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# 16 Debt Problems and the World Macroeconomy

Rudiger Dornbusch

## 16.1 Introduction

In this chapter I discuss the role world macroeconomic factors—interest rates, commodity prices, and industrial countries' growth—have played in bringing the debt crisis about and how they either facilitated or made more difficult the first five years of adjustment. I also ask whether and how the world macroeconomy is likely to contribute to the solution of the debt problem in the years ahead.

## 16.2 External Debt and Debt Crisis

I first set out a conceptual framework to discuss debt problems and the macroeconomic background to the debt crisis in 1979–82.

### 16.2.1 A Conceptual Framework

Debt service difficulties may either take the form of 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. I 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.

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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 on the one hand, and interest payments on the other. Interest payments in turn can be financed by noninterest surpluses or by net capital inflows:

$$(1) \quad \text{Interest Payments} = \text{NICA} + \text{Net Capital Inflows}$$

“Net Capital Inflows” includes four categories: 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 16.1 shows these current account components for problem debtor countries in the 1978–87 period.<sup>1</sup> 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 limited. But even so, 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.

A noninterest deficit is often called the net *inward* resource transfer since it measures the net imports of goods and services (other than interest) over which a country acquires command. Noninterest deficits

**Table 16.1**                      **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*.

are the normal pattern for developing countries in which saving is low relative to investment. They 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 form the financial counterpart. Using the national accounts identities we can represent in (2) the financing of investment from the resource point of view.

$$(2) \text{ Investment} = \text{Saving} + \text{Real Resource Transfer from Abroad}$$

The abrupt reduction in financing of noninterest deficits, or the reduction in net inward real resource transfers has meant a sharp decline in investment for Latin America. Since 1982, by comparison with the period 1973–82, investment has declined by 5 percent of GDP which is exactly equal to the swing in resource transfers. Now debtors are transferring resources to creditors.

### 16.2.2 Debt Crises

Any debt crisis involves the inability of debtors to make timely payments of interest and principal. Five factors can be identified as leading to a gap between interest payments that are due and the noninterest current account:

1. With an unchanged willingness to roll over debt and provide a given flow of 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, 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, a cash flow problem for debtors results from increased nominal interest rates.
4. With an unchanged interest rate and noninterest current account, creditors decide that exposure is excessive and therefore limit new money commitments and require that maturing principal be paid off.
5. Industrial activity in developed countries affects the demand for exports from developing countries. A slowdown or recession reduces quantity demanded and lowers prices, thus impairing debt service ability.

I now proceed to identify the impact of world macroeconomic events on debtor countries. Specifically, in what way has the world macroeconomy been one of the factors leading to the debt crisis, how has it influenced the evolution of 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.

### 16.3 The World Macroeconomy: An Overview

Figures 16.1 and 16.2 highlight two important external variables for debtor countries: the real interest rate and the real price of commodities. In figure 16.1 I show the London interbank offer rate for dollar deposits (LIBOR) adjusted by the rate of inflation in world trade.<sup>2</sup> The central role of interest rates in precipitating 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. In 1980–82 debtor countries were hurt both by increased nominal interest rates and by declining commodity prices. The combination implies that the real interest rate facing debtor countries was much higher than 20 percent per year. Of course, real interest rates had already reached high levels on previous occasions, as for example, in the period 1975–76. But at that time debt ratios were much lower and, accordingly, the vulnerability to interest rate shocks was less.

Figure 16.2 represents the real price of commodities. The series shown here is the IMF index of all (nonoil) commodities deflated by

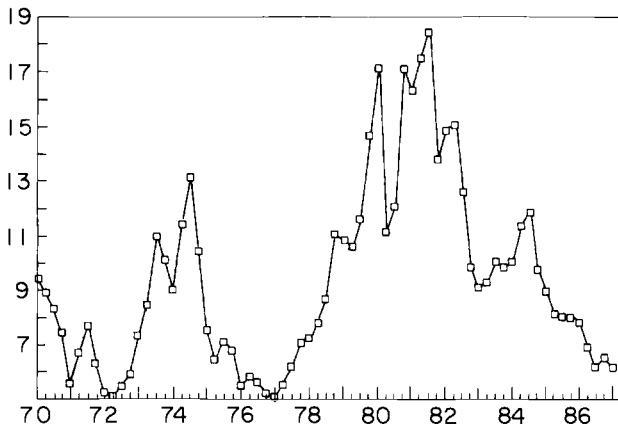
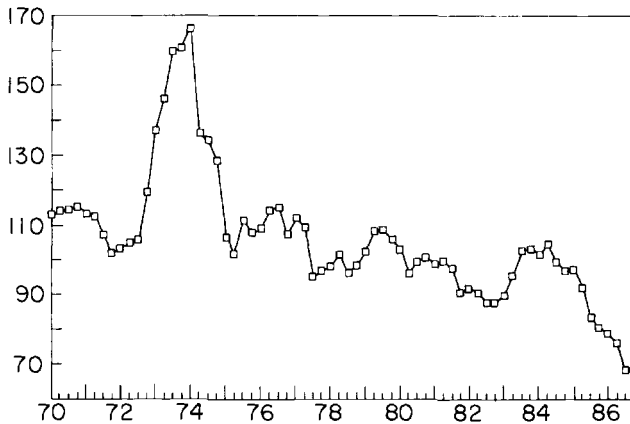


Fig. 16.1 The real interest rate



**Fig. 16.2** The real price of commodities

the export unit value of industrial countries. Commodity prices have steadily declined 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 broke out, 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. In fact, to the extent that real commodity prices were high in the late 1970s, they contributed to the borrowing spree. Later, when they declined, they aggravated the debt crisis over and above what it otherwise would have been.

