Interest Rates and International Debt Crisis

In recent years, the international debt crisis has been a major focus of attention. The most important explanations available in the literature for the debt crisis include lenders' behavioral motives, the structure and state of the financial markets, the need and availability of information and the role of borrowers. At times, it has also been suggested that the course of interest rates may have worsened the debt problem. Unfortunately, a systematic presentation of the evidence regarding the contribution of the recent evolution of interest rates to the debt crisis is generally not available. The purpose of this paper is to systematically analyze the available evidence and indicate the contribution of high interest rates towards precipitating the debt crisis.

To place the problem in perspective, Section I reports the recent history of interest rate movements and some global debt figures. Section II briefly presents various explanations of the debt crisis. Section III investigates the relationship between high interest rates and the debt crisis. Suggested responses follow.

I. Recent History

External Debt

The external debt of less developed countries (LDCs) has increased from less than \$200 billion in 1976 to \$665 billion in 1984. Between 1972 and 1984, it grew at an annual rate of 18%. The problem has been aggravated by the steady increase in the proportion of total debt due to private creditors, from 51% in 1972 to 65% in 1983 — see

LESSARD (1983) explores the perverse variability of debt service obligations with respect to income fluctuations.

FIGURE 1

LIBOR AND REAL INTEREST RATE

LIBOR for 6 months deposit of U.S. dollar (yearly average). Source: International Financial Statistics, IMF.
Real interest is computed as the difference between LIBOR and year to year increase in CPI as given in OECD, Economic Outlook.

II. What Led to the Debt Crisis

The most important explanations available in the literature for the present debt crisis, other than those relating to high interest rates, are now briefly reviewed. These explanations are based on the lenders' behavioral motives and responses, the structure and state of the international financial markets, the need for information and its availability, and finally on the role of the borrowers.

Lender Behavior

Until 1980, the international financial market was exceptionally liquid. Unable to fully invest oil revenues in their own economies, the larger oil exporting countries invested heavily in foreign banks. Their international placements and other liquid international assets totaled more than \$100 billion in 1980 — see Table 2. The resulting liquidity intensified competition for lending to LDCs. This competitive environment has been invoked in two different ways to explain the large exposures of international banks.

Table 1. This is because private debt is generally at higher interest rates and shorter maturity than official credit. The increase in private creditor participation also makes the resolution of recurring debt problems more difficult in terms of negotiations.²

EXTERNAL DEBT OF LDCs

Table 1

Year	Total Disbursed Debt (Millions of U.S. \$)	Percentage of Total Debt Due to Private Creditors
1972	90,736	51.2
1973	109,241	52.6
1974	135,852	54.9
1975	161,539	55.7
1976	195,387	57.3
1977	239,516	58.3
1978	299,866	59.9
1979	353,005	61.5
1980	406,549	61.4
1981	464,552	63.1
1982	525,586	63:6
1983	597,647	64.9
1984	655,000 (est.)	_

Notes: 1. Statistics are for 102 countries as reported in World Debt Tables, IBRD.

Assumes that all Private debt is due to private creditors.

Interest Rates

The evolution of interest rates in recent years is shown in Figure 1. The unusually high nominal interest rates of the late 1970s peaked in 1981 at 16.63% and then steadily declined until 1983. However, in real terms, the rates stabilized at very high levels between 6.23% and 8.00%.

² See LESSARD (1983) for welfare implications of over-reliance on bank credit.

TABLE 2

Year	OPEC Annual International Placements (billions of dollars)
1974	56.2
1975	43.2
1976	42.4
1977	45.8
1978	25.6
1979	62.1
1980	100.2

Source: World Development Report 1985, WORLD BANK

The first explanation depicts the second tier banks as the villains. Specifically, when the first tier banks became concerned about their sovereign (LDC) clients, they attempted to slow down the credit flows. Since the market was very liquid, some smaller (second tier) banks started to take up the slack, expanding aggressively in a market traditionally reserved for the first tier banks. The larger banks were then confronted with a situation where they were being displaced from their own (traditional) markets and felt that they had no choice but to accelerate lending, even to some financially troubled countries.

