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The Sources of Current External Debt Servicing  
Difficulties: Some Empirical Evidence 1/

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## I. Introduction

The recent increase in the frequency and severity of external debt servicing difficulties experienced by many developing countries has become a major topic of concern in the present international economic environment. In addressing this issue, commentators (who by now include not only economic policymakers, but also increasingly domestic legislators, bankers, academics, and journalists) usually begin from an assessment of the nature and causes of the present problems. Several economic factors are frequently cited as responsible, with varying degrees of importance; these include, inter alia, a deterioration in the external terms of trade, the recession in industrial countries, inappropriate economic and debt policy management on the part of debtors, and unforeseen abrupt changes in lenders' behavior.

The discussion of the sources of the current difficulties along the above lines, while helpful, to date has tended to remain couched in rather general qualitative terms and, in most cases, does not appear to have been based upon explicit quantitative investigation. However, an empirical approach to some of the issues at hand would appear to be useful, if only to seek to clarify the basis for the various views set forth. For example, some developing countries clearly have experienced considerably more severe debt servicing difficulties than others, and it is important to try to form a judgment as to why this has been the case. Also, it would seem desirable to ascertain the extent to which there are significant differences in the sources of the debt problems experienced by developing country subgroups which exhibit relatively more homogenous economic characteristics. <sup>1/</sup>

The purpose of this paper is to provide an empirical basis for assessing the role of several economic factors which are frequently cited as having contributed to the emergence of the present problems. Specifically, the study presents in a systematic way, information on the evolution of major economic variables for the group of non-oil developing countries which rescheduled their debts during 1981-82. While the approach taken is generally aggregative in nature, two rescheduling country subgroups are distinguished, in terms of whether countries relied significantly on external borrowing on commercial terms. For the two subgroups considered, the variables examined include several important exogenous factors (i.e., terms of trade, growth in export markets, and concessional aid flows), major economic target variables (external current account variables, real economic growth, and inflation), macroeconomic policy indicators (measures of demand management policy and of exchange rate policy), and finally,

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<sup>1/</sup> For an empirical logit model approach to analyzing debt reschedulings during a longer period (1967-1982), the reader is referred to Cline (1983b). This study also contains references to earlier work in the same area. McDonald (1982) discusses more general theoretical and empirical issues relating to models of debt rescheduling.

variables relating to external debt management policy. Moreover, in order to assess those factors which could help explain the relative incidence of debt difficulties, together with the data for the rescheduling country groups, data for the same variables are also presented for those comparable non-oil developing country groups which did not reschedule their debt during this period.

While the analysis described below can provide some useful evidence as regards those common elements that may have been present among the group of countries which encountered particularly severe difficulties, several important qualifications ought to be stressed. First, any general inferences drawn cannot be interpreted as applying to any particular individual country owing to the aggregative nature of the analysis and the diversity (in many respects) of the countries reviewed. Second, the analysis deals only with major macroeconomic variables that are susceptible of quantitative analysis; thus, the role played by microeconomic policy variables or by variables that are not readily quantifiable (such as political factors or regional "contagion effects") is not addressed directly. Third, as is discussed in more detail below, there does not necessarily exist a clear-cut conceptual distinction between countries that formally rescheduled their debts during a given period and those that did not; for example, in some of the latter cases, an informal "unilateral" rescheduling (most commonly reflected in the accumulation of arrears) may occur. Fourth, several countries not included in the 1981-82 rescheduling group have subsequently undertaken a rescheduling; thus, any conclusions drawn are relevant only as regards the incidence of rescheduling that actually occurred in the period under review. Finally, the analysis generally deals only with debtor country behavior during the period ending in the year immediately preceding that of the rescheduling; it does not investigate the behavior of lenders, an aspect which plays a central role in determining whether and (especially) when a rescheduling actually occurs.

The plan of the paper is as follows: Section II reviews those factors thought likely to affect the incidence of rescheduling and describes the methodology and data sources used in the statistical analysis. Section III presents empirical evidence for the major variables considered. Finally, Section IV summarizes and evaluates the paper's main findings.

## II. Methodology and Data Sources

This section describes (a) the factors likely to affect the incidence of rescheduling; (b) the choice of rescheduling countries and their division into two subgroups; (c) the methodology used to calculate "group averages" for rescheduling and nonrescheduling countries, respectively; and (d) the data sources employed.

1. Factors affecting the incidence of rescheduling <sup>1/</sup>

As background to the empirical investigation which follows, this section reviews some of the most important underlying domestic and exogenous factors which can be expected to increase the likelihood of a country entering into a rescheduling of its external debt obligations. However, it should be emphasized that the discussion is intended only to highlight the major elements present and does not address the precise interaction between the various factors at work, including those relating to behavior on the part of lenders.

From a conceptual viewpoint, it is useful to assume that at the beginning of any period, the authorities do not know for certain whether or not a rescheduling will become necessary during the period, as this will depend to a large extent on whether lenders will provide sufficient new funds so as to obviate the need for a rescheduling request. Nevertheless, it appears likely that the authorities believe (at least implicitly) that they face a "financing constraint" indicating that the larger the degree of external adjustment undertaken, the less is the likelihood that a rescheduling will become necessary. "Adjustment" in this context refers to a reduction in net imports of goods and services (other than interest payments). Thus, the larger such a reduction, the less is the net external resource transfer (net external borrowing minus interest payments) that will be required; other things being equal, the likelihood (or probability) that such borrowing will not be forthcoming (and hence, that a rescheduling request may result) will tend to decline.

Faced with such a "financing constraint" (a constraint which essentially reflects a subjective assessment of the country's credit-worthiness), the authorities, when choosing to adopt policies designed to achieve a given amount of external adjustment, can also be viewed as implicitly accepting a certain (associated) degree of probability that a rescheduling will result. In making such a choice, the authorities will seek to minimize the costs associated with the two alternatives. Thus, on the one hand, external adjustment implies costs associated with a reduction in real expenditures of the population relative to their income as the external current account deficit (net of interest) is reduced. <sup>2/</sup> At the same time, however, a rescheduling generally also involves some costs. These include both possible political costs (associated with a

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<sup>1/</sup> A diagrammatic exposition of the arguments of this section is provided in the Appendix.

<sup>2/</sup> Strictly speaking, in a more complex multi-period world, this cost should be thought of as the cost of adjusting now as opposed to adjusting in a later period.

perceived loss of national pride) as well as significant direct economic costs, since for some time, new external credits are likely to dry up sharply due to an impairment of creditor confidence. 1/

Looked at from the above perspective, what is of interest is how various factors may act so as to influence the country in the direction of choosing a higher likelihood of rescheduling (together with an associated lower degree of adjustment). In turn, one would then expect that at least some of these elements were present to a greater degree in those countries that actually did reschedule as opposed to those that did not. Intuitively, these factors (which are of both domestic and foreign origin) can be thought of as falling into two broad categories: (i) those that worsen the "financial constraint" which the country believes it faces, i.e., which serve to increase the likelihood of rescheduling associated with any degree of adjustment; and (ii) those that either increase the costs of external adjustment, or lower the costs associated with a rescheduling--in both these instances, the costs that the country perceives it faces are "tilted" more in favor of accepting the rescheduling alternative. 2/

a. Factors adversely affecting the country's  
"financial constraint"

(i) The interest cost of borrowing: For a given degree of external adjustment (in the sense defined above), the larger are interest costs, the greater will be the new borrowing required, and hence, the greater is likely to be the probability that sufficient gross foreign financing will not be available;

(ii) Inappropriate debt management policies, as reflected either in an overdependence on variable interest rate borrowing in conditions of interest rate uncertainty and/or in excessive nontrade-related borrowing at shorter maturities; both of these also increase the gross new borrowing needed to finance any degree of adjustment, and thus raise the probability of rescheduling;

(iii) Subjective perceptions of lenders: The absence of policies which could dispel lenders' fears that lending now may only postpone until later a rescheduling of a larger amount of debt. While this "confidence factor" is subjective, it can reasonably be surmised that lenders would view major well-publicized indicators such as the persistence of large external or budgetary deficits and/or high

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1/ While in the recent past some of these costs (e.g., the political costs) to a certain extent may have lessened for some countries, nevertheless, they have undoubtedly played an important role in influencing policymakers' attitudes in the period preceding the debt crisis (the period relevant for the present analytical exercise).

2/ See the Appendix for a diagrammatic illustration of these propositions.

inflation rates as evidence that the "will to adjust" is not likely to be present in the future. Political factors or regional "contagion" effects may also serve to reduce lenders' confidence in the creditworthiness of a particular country or group of countries; and

(iv) Objective constraints affecting lenders/donors:

Particularly in the case of commercial banks, the higher the existing level of exposure (either to non-oil developing countries in general and/or to a particular country), the more reluctant they may be to lend new funds. This reluctance may stem directly from portfolio balancing considerations and/or result from regulatory constraints. A fall in concessional ODA flows (due, for example, to budgetary constraints in donor countries) will have the same effect.

b. Factors tending to increase the cost of adjustment and/or reduce the costs associated with a rescheduling

(i) World market conditions: A fall in effective export demand (due to market weaknesses/protectionism, or both), and/or adverse movements in the external terms of trade implies that, other things being equal, any given degree of adjustment needs to be brought about by a larger reduction in the volume of imports.

(ii) Inappropriate adjustment policies: The adoption of policies which are at variance with least cost adjustment strategies (for example, the pursuit of excessively deflationary policies in circumstances of nominal price rigidities, failure to use exchange rate action as a tool of adjustment, or the presence of other relative price distortions that reduce the productivity of investment). Apart from their adverse effects on domestic output, such policies (for instance, inappropriate interest rate and exchange rate policies) may also affect directly the private capital account and contribute to the phenomenon known as "capital flight."

(iii) A lessening of the perceived costs associated with a rescheduling: This may occur if, for example, rescheduling becomes a more common occurrence and if, as a consequence, there is less of a political or economic stigma associated with it.

The empirical analysis that follows is confined to those macroeconomic variables that can be readily quantified. Thus, some of the factors just mentioned are not addressed directly owing to data limitations. These include political factors 1/ or regional "contagion" effects, as well as the extent to which microeconomic distortions may

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1/ For example, the effects of the Falklands crisis and events in Poland on the perceived creditworthiness of Argentina and Eastern European countries, respectively.

have affected the productivity of investment in debtor countries. 1/ Also, due to the unavailability of sufficiently reliable and comprehensive data on private debt, the analysis of debt trends is confined to the evolution of public and publicly guaranteed external debt; as a corollary, measurement and recording difficulties have permitted only an indirect and incomplete assessment of the potentially important role played by "capital flight."

## 2. Choice of countries

During the 1981-82 period, 23 countries entered into multilateral debt rescheduling exercises covering debt owed to official and/or commercial bank creditors. 2/ The term "rescheduling" as used in this study covers cases where the debt renegotiation agreement consisted of a refinancing arrangement in lieu of a formal rescheduling. Also, the 1982 group includes several instances where, although discussions with commercial bank creditors had been substantially completed, the actual signing of the agreement had not yet taken place by end-1982.

As noted in the Introduction, from an analytical point of view, the division of countries between those that actually concluded debt renegotiations during 1981-82 and those that did not inevitably involves a certain degree of arbitrariness. For example, several countries not included in the rescheduling comparator group were experiencing serious debt servicing difficulties during this period--difficulties which, in some cases, could be said to be as serious as those of countries that actually sought a formal debt rescheduling. Despite a likely desire on the part of some of these countries to reschedule their debt obligations (rather than accumulate external payments arrears as tended to occur instead), negotiations were not undertaken successfully, in part due to the reluctance of creditors. 3/ While the number of such cases is quite small relative to the total included in the comparator group, nevertheless, from the perspective of analyzing the sources of debt servicing difficulties, the rescheduling/nonrescheduling group distinction used in the study involves some distortion. Second, 4 of the 13 countries in the 1981 rescheduling group had already rescheduled their debts in

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1/ In addition, data and conceptual obstacles have prevented an analysis of the current account in terms of trends in savings and investment as opposed to changes in exports and imports.

2/ See Brau and Williams, (1984; Tables 7 and 9). This does not include the 1982 agreement with Turkey which involved adjustments of the terms of a previous rescheduling.

3/ For instance, in the case of official debt renegotiations under the aegis of the Paris Club, it is generally required that before the debt rescheduling meeting occurs, a country which is a Fund member conclude a financial arrangement with the Fund involving upper credit tranche conditionality.

1980. <sup>1/</sup> Thus, their inclusion for comparison purposes in the rescheduling group implicitly assumes that the 1981 rescheduling was an "independent event" for these countries. Finally, it should be emphasized that a number of countries which did not fall into the 1981-82 rescheduling group considered in this study subsequently sought (and in several instances obtained) a rescheduling during the course of 1983. <sup>2/</sup>

With the exception of Poland (for whom the relevant data are not readily available and which therefore has been excluded from the analysis), the remaining 22 countries are all classified by the IMF as "non-oil developing countries." However, within this group, from the viewpoint of assessing the sources of external debt servicing difficulties, it was felt useful to identify two separate subgroups distinguished by their differential degree of reliance on international credit markets. This distinguishing feature also is associated with significant differences in the economic and structural characteristics of the rescheduling countries. The first group (the 11 countries listed as Group I, see Table 1) consists of those countries with relatively less recourse to international financial markets as indicated by the fact that the proportion of their end-1981 disbursed external medium- and long-term public debt contracted at variable interest rates was less than 25 percent. For these countries, on average, the proportion of variable interest rate debt was 9 percent, and ranged from less than 1 percent in the case of the Central African Republic to 22 percent for Malawi. <sup>3/</sup> Most members of this group were lower-income African countries that relied very substantially on external financing from official sources; thus, except for Malawi, Sudan, and Madagascar, their debt renegotiations involved only debt owed to official creditors.

By contrast, the 11 remaining rescheduling countries (Group II) were characterized by a much greater recourse to international financial

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<sup>1/</sup> However, countries which rescheduled the debt in both 1981 and 1982 were included only in the 1981 rescheduling group.

<sup>2/</sup> Approximately 8-9 countries not included in the 1981-82 rescheduling group fall into this category. These countries were not included in the rescheduling group, partly because of difficulties involved in obtaining reliable recent data. In addition, in many instances, during 1981-82, the debt difficulties of the countries concerned had not yet reached the acute stage. Thus, the use of the 1981-82 period as a cut-off date, although somewhat arbitrary, is designed to investigate what factors influenced the particularly acute difficulties experienced by certain countries (i.e., defined as those that sought a rescheduling) within that period.

<sup>3/</sup> As can be seen from the data in Table 1, choosing a "cut-off criterion" slightly different than 25 percent would only marginally affect the composition of the two subgroups, owing to the bimodal nature of the distribution.

Table 1. Rescheduling and Nonrescheduling Countries

| <u>Rescheduling Countries</u>   |                   |
|---|-------------------|
| Proportion of End-1981 Disbursed External Medium- and Long-Term Debt Contracted at Variable Interest Rates (In percent) |                   |
| Group I   |                   |
| 1981  |                   |
| Central African Republic  | 0.2               |
| Liberia   | 14.9              |
| Madagascar  | 9.7               |
| Pakistan  | 1.4               |
| Senegal   | 10.6              |
| Sudan   | 5.9               |
| Togo  | 10.1              |
| Uganda  | 0.9               |
| Zaire   | 12.3              |
| 1982  |                   |
| Guyana  | 12.8              |
| Malawi  | 21.8              |
| Group II  |                   |
| 1981  |                   |
| Bolivia   | 35.2              |
| Jamaica   | 27.0              |
| Nicaragua   | 2.7 <sup>1/</sup> |
| 1982  |                   |
| Argentina   | 59.4              |
| Brazil  | 68.2              |
| Chile   | 55.7              |
| Costa Rica  | 45.2              |
| Ecuador   | 62.7              |
| Mexico  | 75.0              |
| Romania   | ...               |
| Yugoslavia  | 37.6              |

Nonrescheduling Countries

Group I

Afghanistan, Bangladesh, Benin, Botswana, Burma, Burundi, Cameroon, Chad, Dominica, Egypt, El Salvador, Ethiopia, Fiji, Gabon, The Gambia, Ghana, Grenada, Guatemala, Haiti, Honduras, India, Jordan, Kenya, Lesotho, Mali, Malta, Mauritania, Niger, Paraguay, Rwanda, Seychelles, Sierra Leone, Singapore, Somalia, Sri Lanka, Suriname, Swaziland, Syrian Arab Republic, Tanzania, Tunisia, Upper Volta, Western Samoa, Yemen Arab Republic, P.D. Republic of Yemen, Zambia, Zimbabwe

Group II

Colombia, Cyprus, Dominican Republic, Greece, Hungary, Israel, Ivory Coast, Korea, Malaysia, Mauritius, Morocco, Panama, Papua New Guinea, Peru, Philippines, Portugal, Thailand, Trinidad and Tobago.

