflator in dollars or the rate of

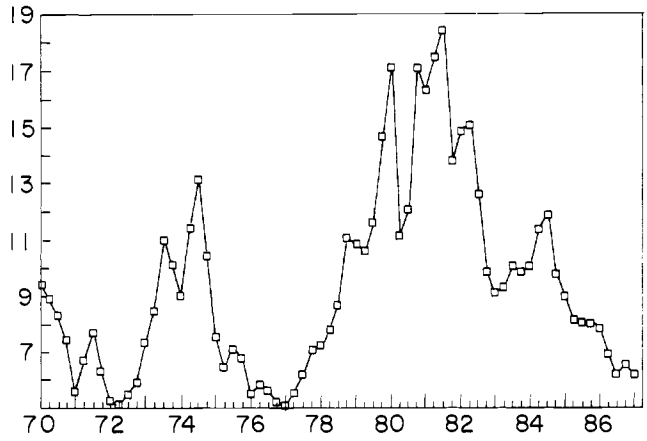

Fig. 8.1 The LIBOR rate

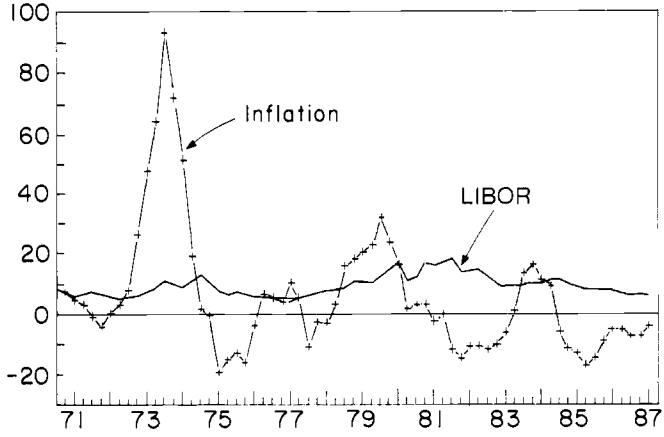

Fig. 8.2 Interest rates and commodity price inflation

inflation in world trade. We chose here the latter series, and it is shown in figure 8.2 together with the LIBOR rate. The behavior of the real rate is, of course, striking in that the sharp increase in nominal rates was accompanied by a falling level of prices in world trade. The combination implied that the real interest rate facing debtor countries was much higher than 20 percent per year.

Figure 8.3 shows the price of commodities. The series shown here is the IMF index of all (non-oil) commodities deflated by the export unit value of industrial countries. Commodity prices show a steady decline since their peak levels in 1973–74. By late 1986 they had fallen

to only 40 percent of the peak level. But in the early 1980s, when the debt crisis first occurred, the real price of commodities did not show a dramatic deterioration. Commodity prices thus were not an immediate source of the crisis, but they did become relevant later in raising the costs of adjustment for several debtor countries.

Figure 8.4 shows world economic activity measured by the index of industrial production in the industrialized countries. The behavior of the index is relatively smooth. The events of the early 1980s do not appear striking even though there was a decline of about 5 percent. Figure 8.5, finally, focuses on the divergent behavior of nominal prices

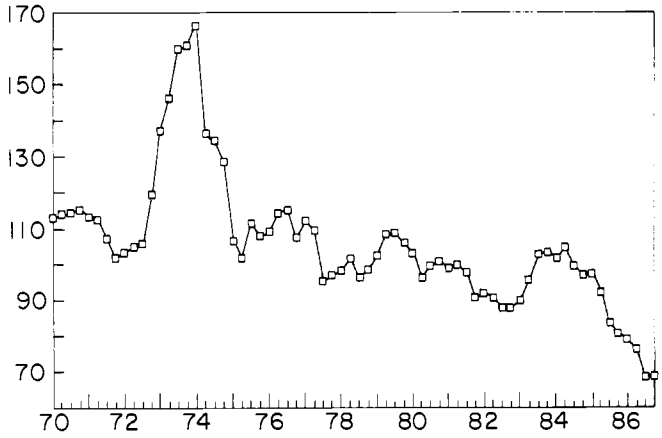

Fig. 8.3 Real commodity prices (Index 1980 = 100)

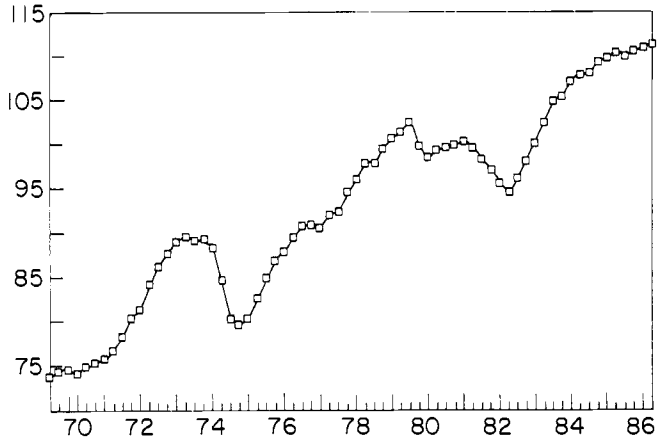

Fig. 8.4 World industrial production (Index 1980 = 100)