The second explanation somewhat contradicts the first one. It states that the second tier banks simply followed the lead of the larger banks without careful analysis, on the assumption that if "the big boys" consider a country to be a good risk, they must be right. This strategy shielded the smaller banks' managements from criticism, because their behaviour was not "out of line". This course of action led the smaller banks to make commitments beyond their means and, in general, made the problem more acute.

It should also be noted that during the 1970s banks placed greater emphasis on balance sheet growth rather than on other measures of profitability such as the rate of return on assets. This also encouraged over-lending.

Market Discipline

It is often believed that since many financial institutions regularly evaluate the credit-worthiness of their clients, any erroneous assessment of a country by one or a few institutions will be quickly and appropriately corrected by the market. The reality, however, is quite different. Most international loans are concentrated among a few bank syndicates or bank families. Because of the fierce competition and the costs of country risk analysis, the lead manager is usually the only bank in the syndicate conducting a serious analysis of the riskiness of the loan. Consequently, each country is studied in depth by only a few institutions. Thus, an assessment error due to inappropriate assessment procedures, lack of information etc... is likely to remain undetected and escape market discipline for some time.

Bank Regulation

Because of the very large number of sovereign governments involved, a universal set of rules for international banking has eluded regulators. The consequence of this lack of agreement has been a shift of international banking institutions to the countries with the least stringent requirements, making it exceedingly hard for the industrial countries to discipline the market. The most severe weaknesses have been in the (lack of) establishment of reserve requirements and exposure limits, which together with a typical case of "disaster myopia" in the market, led to over extension and imprudent levels of exposure for some banks and for the system as a whole.

From another perspective, the availability of governmental deposit insurance has also allowed bankers to take more risk (on the international markets) without taking much heat from depositors, who did not risk very significant losses even in the extreme case of bank failure.

Informational Needs and Disclosure

The information needed for an adequate evaluation of the quality of an international loan is very hard to come by. For example, a lender typically needs to know the total outstanding external debt of a country,

 $^{^{3}\,}$ For an explanation see GUTTENTAG and HERRING (1983b).

but despite efforts by the Bank for International Settlements, accurate figures are still not available. The available information is often outdated, and short maturity loans (which could be a very significant part of the total debt of a country) are often not reported. A lender is also generally interested in the domestic financial statistics and the balance of payments of a borrowing country. Despite efforts by the IMF, these statistics for LDCs are sometimes two to three years late. Thus, in many instances, lending decisions were made without access to timely, quality and necessary information.

Another information related problem comes from the disclosure methods used by banks. The following scenario has unfortunately taken place too often. A bank finds itself over-exposed in a country that is encountering severe difficulties. This leaves the bank with two options. Either write-off (or discount) some of its loans or extend new credits to mask the difficulties of the borrower. The first alternative involves taking an immediate loss resulting in a drop in reported revenues and maybe a drop in the price of bank stock. Since managers are often judged and compensated according to their short term performance, they would prefer to avoid such a loss and instead extend new credits to the country in trouble, effectively postponing the recognition of the loss but in the process, compounding the problem. This leads in the extreme to a "go for broke strategy", i.e. making extremely dangerous loans with a slim chance of a big payoff in an effort to save the bank.

Shortening Maturities

The lack of quality information has been well recognized by banks. One of their principal reactions has been to shorten loan maturities. The shorter maturities gave bankers more opportunities to influence the borrowers' macro economic policies because of the more frequent renewals of the loans, and a false impression of safety as they assumed that they could quickly cash in their loans and get out of the country at the first signs of difficulty. But the outcome of the shorter maturity structure has also been a more severe concentration of exposure and risk in the hands of a few large banks. This is because banks with small exposures in particular countries could effectively threaten their clients, whereas the survival of banks with large exposures depended on the survival of their borrowers. Hence, in many instances the high exposure banks had to lend their clients new money to pay-off banks with smaller exposures.

The Role of the Borrowers

Finally, a large part of the problem is due to the behaviour of the borrowers. The errors committed by the borrowers have been in most cases a combination of inaccurate forecasting of the demand for their export commodities, and economic mismanagement.