Source: Debtor Reporting System, World Bank.

<sup>1/</sup> In the case of Nicaragua, the proportion of variable interest rate debt in total debt was around 40 percent until end-1979. However, under the terms of a 1980 rescheduling, a large part of the debt owed to commercial banks was converted into fixed interest rate debt; the difference between the agreed fixed interest rate and the actual world rate was, in effect, capitalized as a new loan repayable after a grace period of several years.

markets. Apart from Nicaragua (where special circumstances applied 1/), for this group, the proportion of debt incurred at variable interest rates averaged 52 percent, ranging from 27 percent (Jamaica) to 75 percent (Brazil). 2/ With the exception of Romania and Yugoslavia, all of the countries in this category were in Latin America or the Caribbean. By comparison with Group I countries, this latter group enjoyed relatively higher real income levels, a more diversified export base, and generally maintained fewer restrictions on external current and capital transactions. 3/

### 3. Calculation of averages and time period of analysis

#### a. Rescheduling group averages

For each variable, an average was calculated separately for rescheduling Groups I and II equal to the median of the values of the variable for each of the countries in the rescheduling group. The median (rather than the mean) was employed so as to reduce the distorting effect of outlier observations. 4/ As a first step, the average was computed for each year prior to the year in which the rescheduling took place. Thus, for example, for Group I countries which undertook a rescheduling in 1982, the rescheduling Group I average for "the year prior to rescheduling" (T-1) refers to the median value of the variables for those countries in 1981. Similarly, for countries which rescheduled in 1981, the (T-1) average refers to the median value for this group in

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1/ In the case of Nicaragua, the proportion of variable interest rate debt to total debt was around 40 percent until end-1979. However, under the terms of a 1980 rescheduling, a large part of the debt owed to commercial banks was converted into fixed interest rate debt; the difference between the agreed fixed interest rate and the actual world rate was, in effect, capitalized as a new loan repayable after a grace period of several years.

2/ Although precise data for Romania are not publicly available, it is known that most of their external debt was owed to commercial banks.

3/ The use of any dividing criterion such as that employed here involves, of course, a certain degree of arbitrariness. However, employing other reasonable criteria would not tend to alter the subgroup division to a very great extent. For example, if a real income per capita level of \$600 was chosen as a cut-off point, all Group I rescheduling countries would fall below this level (except for Malawi), and all Group II countries would be above it. Choosing another alternative, namely, the proportion of variable rate debt (medium- and long-term only) to GNP, would lead to some difference, as a cut-off figure of, say, 8 percent, would imply that three countries (Zaire, Togo, and Liberia) would be switched from Group I to Group II. However, it can be argued that on other grounds, these three countries should properly belong to Group I.

4/ However, the qualitative conclusions which follow are not materially altered if the mean were to be used instead.

1980. Second, in order to obtain an aggregate rescheduling Group I average for T-1, a weighted arithmetic average of the 1981 and 1982 median values was calculated, using the relative proportions of 1981 and 1982 rescheduling countries in the total number of rescheduling countries. <sup>1/</sup> Similarly, rescheduling Group I aggregate averages were calculated for periods T-2, T-3, etc; depending on the variable, in a small number of cases, data were not available for certain countries for some years. The same procedure following the identical steps was used to derive rescheduling group averages for Group II.

b. Nonrescheduling group averages

As a standard of comparison for the outcome experienced by rescheduling countries, in the case of each variable for the individual years prior to the rescheduling, a corresponding average is presented for countries that did not reschedule. The list of countries included in these comparator subgroups is shown also in Table 1 (i.e., all non-oil developing countries other than those that rescheduled in either 1981 or 1982--subdivided using the same "25 percent proportion of variable rate debt" criterion); depending on the variable, not all comparator countries have been included in the calculation owing to data availability. The same calculating procedure was followed as for rescheduling countries. Thus, for example, the comparator nonrescheduling group average for 1982 Group I rescheduling countries for period T-1 is the median value of the variable in 1981 for all non-oil developing countries with a proportion of variable rate debt less than 25 percent (other than those belonging to the rescheduling group). The aggregate average for the Group I comparator group in period T-1 was then calculated in the same way as for the rescheduling Group I aggregate average using the identical weights for 1981 and 1982 that were employed to derive the latter. Comparator aggregate averages for Group II countries were derived similarly.

4. Data sources <sup>2/</sup>

The data for some macroeconomic variables used in the study were obtained from the data base underlying the IMF World Economic Outlook (WEO) exercise. To some extent, these data are directly comparable to those published in International Financial Statistics (IFS). However, because in many cases, IFS data were not available in a suitable form and/or on a sufficiently up-to-date basis, WEO data have been used instead. Although the latter may involve some degree of estimation by

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<sup>1/</sup> These relative proportions refer to the number of countries (i.e., if there are, say, 5 Group I countries in the 1981 group and 10 in the 1982 group, the aggregate rescheduling Group I average for (T-1) is  $(.33 \times (\text{the 1980 value for the 1981 group}) + .66 \times (\text{the 1981 value for the 1982 group}))$ ).

<sup>2/</sup> In all cases, the data sources used were those available as of the fall of 1983.

the Fund staff or the authorities of the country concerned, the potential bias involved as a result is not considered to be significant. In a number of cases where completely up-to-date information is available, some series have been taken directly from IFS (e.g., series on the rate of inflation and on monetary and credit variables).

The data relating to debt management policies are based on two sources. Series on medium- and long-term external public sector debt have been taken from the World Bank Debtor Reporting System (DRS). While the DRS system includes some data on medium- and long-term private nonguaranteed debt, as indicated above, these were not considered to be sufficiently reliable and comprehensive to permit utilization in the present study. Series for the maturity structure of debt owed to commercial banks have been obtained from the BIS publication The Maturity Distribution of International Bank Lending. Finally, data on concessional aid flows have been derived from the Geographic Distribution of Financial Flows to Developing Countries, published by the OECD.

### III. Empirical Results

With the discussion of Section II.1 as background, this section investigates the behavior of several major debtor country-related variables that can be viewed as potentially influencing the relative incidence of debt servicing difficulties. The variables examined are grouped as follows: (1) exogenous factors other than world interest rates <sup>1/</sup> (movements in the terms of trade, the world recession, and changes in concessional aid flows); (2) aggregate macroeconomic variables (the external current account deficit, the volume of exports and imports, the rate of economic growth, and the domestic rate of inflation); (3) major economic policy indicators (the growth of domestic credit and the money supply, some partial indicators of fiscal trends, and movements in the real effective exchange rate); and finally, (4) variables relating to debt management policy (the rate of growth and maturity structure of outstanding debt--both medium- and long-term external public debt and short-term commercial bank debt--the composition of external borrowing, and trends in debt service payments). It should be reiterated that consistent with the underlying motivation of the study, the analysis deals only with the aggregative outcome for the groups of rescheduling and nonrescheduling countries, respectively, and thus masks differences in individual country behavior that may be quite significant.

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<sup>1/</sup> A change in the level of world interest rates is not considered by itself a possible determining factor distinguishing the experience of rescheduling and nonrescheduling countries since, generally speaking, all countries face the same world interest rate (e.g., LIBOR). However, the impact of any given change in world interest rates depends upon the composition of external borrowing (for example, the proportion of debt contracted at variable interest rates) as between different countries. For this reason, the role of interest rates is examined under the heading of "debt management policies," (subsection 4, below).

1. The impact of exogenous factors

Developments in the external terms of trade faced by non-oil developing countries in the period under review are summarized in Table 2. Reflecting the high inflation environment of the late seventies, the average unit value of both exports and imports (measured in U.S. dollars) rose sharply for both rescheduling country subgroups in the period prior to their requesting a rescheduling. However, the overall impact of these trends on the external terms of trade differed as between the two subgroups. Thus, Group I rescheduling countries experienced, on average, a cumulative terms of trade deterioration of between 4 percent and 10 percent (depending on whether one-year, three-year, or five-year prerescheduling periods are considered). By contrast, a net terms of trade improvement occurred overall for Group II rescheduling countries amounting to between 1 percent and 13 percent (again depending on the time period analyzed).

Viewed in relation to the average experience of nonrescheduling countries, the interpretation of the above trends depends on whether the "lower income" or "higher income" subgroups are considered. <sup>1/</sup> For the former (i.e., Group I countries), the terms of trade deterioration appears on average to have been not very dissimilar to that experienced by the nonrescheduling comparators in the same time periods. For example, in the one- and three-year periods prior to the rescheduling, Group I rescheduling countries' terms of trade declined cumulatively on average by 4 percent and 10 percent, respectively, compared with corresponding declines of 5 percent and 9 percent, respectively, for nonrescheduling countries. Over a five-year period, Group I countries experienced a cumulative terms of trade deterioration of 5 percent as opposed to a rise of 0.5 percent for countries that did not reschedule. By contrast, the average net improvement in the terms of trade that occurred for Group II rescheduling countries in all periods considered represented a considerably more favorable outcome than that experienced by nonrescheduling countries, where a deterioration took place. For example, when the five-year period prior to rescheduling is taken as a basis of comparison, the median terms of trade of Group II rescheduling countries rose cumulatively by 13 percent, while for nonrescheduling countries, a fall of 6 percent occurred.

Apart from the impact of world inflation, the recessionary environment of 1980-81 affected adversely the export growth potential of all non-oil LDCs, due to both a general weakening of world demand as well as some likely intensification of protectionist measures by industrial countries. While in general, one might expect that these influences might affect all developing countries in a roughly equal manner, it is possible that since the extent and severity of the recession

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<sup>1/</sup> For the reason explained in Section II.2 (p. 9), the terms "low income"/"high income" and "Group I"/"Group II" are used interchangeably in what follows.

Table 2. Non-Oil LDCs: Rescheduling and Nonrescheduling Countries--  
Impact of Exogenous Factors

|   | Years Prior to Rescheduling |               |               |
|---|-----------------------------|---------------|---------------|
|   | 5-Year Period               | 3-Year Period | 1-Year Period |
| I. Evolution of External Terms of Trade   |                             |               |               |
| (Cumulative percent change in median value) <sup>1/</sup>                         |                             |               |               |
| A. Export Unit Value  |                             |               |               |
| Group I   |                             |               |               |
| Rescheduling countries  | 65.1                        | 38.1          | 10.9          |
| Nonrescheduling countries   | 70.6                        | 37.8          | 9.5           |
| Group II  |                             |               |               |
| Rescheduling countries  | 78.3                        | 41.7          | 7.0           |
| Nonrescheduling countries   | 52.0                        | 34.3          | 1.6           |
| B. Import Unit Value  |                             |               |               |
| Group I   |                             |               |               |
| Rescheduling countries  | 73.7                        | 53.8          | 15.5          |
| Nonrescheduling countries   | 69.7                        | 51.3          | 15.4          |
| Group II  |                             |               |               |
| Rescheduling countries  | 57.3                        | 40.2          | 5.7           |
| Nonrescheduling countries   | 66.1                        | 47.8          | 6.1           |
| C. Terms of Trade A/B   |                             |               |               |
| Group I   |                             |               |               |
| Rescheduling countries  | -5.0                        | -10.2         | -4.0          |
| Nonrescheduling countries   | 0.6                         | -8.9          | -5.1          |
| Group II  |                             |               |               |
| Rescheduling countries  | 13.4                        | 1.1           | 1.2           |
| Nonrescheduling countries   | -8.5                        | -9.1          | -4.2          |
| II. Growth in Non-Oil Import Volume of Partner Industrial Countries <sup>2/</sup> |                             |               |               |
| (Cumulative percent change in median value) <sup>2/</sup>                         |                             |               |               |
| Group I   |                             |               |               |
| Rescheduling countries  | ...                         | 20.5          | 4.1           |
| Nonrescheduling countries   | ...                         | 19.4          | 3.4           |
| Group II  |                             |               |               |
| Rescheduling countries  | ...                         | 14.6          | 3.2           |
| Nonrescheduling countries   | ...                         | 14.9          | 3.2           |
| III. Net Inflows of Concessional Assistance                                       |                             |               |               |
| (As a percent of GDP; <sup>3/</sup> median value)                                 |                             |               |               |
| Group I   |                             |               |               |
| Rescheduling countries  | 6.9                         | 7.5           | 8.2           |
| Nonrescheduling countries   | 8.2                         | 8.3           | 8.2           |
| Group II  |                             |               |               |
| Rescheduling countries  | 0.9                         | 1.2           | 1.3           |
| Nonrescheduling countries   | 1.1                         | 1.2           | 1.1           |

Source: Data base underlying the World Economic Outlook exercise; and Geographical Distribution of Flows to Developing Countries, OECD.

<sup>1/</sup> Measured in U.S. dollars.

<sup>2/</sup> Individual country data are calculated as a weighted average of the change in the volume of non-oil imports of individual industrial countries; the weights are derived from data on the direction of each non-oil developing country's exports.

<sup>3/</sup> In a small number of instances, ratios to GNP have been used instead.

differed as between industrial countries, some individual developing countries may have been more adversely affected than others. In order to investigate this question, series were estimated for the export market growth faced by each non-oil developing country, using the weighted average growth in non-oil import volume of partner industrial countries. <sup>1/</sup> The resulting series (also shown in Table 2, <sup>2/</sup>) suggest (perhaps not surprisingly) that there was a negligible difference on average between the growth in export markets for countries experiencing a rescheduling and those that did not. Thus, this adverse aspect of the recession appears to have been experienced by each country subgroup in a relatively uniform manner.

Finally, Table 2 presents some evidence as regards the extent to which developing countries may have experienced a cutback in concessional ODA assistance during the periods under review (for example, due, in part, to budgetary constraints in donor countries). However, it is of some interest to observe that if net concessional aid flows measured in relation to recipient countries' GNP is used as an indicator, such a cutback appears not to have generally occurred. In the case of non-rescheduling countries in both Group I and Group II, the above-mentioned ratio tended to remain constant, while rescheduling countries experienced a rise in their net concessional flow/GDP ratio. For instance, for Group I countries (in whose case, by definition, concessional flows are of considerable importance for external economic management), the ratio increased from 7 percent on average in the five-year prerescheduling period to 8 percent in the immediate prerescheduling period. <sup>3/</sup>

In summary, the above analysis suggests that so far as changes in the terms of trade, export demand, and net concessional aid flows are concerned, rescheduling countries on average could not be said to have been affected any more adversely by the recent international economic disturbances by comparison with countries that did not reschedule. Indeed, to the extent that the data do indicate differences, Group II rescheduling countries, in contrast to the general tendency for countries in this group, appear to have experienced on average some slight improvement in their external terms of trade in the periods prior to rescheduling. In the case of Group I reschedulers, the same appears to be true to some extent as regards concessional aid assistance.