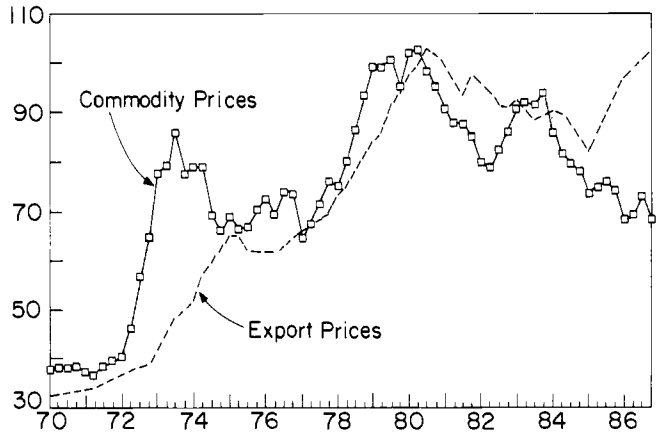

Fig. 8.5 Commodity prices and industrial countries' export prices (Index 1980 = 100)

in world trade (the industrial countries' unit export value) and nominal commodity prices.

Table 8.4 shows data for these aggregate indices. The table reports the averages for the 1960s and 1970s and more detailed information on the period of the debt crisis.

In addition to interest rates, real commodity prices, and economic activity in industrial countries, a fourth external factor influences the noninterest current account. This is commercial policy in developing countries and its influence on market access and hence export performance. There are no good aggregate indicators of market access or of changes in market access. But there is also no suggestion that this factor would have been an important element in provoking the debt crisis. Of course, that does not mean that protectionism did not increase the costs and difficulties of debtor countries once the crisis had started.[2]

8.4 Examples of the Effect of the World Macro Shock

The overview of external factors gives little guidance as to what was the impact on individual debtors. Their common factor is only to be debtors and hence to be hurt by an increase in world interest rates. But even that exposure differs significantly across countries depending on their share of floating rate debt. At one end of the spectrum are poor debtors with most of their debt at concessional rates; at the other end are Brazil and Mexico for whom almost the entire debt has interest rates linked to market rates.

But differences in trade structure also matter, and these imply differential effects of the movement of commodity prices in debtor coun-

Table 8.4 Aggregate World Macroeconomic Indicators

	Real Commodity Prices (1980 = 100)[a]	LIBOR (%)	Inflation[b] (%)	World Activity[c] (1980 = 100)
1960–69	115	5.2	1.0	56
1970–79	115	8.0	11.4	86
1980	100	14.4	13.0	100
1981	96	16.5	−4.1	100
1982	89	13.1	−3.5	96
1983	98	9.6	−3.3	99
1984	101	10.8	−2.5	106
1985	88	8.3	−0.4	110
1986	72	6.9	13.7	110
1987	63	6.8	12.8	112

Source: IMF and Economic Commission for Latin America.

[a]Measured in terms of manufactures export prices of industrial countries.

[b]Rate of inflation of industrial countries' unit export values.

[c]Industrial production.

tries or of economic activity in industrial countries. Korea, for example, imports commodities while Brazil and Argentina are net commodity exporters. To investigate the differential impacts of the 1980s external shock, the experiences of a number of individual countries will be examined.

Brazil: Brazil exports both commodities and manufactures. In the early 1980s the country had just become a predominant exporter of manufactures. Of a total of $24 billion in exports in 1981 nearly 38 percent were primary commodities (coffee, iron, soya, sugar) and the remainder manufactures. But much of manufactured exports had a high import content, as for example steel or orange juice. On the import side a striking 51 percent was oil. Of the external debt of $50 billion, 80 percent was at variable interest rates and more than 80 percent was dollar denominated.

For Brazil, therefore, oil prices and the world money market rate were the chief variables of interest. Being a net exporter of (non-oil) commodities, Brazil would on balance be hurt by a decline in real commodity prices. The concentration in exports on coffee, orange juice, soya, and iron ore is, however, important to note.

The external balance problem, of course, originated in the oil price increase of 1978–79. Oil imports increased from $4.5 billion in 1978 to $11.4 billion in 1981. This increase in the oil bill was automatically financed both in the budget and in the current account by the borrowing of the state enterprises in the world capital market.

The increase in world interest rates in 1979–81 added to the interest bill. In 1979 net interest payments amounted to $4.2 billion. By 1981 they had risen to $9.2 billion and in 1982 to $12.6 billion. At the end

of 1978 the external debt was only $44 billion; by the end of 1981 it had risen to $61 billion and by the end of 1982 to $70 billion. The increase in LIBOR from 8.9 percent in 1978 to 12, 14, and 17 percent over the next three years added a cumulative $7 billion to the external debt. The combination of higher interest rates and higher oil prices "explains" almost the entire increase in debt between the end of 1978 and the end of 1981.

The fact that higher interest rates and higher oil prices explain the increase in debt can also be read to say that the failure to adjust to these external shocks, and the ability to borrow in world markets, meant that external debt was the means by which the country financed the impact of the external shock.

Mexico: The second oil price increase in 1978–79 provided an apparently sound basis on which to engage in a growth strategy. Petroleum export revenue increased from only $1 billion in 1977 to $14 billion in 1981. But spending increased far ahead of the increased revenues. The noninterest budget deficit, oil revenues notwithstanding, increased from 2 to more than 8 percent of GDP (see table 8.5). The current account deteriorated even though oil revenues doubled every year.

The strong domestic expansion, combined with a fixed exchange rate, encouraged overvaluation. The extent of overvaluation at no point became as extreme as it had been in Chile or Argentina. But even so it led to significant deterioration in the trade balance and to massive capital flight.