The problem of inaccurate forecasting has hit especially hard countries with relatively large reserves of oil and/or other natural resources. They expected the demand for their resources to remain strong and their prices to continue to increase. Based on these expectations, they embarked on very ambitious development projects, which required heavy external financing. After the world recession and the consequent decline in demand and in price of most natural resources, these countries have had a lot of difficulty in readjusting their economies and in servicing their debt.

Economic mismanagement has been widespread. Some of the typical errors were: corruption, over-ambitious development projects and neglect of agriculture; maintenance of overvalued exchange rates coupled with distorted price mechanisms due to government controls and subsidies, which encouraged inefficient industries incapable of competing in export markets and led to a lack of diversification of exports; huge government deficits financed through monetary expansion which caused very high levels of inflation; controls on domestic interest rates which combined with overvalued exchange rates led to capital flights, etc... The problem has also been exacerbated by rising internal expectations, politics, the social climate and poor allocation of resources.

III. High Interest Rates and the Debt Problem

Although all of the above explanations may have contributed significantly to the international debt crisis of the early eighties, the single most important factor in precipitating the crisis seems to be the level of interest rates on the dollar.

There is reasonable agreement among scholars regarding the impact of tight monetary policy and large government deficits on U.S. interest rates and the subsequent course of inflation, world economic

activity and commodity prices. Briefly, the higher oil prices of the seventies transferred world income from low and moderate saving countries, non-oil LDCs and developed countries, to high saving oil exporters. This resulted in an excess supply of world savings which put downward pressure on interest rates. This situation did not last into the eighties. Between 1980 and 1983, OPEC annual international placements dropped from \$100 billion to a net withdrawal of \$10 billion. This drop exceeds the total annual resource transfers to all LDCs from all sources - see Table 3. This was accompanied by tight monetary policy and large federal budget deficits in the U.S. which increased by more than \$120 billion between 1980 and 1983.

TABLE 3

Year	Net Annual Reso Developing Countri Private Flows	urce Receipts of es From all Sources Total	US Federal Budget Deficit	Annual OPEC International Placements	LIBOR	Real Interest Rates
		10.0				
1970	7.0	19.9	11.4	_	_	_
1975	23.8	55.7	75.4	43.2		_
1980	34.9	99.2	68.7	100.2	14.03	0.53
1981	48.3	109.8	72.6	62.9	16.63	6.23
1982	38.4	97.4	130.7	14.0	13.48	7.38
1983	44,3	99.7	190.4	-9.8	9.82	6.62
1978	_		44.2	<u> </u>	9,20	1.50
1979	_		27.9		12.15	0.85
1980	_	_	68.7	_	14.03	0,53
1981	_	_	72.6	-	16.63	6.23
1982	_	_	130.7	_	13.48	7.38
1983	_	~	190.4	_	9.82	6.62

Source: World Development Report 1985, WORLD BANK.

The World Bank estimated gross world savings in 1979 at \$2,060 billion, and the increase in the budget deficit at all levels of government in the U.S. between 1979 and 1984 at \$162 billion, after adjusting for inflation. Thus according to the World Bank, the real increase in the U.S. deficit between 1979 and 1984 equals about 8% of 1979 world savings.

The record budget deficits in the U.S., coupled with tight monetary policies and the drop in the international placements of OPEC countries had a strong impact on the interest rates on the dollar. The high interest rates, in turn, had a series of consequences on the inflation in the U.S., world economic activity and demand for commodities.

Figure 2 presents these interlinkages in an attempt to understand the effect of high U.S. interest rates on the LDC debt problem.4 Four major effects are apparent. The repayment and exchange effects highlight the worsening of the debt burden whereas the trade and growth effects deal with the issue of resource constraints. We discuss each in turn.

THE EFFECTS OF HIGH INTEREST RATES

FIGURE 2

Tight Monetary High U.S. Policies Govt. in U.S. Deficits High Interest

Repayment Effect Rates in U.S. Capital Inflows ->Exchange Effect into U.S. Lowering of Inflation in tt. S. Worldwide ⇒Growth Effect Recession Drop in Demand and Prices of →Trade Effect Commodities

⁴ Of course, one should not construe these relationships as a theoretical contribution, but merely a restatement. The reported causal linkages are also incomplete in a rigorous sense even though not much has been done in this regard.