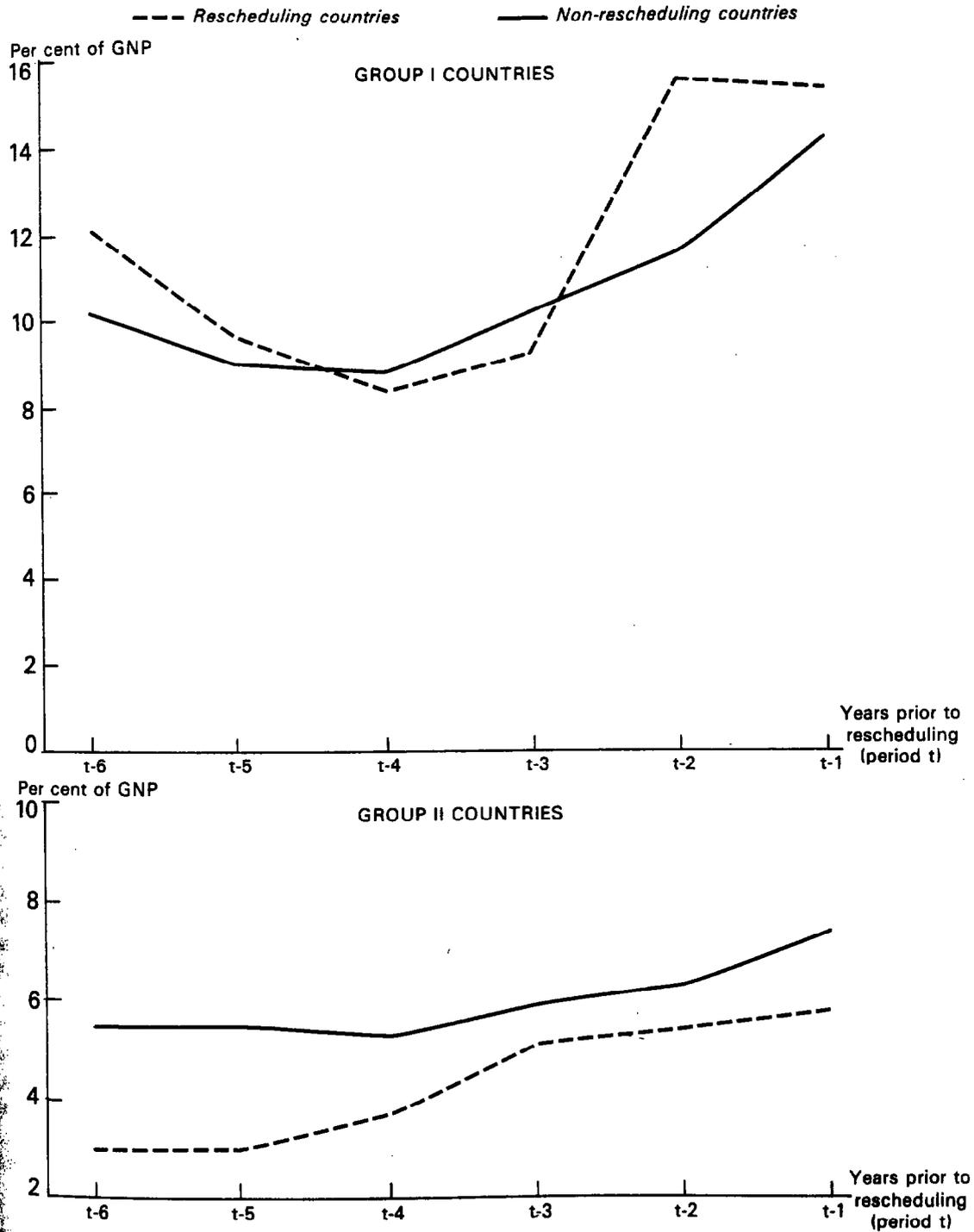
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<sup>1/</sup> Weights were derived from data on the direction of each non-oil developing country's exports.

<sup>2/</sup> Series were available only for years covering the three-year period prior to the rescheduling.

<sup>3/</sup> It is possible that this ratio could be a biased indicator, reflecting changes in the denominator (i.e., in GNP). However, when concessional assistance is measured directly in U.S. dollar terms, the trend already noted appears to be more pronounced. Thus, for Group I rescheduling countries, net ODA flows on average rose from \$77 million to \$180 million during the five-year period preceding the rescheduling, while for nonrescheduling countries, the corresponding increase was from \$61 million to \$116 million.

CHART 1  
NOLDCs: RESCHEDULING AND NON-RESCHEDULING GROUPS  
EVOLUTION OF EXTERNAL CURRENT  
ACCOUNT DEFICIT RELATIVE TO GNP<sup>1,2</sup>



Source: Data base underlying the *World Economic Outlook* exercise.  
<sup>1</sup>Data shown are medians of individual country data for each group.  
<sup>2</sup>In a small number of instances, ratios to GDP have been used instead.

## 2. Aggregate macroeconomic performance

It is generally accepted that an important factor that may affect the likelihood of a country seeking a debt rescheduling is the size of the country's external current account deficit. First, in an obvious sense, assuming no deterioration in the overall balance of payments is envisaged, financing the current account deficit implies an equivalent increase in the aggregate net exposure of all creditors, <sup>1/</sup> an increase that, depending on prevailing circumstances, they may be reluctant to undertake. Second, apart from this direct impact, creditors may view movements in the current account deficit as an indicator of the authorities' ability to undertake needed external adjustment. Thus, while the financing of a particular current account deficit may not present a problem in any given period, creditors may believe that in the absence of evidence indicating a capacity to adjust, the probability of a rescheduling occurring in a subsequent period is quite high. In such circumstances, they might prefer to experience now a rescheduling applied to a certain stock of debt rather than supply new funds which might subsequently be subject to a rescheduling.

Comparative trends in the current account deficit in relation to GNP are shown in Chart 1. In the case of Group I rescheduling countries, their deficit/GNP ratio appears on average to have been broadly in line with that of the nonrescheduling country comparators in the earlier years prior to the occurrence of the rescheduling. However, in the two immediate prerescheduling years, their deficit was somewhat higher, although the difference is not very marked (an average deficit of 15.3 percent compared with an average deficit for nonrescheduling countries of 12.9 percent).

However, for the Group II category, the deficit/GNP ratio of all rescheduling countries, in each of the yearly periods prior to rescheduling, was on average lower than that of the countries which did not reschedule. Thus, for the entire six-year prerescheduling period, the rescheduling countries' deficit averaged 4.3 percent of GNP compared with a corresponding ratio of 6.0 percent for the nonrescheduling country group. In other words, measured in relation to available domestic resources, the total net recourse to external financing sources on the part of rescheduling countries does not appear to have been any greater than the average experienced by comparable developing countries.

It should be emphasized that the evolution of the current account deficit is only one (and by no means necessarily the most crucial) aspect of a country's performance that affects the likelihood of it incurring debt servicing difficulties. So far as the external position is concerned, the evolution of exports and imports is also of considerable importance. For example, other things being equal, a country which

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<sup>1/</sup> The term "creditors" includes in this context, providers of "nondebt-creating" flows (e.g., direct investment).

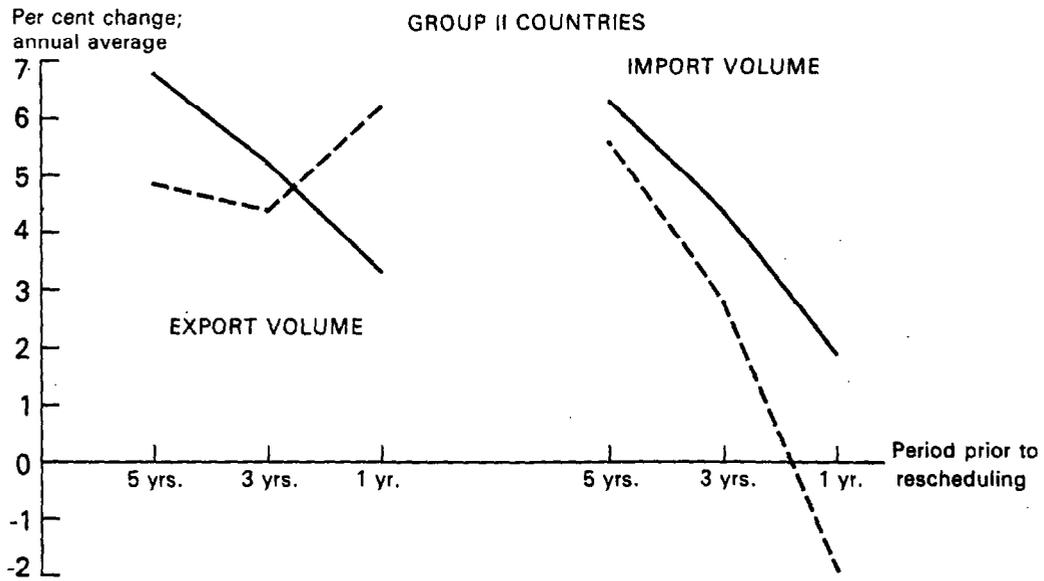
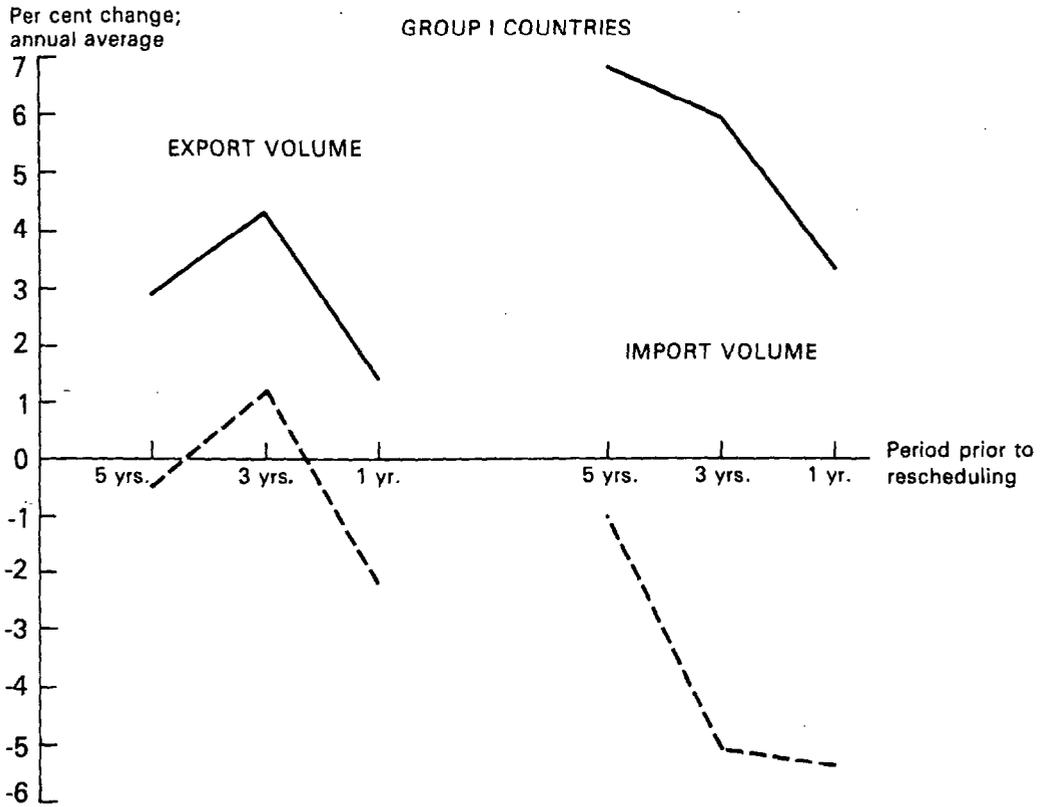
achieves rapid export growth accompanied by an expansion of imports may be less prone to difficulties than a country experiencing a declining export performance, which then requires a cutback in imports in order to maintain the external deficit within financeable limits. Comparing the two situations, even if at present the total external borrowing requirement is the same, in the latter case, debt service payments will tend to absorb an increasing proportion of foreign exchange earnings. Moreover, the enforced decline in imports, besides being likely to affect adversely the productive capacity of the economy (including the export sector), will tend to increase domestic inflationary pressures, thus complicating adjustment efforts aimed at restoring internal and external balance. In such circumstances, creditors may come to doubt the country's ability to sustain a continued compression of imports and may conclude that debt servicing difficulties are likely to emerge in the not-too-distant future. By contrast, creditors are likely to have greater confidence in continued lending to an economy the exports of which are expanding rapidly with accompanying increases in the country's productive base.

Evidence on the evolution of the volume of exports and imports is summarized in Chart 2. For Group I rescheduling countries, their export performance overall appears to have been distinctly unfavorable, in both an absolute and relative sense. Thus, total exports of these countries experienced an annual average decline of 0.5 percent during the five-year period prior to the rescheduling, while the comparator nonrescheduling group recorded a corresponding rise of 2.9 percent. The contrast was even more marked for imports. In the same period, for rescheduling countries, real imports fell at an annual average rate of 1.0 percent, while for nonrescheduling countries, there was a corresponding increase of 6.8 percent. Moreover, as can be seen from Chart 2, these differences in the evolution of both exports and imports were very similar irrespective of the period of the calculations. Thus, the trade performance of Group I rescheduling countries appears to have been clearly such as to have been a potentially important contributing factor to their experiencing debt servicing difficulties.

The trade performance of Group II rescheduling countries over the longer (i.e., five years) time period was more in line with average non-oil LDC trends, although their export performance on average lagged somewhat behind that of the nonrescheduling group (namely, an annual average real growth of 4.8 percent compared with a comparator growth of 6.8 percent). Also, throughout this time period, real import growth was slightly less, on average, for the rescheduling countries. However, in the year immediately prior to rescheduling, exports of rescheduling countries rose relatively sharply in volume terms, by 6.2 percent compared with a corresponding increase of 3.3 percent for nonrescheduling countries. At the same time, import volume for this group declined by 1.9 percent, while it rose (by 1.9 percent) for countries that did not reschedule. These data suggest that in the period immediately prior to the rescheduling, some turnaround in their real trade balance (at least

### CHART 2 NOLDCs: RESCHEDULING AND NON-RESCHEDULING GROUPS EXTERNAL TRADE INDICATORS<sup>1</sup>

--- Rescheduling countries      — Non-rescheduling countries



Source: Data base underlying the *World Economic Outlook* exercise.  
<sup>1</sup>Data shown are derived from medians of individual country data for each group.

in a relative sense) occurred for Group II countries, as reflected in a better-than-average export performance and reduced reliance on imports.

Perhaps not surprisingly, the above trade performance patterns were mirrored to a considerable extent in real economic growth trends (Table 3). Reflecting the decline in both exports and imports just noted, Group I rescheduling countries consistently exhibited markedly less favorable changes in real GNP. The poorer growth performance was most noticeable in the immediate prerescheduling period, when rescheduling countries' GDP actually fell on average (by 0.5 percent), while comparable nonrescheduling countries maintained a real growth rate slightly in excess of 4 percent.

In the case of Group II countries, during the three-year and five-year prerescheduling periods, the real growth rates achieved by rescheduling countries were slightly less than the nonrescheduling average, by 1/2 percentage point to 1 percentage point. It is of interest to note that in the immediate prerescheduling period, a somewhat larger difference occurred (1.7 percent compared with 3.3 percent for nonrescheduling countries). This more marked divergence is consistent with the tendency noted above for this group of rescheduling countries to have recorded some turnaround in their external trade account in this period, an outcome that may have been brought about at least in part by the adoption of measures that had the effect of slowing down the rate of growth of domestic economic activity.

Finally, an important and well-publicized "perception factor" affecting creditor attitudes is the rate of domestic inflation. While theoretically the potentially adverse effects of a country maintaining a rate of domestic inflation higher than that of its trading partners can be offset through an appropriate exchange rate policy, significant doubts are likely to arise as to the feasibility and sustainability of such an approach, especially over a longer time period. It is also generally accepted that the persistence of excessive rates of inflation, besides being a direct outgrowth of domestic financial imbalances, in practice imposes considerable resource allocative costs that, over time, will adversely affect the economy's debt servicing capacity.

As shown in Table 3, both Group I and Group II rescheduling countries experienced consistently higher inflation rates than comparable nonrescheduling countries. Moreover, in the case of Group I countries, it is likely that the recorded inflation data for this group understate the actual underlying inflation rate in view of the prevalence of administered pricing policies. <sup>1/</sup> For Group II countries (the majority of which are in Latin America), the average recorded inflation rate was 10-12 percentage points higher than the nonrescheduling average in either the three-year or five-year prerescheduling periods. It may also be noted that this "inflation differential" doubled to almost 20 percentage points in the year immediately preceding the rescheduling.

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<sup>1/</sup> This issue is addressed in more detail below (see Section III.3).

Table 3. Non-Oil LDCs: Rescheduling and Nonrescheduling Countries--  
Comparative Economic Growth and Inflation

(Percent change in median value 1/; annual average)

|  | Years Prior to Rescheduling |               |               |
|--|-----------------------------|---------------|---------------|
|  | 5-Year Period               | 3-Year Period | 1-Year Period |
| A. Change in Real GNP <u>2/</u>        |                             |               |               |
| Group I                                |                             |               |               |
| Rescheduling countries                 | 1.9                         | 1.1           | -0.5          |
| Nonrescheduling countries              | 5.4                         | 4.9           | 4.2           |
| Group II                               |                             |               |               |
| Rescheduling countries                 | 4.3                         | 3.1           | 1.7           |
| Nonrescheduling countries              | 4.8                         | 4.1           | 3.3           |
| B. Change in Consumer Prices <u>3/</u> |                             |               |               |
| Group I                                |                             |               |               |
| Rescheduling countries                 | 11.7                        | 13.4          | 16.4          |
| Nonrescheduling countries              | 10.8                        | 11.7          | 12.6          |
| Group II                               |                             |               |               |
| Rescheduling countries                 | 23.8                        | 29.4          | 33.1          |
| Nonrescheduling countries              | 14.3                        | 16.9          | 13.7          |

Source: Data base underlying the World Economic Outlook exercise; and International Financial Statistics (various issues), IMF.