Table 16.2 shows data for these aggregate indices. The averages for the 1960s and 1970s are reported, as well as 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 further external factor influences the noninterest current account: commercial policy in developed countries and its influence on market access and hence, developing country export performance. There are no good aggregate indicators of market access or of changes in market access. But there is also no evidence that this factor was 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.

#### 16.4 The Period 1982–87

When the debt crisis emerged in 1982 there was a ready consensus that a package of adjustment and financing could see debtors and

**Table 16.2** Aggregate World Macroeconomic Indicators

	Real Commodity Prices (1980 = 100) <sup>a</sup>	LIBOR (%)	Inflation <sup>b</sup> (%)	World Activity <sup>c</sup> (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.

<sup>a</sup>Measured in terms of manufactures export prices of industrial countries.

<sup>b</sup>Rate of inflation of industrial countries' unit export values.

<sup>c</sup>Industrial production.

creditors through the worst difficulties until the world economy turned, as was expected, in a more favorable direction. What precisely were the expectations about the external environment facing debtor countries?

#### 16.4.1 The Beliefs of 1982

When Mexico in 1982—and shortly afterwards a host of Latin American countries—encountered acute debt service problems, the process of concerted or involuntary lending started. The prevailing philosophy of that process had three ingredients:

1. To assure an ultimate return to voluntary lending it was essential that debtor countries should 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 in bringing about a swing in the noninterest balance so as to service debt.
3. An improving world economy—recovery, rising real commodity prices, and declining real interest rates—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 chapter and has been amply dealt with elsewhere.<sup>3</sup> The issue of interest here is the contribution of the world macroeconomy. Cer-

tainly in 1982 the outlook must have been favorable. Specifically, the scenarios in the IMF *World Economic Outlook* of that year reflected the following views:

- 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.<sup>4</sup>
- With 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.

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. At the time there was apparently no recognition of the real interest rate consequences of rapid disinflation and of the U.S. monetary-fiscal mix. The early scenarios are also revealing in that there was a quite explicit confidence that current account imbalances could be financed.

#### 16.4.2 The Actual Experience Since 1982

The actual outcome differed from the IMF scenario in the following respects:

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



Nominal interest rates did, indeed, decline significantly from their peak levels, and OECD growth was somewhat above the 3 percent threshold that had been set as a benchmark for solving debt problems. The significant difference from the 1982 outlook involved 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 (see figure 16.2 above). In nominal terms they had fallen back to the level of 1977.

The belief that debt and debt service ratios would decline has not in fact been borne out. On every measure of creditworthiness debtor countries today look worse than they did in 1982, except for 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.

## **16.5 The Outlook**

In this section I ask whether important changes in the world macroeconomic outlook lie ahead that might help overcome the debt problem or whether, on the contrary, world macroeconomic developments threaten to make the solution much more difficult. On the side of macroeconomics there is certainly a possibility of two 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 occur.

The medium-term outlook is neither outright unfavorable nor exceptionally favorable. Table 16.3 lays out the IMF's 1988 views.<sup>5</sup> There is an expectation of continued, moderate growth in the world economy. No major changes in relative prices are anticipated, and real interest rates are not expected to decline. This outlook represents a baseline. Sharply different scenarios are possible depending on the fiscal adjustments that lie ahead in the U.S. economy.

### **16.5.1 U.S. Adjustment: Implications for Debtor Countries**

It is interesting to go beyond the baseline forecast and explore what consequences U.S. adjustment of the twin deficits can have for debtor countries.

Two features of U.S. adjustment can be highlighted as in table 16.4. 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. This collapse in turn translates into a sharp upturn of U.S. inflation, and induces the Federal Reserve to severely tighten monetary conditions.

**Table 16.3** The IMF 1988 Outlook (percent per year)

	1988	1989	1990-92
Industrial countries			
Growth	2.8	2.6	2.8
Inflation	4.7	4.3	3.0
Real six-month LIBOR <sup>a</sup>	3.0	3.1	4.3
Prices in world trade			
Manufactures	8.0	3.4	3.5
Nonoil primary commodities	9.4	1.0	3.5
Oil	-7.8	5.1	3.5

Source: IMF *World Economic Outlook* (April).

<sup>a</sup>Deflated by U.S. GNP deflator.

**Table 16.4** Consequences for Debtors of U.S. Adjustment Scenarios

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

The result is a 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.