Repayment Effect

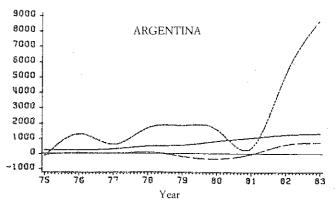
The high interest rates together with large domestic demand for money in the U.S. made eurocredits scarce for LDCs, thereby adversely affecting their net borrowings. This coupled with the increased interest costs forced some LDCs to actually make their interest payments for the first time in a long while. Up until 1980 most LDCs used to take new loans yearly in excess of their interest payments, which effectively meant that they never paid any interest on their loans — see Figure 3. Starting in 1980 new credits became less and less available and Brazil, for example, which had not made any interest payments since 1975 suddenly found itself paying interest in 1980, 1981 and 1982. In 1983, new credits seem to be edging back up, which may have contributed a bit to alleviating the crisis, but this increase is mostly an accounting feature.

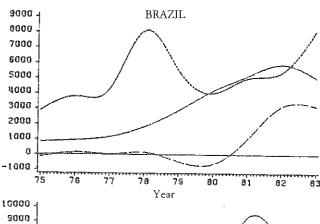
The debt figures reported in this paper are from the World Debt Tables of the World Bank which, for Argentina, Brazil and Mexico, only reports public and publicly guaranteed debt. During 1983, many reschedulings took place which consolidated private debt with public debt. This explains in large part the reported increase in net public borrowing.

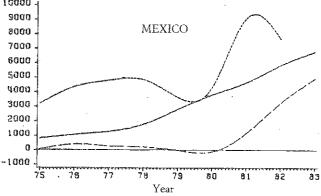
Turning back to the real cost of borrowing, if we assume a spread of 50 basis points over LIBOR, the real interest rates charged to LDCs jumped from 1% in 1980 to between 6.73% and 8.50% in 1981-84. In fact the change has been even more dramatic since several loans renegotiated in 1983 and 1984 carried spreads of as much as 1.75%.

Since most LDCs have some of their loans at fixed rates or on concessional terms, the relationship between the real cost of debt and the real interest rates is not necessarily one to one. Most LDCs have had to take an ever increasing proportion of their loans at market rates (Figure 4). Further, for most countries, a large portion of their loans are at floating rates, and that portion has increased substantially over the recent years. In fact most private non-floating rate loans have relatively short maturities. At each refinancing, their interest rates are adjusted to the market level, so they end up having an impact similar to that of floating rate loans.

In order to evaluate the change in the real cost of debt, the concept of "inflation adjustment loan" is introduced. The inflation adjustment loan is defined as the amount a country can borrow in a given year without increasing its real level of debt. For example, if a country had a







Nominal Interest Cost

Net Borrowing

Real Interest Cost

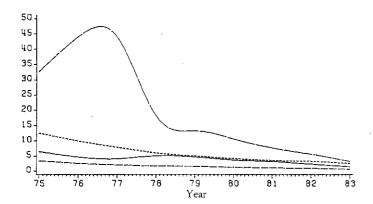
Source: World Debt Tables, IBRD.

Real interest cost computed using the concept of inflation adjustment loan discussed in the text.

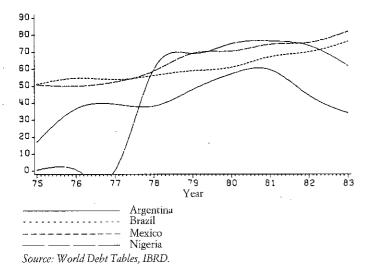
FIGURE 4

Interest Rates and International Debt Crisis

PROPORTION OF LOANS ON CONCESSIONAL TERMS



PROPORTION OF LOANS AT FLOATING RATES



\$10 billion loan at the beginning of the year, and if the inflation rate during that year was 10%, the inflation adjustment loan would be \$1 billion. The real interest cost is then determined by subtracting the inflation adjustment loan from the interest cost that year.