1/ Data shown are based on medians of individual country data for each group.

2/ In a small number of instances, changes in GNP have been used instead.

3/ Based on end-period data; where consumer prices shown for end-December are not available, series for the first quarter have been used instead.

To summarize, the above results suggest some overall noticeable differences in relative aggregate macroeconomic performance of the rescheduling countries reviewed. For the Group I subgroup, while a slightly higher external current account deficit (in relation to GNP) than the average was experienced in the two years prior to the rescheduling, the most striking feature of their performance was the notable weakness of exports (in volume terms) which was accompanied by sharp and prolonged import cutbacks. In turn, this outcome is likely to have contributed directly to the consistently poor economic growth which these countries achieved as well as their generally higher (recorded) inflation rates. By contrast, the external current account deficit/GNP ratio incurred by Group II rescheduling countries was generally somewhat less than that of comparable countries which did not reschedule. Considering the entire five-year period reviewed, the former's export performance was less favorable than the average experience, and the rate of growth of imports (as well as of real GNP) also appeared to be somewhat lower. However, it may be noted that in the year immediately prior to the rescheduling, these rescheduling countries experienced, in real terms, a noticeably faster export growth, a significant reduction in imports, and a slowdown in economic growth; nevertheless, their current account deficit ratio, on average, remained roughly unchanged. Finally, domestic inflation rates for these countries were consistently and markedly higher than for the comparable nonrescheduling groups.

### 3. Macroeconomic policy indicators

In this section, the behavior of selected major macroeconomic policy indicators, viz., the growth in credit and money, partial indicators of fiscal trends, and movements in real effective exchange rates are examined. So far as demand management policies are concerned, not surprisingly--in view of their relatively higher inflation rates already noted--both groups of rescheduling countries experienced consistently higher rates of credit expansion compared with nonrescheduling countries (Table 4); this generally was the case both for total net domestic credit and net credit to government; however, during the year prior to the rescheduling, the rate of expansion of net credit to government in Group II reschedulers on average recorded a sharp relative decline.

Largely reflecting the above behavior of credit, the growth of the broad money supply (money and quasi-money) also tended to be considerably higher for rescheduling countries. However, it may be observed that this difference in behavior was much more pronounced in the case of Group II countries, an outcome consistent with the markedly less favorable inflation performance for this group (noted earlier). By contrast, it was observed above that so far as the external current deficit was concerned, the performance of Group II rescheduling countries was more favorable than that of Group I. Taken together, this suggests that the high rates of credit expansion experienced by both rescheduling country groups could have had an impact in somewhat different ways; on average, for Group II countries, the expansion in credit may have had a greater effect on domestic inflation as opposed to

Table 4. Non-Oil LDCs--Rescheduling and Nonrescheduling Countries:  
Comparative Expansion in Money and Credit

(Percent change; annual average) <sup>1/</sup>

|   | Years Prior to Rescheduling |               |               |
|---|-----------------------------|---------------|---------------|
|   | 5-Year Period               | 3-Year Period | 1-Year Period |
| <b>A. <u>Net Domestic Credit</u> <sup>2/</sup></b>      |                             |               |               |
| Group I   |                             |               |               |
| Rescheduling countries                                  | 29.0                        | 29.6          | 34.6          |
| Nonrescheduling countries                               | 20.0                        | 21.0          | 23.0          |
| Group II  |                             |               |               |
| Rescheduling countries                                  | 45.1                        | 43.2          | 46.8          |
| Nonrescheduling countries                               | 27.3                        | 27.2          | 31.7          |
| <b>B. <u>Net Credit to Government</u> <sup>2/</sup></b> |                             |               |               |
| Group I   |                             |               |               |
| Rescheduling countries                                  | 13.0                        | 14.6          | 12.9          |
| Nonrescheduling countries                               | 4.2                         | 5.0           | 4.6           |
| Group II  |                             |               |               |
| Rescheduling countries                                  | 13.4                        | 15.0          | 5.6           |
| Nonrescheduling countries                               | 5.9                         | 6.2           | 8.5           |
| <b>C. <u>Money and Quasi-Money</u></b>                  |                             |               |               |
| Group I   |                             |               |               |
| Rescheduling countries                                  | 22.9                        | 22.2          | 27.9          |
| Nonrescheduling countries                               | 19.2                        | 17.7          | 16.5          |
| Group II  |                             |               |               |
| Rescheduling countries                                  | 31.9                        | 32.0          | 35.9          |
| Nonrescheduling countries                               | 22.8                        | 22.3          | 20.3          |

Source: International Financial Statistics, International Monetary Fund.

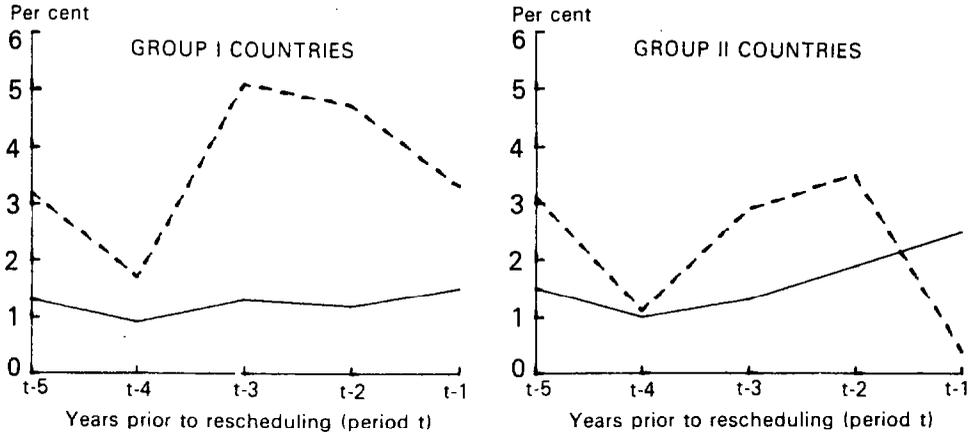
<sup>1/</sup> Data shown are based on medians of individual country data for each group.

<sup>2/</sup> In relation to the beginning period stock of money and quasi-money.

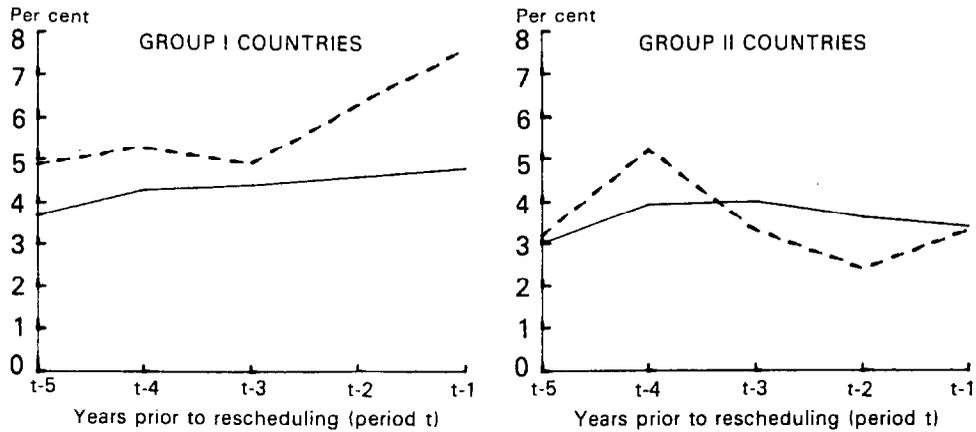
CHART 3  
 NOLDCs: RESCHEDULING AND NON-RESCHEDULING GROUPS  
 SELECTED FISCAL INDICATORS

--- Rescheduling countries      — Non-rescheduling countries

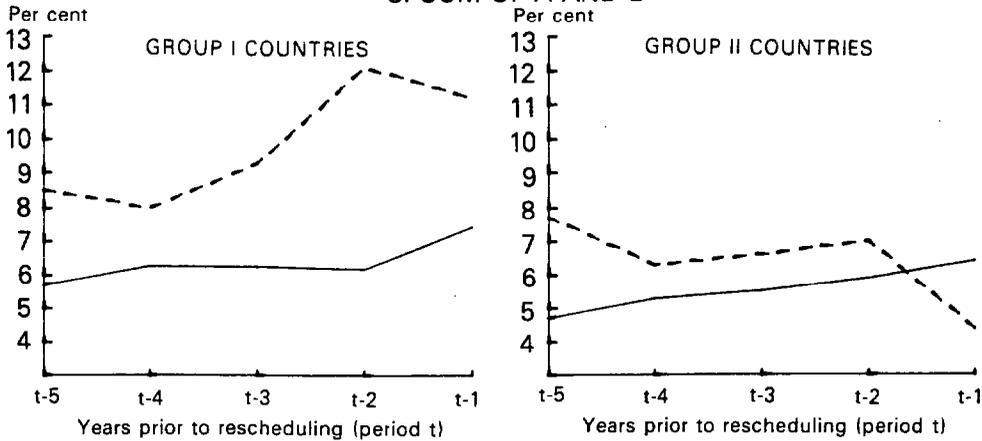
A. DOMESTIC BUDGETARY BANK FINANCING  
 AS A PROPORTION OF GNP<sup>1,2</sup>



B. NET (MEDIUM AND LONG TERM) EXTERNAL FINANCING OF PUBLIC SECTOR  
 AS A PROPORTION OF GNP<sup>1,2</sup>



C. SUM OF A AND B<sup>1</sup>



Source: *International Financial Statistics*, IMF; *Debtor Reporting System*, World Bank; and data base underlying the IMF, *World Economic Outlook* exercise.

<sup>1</sup>Data shown are medians of individual country data for each group.

<sup>2</sup>In a small number of cases ratio to GDP have been used instead.

spilling over into the external current account, while the tendency in the case of Group I countries may have been in the opposite direction. 1/

Turning to the fiscal component of demand management policies, lack of data prevents a comprehensive examination of overall budgetary trends. 2/ However, available data on two important financing components of the overall public sector deficit, namely, the ratios to GNP of (a) domestic bank financing of the budget and (b) net medium- and long-term external financing of the public sector, are shown in Chart 3. For Group I reschedulers, it appears that both of these components were significantly higher to begin with than for nonreschedulers, and that this difference increased over time. The sum of the two components, which amounted to about 8.5 percent five years prior to the rescheduling year, increased to over 11 percent by the year immediately preceding the rescheduling; by contrast, for nonrescheduling countries, the ratio during the corresponding period rose from just under 6 percent to about 7 percent.

For the Group II category, however, on average, the difference in the behavior of these fiscal indicators (considered together) as between rescheduling and nonrescheduling country groups was somewhat less striking. While the bank financing component in most years was higher for the former, the contribution of foreign financing was lower in some years. Overall, the sum of the two components tended to be about 1-2 percentage points higher in the case of rescheduling countries. It may be noted, however, that in the year immediately preceding the rescheduling, the expansionary contribution emanating from these sources declined quite sharply, from about 7 percent to about 4-1/2 percent (consistent perhaps with the observed leveling off of their external current deficit noted earlier).

It should be emphasized, however, that the previous discussion analyzed only certain components of the overall public sector deficit. Thus, an overall assessment of the expansionary impact of the public sector would require, in addition, data on both nonbank domestic financing of the budget and domestic bank financing of the public sector (other than the budget). For this reason, the above results should be viewed with particular caution. 3/

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1/ However, an important caveat should be borne in mind here, namely, the extent to which recorded price indices may understate actual inflation; this problem is more likely to be present in the case of Group I countries.

2/ Comprehensive sufficiently recent data which follow the IMF's Government Financial Statistics (GFS) format are only widely available for a small number of rescheduling countries.

3/ For example, in the case of some individual Latin American countries included in the rescheduling group, it is known that domestic nonbank financing of the budget was at least as large as the domestic bank financing component during certain periods.

Together with demand management policies, exchange rate policy will have an important impact on the attainment of internal and external balance. While a thorough assessment of the role of this policy variable lies outside the scope of this study, nevertheless, as a useful starting point, it is of interest to examine the behavior of real effective exchange rates. 1/

The behavior of the average real effective exchange rate series during the two years prior to the rescheduling is shown in Chart 4; 2/ also included are data referring to the six-month period during the year of the rescheduling itself. For the Group I reschedulers, a cumulative real appreciation of about 4 percent to 9 percent occurred during this period, depending on whether or not the first half of the rescheduling year is included; this appreciation was similar to that also experienced by nonrescheduling countries. However, in assessing these figures, it should be borne in mind that due to the widespread existence of price controls, recorded price indices may tend to understate the degree of actual inflation and, therefore, the extent of any appreciation of the real exchange rate may also be understated. To illustrate this point, the cumulative expansion in broad money and real economic growth for Group I rescheduling countries during the three-year period preceding the rescheduling on average amounted to 83 percent and 3 percent, respectively, trends which, on the assumption of a constant income velocity of money, would imply an inflation rate in the order of 80 percent. However, during the same period, (recorded) consumer prices rose much less, namely, by 46 percent. While some part of this "discrepancy" of 34 percentage points could be due to changes in the velocity of money, it seems quite probable that a significant portion results from an under-recording of actual price increases. 3/

In the case of Group II rescheduling countries, there was a more pronounced measured real appreciation of the exchange rate. Also, it may be noted that for this group, the above problem of "controlled" prices may be less significant from the point of view of interpreting

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1/ For a review of the advantages and limitations of the analysis of real effective exchange rates, see Maciejewski (1983).

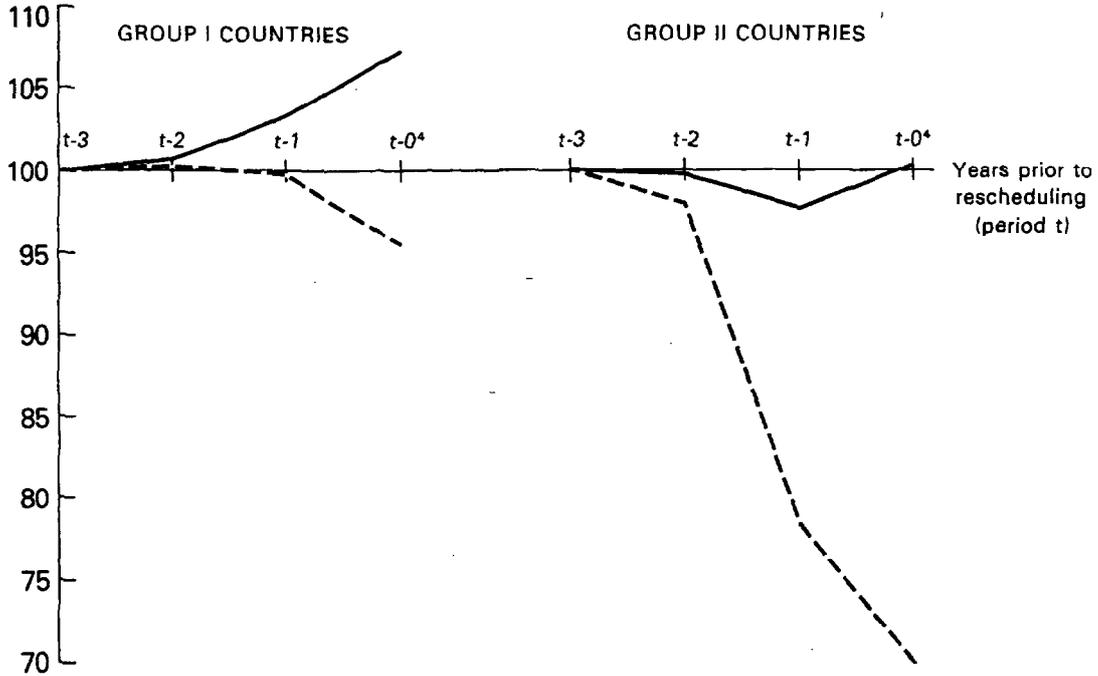
2/ The data shown are derived from individual country series calculated in a broadly uniform manner by the Fund staff using major trade partner weights and consumer price indices. The data only extend back as far as 1977-78.