The capital flight was concentrated in the period 1981–82, in the final phase of the Lopez Portillo government. The deterioration in the external balance and the increasing difficulty in financing the deficit made it apparent that an exchange crisis was around the corner. Large wage increases led to an expectation of a sharp increase in inflation altogether incompatible with the maintenance of a fixed exchange rate. With no restrictions on capital flows there then occurred a massive flight into the dollar. In fact, the capital flight would have been much larger had it not been for the existence of domestic dollar deposits in the banking system. These Mex-dollar accounts absorbed a good part of the spec-

Table 8.5 **Mexico's Macroeconomy, 1977–81**

	1977	1978	1979	1980	1981	1982
Current account deficit (% of GDP)	2.3	3.1	4.1	4.4	5.8	3.8
Real exchange rate (1980–82 = 100)	93	94	98	104	114	83

Source: Morgan Guaranty Trust and Banco de Mexico.

ulation, although their holders ultimately did much worse than those who bought the real thing.

Estimates of the amount of capital flight from Mexico in 1978–82 differ. A recent study by Cuddington (1986) estimates a total of more than $25 billion whereas Morgan Guaranty Trust (1986) gives the higher number of $36 billion. Whatever the exact number, there is no question that somewhere between 10 and 15 percent of GDP went abroad in these critical years. And the reason is exclusively mismanagement since, unlike in the case of Argentina or Chile, there was no deterioration in external conditions until interest rates increased. On the contrary, the oil price increase had provided an extraordinary gain in real income and a potential improvement in the external balance.

Argentina: The Argentine external debt problems were largely due to a mismanagement of the exchange rate. The overvaluation of 1978–81, combined with the liberalization of capital flows, brought about massive capital flight.

Table 8.6 shows the basic data. Note the large real appreciation in 1978–80 and the terms of trade improvement up to 1981. The oil price increase which was important for Mexico, Brazil, and Korea had no effect on Argentina's terms of trade since the country is self-sufficient in oil.

The increase in external debt in Argentina far exceeds the cumulative current account. Therefore interest rate and terms of trade shocks cannot account for the major part of the debt problem before 1981. On the contrary, overvaluation and capital flight are the chief problems in this period. As we shall see below this is no longer the case after 1982 when the terms of trade deterioration becomes an important issue.

Korea: As an oil importer Korea experienced a major deterioration in the terms of trade (see table 8.7). The interest rate shock reinforced the external balance deterioration. Even so, by 1982 the external balance had already turned around and the deficit had become more moderate. In part this is a reflection of the real depreciation which restored competitiveness in the years following the crisis of 1980. In part it

Table 8.6 **Argentine Macroeconomic Variables, 1978–82**

	1978	1979	1980	1981	1982
Debt/GDP	23.9	30.2	37.3	48.1	60.3
Current account as % of GDP	4.0	−1.0	−7.6	−7.4	−3.8
Terms of trade[a]	84	88	100	114	99
Real exchange rate[a]	65	84	100	70	49

[a]Index 1980 = 100.

Table 8.7 Korean Macroeconomic Variables

	1978	1979	1980	1981	1982
Terms of trade[a]	118	115	100	98	102
Net exports of goods and nonfactor services[a]	−3.0	−7.3	−7.8	−5.4	−2.6
Net factor payments from abroad[b]	−1.3	−1.5	−3.3	−4.0	−4.1

[a]Index 1980 = 100.

[b]Percentage of GDP. National Income Accounts.

reflects a successful policy of exporting labor services to the oil-producing countries.

Chile: The Chilean case, just as that of Argentina and Mexico, reflects until 1982 primarily a mismanaged exchange rate rather than a predominance of external shocks. As shown in table 8.8 the terms of trade initially improve and the deterioration of the external balance is above all due to the extraordinary overvaluation.

Only in 1981–82 do international factors take over and cause the deterioration of the external balance by means of increased interest burdens. In 1981 the overvaluation and the external factors combine to yield record deficits. But by 1982 exchange rate adjustment and domestic restraint already compensate on the trade side and the current account deterioration only reflects increased interest rate burdens.

Conclusion: The examples illustrate that external factors were by no means the only influence in the debt crisis. On the contrary, domestic policies were an important, often the main, influence in bringing about a large accumulation of debt. External factors reinforced the impact of these debts in 1981–82 via the interest rate shock.

8.5 The Period 1982–87

This section investigates how the world macroeconomy influenced the debt problem in the period since 1982. I start with a review of the beliefs of 1982, namely that favorable trends in the world economy would significantly facilitate debt service. From there I go to a more detailed consideration of the actual evolution of the world economy to ask whether world macroeconomic conditions in fact facilitated debt service or added to the burden.

8.5.1 The Beliefs of 1982

When in 1982 Mexico, and shortly afterwards a host of other Latin American countries, encountered acute debt service problems, the pro-

Table 8.8 Chilean Macroeconomic Variables

	1978	1979	1980	1981	1982
Terms of trade[a]	94	106	100	86	77
Real exchange rate[b]	91	100	120	136	122
Trade balance[c]	−0.4	−0.4	−0.7	−2.7	0
Current account[c]	−1.1	−1.1	−2.0	−4.7	−2.3

Sources: CIEPLAN, Santiago, Chile, and Morgan Guaranty Trust.
[a]Index 1980 = 100.
[b]Index 1981–82 = 100.
[c]Billions of U.S. $.

cess of concerted or involuntary lending started. The basic philosophy of that process had three ingredients:

1. To assure an ultimate return to voluntary lending it was essential that debtor countries service their debts to the maximum extent possible, on commercial terms and without significant concessions other than with respect to the maturity of the debt principal.
2. Adjustments in debtor countries, specifically in the budget and exchange rates, would go far to bringing about a swing in the noninterest balance so as to service debt.
3. The world macroeconomy would make a substantial contribution in reducing the burden of debt servicing. From the vantage point of 1982 the macroeconomy could only improve. Debtor countries could anticipate higher growth in demand for their exports, lower interest rates, and improving terms of trade.