The combination of higher real interest rates with lower proportions of concessionary term loans and higher percentages of floating rate loans resulted in the LDC real interest costs to rise tenfold during the 1980s (compared to anytime in the recent past) — see Figure 3.

Trade Effect

The worldwide recession caused a drop in demand for all commodities. The drop in demand may not have been very large in volume terms, but it was sufficient to change a sellers' market to a buyers' market resulting in a very significant drop in commodity prices. Although not extremely severe, the drop in oil prices was maybe the most symptomatic of the problem because most analysts had expected the price of oil to continue to increase. Between 1981 and 1983, oil consumption dropped about 7%, from 35.2 million barrels per day (mbd) to 32.9 mbd (see Table 4), a 6.8% drop in consumption. This weakening of demand was accompanied by a decrease in prices from \$35.01 per barrel in 1981 to \$28.72 per barrel in 1983, an 18.0% decrease. The total oil revenue thus dropped from \$1,236 million to \$945 million per day between 1981 and 1983, a drop of 23.6% or \$291 million per day. Since oil production in the industrialized world was increasing during this period, most of the drop in production had to be absorbed by oil exporting LDCs. Since only about half the oil consumed was extracted in oil exporting countries, the drop in their oil revenues was around 30%.

Table 4

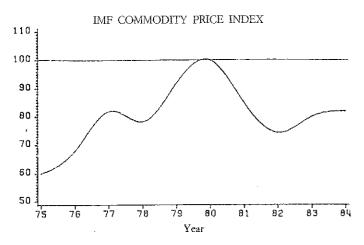
OIL STATISTICS

Year	Consumption	Price
1974	37.3 mbd	11.25 \$/bbl
1975	36.3	11.02
1976	38.9	11.89
1977	39.7	12.95
1978	40.8	12.98
1979	40.5	19.00
1980	37.5	31.51
1981	35.5	35.01
1982	33.4	33.39
1983	32.9	28.72

Source: OECD Economic Outlook.

The drop in prices was also severe for most other commodities. Between 1980 and 1983, copper dropped 23.2%, iron 12.2%, beef 30%, sugar 56.9%, coffee 15.1%, and cocoa 18.6%. In fact the IMF index for the average price of commodities excluding oil dropped 19.9% between 1980 and 1983 — see Figure 5. The worst year for commodity prices has been 1982, but after a moderate upturn in 1983 and 1984, commodity prices seem to be back on their way down in 1985.

Figure 5



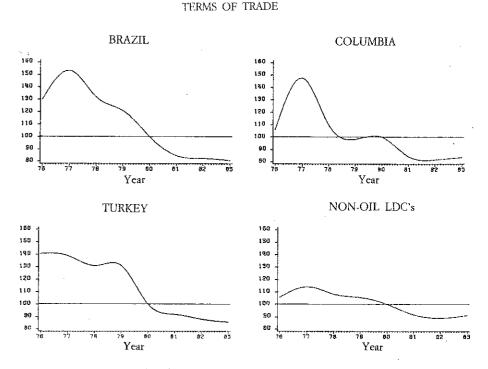
COMMODITY PRICE INDICES

Year	Copper	lron	Beef	Sugar	Coffee	Сосоа	Avg¹
1975	62.7	85.4	41.7	133.9	48.1	47.9	60.1
1976	67.9	82.8	44.3	52.9	94.2	78.6	68.1
1977	64.9	80.8	56.8	37.8	152.0	145.6	82.1
1978	64.6	72,6	56.4	35.3	102.8	130.8	78.3
1979	91.0	87.8	93.3	40.3	112.5	126.5	92.0
1980	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1981	82.9	90.4	82.5	77.6	76.8	79.8	84.8
1982	71.9	96.2	68.8	43.2	83.4	66.9	74.3
1983	76.8	88.0	71.5	43.1	84.9	81.4	80.1
1984	66.0	87.9	_	43.4	93.7	92.0	82.1
1985 January				-		_	75.1

Average of most commodities except oil, as computed by the IMF.
 Source: International Financial Statistics, IMF.