3/ A similar, although much smaller, difference is present in the case of Group I nonrescheduling countries. For the latter, in the corresponding period, the cumulative increases in broad money and economic growth averaged 77 percent and 16 percent, respectively, which on the same (constant income velocity) assumption would imply an implied inflation rate of 61 percent. The actual inflation rate was 46 percent, i.e., there was a "discrepancy factor" of 15 percentage points.

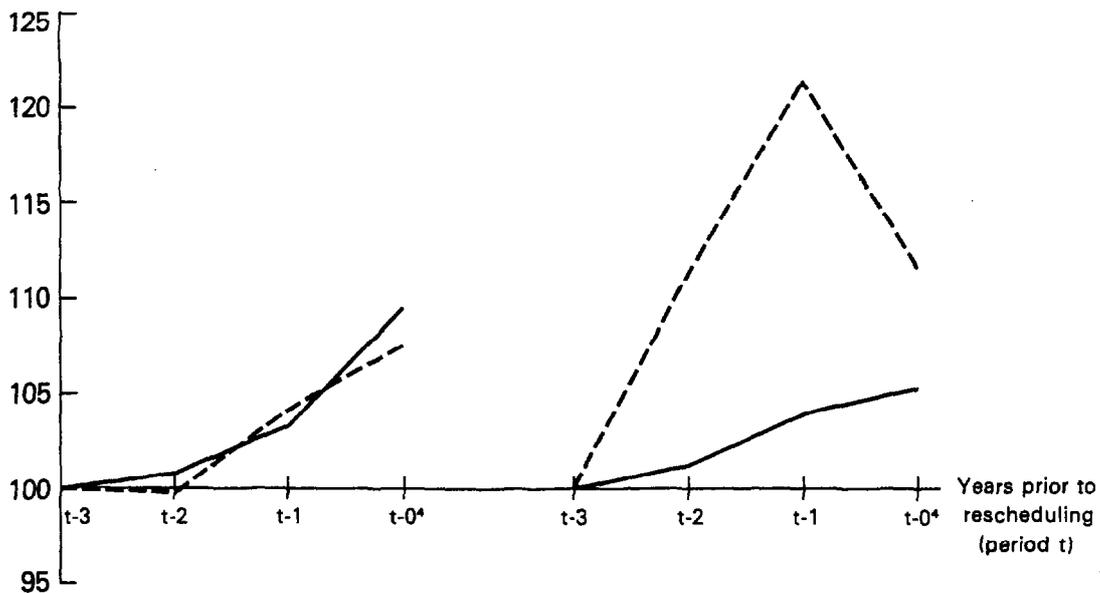
CHART 4  
NOLDCs: RESCHEDULING AND NON-RESCHEDULING GROUPS  
EFFECTIVE EXCHANGE RATE INDICATORS<sup>1</sup>

--- Rescheduling countries      — Non-rescheduling countries

A. NOMINAL EXCHANGE RATE INDEX<sup>2,3</sup>



B. REAL EXCHANGE RATE INDEX<sup>2,5</sup>



Source: Fund staff estimates.

<sup>1</sup>Data shown are medians of individual country data for each group.

<sup>2</sup>Calculated on the basis of trade weights for major trading partners.

<sup>3</sup>An increase in the index indicates a relative nominal depreciation of the currency.

<sup>4</sup>Refers to end June of the year of rescheduling.

<sup>5</sup>An increase in the index indicates a relative real appreciation of the currency.

these movements in real exchange rates. <sup>1/</sup> During the two-year prerescheduling period, a real appreciation of almost 21 percent occurred on average, compared with an appreciation for nonrescheduling countries of only 4 percent. However, during the first six months of the year of the rescheduling itself, just under half of the appreciation for rescheduling countries was reversed.

Apart from the effect on the external trade account, the evolution of real effective exchange rates (together with movements in real interest rates) is likely to have a significant effect on private capital flows. In situations where these variables move in a markedly adverse direction (and/or when other intangible "confidence factors" become critical) substantial unrecorded net private capital outflows may result. It is commonly believed that this latter element, the phenomenon known as "capital flight," was an important factor in aggravating the external payments difficulties of several rescheduling countries, particularly those in Latin America and the Caribbean. While direct estimation of capital flight is, by definition, extremely difficult, nevertheless, some indirect evidence may be obtained by examining trends in the "errors and omissions" item in the balance of payments. Considering the Group II Latin American and Caribbean rescheduling countries where traditionally private capital movements have played an important financial role, the mean value of their "errors and omissions" rose from an annual average equivalent to -4 percent of exports during 1977-79 to -19 percent of exports during 1980-81. By contrast, during the same periods, the corresponding average for the nonrescheduling Group II moved in the opposite direction, from -3 percent to 4 percent. Moreover, while this average outcome is dominated by large movements in the case of three of the countries in question,

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<sup>1/</sup> Thus, comparing the data for broad money growth, economic growth, and the inflation rate, the discrepancy factor amounted to 3 percent (reschedulers) and 10 percent (nonreschedulers) for Group II. This compares with discrepancy factors of 34 percent and 21 percent, respectively, for Group I countries.

nevertheless, it is very striking to note that during these periods, this variable moved in an unfavorable direction in the case of each individual country in the group. <sup>1/</sup> These results tend to confirm the general importance of unrecorded net capital outflows as a contributing factor to the difficulties of rescheduling countries.

In summary, so far as demand management policies are concerned, both rescheduling country groups tended to experience more rapid rates of expansion in total credit, net credit to government, and the money supply. Some available partial indicators of trends in fiscal policy also suggest a more expansionary stance than average, particularly in the case of the Group I category. Rescheduling countries also experienced some appreciation in their real effective exchange rates, most notably for Group II countries; however, the (smaller) appreciation calculated for the Group I category may understate the appreciation that actually occurred due to an under-recording of inflation by official price indices. In addition, the evidence suggests that an important role was played by capital flight in the case of Group II reschedulers.

#### 4. External debt management policies

Chart 5 presents data on the evolution of total medium- and long-term external public debt. In the six-year period preceding the rescheduling, such debt for the rescheduling country subgroups on average rose about two and one half times (by 252 percent and 246 percent, respectively), an increase that was about 20 percentage points higher than that experienced by the comparator country groups. However, so far as the debt/GNP ratio is concerned, this ratio for rescheduling Group I countries was both significantly larger to begin with (28 percent six years prior to the rescheduling versus 18 percent for nonrescheduling countries) and grew somewhat more rapidly, reaching 44 percent in the prerescheduling year (compared with 29 percent for

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<sup>1/</sup> The median figures are as follows (errors and omissions as a percent of exports):

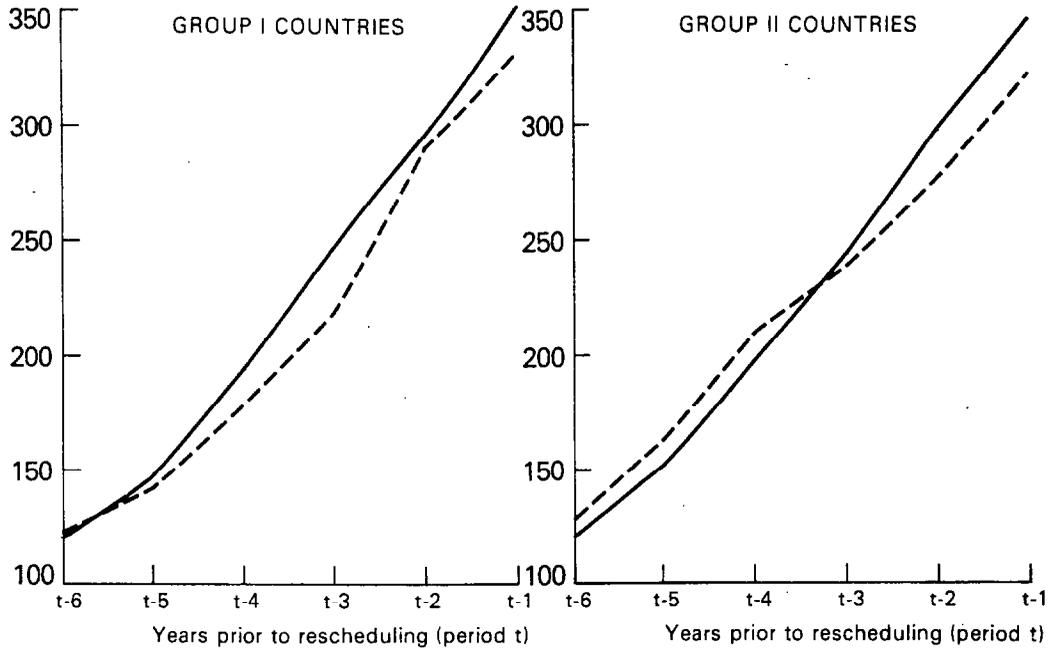
|   | 1977-79                 | 1980-81 |
|---|-------------------------|---------|
|   | <u>(Annual average)</u> |         |
| Group II rescheduling countries<br>(Latin American and Caribbean<br>countries only) | -2                      | -8      |
| Group II comparators  | -1                      | 0       |

CHART 5

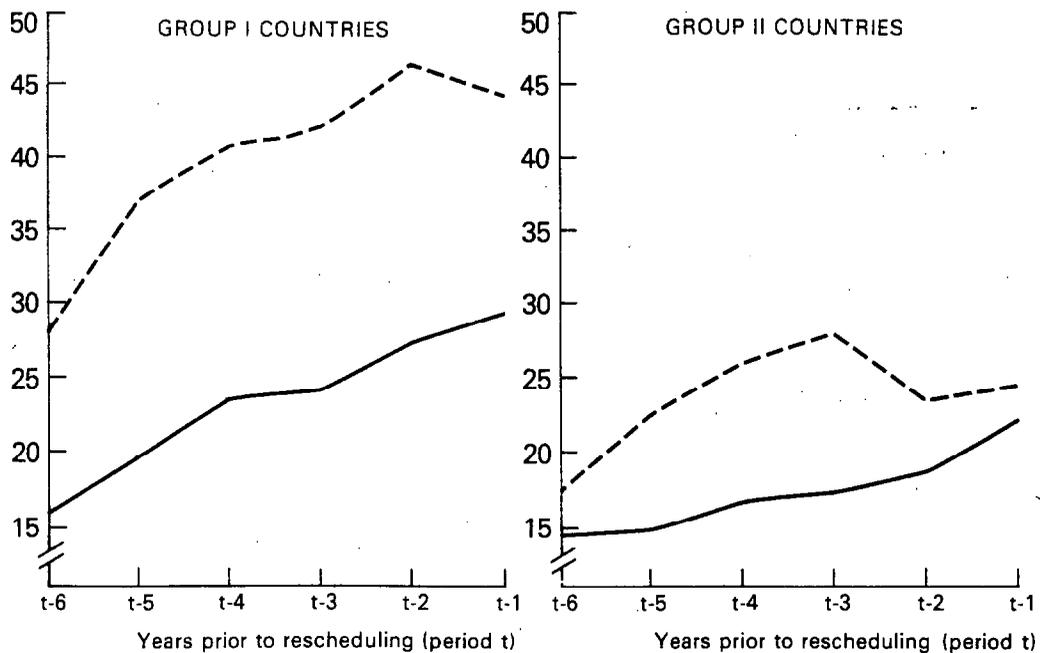
### NOLDCs: RESCHEDULING AND NON-RESCHEDULING GROUPS EVOLUTION OF TOTAL MEDIUM AND LONG TERM EXTERNAL PUBLIC DEBT<sup>1</sup>

--- Rescheduling countries      — Non-rescheduling countries

#### A. GROWTH IN DEBT (t-7=100)



#### B. DEBT/GNP RATIO<sup>2</sup> (Per cent)



Source: *Debtor Reporting System*, World Bank; and data base underlying the *World Economic Outlook* exercise.

<sup>1</sup>Data shown are medians of individual country data for each group.

<sup>2</sup>In a small number of instances, ratios to GDP have been used instead.

the nonrescheduling group). For the Group II category, the ratios for both reschedulers and nonreschedulers were similar at the outset (in the range of 15 percent to 18 percent) and increased at a roughly equal (albeit more moderate) rate, reaching levels of between 22 percent and 25 percent in the year preceding the rescheduling. This approximately similar rate of increase occurred despite the fact that as noted above, the current account deficit of Group II rescheduling countries overall was somewhat lower than the comparator average; thus, it is possible that in financing their deficit, the rescheduling countries may have relied to a somewhat greater extent on net medium- and long-term debt inflows to the public sector (as opposed to direct investment, private financial capital inflows, or reductions in net foreign assets).

Apart from the total size of foreign borrowing, the maturity structure of debt plays an extremely important role in determining the vulnerability of borrowing countries to unforeseen changes in the supply of foreign financing. Thus, the larger the amortization repayments falling due, the greater will be the gross new inflows needed to finance a given net foreign capital requirement. It is fairly generally accepted that a major aspect of the 1981-82 debt difficulties was such a reappraisal of attitudes on the part of lenders. 1/

Unfortunately, comprehensive data on the maturity structure of total external debt are not available. However, in the case of debt owed to commercial banks, reasonably complete data can be obtained for the amortization falling due for individual borrowing countries. Since commercial banking flows are more likely to be susceptible to abrupt shifts in lending attitudes, examination of these data can yield insights into this important aspect of debt management policies.

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1/ While not the main focus of this study, some of the supply-related factors which are likely to have adversely affected lending attitudes may be noted. On the one hand, longer-run portfolio considerations played some role; these include: the sharp prior rise in total international lending (especially to developing countries) relative to domestic lending, and the possibility that continued financing of prospective developing country deficits would cause this share to rise further; the concentration of bank claims (at least of the U.S. banks) in a number of important rescheduling countries; and the consequent perception that the quality of foreign bank assets may have deteriorated relative to that of bank capital. In addition, these underlying factors were significantly aggravated by shorter-term aspects, including a recession-induced deterioration in the quality of some domestic bank assets, events in Eastern Europe, the effects of the U.S. dollar depreciation on measured capital/asset ratios for non-U.S. banks, and finally, significant disturbances in the international interbank market which were associated with difficulties in monitoring and evaluating certain types of market behavior. For a review of many of the above aspects, see Williams, Keller, Lipsky, and Mathieson (1983), and also Cline (1983a). The overall role played by supply factors is discussed further in Section IV below.

Chart 6 indicates the shifts in the maturity structure of external liabilities owed to commercial banks in the three-year period preceding the rescheduling. <sup>1/</sup> In the case of Group I reschedulers, a sharp increase in the proportion of shorter maturities falling due occurred. Thus, the share of remaining maturities of one year or less rose on average from 35 percent to 52 percent, while for maturities of two years or less, the increase was from 44 percent to 57 percent. By way of comparison, for countries in this group that did not reschedule, the shares of shorter maturities in total bank debt actually declined. However, while the above trends are likely to have increased the relative likelihood of certain countries encountering debt servicing difficulties, nevertheless, this element may not have been of great overall quantitative significance, since by definition, for Group I countries, the share of commercial bank debt in total debt was relatively small. On the other hand, for Group II countries relying much more heavily on commercial financing, the maturity structure of bank debt was a centrally important aspect of their external debt management policies. The data indicate that for countries in this category, the proportion of one-year maturity or under debt owed by both the rescheduling and nonrescheduling country groups remained roughly constant during the three-year prerescheduling period, while an approximately equal decline (as between the two groups) in the share of debt with a two-year maturity or less occurred.

However, neither the absolute size of short-term debt nor the relative proportion of such debt in total debt by themselves are the most useful measures of a country's vulnerability to unexpected interruptions in the supply of gross new external financing. The evolution of short-term debt in relation to available international reserves or exports is a more meaningful indicator of the extent to which external liabilities falling due in the immediate period ahead represent a claim on the stock or the flow of available foreign exchange. Also, measuring short-term debt in relation to both exports and imports indicates the extent to which this type of external financing may have become associated with direct balance of payments financing--thus tending to contribute to the postponement of adjustment--as opposed to being trade-related in nature.