The question of adjustment in debtor countries is beyond the scope of this paper and has been amply dealt with elsewhere.[3] The issue of interest here is the contribution of the world macroeconomy. Certainly in 1982 the outlook must have been favorable:

1. The world economy was in the deepest recession since the 1930s. In the recovery period there had to be, accordingly, an expectation of growth significantly above trend. This growth would bring about two results. First it would mean an increase in demand for manufactures exports from debtor countries. Second it would translate into a cyclical upturn of real commodity prices. These stylized facts were quite beyond doubt, given the ample empirical evidence on the cyclical behavior of real commodity prices and export volumes.[4]
2. In respect to interest rates the outlook also had to be outright favorable. The short-term interest rate was at record high levels in American history. These high levels of interest rates were an

immediate result of a deliberate attempt to use monetary policy to stop the sharply accelerating U.S. inflation of the late 1970s and early 1980s. With the success of disinflation, interest rates would decline and hence the extraordinary debt service burdens of 1982 would come down.

3. Even though the dollar had appreciated already for more than a year there was not much discussion on this issue. The reason was presumably that dollar appreciation started from a very low point so that overvaluation was not yet a relevant notion. Nor was there an expectation of significant further appreciation. Discussion of a contribution of dollar depreciation to the debt crisis only occurred over the next three years as dollar overvalution became increasingly apparent.

The framework for analysis of debt problems rapidly became the Avramovic-Cline model of debt dynamics, which focuses on the ratio of debt to exports, b. The key question was whether the evolution of the world macroeconomy made declining ratios of debt to exports likely. The evolution of the debt-export ratio over time, b, can be developed in terms of several determinants, specifically interest rates, i, the growth rate of export prices, p_x, and the growth rate of export volume, x:

$$\dot{b} = b(i - p_x - x) - v, \tag{4}$$

where v denotes the noninterest current account surplus as a ratio of exports.

Equation (4) highlights the debt problem in the sense of an ever rising debt to export ratio. Such a course is unlikely if the real interest rate, defined as nominal rates less the rate of inflation of export prices, is less than the growth rate of export volume and if there is a noninterest current account surplus. Table 8.9 shows the long-term averages for some of these variables for use as a benchmark.

With the data for problem debtors, and assuming a spread over LIBOR of 2.2 percent, we observe that the debt-export ratio would be

Table 8.9 **Long-term Average Growth Rates, 1969–78**

	LIBOR	Export Prices	Export Volume	Debt Ratio[a]
Asia	7.8	10.1	10.8	75.7
Western Hemisphere	7.8	13.9	1.7	197.7
Problem debtors	7.8	12.1	2.3	164.3

Source: IMF.

[a]Ratio of debt to exports of goods and services in 1979.

declining unless there was a noninterest current account deficit in excess of 7 percent of exports. Of course, in 1978–82 the deficits were in fact much larger.

The expectation of declining nominal interest rates and cyclically rising nominal and real export prices for debtor countries implied an expectation of low real interest rates. Recovery and sustained growth in the industrial countries were expected to translate into significant growth in export volumes.

Adjustment in debtor countries, both in terms of expenditure cutting and real depreciation, was expected to translate into significant export growth and into an increased noninterest current account surplus. Thus for every element in the debt dynamics equation a favorable scenario could easily be predicted. And if there was any pessimism on real interest rates and growth in export volume, the fact of noninterest current account surpluses provided the necessary leeway to make a trend reduction in debt burdens plausible.

Cline (1983) in particular expressed the view that the debt problem was largely under control. Using simulations for the major debtor countries, and assuming alternative scenarios for the world economy, he showed that for most debtor countries there was an expectation of declining debt-export ratios. Moreover, the gain in creditworthiness implied by a reduced debt-income ratio in several cases could be accompanied by significant growth in the debtor countries. Brazil, for example, could in Cline's simulations achieve both an average growth rate of 6 percent and a reduction in its debt-export ratio. The Cline analysis rightly emphasized the crucial role of oil prices in determining the relative performance of Mexico and Brazil. With the assumption of declining oil prices Mexico was a problem country and Brazil's prospects were relatively bright.

Table 8.10 shows a medium-term scenario developed by the IMF in 1982 as well as the actual outcome for the key variables. The IMF scenario assumed a strong internal adjustment in the debtor countries, continued inflation fighting in the industrial countries, a constant real price of oil at the 1982 level, and a sharply declining real LIBOR rate. Table 8.10 reports three scenarios: The base line scenario is labeled A, scenario B is pessimistic and hence imposes extra adjustment requirements on debtors, and scenario C is optimistic. The optimism and pessimism are judged in terms of the growth-inflation mix in industrial countries. There was apparently no recognition at the time of the real interest rate consequences of rapid disinflation and of the U.S. monetary-fiscal mix. The other respect in which the scenario is interesting is that there was a quite explicit confidence that current account imbalances could be financed.