Since the exports of LDCs are mostly composed of commodities while their imports are primarily manufactured products, their export prices dropped much faster than their import prices during the recession. Between 1980 and 1983, the terms of trade deteriorated by 19% for Brazil, 16.1% for Columbia, 18.1% for Western Hemisphere LDCs and 9% for non-oil LDCs — see Figure 6. The drop in terms of trade between 1977 and 1983 was even more dramatic. The data during the 1980s for most other LDCs is very fragmentary.

Figure 6



Terms of Trade = Index of unit price of exports*

Index of unit price of imports*

* Given by the IMF.

The worsening of the terms of trade combined with the recession in the developed countries in turn affected the trade balances of most LDCs. Exports of most LDCs decreased in 1981, 1982 and 1983 both in nominal and in real terms — see Table 5. Despite the efforts to reduce imports, the trade deficit of most LDCs remained at fairly high levels during the early 1980s.

TABLE 5

DATA ON EXPORTS, IMPORTS AND TRADE BALANCE (Millions of \$)

		Exports Goods & Services	Imports Goods & Services	Trade Balance	Exports 1975 \$
Algeria	1979	10,525	12,191	(1,666)	7,802
	1980	14,906	14,718	188	9,736
	1981	15,067	15,291	(224)	8,915
	1982	14,385	14,880	(495)	8,023
	1983	13,616	13,930	(314)	7,356
Argentina	1979	9,919	10,477	(558)	7,353
	1980	11,201	16,006	(4,805)	7,316
	1981	11,823	16,437	(4,614)	6,996
	1982	9,725	12,139	(2,414)	5,424
	1983	9,762	12,219	(2,457)	5,274
Brazil	1979	17,994	28,477	(10,483)	13,339
	1980	23,291	36,252	(12,961)	15,213
	1981	27,006	38,955	(11,949)	15,980
	1982	23,487	39,812	(16,325)	13,099
	1983	24,369	31,276	(6,907)	13,165
Mexico	1979	16,007	21,702	(5,695)	11,866
	1980	24,719	32,532	(7,813)	16,146
	1981	30,415	44,727	(13,312)	17,997
	1982	28,442	34,282	(5,840)	15,863
	1983	27,718	22,850	4,868	14,975
Nigeria	1979	19,352	14,574	4,778	14,345
	1980	27,505	21,922	5,583	17,965
	1981	19,646	25,062	(5,416)	11,625
	1982	13,808	21,124	(7,316)	7,701
	1983	10,993	15,483	(4,490)	5,939

Source: Columns 1 and 2, World Debt Tables, IBRD

Exchange Effect

The dramatic rise in the real interest rates contributed significantly to the appreciation of the U.S. dollar. The effective exchange rate of the dollar as computed by the IMF increased from 93.9 to 124.9 during 1980-83 (see Table 6), which represents a revaluation of 33% in three years. The effective exchange rate of the dollar is computed by the IMF against a weighted average of all other currencies which gives a very heavy weight to the currencies of the other industrial countries. Since most industrial countries had tight monetary policies of their own, the devaluation of LDC currencies versus the dollar between 1980 and 1983 would be expected to exceed 33%. Indeed, as can be seen from Table 6, the U.S. dollar did appreciate very significantly against the currencies of most major LDCs. Even in real terms the currencies of the LDCs

TABLE 6

EXCHANGE RATE CHANGES

Real Appreciation of the U Between 198	
Argentina	488.14%
Brazil	84.41%
Chile	62.09%
Mexico	52.15%
Nigería	-47.06%
Turkey	50.48%
Venezuela	50.46%

1. Computed as: \(\begin{array}{c} \frac{\text{Exchange rate 1980}}{\text{Exchange rate 1980}} \times \text{x} \\
\text{x} \frac{(U.S. CPI 1983/U.S. CPI 1980)}{\text{Domestic CPI 1983/Domestic CPI 1980}} \right) = \text{.}

Source: Exchange Rates and CPI, International Financial Statistics, IMF.