Several measures of the potential vulnerability associated with countries' external short-term debt positions are presented in Chart 7. During the period considered, short-term commercial bank debt (defined as debt with a remaining maturity of one year or less) of Group I rescheduling countries assessed either in relation to available international reserves (i.e., official international reserves plus unused bank credit commitments), exports, or imports, increased sharply. On the other hand, for nonrescheduling countries, short-term debt in relation to both exports and imports actually declined slightly, while

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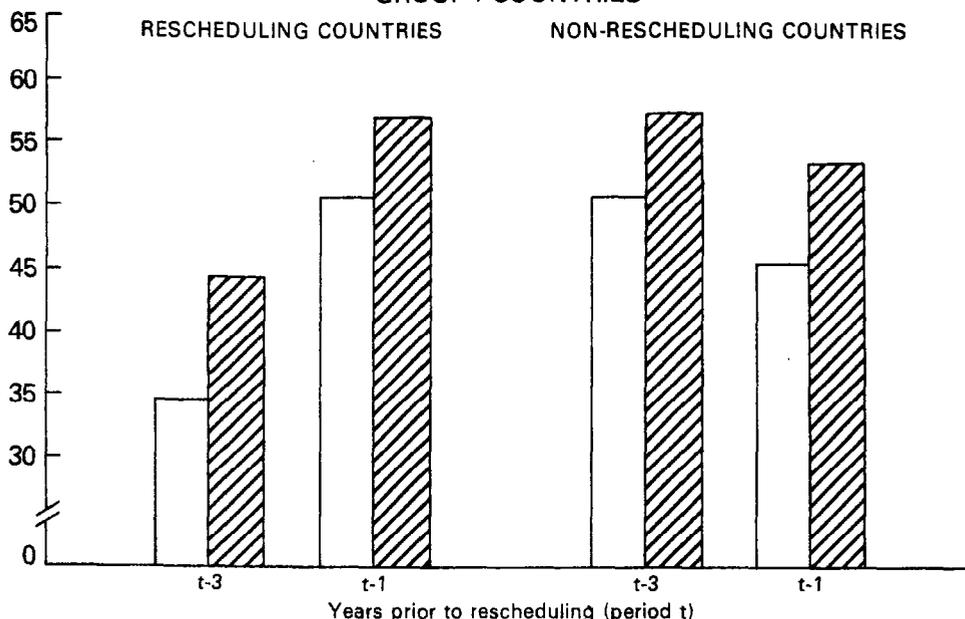
<sup>1/</sup> BIS data on the maturity structure of commercial bank debt do not exist prior to 1978.

CHART 6  
 NOLDCs: RESCHEDULING AND NON-RESCHEDULING COUNTRIES  
 MATURITY STRUCTURE OF EXTERNAL  
 LIABILITIES TO COMMERCIAL BANKS

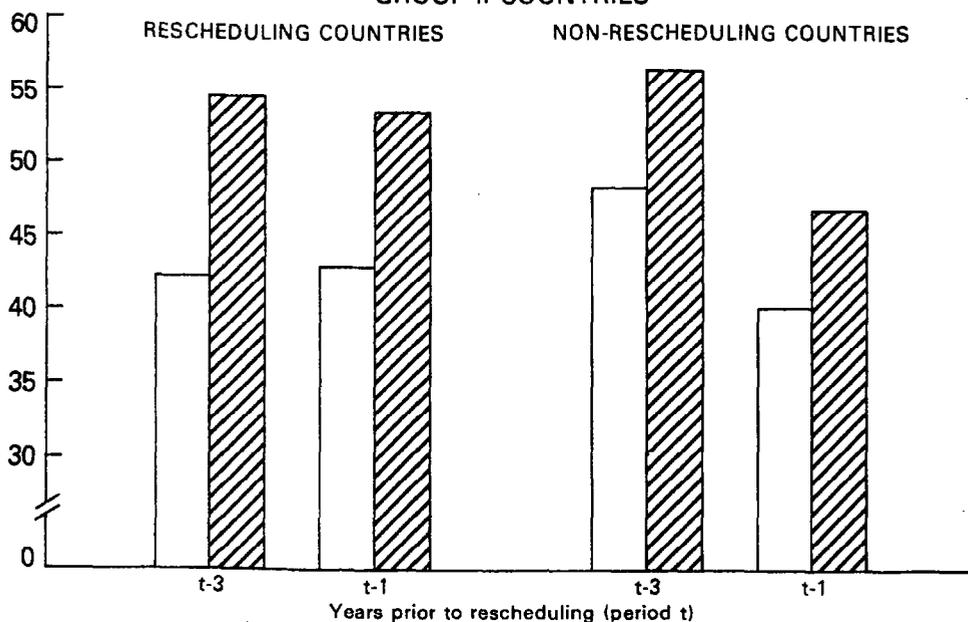
(Per cent of total)

Debt with remaining maturity of 1 year or less<sup>1</sup>
 Debt with remaining maturity of 2 years or less<sup>1</sup>

GROUP I COUNTRIES<sup>2</sup>



GROUP II COUNTRIES<sup>2</sup>



Source: *The Maturity Distribution of International Bank Lending*, Bank for International Settlements.

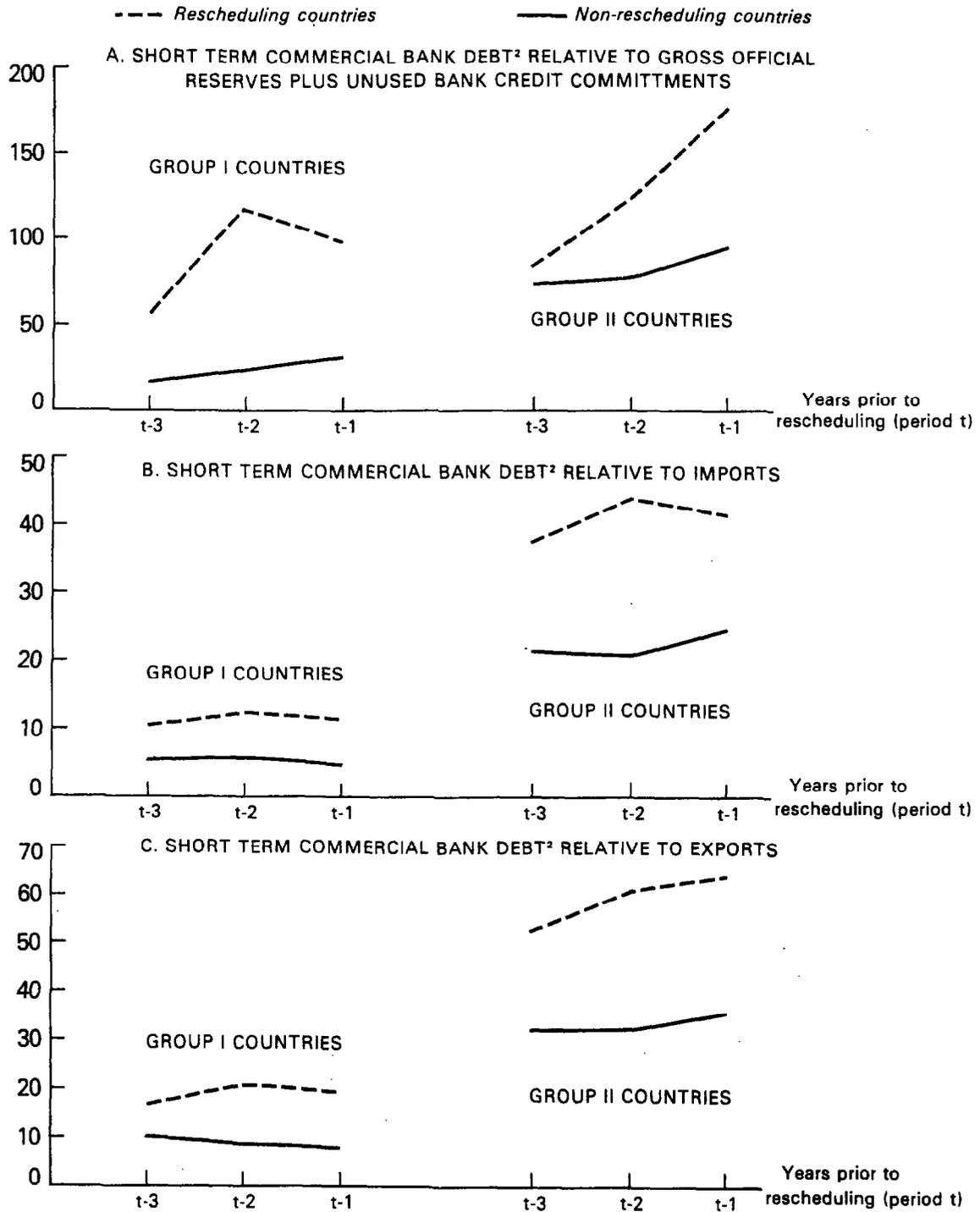
<sup>1</sup>i.e. Includes all amortization payments falling due within the coming year/two years, irrespective of the original maturity of the debt.

<sup>2</sup>Data shown are medians of individual country data for each group.

CHART 7

# NOLDCs: RESCHEDULING AND NON-RESCHEDULING GROUPS VULNERABILITY OF EXTERNAL DEBT STRUCTURE TO CHANGE IN MARKET CONDITIONS

(Ratio; per cent)<sup>1</sup>



Sources: *The Maturity Distribution of International Bank Lending*, Bank for International Settlements; *International Financial Statistics*, International Monetary Fund; and data base underlying the *World Economic Outlook* exercise.

<sup>1</sup>Data shown are medians of individual country data for each group.

<sup>2</sup>Debt with a remaining maturity of one year or less owed to foreign commercial banks.

measured in relation to the international reserve indicator, a substantially smaller increase than that experienced by the rescheduling group took place.

The debt management policies of Group II countries appear to have implied an even more marked increase in their vulnerability to external financing shocks. For example, in relation to the international reserve indicator, short-term bank debt of rescheduling countries rose over the period from 85 percent to 156 percent, while for nonrescheduling countries, there was a much smaller increase, from 75 percent to 95 percent. Similar trends were present in the case of the indicators relating short-term debt to either exports or imports; the values of these ratios for rescheduling countries were significantly higher than those of the comparators to begin with and generally tended to rise more sharply.

Table 5 vividly illustrates on a chronological basis the deterioration in the maturity structure of bank debt for Group II countries which entered into a rescheduling during 1982; the table includes figures for end-June 1982, probably the last observation date for most of the countries considered before the "rescheduling crisis" openly erupted. Considering either original short-term debt or debt with a remaining short-term maturity, the proportion of debt in these categories to total debt rose for rescheduling countries between end-1979 and end-June 1982, while it declined significantly for comparator countries. During the same period, original short-term debt of the reschedulers in relation to their imports and exports increased from 25 percent to 45 percent, and from 37 percent to 70 percent, respectively; on the other hand, for nonrescheduling countries, the corresponding ratios were some 8 percentage points to 11 percentage points lower to begin with (at end-1979) and had increased by only between 3 and 5 percentage points by end-June 1982. Similar trends are evident when the behavior of short-term debt relative to international reserves is examined. Considering official reserves plus unused bank credit commitments as the denominator, while the ratio was almost the same (77-79 percent) for both groups at end-1979, by end-1982, the rescheduling group average had risen to 188 percent compared with a comparator average of 113 percent. Most striking of all perhaps is the evolution of short-term debt in relation to international reserves. During the period considered, the ratio in question almost tripled for rescheduling countries (from 122 percent to 336 percent). In sharp contrast, the nonrescheduling country average increased only from 124 percent to 189 percent.

Finally, apart from the maturity structure of foreign borrowing, the interest cost of new loans will be an important element in determining the ability of countries to adjust their current account deficit so as to reduce the size of net foreign financing required. While interest payments obligations of borrowers are heavily influenced by fluctuating levels of world interest rates, the effective interest rate actually borne by individual borrowing countries also depends significantly on the type of borrowing they undertake. Thus, *ceteris paribus*,

Table 5. Non-Oil LDCs: Short-Term External Bank Debt Indicators for 1982 Rescheduling and Nonrescheduling Groups <sup>1/</sup>

(Ratios in percent; end of period)

|   | 1979  | 1980  | 1981  | End-June<br>1982 |
|---|-------|-------|-------|------------------|
| Proportion of total liabilities to commercial banks   |       |       |       |                  |
| Debt with original short-term maturity  |       |       |       |                  |
| Rescheduling countries  | 31.5  | 37.5  | 37.4  | 36.9             |
| Nonrescheduling countries   | 39.8  | 35.6  | 36.0  | 33.1             |
| Debt with remaining short-term maturity   |       |       |       |                  |
| Rescheduling countries  | 41.7  | 43.5  | 43.0  | 44.9             |
| Nonrescheduling countries   | 47.2  | 40.7  | 40.0  | 39.1             |
| Vulnerability indicators  |       |       |       |                  |
| Debt with original short-term maturity relative to gross official reserves                                      |       |       |       |                  |
| Rescheduling countries  | 121.8 | 184.0 | 305.8 | 336.0            |
| Nonrescheduling countries   | 124.2 | 108.9 | 154.0 | 189.4            |
| Debt with remaining short-term maturity relative to gross official reserves plus unused bank credit commitments |       |       |       |                  |
| Rescheduling countries  | 78.8  | 115.3 | 153.3 | 188.0            |
| Nonrescheduling countries   | 77.4  | 78.3  | 101.7 | 112.5            |
| Short-term debt relative to trade   |       |       |       |                  |
| Original short-term debt relative to imports <sup>2/</sup>  |       |       |       |                  |
| Rescheduling countries  | 25.3  | 31.5  | 35.9  | 45.3             |
| Nonrescheduling countries   | 17.0  | 19.4  | 22.4  | 21.8             |
| Original short-term debt relative to exports <sup>2/</sup>  |       |       |       |                  |
| Rescheduling countries  | 36.5  | 47.8  | 58.7  | 69.6             |
| Nonrescheduling countries   | 25.8  | 27.6  | 31.7  | 28.8             |

Source: The Maturity Structure of International Bank Lending, Bank for International Settlements; and data base underlying the World Economic Outlook exercise.

<sup>1/</sup> Data shown are medians of individual country data for each group.

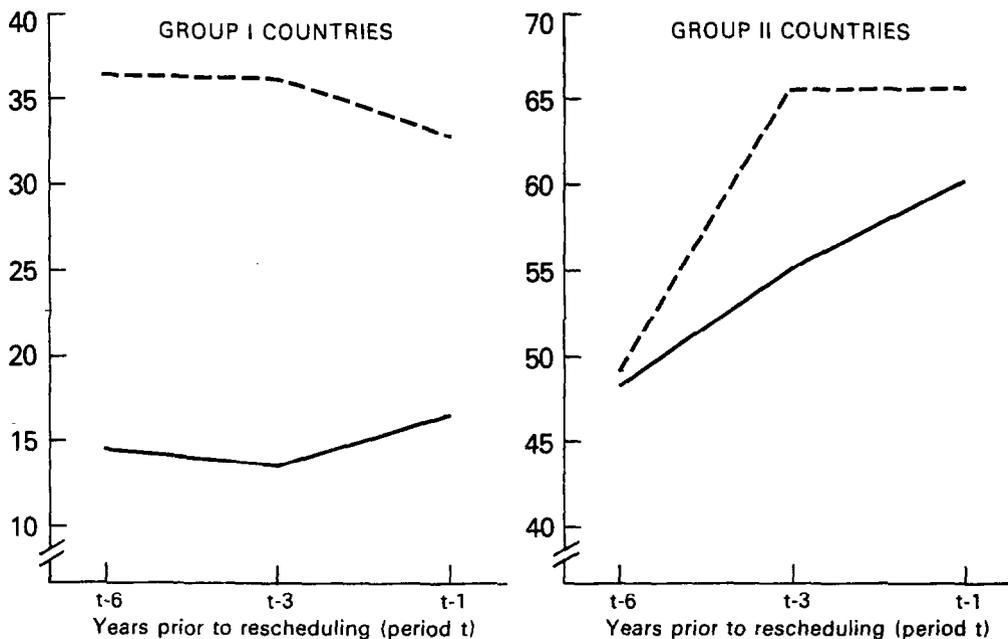
<sup>2/</sup> Of goods and services.