Table 8.10 **The 1982 IMF Scenarios for Non-Oil Developing Countries (average annual rates for 1984–86 except as noted)**

	A	B	C	Actual
Industrial country growth	3.2	2.2	4.3	3.1
Industrial country inflation	5.5	8.0	4.5	3.8
Real LIBOR Rate[a]	2.0	2.0	2.0	5.4
Net oil importers				
Export volume	7.6	5.9	9.2	8.1
Terms of trade	−0.5	−1.7	0.9	0.7
Net oil exporters				
Export volume	5.0	4.0	6.0	3.6
Terms of trade	0	−1.0	1.0	−10.0
1986 Current account[b]				
Net oil importers	−13.7	−19.4	−9.0	−1.4
Net oil exporters	−20.6	−27.0	−17.5	−16.8

Sources: IMF *World Economic Outlook* 1982 and April 1987.

[a]Using the U.S. GNP deflator.

[b]Percentage of exports of goods and services.

8.5.2 The Actual Experience since 1982

The actual outcome shown in table 8.10 differs from the IMF scenario in the following respects:

1. Real interest rates continued to be far higher than expected. The U.S. monetary-fiscal mix thus has strong implications for the performance of countries with high debt ratios and a high ratio of floating rate debt.
2. The real oil price fell dramatically and hence the relative performance of net oil exporters was due more to their adjustment efforts than to favorable terms of trade.
3. The assumption that debtor countries could afford to run significant current account deficits was overly optimistic. Financing constraints in fact limited these deficits.

Table 8.11 gives further details on commodity prices, nominal interest rates, and real oil prices, which were only addressed in the terms of trade category of table 8.10. Nominal interest rates did, indeed, decline significantly from their peak levels, and OECD growth showed somewhat above the 3 percent threshold that had been set as a benchmark for solving debt problems. The significant difference from the 1982 outlook was in respect to commodity prices. Rather than showing a recovery in nominal and real terms they in fact continued to decline. The decline was so significant that in 1986 they were at a lower level than at any time in the preceding quarter of a century, as already shown in figure 8.3 above. In nominal terms they had fallen back to the level of 1977.

Table 8.11 **Commodity Prices, Oil Prices, and Interest Rates (average annual percent)**

	Commodity Prices	Interest Rates[a]	Real Oil[b]
1969–78	9.8	7.8	
1980–82	−4.1	14.8	100
1983–86	−3.4	8.9	80

Source: IMF.

[a]LIBOR.

[b]Deflated by manufactures prices; Index 1980–82 = 100.

Creditworthiness

The belief that debt and debt service ratios would decline has not in fact been borne out, as is shown in table 8.12. On every measure of creditworthiness debtor countries today look worse than they did in 1982, excepting the debt service ratio. The reduction in interest rates since 1982 clearly helped reduce the service ratio as did the long-term restructuring of debts. But even though there is a marginal reduction in the debt service ratio, the extent of decline falls short of the 1982 expectations.

Favorable conditions in the world economy and the beneficial effects of adjustment programs on the part of debtors were expected to show in time an improvement in creditworthiness sufficient to warrant a return to voluntary lending. That remains the expectation, but the process is not on schedule. Abstracting from the oil shock, which improved the situation of Korea and Brazil while dramatically worsening that of Mexico, there has been as yet no improvement as dramatic as had been anticipated. Standard indicators of creditworthiness such as the ratio of debt to GDP or debt to exports have in fact worsened since 1982.

The return of voluntary lending was predicated on countries restoring their credit standing. While creditworthiness is a broad and vague idea, the operational concept was a reduction of ratios of debt to GDP and debt to exports. Table 8.12 shows that since 1982 creditworthiness

Table 8.12 **The Deterioration of Creditworthiness (percentage)**

	Debt/GDP			Debt/Exports			Debt Service		
	1978	1982	1986	1978	1982	1986	1978	1982	1986
All debtor LDCs	26	34	40	132	151	180	14	20	22
Problem debtors	31	43	49	180	254	282	28	40	38

Source: IMF, *World Economic Outlook.*

measured by these benchmark ratios has worsened or at least not improved, making the current adjustment effort of debtor countries entirely open-ended.

The Cline Projections

While the preceding discussion focuses on groups of countries, it is also of interest to see how forecasts fared in specific country cases. The analysis by Cline (1983) provides that possibility for the year 1985. Table 8.13 shows the results for Argentina, Brazil, and Mexico.

Three points stand out in these comparisons. First, that export revenues fall short of those predicted by Cline. Second, that import spending is much lower than Cline had predicted. Third, that interest payments are somewhat lower than predicted by Cline. Note, though, that the Brazilian current account surplus of 1985 was correctly predicted by Cline. Of course, by 1986 the differences are much more pronounced because of the vast influence of the decline in oil prices from $28 to $15 per barrel.

Extreme Cases

There are some countries that are outliers in the adjustment period since 1982. On one side are countries who are predominant exporters of commodities and borrow primarily from official sources. They would experience the large and continuing decline in commodity prices without the advantage of reduced interest burdens. Among the countries that come to mind in this category, Bolivia stands out. There interest payments have been as much as 70 percent at fixed rates, so the fall in world interest rates did not bring major benefits. But the terms of trade deteriorated over the period 1981–86 by 14 percent. The value of exports declined in 1984–86 cumulatively by 40 percent!