Year	Effective Exchange Rate U.S.\$
1970	119.1
1971	116.1
1972	107.8
1973	98,8
1974	101.1
1975	100.0
1976	105.2
1977	104.7
1978	95.7
1979	93.7
1980	93.9
1981	105.7
1982	118.1
1983	124.9
1984	134.9
1985 January	146.4

Note: Index computed by the IMF, index = 100 in 1975. Source: IFS, IMF.

devalued about 50% on the average against the dollar between 1980 and 1983.⁵ Thus, both in nominal and in real terms, the LDC debt burden worsened as a result of the appreciation of the dollar. In fact, looking at the effective exchange rate of the dollar in 1984 and early 1985, we suspect the exchange rate situation of LDCs to have worsened further.

Growth Effect

The worldwide recession hit LDCs particularly hard. Aside from its detrimental impact on trade, the development plans and the ability of LDCs to repay international obligations were seriously undermined. Table 7 reports a slow down in growth, and a general deterioration in the most important single economic development indicator, *i.e.* GDP per capita.⁶

IV. Conclusions

The available evidence suggests a strong impact of the interest rate policy on the debt crisis in the current international economic environment. In particular, the LDCs had to pay higher interest (7 to 10 times higher in real terms) which they could not borrow. The dollars to service the debt were more expensive to buy, at least 50% more expensive even after adjusting for inflation differentials. The exports were down 10% to 30% in real terms as were commodity prices (20% lower) and the national welfare deteriorated with per capita GDP often falling more than 10%.

A comprehensive response to the crisis would probably involve action on three fronts, the domestic policies of the U.S. and other OECD countries, bank regulations, and the domestic policies of LDCs.

		1979	1980	1981	1982	1983
Argentina	GDP	98.58	100.00	93.70	89,19	91.00
7 ngciitija	GDP per Capita	100.03	100.00	92,22	86,38	86,72
Brazil	GDP	92.71	100.00	98.44	99.35	96.22
	GDP per Capita	95.01	100.00	96.26	95.01	90.00
Mexico	GDP	92.31	100.00	107.96	107.37	102.38
	GDP per Capita	94.96	100.00	105.17	101.98	94.82
Nigeria	GDP	99.56	100.00	94.70	92.67	_
	GDP per Capita	102.87	100.00	91.61	86.69	_

Sources: World Debt Tables (IBRD), and International Financial Statistics (IMF) various issues,

Percent Change in per Capita GDP, 1980 or 1981 Peak to 1985		
Brazil	- 5.6	
Ecuador	- 6.3	
Mexico	- 9.4	
Peru	-13.4	
Chile	-14.4	
Argentina	-17.1	
Venezuela	-17.1	

Source: Time Magazine, October 14, 1985

On the domestic policy front, the U.S. and the major industrialized countries could improve the situation significantly by getting fiscal deficits under control, which could ease the pressure on interest rates, on the exchange value of the dollar and the liquidity of the financial markets. The U.S. federal budget deficit may not have started to decline yet, but there seems to be a political will to decrease it — most state governments now have balanced budgets. With the more accommodating monetary policy followed by the Fed, this has led to a very significant drop in interest rates and in the value of the dollar.

Freer trade policies in the industrialized world would also help LDCs increase their exports to counter the trade effects and enhance their credit ratings. Fortunately the Reagan administration seems to be resisting protectionist measures.

⁵ Since the relationship between interest rates and exchange rates in the presence of capital flow controls imposed by most LDCs is not well defined, we only present the evidence and refrain from suggesting any causal linkage.

⁶ The relationship between interest rates and economic growth is explored in Errunza and GHALBOUNI (1985).

Interest Rates and International Debt Crisis

From the bank regulation point of view, more stringent exposure limits and reserve requirements coupled with improved disclosure methods could help prevent a repeat of the overextension of banks witnessed in the early 1980s. A better surveillance of the international financial markets by the IMF would be very helpful in this regard.

From the borrowers' perspective, a series of measures are needed to correct the excesses of the past. The measures imposed by the IMF usually played this corrective role. Once such corrective measures are in place though, an adequate growth of LDCs economies may be the only feasible alternative that would avoid political upheavals and at the same time restore their financial health. The Baker plan to provide \$20 billion in private money to LDCs seems timely for this purpose.

This set of responses is not exhaustive and they do not necessarily have to be taken as a package deal. However, some action on all three fronts, namely, the domestic policies of industrialized countries, the regulation of international financial markets and the policies of the developing countries is clearly needed.

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