Sustained U.S. growth with low real interest rates *and* unimpaired market access means debt problems will become significantly smaller. 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 debtor countries can reduce their noninterest surplus and still 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 make up for by domestic adjustments. Trade restrictions further worsen their ability to service debts. The almost certain consequence would be runover 1930-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, even as the growth of domestic spending is reduced as a result of fiscal correction, this will mean that real depreciation is necessary to raise 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 performance of the past few years is not likely to be sustained. But on the interest rate side, there may be a favorable development. If the U.S. reduces the budget deficit and keeps growth up through lower interest rates, the dollar will depreciate. This is likely to force Europe and Japan into interest rate reductions even if that would threaten monetary discipline.

The impact of interest rates on debtors' current account balances is, of course, very significant. For Latin America a 2.5 percentage point reduction in interest rates would amount to a foreign exchange saving of nearly 8 percent of total imports. Hence the importance to debtors of the easier monetary conditions that would accompany a reduction of the U.S. budget deficit.

Trade barriers might not be applied uniformly across U.S. trading partners. They might instead 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 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 bear the burden.

There is another way of looking at U.S. adjustment and the implications for debtor countries. Suppose that the U.S. 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 reduction in the resource transfers to developed countries? There are only two ways: through much lower interest rates or significant extra financing. Thus any hard landing scenario without default necessarily involves a dramatic change in financing availability which is not apparent today.

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 U.S. is already at full employment, continuing depreciation and monetary accommodation, without fiscal contraction, would inevitably raise inflation while sustaining growth. This policy 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.

### 16.5.2 The Commodity Price Problem

The final point to raise concerns the long-term behavior of commodity prices. Table 16.5 shows 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.<sup>6</sup> 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. One is the high level of real interest rates and, until 1985–86, the other was the high level of the dollar. But these factors are not sufficient to explain the large decline as discussed in Dornbusch (1985). Others to be considered are substitution toward resource-saving technologies on the demand side, real depreciation, and hence increased levels of output at given *world* real prices. Capacity expansions in many producing countries are further 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 that has been a decisive factor in the debt performance of several countries—as, for example, Argentina, Bolivia or Peru—has bottomed out. Indeed, over the twelve months through May 1988, commodity prices in dollars increased by nearly 40 percent! And, just as in 1973–74 or in several

**Table 16.5** 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).

later episodes apparent in figure 16.2, further recovery of real commodity prices may turn out to be surprisingly large and rapid. The various structural factors at work suggest that the level of real commodity prices is unlikely to return to the high of the early 1970s. But a resumption of inflation and much lower real interest rates will drive up inventory demand and thus bring about a significant rise.

## **16.6 Conclusion**

World macroeconomic policies and commodity shocks and variables were not, until 1981–82, 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 to 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 have been that the dollar overvaluation lasted as long as it did, that there was a smaller than expected decline in real interest rates, and that a massive decline in the real prices of commodities occurred. 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.

In 1987, 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 the 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 which depend on the nature of U.S. fiscal and external balance adjustment. Two extreme possibilities are a soft landing with significant real interest rate reductions, improving terms of trade, and sustained growth, on the one hand, and a hard landing on the other. 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. Problem debtors are defined as those that have arrears in 1983–84 or have rescheduled their debts since 1985.
2. There is some question as to which deflator to use in calculating *real* interest rates for debtors. In figure 6.1 I use export prices of developing countries that represent a broad index of prices in world trade.
3. See Dornbusch (1985).
4. See IMF, *World Economic Outlook*, 1982, and Dornbusch (1985).
5. See IMF *World Economic Outlook*, April 1988, table 53.
6. See IMF (1987, 90–91) for a discussion of the data.

## References

- Dornbusch, R. 1985. Policy and performance links between LDC debtors and industrial countries. *Brookings Papers on Economic Activity* 2: 303–56.
- . 1986. International debt and economic instability. In Federal Reserve Bank of Kansas, *Debt, financial stability and public policy*.
- Feldstein, M. 1986. International debt service and economic growth: Some simple analytics. NBER Working Paper no. 2076. Cambridge, Mass.: National Bureau of Economic Research.
- Goldbrough, D., and I. Zaidi. 1986. Transmission of economic influences from industrial to developing countries. In International Monetary Fund, *Staff Studies for the World Economic Outlook* (July). Washington, D.C.: IMF.
- International Monetary Fund. *World Economic Outlook*, various issues.
- . 1987. *Primary commodities: Market developments and outlook* (May). Washington D.C.: IMF.
- Sachs, J. 1987. International policy coordination: The case of the developing country debt crisis. NBER Working Paper no. 2287. Cambridge, Mass.: National Bureau of Economic Research.
- Sachs, J., and W. McKibbin. 1985. Macroeconomic policies in the OECD and LDC economic adjustment. Brookings Discussion Paper in International Economics (February). Washington, D.C.: The Brookings Institution.
- Saunders, P. and A. Dean. 1986. The international debt situation and linkages between developing countries and the OECD. *OECD Economic Studies* (Autumn). Paris.

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