On the other side, the most striking improvement in the external debt position during the adjustment period has been made by Korea. Korea benefited from every one of the factors characterizing the 1982–87 period: lower commodity prices, lower oil prices, and lower interest rates. Each of these factors exerts a very significant impact on the

Table 8.13 **Cline Projections and Actual 1985 Outcomes ($ billion)**

	Argentina		Brazil		Mexico	
	Cline	Actual	Cline	Actual	Cline	Actual
Exports	10.4	8.4	29.5	25.6	23.6	21.9
Imports	6.4	3.8	18.2	13.2	16.0	13.5
Oil			7.0	5.7		
Interest	6.2	5.3	13.0	9.6	10.7	9.9

Source: Cline (1983) and various government publications.

external balance, and hence the combined effects—in conjunction with an aggressive exchange rate policy—produced a dramatic improvement in the external balance. The shift in the current account represents nearly 10 percent of GNP by 1986 and is still widening.

8.6 The Outlook

In this section I ask whether there are important shifts in the world macroeconomic outlook, and in the outlook for trade policies and the capital market, that promise to help overcome the debt problem or threaten to make its solution much more difficult. On the side of macroeconomics there is certainly a possibility of quite different scenarios depending on the way in which the U.S. budget problem is solved and the response of interest rates and the dollar to budget cuts when they do take place.

8.6.1 The 1987 IMF Scenario

A useful frame of reference for the world economic outlook is the 1987 IMF medium-term scenario shown in table 8.14. The central

Table 8.14 The 1987 IMF World Economic Outlook

	1987	1988	1989–91 Average
Industrial countries			
Growth	2.3	2.8	2.9
Real LIBOR	3.6	3.0	3.4
GDP deflator	2.9	3.4	3.2
World economy			
Manufactures prices	11.0	3.1	3.0
Oil prices	8.7	3.1	3.0
Non-oil commodities	−4.9	5.1	4.7
Problem debtors			
Real GDP	4.4	4.7	5.0
Terms of trade	−2.1	−1.0	—
Export volume	5.4	5.9	5.6
Import volume	2.5	3.6	5.7
Current account[a]	−1.5	−0.6	−0.6
Interest payments[a]	6.3	5.9	5.4
Latin America			
Real GDP	3.3	4.7	4.8
Terms of trade	−4.7	−0.6	0.2
Export volume	0.1	7.2	5.1
Import volume	−0.8	2.4	5.4
Current account[a]	−14.3	−9.3	−5.7
Interest payments[a]	25.3	23.1	20.5

Source: IMF, *World Economic Outlook*, April 1987.

[a]Percentage of exports of goods and services.

assumption of this scenario is a continued high real interest rate compensated by sustained growth in the world economy and in debtor country exports. There is an expectation of moderately rising real oil prices and no change in the terms of trade.

In terms of equation (4) above the IMF outlook places major reliance on continued large noninterest current account surpluses and on export volume growth to help contain or reduce debt problems. The scenarios allow for growth in imports at roughly the same rates as those of exports, which is possible because the starting point is a large noninterest surplus. Hence maintaining equal growth rates, with unchanged terms of trade, assures that noninterest surpluses are maintained. In other words the IMF assumes that in the period to 1991, problem debtors will continue to make real resource transfers to their creditors at present rates.

8.6.2 U.S. Adjustment: Implications for Debtor Countries

It is interesting to go beyond the IMF outlook and focus on the central development in the world economy in the next few years, namely U.S. adjustment of the twin deficits. Table 8.15 shows the U.S. macroeconomic data for the recent years. It is quite apparent that the large size of the U.S. external deficit is at least to some extent a counterpart of the ability of debtor countries to service their debts by noninterest surpluses. The extent to which debtor countries were able to shift their trade balance with the United States is apparent from table 8.16 which focuses on all goods and, specifically, on manufactures.

Table 8.16 shows that while the bilateral balance has not shifted when one considers all goods, the same is not true for manufactures where there is a shift of more than $50 billion. The difference resides in the fact that the decline in commodity and oil prices has tended to improve the balance for nonmanufacturing trade with developing countries.

The shift in the manufacturing trade balance is, of course, not only related to the debt crisis. In fact, much of it reflects the very strong

Table 8.15 **The U.S. External Balance and Net Investment Position (billions of $ except as noted)**

	1982	1983	1984	1985	1986
Int'l. investment position	136.2	88.5	4.4	−107.4	−238
Current account					
Total	−9.2	−45.6	−112.5	−124.4	−147.7
Non-interest	−28.1	−37.0	−131.3	−149.6	−170.6
(% of GNP)	−0.9	−1.1	−3.5	−3.7	−4.1
Budget deficit (% of GNP)	−4.1	−5.6	−4.9	−5.1	−4.6

Sources: U.S. Department of Commerce, the Federal Reserve, and the IMF.

Table 8.16 **U.S. Trade with Developing Countries ($ billion)**

	All Goods			Manufactures		
	Imports	Exports	Balance	Imports	Exports	Balance
1980	122.6	79.6	−43.0	29.5	55.6	26.1
1981	121.3	87.4	−33.9	35.1	61.5	26.4
1982	103.7	80.7	−23.0	37.0	55.5	18.5
1983	107.4	71.0	−54.7	45.9	45.7	−0.2
1984	125.9	72.7	−53.2	61.8	47.5	−14.3
1985	122.2	69.7	−52.5	65.5	46.0	−19.5
1986	124.8	68.3	−56.5	77.3	49.4	−27.9

Sources: GATT, Geneva, and the U.S. Department of Commerce.

performance of Asian exporters. Even there, however, in the case of Korea, for example, the export effort is not unrelated to the debt problems of the early 1980s. But whatever has been the role of the debt problem in contributing to the U.S. deficit, the question now is how U.S. adjustment policies will affect the external conditions of debtor countries.