CHART 8

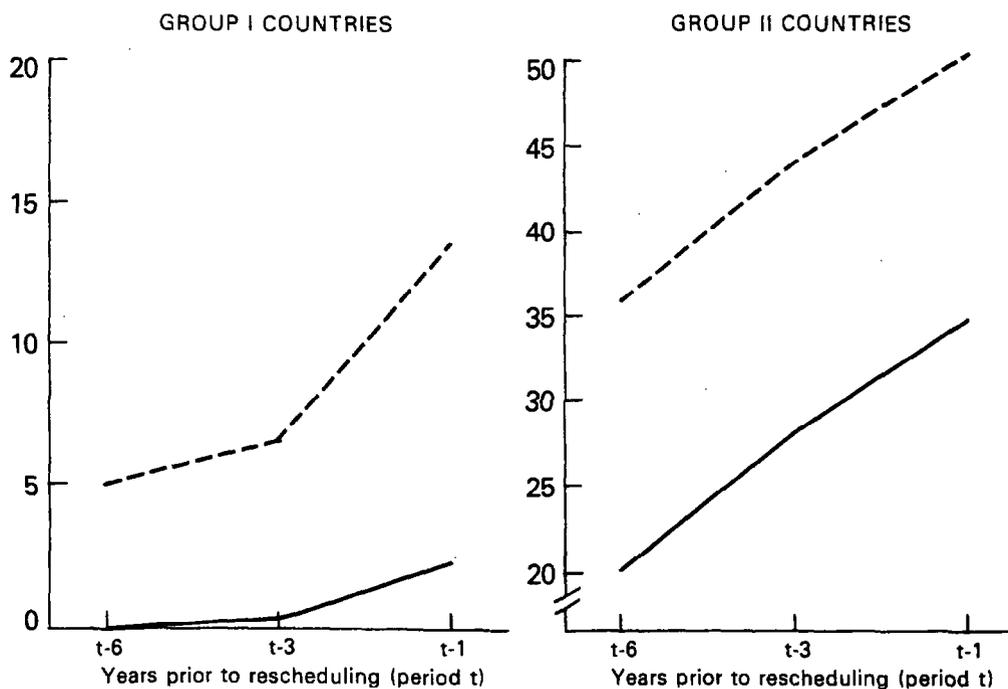
NOLDCs: RESCHEDULING AND NON-RESCHEDULING GROUPS  
**COMPOSITION OF MEDIUM AND LONG  
 TERM EXTERNAL PUBLIC DEBT<sup>1</sup>**

--- Rescheduling countries      — Non-rescheduling countries

**A. PROPORTION OF DEBT OWED TO PRIVATE<sup>2</sup> CREDITORS**



**B. PROPORTION OF DEBT CONTRACTED AT VARIABLE INTEREST RATES**



Source: *Debtor Reporting System*, World Bank.  
<sup>1</sup>Data shown are medians of individual country data for each group.  
<sup>2</sup>i.e. debt owed to private suppliers and financial institutions.

countries which relied relatively more on financing from private creditors and/or contracted debt at variable interest rates are more likely to have been affected adversely by the recent rise in world interest rates.

Chart 8 presents data on the composition of medium- and long-term external public debt (data on the composition of short-term bank debt are not available, although it can be assumed that the majority of such debt is in the variable rate category). The proportion of debt owed by Group I rescheduling countries to private creditors tended to be significantly higher (almost two and a half times) by comparison with those countries that did not reschedule. Also, while for the latter group, the proportion of such debt contracted at variable interest rates was negligible (less than 2 percent throughout the period analyzed), for rescheduling countries, it was not insignificant and rose from 5 percent to 14 percent during the six-year period prior to the prerescheduling.

Similarly, the proportion of debt owed to private creditors by Group II rescheduling countries rose from 49 percent to 66 percent in the six-year prerescheduling period, a somewhat higher increase than that experienced by the comparable nonrescheduling group. A more marked contrast in behavior is apparent as regards the proportion of debt contracted at variable rates; although for both subgroups the increase in the proportion of such debt during the six years was the same (about 15 percentage points), by the end of the six-year period, it stood at 50 percent for the rescheduling group compared with 35 percent for the nonrescheduling category.

Direct information on comparative trends in the actual interest cost of servicing the medium- and long-term external public debt is provided in Table 6. <sup>1/</sup> For both Group I and Group II categories, the average effective interest rate on outstanding debt for rescheduling countries was somewhat higher at the outset of the period relative to that of the comparators; it also rose more sharply, presumably reflecting to some extent the trends just noted towards increased reliance on borrowing at variable interest rates.

Measured in relation to export earnings, Group I rescheduling countries experienced a much more noticeable deterioration in their interest payments/exports ratio; the latter rose from 3.2 percent to 6.9 percent compared with a 1.3 percentage point rise for the nonrescheduling group. While the debt management policy aspects just discussed contributed to this outcome, it should be noted that the markedly less favorable export performance for this category described above (see Section III.2) also played an extremely important role. In the case of Group II rescheduling countries, while the levels of the

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<sup>1/</sup> Data on interest payments relating to short-term debt are not available.

Table 6. Non-oil LDCs--Rescheduling and Nonrescheduling Groups:  
Interest Cost of Medium- and Long-Term External Public Debt 1/

(In percent)

|   | Years Prior to Rescheduling (Period T) |     |     |
|---|--|-----|-----|
|   | T-6                                    | T-3 | T-1 |
| <b>A. Average effective interest rate on outstanding debt</b> |  |     |     |
| Group I   |  |     |     |
| Rescheduling countries  | 3.1                                    | 2.8 | 3.5 |
| Nonrescheduling countries                                     | 2.4                                    | 2.5 | 2.5 |
| Group II  |  |     |     |
| Rescheduling countries  | 5.6                                    | 6.8 | 9.4 |
| Nonrescheduling countries                                     | 5.3                                    | 6.2 | 8.2 |
| <b>B. Interest payments relative to exports <u>2/</u></b>     |  |     |     |
| Group I   |  |     |     |
| Rescheduling countries  | 3.2                                    | 4.6 | 6.9 |
| Nonrescheduling countries                                     | 1.6                                    | 2.4 | 2.9 |
| Group II  |  |     |     |
| Rescheduling countries  | 5.4                                    | 7.2 | 8.7 |
| Nonrescheduling countries                                     | 3.1                                    | 4.5 | 6.2 |
| <b>C. Interest payments relative to GDP <u>3/</u></b>         |  |     |     |
| Group I   |  |     |     |
| Rescheduling countries  | 1.1                                    | 1.5 | 1.7 |
| Nonrescheduling countries                                     | 0.4                                    | 0.5 | 0.7 |
| Group II  |  |     |     |
| Rescheduling countries  | 1.0                                    | 1.9 | 2.1 |
| Nonrescheduling countries                                     | 0.7                                    | 1.1 | 1.7 |

Sources: Debtor Reporting System, World Bank; and data base underlying the World Economic Outlook exercise.

1/ Data shown are medians of individual country data for each group.

2/ Of goods and services.

3/ In a small number of instances, ratios to GDP have been used instead.

ratio tended to be comparatively much higher, the increase in the ratio during the period was broadly the same as between the rescheduling and nonrescheduling subgroups.

Table 6 also shows the evolution of interest payments on medium- and long-term debt relative to GNP. For all groups and subgroups considered, the magnitude of the ratio is not large, about 2 percent or less. Nevertheless, again there was a consistent tendency for the ratio to be higher for rescheduling countries. Also, for the latter Group I category, a significant adverse shift in relative trends occurred. Thus, over the six-year period, the ratio for this group rose from 1.1 percent to 1.7 percent, compared with an increase from 0.4 percent to 0.7 percent for comparable nonrescheduling countries.

Finally, Table 7 indicates the evolution of the debt service ratio (on medium- and long-term public debt only). For rescheduling countries generally, the adverse effects of rising interest payments relative to exports already noted were compounded by a larger (and rising relatively faster) ratio of amortization payments to exports. As a consequence, the total debt service ratio of Group I reschedulers rose from 9.2 percent to 14.8 percent, while the increase experienced by comparator countries was much less, from 5.3 percent to 7.0 percent. The debt service ratio of rescheduling countries in Group II rose from 13.5 percent to 17.3 percent compared with a rise from 7.9 percent to 11.4 percent in the case of comparator countries. It should be noted that the above data do not take into account either interest or principal relating to short-term debt with an original maturity of less than one year, which, as has been described above, generally rose relatively more sharply for the rescheduling country group. Nor do they include debt service obligations of the private sector.

To summarize the findings of this section, it appears that, broadly speaking, for both Group I and Group II rescheduling countries, the evolution of their total medium- and long-term public sector debt was approximately in line with that experienced on the average; however, the debt/GNP ratio was consistently much higher for Group I countries. Nevertheless, while the trends in the total amount borrowed in this category were not that dissimilar, very significant differences were present as regards the maturity and terms of borrowing undertaken. Thus, the maturity structure of debt owed to commercial banks, measured using various indicators, deteriorated much more sharply for rescheduling countries. This trend was especially noticeable in the case of the Group II category for whom such debt was also of particular

Table 7. Non-oil LDCs: Rescheduling and Nonrescheduling Countries--  
Evolution of Medium- and Long-Term Debt Service Ratio <sup>1/</sup>

(In percent)

|  | Years Prior to Rescheduling |      |      |      |      |      |
|--|-----------------------------|------|------|------|------|------|
|  | T-6                         | T-5  | T-4  | T-3  | T-2  | T-1  |
| <b>A. <u>Interest Payments Relative to Exports</u> <sup>2/</sup></b>           |                             |      |      |      |      |      |
| Group I countries  |                             |      |      |      |      |      |
| Rescheduling countries   | 3.2                         | 2.3  | 3.1  | 4.6  | 4.7  | 6.9  |
| Nonrescheduling countries  | 1.6                         | 1.7  | 2.1  | 2.4  | 2.6  | 2.9  |
| Group II countries   |                             |      |      |      |      |      |
| Rescheduling countries   | 5.4                         | 5.0  | 6.6  | 7.2  | 8.0  | 8.7  |
| Nonrescheduling countries  | 3.1                         | 3.3  | 3.7  | 4.5  | 5.2  | 6.2  |
| <b>B. <u>Amortization Payments Relative to Exports</u> <sup>2/</sup></b>       |                             |      |      |      |      |      |
| Group I countries  |                             |      |      |      |      |      |
| Rescheduling countries   | 6.0                         | 3.7  | 5.0  | 5.2  | 4.9  | 7.9  |
| Nonrescheduling countries  | 3.7                         | 3.3  | 3.2  | 3.4  | 3.5  | 4.1  |
| Group II countries   |                             |      |      |      |      |      |
| Rescheduling countries   | 8.1                         | 9.5  | 15.5 | 16.7 | 9.7  | 8.6  |
| Nonrescheduling countries  | 4.8                         | 5.0  | 6.3  | 7.5  | 6.2  | 5.2  |
| <b>C. <u>Total Debt Service Payments Relative to Exports</u> <sup>2/</sup></b> |                             |      |      |      |      |      |
| Group I countries  |                             |      |      |      |      |      |
| Rescheduling countries   | 9.2                         | 6.0  | 8.1  | 9.8  | 9.6  | 14.8 |
| Nonrescheduling countries  | 5.3                         | 5.0  | 5.3  | 5.8  | 6.1  | 7.0  |
| Group II countries   |                             |      |      |      |      |      |
| Rescheduling countries   | 13.5                        | 14.5 | 22.1 | 23.9 | 17.7 | 17.3 |
| Nonrescheduling countries  | 7.9                         | 8.3  | 10.0 | 12.0 | 11.4 | 11.4 |

Sources: Debtor Reporting System, World Bank; and data base underlying the World Economic Outlook exercise.

<sup>1/</sup> Data shown are medians of individual country data for each group.

<sup>2/</sup> Of goods and services.

quantitative significance. <sup>1/</sup> At the same time, the fact that rescheduling countries exhibited relatively higher (and rising) reliance on debt owed to private creditors and/or that had been contracted at variable interest rates appears to have compounded the adverse effects of the general world increase in interest rates. Thus, even when obligations relating only to medium- and long-term public sector debt are considered, the debt service ratio of rescheduling countries was consistently higher and tended to rise at a somewhat faster rate. This trend was especially apparent in the case of Group I reschedulers where the impact of the debt management policies pursued was compounded by a noticeably poorer performance in terms of exports and real economic growth.

#### IV. Summary and Conclusions

The purpose of this paper has been to investigate several of the principal economic factors which are frequently cited as having contributed to the emergence of the debt servicing difficulties presently experienced by non-oil developing countries. The approach taken consists of analyzing the average evolution of major macroeconomic variables for the group of countries which concluded debt rescheduling renegotiations during 1981-82. The study examines, in turn, exogenous factors, indicators of overall macroeconomic performance, major economic policy indicators, and external debt management policies. The empirical analysis distinguishes two subgroups of rescheduling countries: Group I (those countries with relatively less reliance on commercial bank borrowing); and Group II (those with relatively higher reliance on such borrowing). Also, in order to try to cast some light on factors influencing the relative incidence of debt servicing difficulties, average data for corresponding time periods are also presented for the comparable subgroups of non-oil developing countries which did not enter into a debt rescheduling exercise during this period.

While the results presented are felt to be useful in assessing some significant aspects of the overall economic behavior of countries that experienced difficulties, several limitations of the study that were

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<sup>1/</sup> An important issue in this context concerns the reasons for the move towards shorter maturity debt by these countries. On the one hand, some borrowers may have consciously opted for shorter maturity debt, reflecting expectations concerning future movements in interest rates. However, for many of the countries concerned, medium- and long-term borrowing sources may have begun to dry up, thus forcing borrowers to the shorter end of the market (assuming, that is, they did not reduce the size of their total borrowing commensurately). While available data do not permit an examination of which tendency was present, in any event, both alternatives can be viewed as undesirable. In the second situation, for example, the recourse to short-term debt is merely postponing the underlying need to adjust.

noted in the Introduction, should be re-emphasized. For instance, due to data and other conceptual difficulties, some important factors were either not addressed (for example, the effects of political and regional aspects and the role played by policies at the microeconomic level) or were examined only indirectly (the phenomenon of capital flight). Equally important, the aggregative "group average" approach adopted precludes any inferences being drawn as regards the behavior of any individual country. In addition, in economic terms, the distinction between countries that formally rescheduled their debt during this period and those that did not is somewhat blurred in a number of cases, while since several countries not included in the 1981-82 rescheduling group have subsequently undertaken a rescheduling, any conclusions drawn are relevant only as regards the incidence of rescheduling that actually occurred in the period under review. Finally, the analysis generally concentrates on some major underlying elements of debtor country performance and policies in the period ending with the year preceding that in which the rescheduling occurred; it does not examine directly the behavior of lenders, an aspect which plays a central role in determining whether and (especially) when a rescheduling actually took place.

The above qualifications notwithstanding, the study sheds some useful light on the extent to which certain factors may have served to aggravate the debt servicing problems of the countries (considered as a group) that entered into a rescheduling. The main empirical findings are as follows:

(i) So far as the impact of exogenous factors (namely, changes in the terms of trade, the world recession, and trends in net flows of concessional assistance) is concerned, it appears that the rescheduling country group overall was not affected any more adversely than the average. Indeed, in respect of some elements (namely, the terms of trade for Group II and net concessional flows for Group I), rescheduling countries, taken together, could be said to have experienced a slight improvement during the period preceding the rescheduling.

(ii) As regards aggregative macroeconomic performance, behavior differed considerably as between the two subgroups. While the lower-income Group I countries experienced overall a somewhat larger external current account deficit to GNP ratio than average, a striking feature of their external performance was stagnant or declining real export growth accompanied by sharp import cutbacks. In turn, this was associated with very low overall rates of economic growth and relatively high inflation (even on the basis of official price indices).

By contrast, the current account deficit/GNP ratio of Group II rescheduling countries tended to be somewhat less than that of comparator countries. Over the entire five-year prerescheduling period, their real growth rates of both exports and imports were somewhat lower than the average, although the difference was not very marked. In the year immediately prior to the rescheduling, these countries experienced on average a noticeably faster export growth, a significant reduction in

imports, and a slowdown in economic growth; however, their current account deficit/GNP ratio remained roughly unchanged. Rescheduling countries in this group also experienced consistently higher inflation rates than the average, a difference, moreover, that increased significantly over time.

(iii) Rescheduling countries (both Group I and Group II) generally experienced more rapid rates of expansion in total credit, net credit to government, and the money supply. Available partial indicators (using GNP as a scale variable) also suggest a somewhat more expansionary fiscal stance than average, especially in the case of the lower income (Group I) subgroup. Apart from these demand management policy indicators, Group II rescheduling countries also experienced a sizable appreciation in their real effective exchange rates in the years prior to that in which the rescheduling occurred. While a considerably smaller recorded real appreciation was recorded for the Group I subgroup, this may well understate the appreciation which actually took place due to an under-estimation of actual inflation by official consumer price indices. In the case of Group II rescheduling countries, indirect evidence also suggests that a substantial (and growing) amount of unrecorded net capital outflows occurred.