Two features of U.S. adjustment can be highlighted as in table 8.17. One is whether there is a hard or soft landing. The hard landing scenario envisages a collapse of the dollar caused by a loss of confidence. The dollar collapse in turn translates into a sharp upturn of U.S. inflation and brings as a Federal Reserve response a severe tightening of monetary conditions. The result is recession and high real interest rates. The soft landing, by contrast, assumes that fiscal policy turns increasingly restrictive, and monetary policy accommodates with a decline in interest rates. The dollar falls and thus growth of output is sustained by an improvement in net exports. Growth thus is stable and inflation rises moderately. Real interest rates clearly decline.

The second dimension concerns trade policy. Here there are two possibilities: targeted restrictions on countries with large bilateral surpluses (Japan, Korea, Brazil, Mexico) or no significant change in trade policy.

Table 8.17 shows strikingly that the debt problem today remains wide open. Sustained U.S. growth with low real interest rates *and* unimpaired market access means debt problems will become significantly smaller. Continued ability to sell in the U.S. market, higher real commodity prices which come with dollar depreciation, and lower real interest rates all combine to create a scenario favorable for debtors. Of course, the counterpart of U.S. external balance improvement in this case is a worsening of the net exports of Europe and Japan. But lower real interest rates have a self-correcting property in that

Table 8.17 **Consequences for Debtors of U.S. Adjustment Scenarios**

	Soft Landing	Hard Landing
Trade restrictions	Moderate trouble	Debt default
No trade restrictions	Major improvement	Moratoria

debtor countries can reduce their noninterest surplus and yet improve their creditworthiness. This feature means that there is not necessarily a conflict between U.S. and debtor country objectives. When debtor countries argue for the need to reduce U.S. deficits they presumably have this scenario in mind.

The other extreme scenario is a hard landing with trade restrictions. The consequences are obvious: Recession and high real interest rates move debt service problems far beyond what debtor countries can be expected to make up for by domestic adjustments. Trade restrictions further worsen their ability to service debts. The almost certain consequence would be 1930s-style debt defaults or indefinite suspension of debt service.

World growth and real interest rates are central in judging the impact of alternative scenarios for debtor countries. On the side of growth, U.S. fiscal adjustment will tend to reduce growth in the world economy. If U.S. output growth is sustained this will mean that real depreciation sustains net exports and that accordingly foreign growth will tend to be less. It is very unlikely that Europe and Japan will provide an expansion in demand sufficient to keep world output growth constant. Thus on the growth side the expectation must be that the performance of the past few years cannot be sustained. But on the interest rate side there may be a favorable development. If the United States does adjust the budget and sustains growth by lower interest rates the dollar will depreciate and this is likely to force Europe and Japan into interest rate reductions even if that threatens monetary discipline.

The impact of interest rates on debtors' current account balances is, of course, very significant. Table 8.18 gives estimates of the impact on various Latin American countries of a 2.5 percent reduction in interest rates. It shows that the impact on individual debtor countries will depend both on their debt ratios and on the fraction of debt that is at floating rates.

The impact of interest rate changes on import availability is very significant for Mexico, Argentina, and Brazil, who are the large borrowers from commercial banks. For Latin America at large, a 2.5 per-

Table 8.18 Interest Saving from a 2.5 Percentage Point Fall in Interest Rates

	$Billion	Percentage of Imports
Latin America	6.0	7.8
Mexico	2.0	10.5
Venezuela	0.5	5.7
Bolivia	0.025	3.5
Chile	0.4	9.4
Argentina	0.8	15.7
Brazil	1.7	10.3
Peru	0.14	5.1

Source: United Nations Economic Commission for Latin America, Santiago, Chile.

cent reduction in interest rates would amount to a resource saving of nearly 8 percent of total imports. Hence the importance to debtors of the monetary policies that accompany the correction of the U.S. deficit.

Trade barriers might not be applied uniformly across U.S. trading partners. They might be applied only to industrial countries, specifically Japan, or only to *current account* surplus countries, rather than to countries with bilateral surpluses. For debtors the implication here is that an improvement in the debt service ability of countries like Mexico or Brazil might be paid for by extra restrictions on Korea or Taiwan. Thus developing countries as a group might experience an improvement while specific countries like Korea would bear the burden.

There is another way of looking at debtor countries and U.S. adjustment. Suppose that the United States in fact achieved a $100 billion reduction in the external deficit. Assume also that this had as a counterpart a $20 billion improvement in the U.S. bilateral *trade* balance with Latin America. How can Latin America experience a $20 billion deterioration in the external balance? There are only two ways: much lower interest rates or significant extra financing. Thus any hard landing scenario without default of necessity involves a dramatic change in financing availability which is not apparent today.

The focus on the U.S. adjustment problem throws a very different light on the links between world macroeconomics and debt problems. It suggests that the steady IMF scenario conceals that there is either good or bad news, but probably not the balanced no-news outlook implicit in table 8.14. Of course, it is possible that U.S. adjustment is a matter of the more distant future. In that case the IMF scenario would be more appropriate for the near term. But there would inevitably be an adjustment some time and that might be more nearly of the hard landing variety.

Is there a chance that debt problems will be solved in some other fashion by the world macroeconomy? Here one would look to a pattern

of terms of trade, interest rates, and inflation of the 1970–73 variety. Since the United States is already at full employment, continuing depreciation and monetary accommodation, without fiscal contraction, will inevitably raise inflation while sustaining growth. This policy setting would ease debt problems significantly. The only question is whether the process of sliding gently into the soft landing option, with a few years' delay, can in fact be achieved. The monetary authorities would have to be sufficiently accommodating and impervious to inflation, and asset holders would have to be patient, sitting out dollar depreciation without a stampede. This does not seem to be a high-probability scenario.