(iv) As regards debt management policies, two findings are particularly striking: (a) while the evolution of total medium- and long-term external public debt was not very dissimilar as between rescheduling and nonrescheduling countries, for the former, there was a marked deterioration in the maturity structure of external debt owed to commercial banks. This deterioration was most noticeable when the evolution of short-term debt is viewed in relation to indicators such as available international reserves, exports, or imports. It was especially marked for those Group II countries that rescheduled their debts during 1982, and in whose case short-term commercial bank debt was of particular quantitative significance; thus, these countries were particularly vulnerable to any unforeseen changes in lending behavior; (b) rescheduling countries exhibited higher (and rising) than average reliance on debt owed to private creditors and/or contracted at variable interest rates; they were therefore prone to be affected more adversely by the worldwide increase in interest rates.

In summary, the findings of the study thus suggest, albeit tentatively, that some distinctive features can be identified that did serve to increase the incidence of debt servicing difficulties for particular country groups. For the lower-income Group I rescheduling countries, the adverse impact of exogenous factors appears, on average, to have been somewhat less than is sometimes suggested. Rather, a major underlying source of their severe debt servicing problems appears to have been the fact that overall, these countries' economic performance in terms of export growth, inflation, and economic growth was far weaker than average. These trends, besides contributing directly to foreign exchange pressures, undoubtedly served to erode the confidence of lenders and donors alike. Moreover, to the extent that possible major

reasons for the above shortcomings can be identified, inadequate demand management and exchange rate policies are likely to have been contributing factors present in many cases.

An overall assessment of the possible factors underlying the difficulties experienced by the higher income Group II rescheduling countries is somewhat more complex. So far as the macroeconomic performance and policies of the group on average is concerned, over the entire period reviewed, the trends in the external current account (in relation to GNP), real export growth, and economic growth performance do not appear to have been very strikingly different from those experienced by the comparator country group. Also, it appears that in the year immediately preceding that of the rescheduling, rescheduling countries experienced on average a turnaround in some aspects of their external position, namely, trends in real exports and imports; at the same time, some slowdown in the rate of domestic economic activity occurred. However, notwithstanding these changes, the external current account deficit as well as net medium- and long-term external public borrowing--both measured in relation to GNP--actually rose slightly on average for the group in the year prior to the rescheduling. An important contributing factor to this outcome is likely to have been the adverse impact on the servicing of the existing stock of debt of the rise in worldwide interest rates, reflecting in turn, the relatively greater reliance by rescheduling countries on variable interest borrowing (by comparison even with comparable nonrescheduling countries). It may also be noted that in the year preceding that of the rescheduling, two important economic variables, namely, the rate of domestic inflation and the real effective exchange rate, moved in a clearly unfavorable direction, while at the same time, there is substantial evidence indicating a marked increase in "capital flight."

Given the above considerations, the question can be posed as to why these particular countries, faced with foreign borrowing needs (measured in relation to their own domestic resources, i.e., GNP) that were not on average very different from those of other countries, were unable to obtain the amounts of foreign financing required, thus precipitating the rescheduling. In answering this question, while unmeasurable "contagion effects" may have played some role (as well as the fact that the "average" outcome conceals a range of diverse individual experiences), several additional aspects involving the perceptions of commercial bank lenders during this period need to be considered. In the first place, from the perspective of creditors, the absolute size of borrowing needs--as opposed to the debtor countries' external financing requirements measured in relation to their own GNP--is likely to be of crucial importance. Thus, by comparison with other smaller countries with higher deficit/GNP ratios, in the case of several countries in the rescheduling group, it was probably inevitable that the prospect of having to continue to provide unprecedently large amounts--not only in the immediate period, but (and partly as a consequence) for several years ahead--would soon begin to run clearly counter to lenders' portfolio balancing considerations. This aspect is particularly relevant

in view of the prior sharp rise in international bank lending relative to domestic lending and the concentration of bank claims in a number of important borrowing countries. Second, it is most likely that the above underlying trend was greatly reinforced by the sharp change in inflationary expectations in the early 1980s. Thus, even if the deficits of some of the largest debtors were to have been judged marginally sustainable in the absence of such a change, it is clear that the fall in world inflation (and the associated shift to positive real interest rates) would tend to cause lenders to reappraise what constituted a sustainable deficit from the viewpoint of the borrowers' medium-term debt servicing capacities. Moreover, this consideration was probably accompanied by a realization on the part of lenders that their loanable resources (i.e., deposits) would grow at far slower rates in an environment of reduced inflation. Third, the above developments coincided with some of the particularly unfavorable aspects of debtor country performance that have been already noted, for example, accelerating inflation and a significant real appreciation of the exchange rate. These factors are likely to have contributed directly to the phenomenon of "capital flight" while at the same time, they undermined lenders' confidence in the future ability of the authorities to contain external imbalances even within their present levels (thus further affecting adversely their judgement as to what constituted a sustainable path of external borrowing).

Finally, if the above aspects of the problem were mainly related to the underlying unsustainability of the external financing situation and policies of the Group II borrowing countries, it is also clear that the latter's debt management policies were an important additional element which greatly aggravated the difficulties. As the study notes, a distinguishing feature of the experience of these countries was the fact that large scale recourse to short-term commercial bank borrowing had caused a very sharp deterioration in the maturity profile of their external debt. To a considerable extent, this increased reliance on short-term debt can be viewed as a symptom of the underlying problems they faced as it reflected, in many cases, a reduction in access to medium- and long-term financing sources. Nevertheless, once the reassessment of lending attitudes on the part of commercial banks became widespread, these countries were left highly vulnerable to a sudden withdrawal of funds, or simply even to a slowdown in the rate of growth of new lending. Thus, while the underlying unsustainability of the situation would probably have become apparent in any event, there can be little doubt that inadequate debt management policies of borrowing countries greatly contributed to the abruptness and severity with which the 1981-82 "debt crisis" unfolded.

Factors Affecting The Incidence of a Rescheduling

This appendix briefly illustrates in diagrammatic form the discussion of Section II.1.

1. The financing constraint

As a starting point, it is assumed that the authorities of a country believe that the larger the degree of adjustment they undertake, the less is the likelihood that a rescheduling will become necessary. This so-called financing constraint is shown as Panel 1a of Figure 1, which depicts the probability of a rescheduling (on the vertical axis) as an inverse function of the amount of external adjustment (shown on the horizontal axis). "Adjustment" in this context refers to a reduction in net imports of goods and services (other than interest payments). Thus, the larger this reduction, the less is the net external resource transfer (net external borrowing minus interest payments) that will be required; other things being equal, the probability that such borrowing will not be forthcoming (and hence that a rescheduling request will result) will decline. This approach assumes that the country is unable (or unwilling) to draw upon its own international reserves. Also, it is assumed that the financing constraint is of a linear form. <sup>1/</sup>

As discussed in Section II.1, among the factors that would tend to cause a worsening in the financing constraint (i.e., that would cause a shift from AA to AA' in Panel 1b which implies an increase in the probability of rescheduling for any given degree of adjustment) can be included: (i) the interest cost of borrowing; (ii) inappropriate debt management policies; (iii) subjective perceptions of lenders; and (iv) objective constraints affecting lenders/donors.

2. The country's "welfare function"

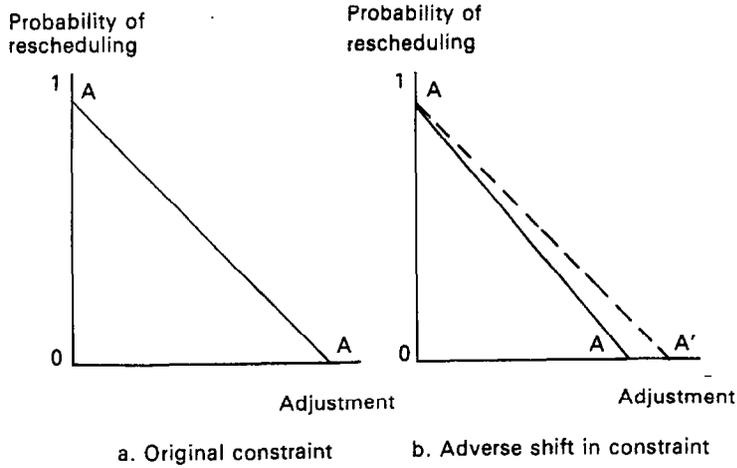
When faced at any point in time with a "financing constraint" of the type described above, the authorities are in a position to opt for a certain degree of external adjustment, together with an associated probability that a rescheduling will be necessary. Their choice can be viewed as based on a "welfare function" which includes both the costs of external adjustment as well as the costs attached to rescheduling. Such a function is depicted in "iso-cost" form in Panel IIa of Figure 1, where unlike conventional indifference curves, welfare increases as one moves towards the origin (a zero probability of rescheduling accompanied by zero external adjustment). Since a rescheduling here is viewed as a probabilistic event, the welfare cost corresponding to a point on any curve equals the implied probability of a rescheduling times the actual cost of rescheduling; in turn, this cost, plus the cost of external adjustment implied by that point, remain the same as one moves along any indifference curve.

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<sup>1/</sup> If the constraint were assumed to be convex to the origin, the diagrammatic conclusions that follow would continue to hold.

FIGURE 1

# I. ADJUSTMENT — RESCHEDULING "FINANCIAL CONSTRAINT"



# II. "WELFARE FUNCTION"

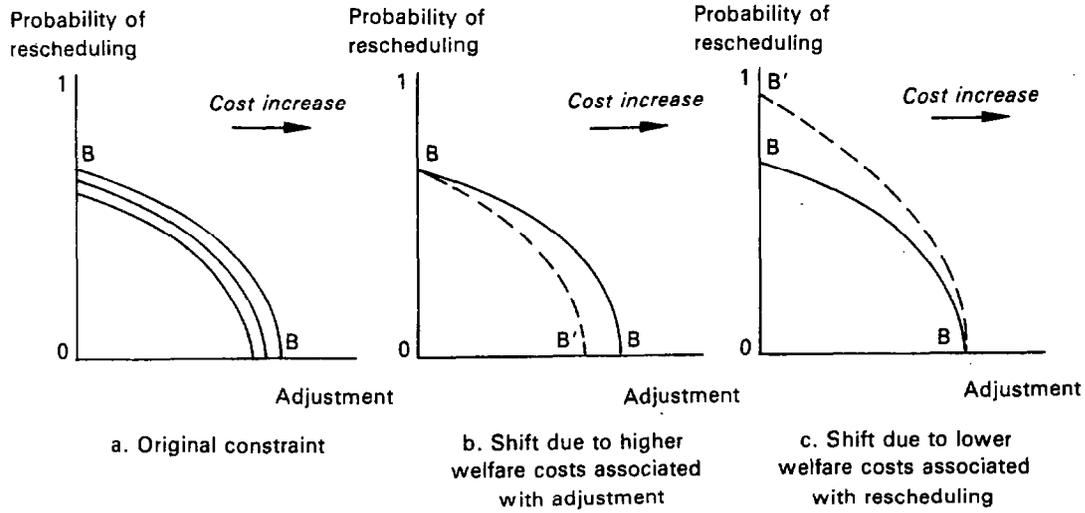
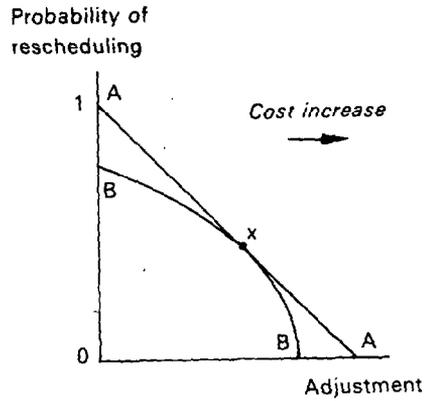
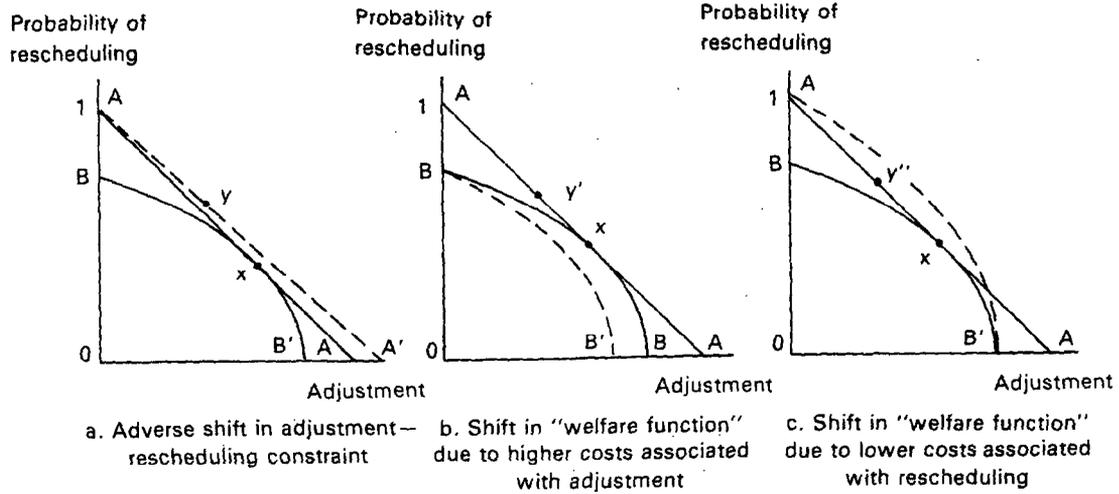


FIGURE 2

I. INITIAL POSITION



II. CHANGE IN INITIAL POSITION



As described also in Section II.1, this welfare function may shift as a result of several factors:

(i) While the costs associated with a given probability of rescheduling may remain the same, the costs associated with any given degree of external adjustment may increase. This phenomenon (depicted as a "bending" inward of the "iso-cost" curves--Figure IIb) can occur for either exogenous or endogenous reasons. The principal exogenous reasons include a fall in effective export demand, and/or adverse movements in the external terms of trade. The major endogenous reason is the adoption of policies which are at variance with least cost adjustment strategies.

(ii) For an unchanged cost of adjustment, the cost of rescheduling might decline (equivalent to an "outward bending" of the cost function--shown in Panel IIc). This effect can occur, for example, if rescheduling becomes a more common occurrence.

3. "Initial position" and changes in constraint/welfare function

Given the adjustment/rescheduling "financing constraint," the country will seek to minimize its cost function (or, equivalently, to maximize an implicit welfare function) by choosing a point closest to the origin. On the assumption of concave iso-cost curves, a point such as x in Panel 1 of Figure 2 would be chosen.

Panels IIa through IIc of Figure 2 trace through the effects of the three types of shifts described above, namely, (a) an adverse shift in the "financing constraint"; (b) a shift in the welfare function due to higher costs associated with external adjustment; and (c) a shift in the welfare function due to lower costs associated with rescheduling. In all three instances, the new point chosen implies an increase in the probability of rescheduling and an associated reduction in the degree of adjustment (X moves to Y, Y', or Y", depending on the case considered). In the case of (a) and (b), this shift is accompanied by a higher level of costs, while in (c), costs decline. 1/

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1/ As with any "indifference curve" analysis of this type, these results hold only if it is assumed that any possible negative "income efforts" present are outweighed by the positive "substitution effect."

Bibliography

- Brau, E., Williams, R.C., Keller, P.M., and Nowak, M., "Recent Multilateral Debt Restructurings with Official and Bank Creditors," Occasional Paper No. 25, IMF, December 1983.
- Cline, William R., "A Logit Model of Debt Rescheduling, 1967-82," Working Paper, Institute for International Economics, May 1983.
- Cline, William R., International Debt and the Stability of the World Economy, Institute for International Economics, September 1983.
- Maciejewski, Edouard B., "Real Effective Exchange Rate Indices: A Re-examination of the Major Conceptual and Methodological Issues," IMF Staff Papers (September 1983).
- McDonald, D.C., "Debt Capacity and Developing Country Borrowing: A Survey of the Literature," IMF Staff Papers 29(4), December 1982, pp. 603-646.
- Williams, R., Keller, P., Lipsky, J. and Mathieson, D., "International Capital Markets, Developments and Prospects," Occasional Paper No. 23, IMF, July 1983.