8.6.3 The Commodity Price Problem

The final point to raise concerns the long-term behavior of commodity prices. Both figure 8.6 and table 8.19 show a long-term time series for the real price of commodities. Although exact comparisons across periods are impaired by the fact that these data are spliced from different series, the basic point is very striking.[5] Commodity prices in the mid-1980s have reached the lowest level in real terms since the Great Depression.

Several factors explain this low level of commodity prices. The high level of real interest rates is one and, until 1985–86, the high level of the dollar was another. But these factors are not sufficient to explain the large decline as discussed in Dornbusch (1985). Substitution toward resource-saving technologies on the demand side, and real depreciation and hence increased levels of output at given *world* real prices are often factors. Capacity expansions in many producing countries are further

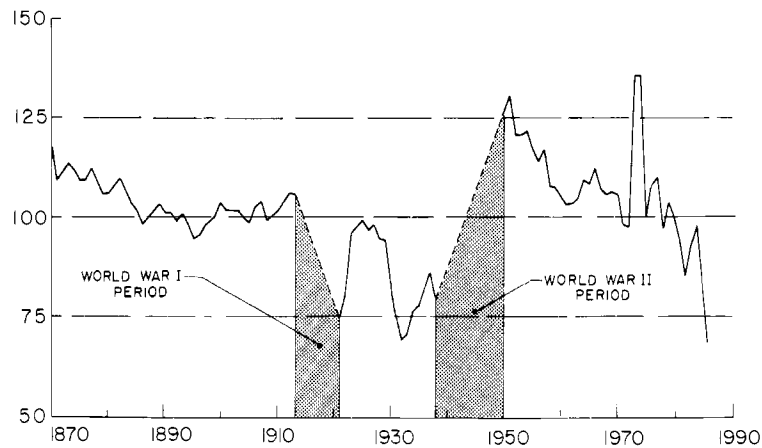

Fig. 8.6 The long-term trends of real commodity prices (Index 1980 = 100). *Source:* IMF (1987).

Table 8.19 **The Real Price of Commodities: 1950–87 (Index 1980 = 100, period averages)**

1950–54	124	1970–74	115	1985	85
1955–59	113	1975–79	104	1986	69
1960–64	106	1980–84	94	1987	64
1965–69	108				

Source: IMF (1987).

factors that reduce real prices. Finally, for agricultural commodities government support policies in industrial countries have played an important role.

But this large decline in real commodity prices, which has been a decisive factor in the debt performance of several countries, as for example Argentina, Bolivia, and Peru, may well have bottomed out. Moreover, the recovery of real commodity prices may turn out to be surprisingly large and rapid. Certainly the level of real commodity prices is unlikely to return to the high of the early 1970s because structural factors mitigate so large an increase. But a resumption of inflation and much lower real interest rates will drive up inventory demand and thus bring about a significant rise. Indeed, the signs of such an increase are already quite apparent except for food. In the one year to August 1987, the *Economist* index of all commodities increased in dollar terms by 22.1 percent, with industrial commodities rising by 46.4 percent. But that increase was not shared by food which showed a moderate decline.

8.7 Conclusion

World macroeconomic policies and variables were until 1981–82 not the major reason for the present debt crisis. Only in 1981–82 did the sharp increase in interest rates and the decline in growth help create a crisis in the aftermath of very poor policy performance in debtor countries.

Since 1982 the world macroeconomic environment has shown an improvement. Interest rates declined in nominal and real terms, and growth has been sustained, as was expected in 1982. The only surprises were that dollar overvaluation lasted as long as it did, a smaller decline in real interest rates, and a massive decline in the real prices of commodities. The world macroeconomic environment certainly did not provide a setting in which debtor countries could grow out of their debts by export booms and improving terms of trade.

Today, five years into the adjustment process, indicators of creditworthiness show a deterioration except for the ratio of debt service to

exports. And even that indicator is barely below the 1982 level. Can we expect that the world economy in the years ahead will provide a distinctly more favorable setting? The IMF outlook for the period 1988–91 shows a no-news setting: steady, moderate growth, no changes in the terms of trade, and an increase in real interest rates. In such an environment debtor countries would have to continue making massive real resource transfers to their creditors. Any improvement in their creditworthiness would have to come primarily from further domestic adjustments.

The no-news scenario conceals the wide variation of outcomes that lie ahead and depend on the nature of U.S. adjustment. Two extreme possibilities are (1) a soft landing with significant real interest rate reductions, improving terms of trade, and sustained growth and (2) a hard landing. The soft landing would ease debt service problems in the same way as happened in 1970–73. But the hard landing, with high real interest rates and recession, possibly reinforced by protection, would certainly preclude debt service on the scale that has taken place so far. U.S. external adjustment forces the question of how a reduction in debtor countries' noninterest balances is consistent with the lack of financing of debtors' interest payments. Without the financing there cannot be any reduction in surpluses except by moratoria or default. Thus U.S. trade adjustment poses a major unresolved issue for the international debt problem.

Notes

1. Countries in this group are characterized by having incurred arrears in 1983 and 1984 or rescheduled their debts in the 1982–85 period.
2. On the costs of protection in a situation of credit rationing, see Dornbusch (1985).
3. See, for example, Dornbusch (1985; 1986).
4. See International Monetary Fund, *World Economic Outlook* (1986) and Dornbusch (1985).
5. See IMF (1987, 90–91) for a discussion of the data.

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