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Macroeconomic Adjustment and the Poor:

Toward A Research Strategy

Grant M. Scobie



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Cornell Food and Nutrition Policy Program (CFNPP)
Division of Nutritional Sciences
Cornell University
Ithaca, New York
April 1989

The Cornell Food and Nutrition Policy Program (CFNPP) was created in 1988 within the Division of Nutritional Sciences, Cornell University, to undertake research, training, and technical assistance in food and nutrition policy with emphasis on developing countries. The Nutritional Surveillance Program (CNSP), which was formed in 1980 with support from the Agency for International Development, is part of the CFNPP.

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FOREWORD

Macroeconomic stabilization and adjustment programs are currently resulting in major economic and social changes in many developing countries. Some of these changes have been beneficial while others have caused severe hardships for the poor including increased food and nutritional deficiencies, poor health and possibly increased mortality. However, little information is available about the impact of specific policies and programs on the various groups of low-income households and how undesirable negative effects could be avoided. Yet without such information it is difficult for governments to design and implement measures that will protect the poor from severe hardships.

It is for these reasons that the Cornell Food and Nutrition Policy Program (CFNPP) has initiated research on macroeconomic adjustment and the poor. An overview of the conceptual relationships, a review of available empirical evidence, and a tentative proposal for research were presented in earlier papers, e.g. Pinstrup-Andersen (1987a and 1988). A workshop held in 1987 made a major contribution to the development of analytical approaches (a proceedings issue will be published shortly). In this monograph, Grant Scobie provides a comprehensive and insightful review of the most critical issues. In addition, he proposes a research strategy for gaining information of utility for those who have the power to protect the poor from unacceptable negative effects of macroeconomic adjustment through either modifications in the adjustment programs or compensatory schemes targeted on particularly high-risk household groups.

In addition to the work reported in this monograph, which focuses on macroeconomic policy measures, CFNPP is engaged in other activities in support of research to analyze the impact of policy reforms on low-income groups. These efforts include further development of analytical methodologies for examining institutional and political economy issues, focusing on public enterprise reforms and market liberalization in the agricultural sector, as well as the development of a micro-macro consistency model. The latter will attempt to link complex and highly aggregated macro models with detailed micro models that take macro variables as exogenous. In combination, these efforts will provide guidance for the multi-country study for Africa which is being directed by David Sahn and funded by the Africa Bureau of the Agency for International Development, as well as a number of other country studies that are being planned in other regions in close collaboration with national governments and international aid agencies.

The preparation of this monograph was supported by the Agency for International Development through the Office of Nutrition and the Africa Bureau, the United Nations ACC/Sub-Committee on Nutrition, the Pew Memorial Trust, and the Interamerican Institute of Cooperation in Agriculture (IICA).

Ithaca, New York
February, 1989

Per Pinstrup-Andersen
Director, CFNPP

PROLOGUE

This report represents an attempt to move toward a concrete research agenda to address the short-run impact of macroeconomic adjustment policies on the poor in developing countries.

This subject is important for national policy makers and international agencies alike. The experience of the 1980s suggests that the mix and timing of these policies may have an important bearing on the size and distribution of the adjustment costs. While the distributional consequences of economic policy in developing countries in no way represents a new field of enquiry, the immediate impact of policies aimed at correcting unsustainable macroeconomic disequilibria is not one on which the profession has to date shed a great deal of light.

There are at least three reasons for this paucity of quantitative estimates of the effect on poverty of these policy measures. In the first place there is no single policy instrument, such as a tariff, or a minimum producer price. There is a whole host of instruments, some domestic and some relating to the country's external economic relations. Second, there is no one universal measure of the impact in terms of welfare, real incomes, or nutritional status. Third, the analytical apparatus at our disposal does not deal easily with the distributional consequences in the context of short-run dynamics starting from a position of significant disequilibria.

Added to these handicaps is the fact that the topic spans a vast literature covering macroeconomic adjustment, income distribution, public finance, poverty and nutrition, and theoretical issues in modelling. While this document attempts a synthesis of the major issues, it cannot, and does not, pretend to deal adequately with them all.

Many people have contributed to the task. In part, the extensive bibliography provides a partial acknowledgement. Of particular note, however, was a Workshop held at Cornell University in late June 1987, under the auspices of the Cornell Nutritional Surveillance Program. A spirit of genuine collegiality and sharing of insights and experiences characterized that gathering. I benefitted enormously from the papers, the commentaries and the informal discussion, and have drawn heavily on them. I can only hope that those who recognize their own ideas and contributions will find their positions adequately and fairly represented.

Special acknowledgement is due to Per Pinstrup-Andersen. While setting an impossible task, he has given every possible support, both personal and professional. This has eased a little, the Herculean task of reviewing several

hundred papers and reading dozens of books. Pouring over Thorbeckian SAMs with a magnifying glass taxed my already strained eyesight. Wendy Merrill acted as rapporteur for the Workshop, and her skillful synthesis helped greatly in recalling and reconstructing the fruitful debate.

Harold Alderman, Joel Greer, Lemma Merid, and David Sahn contributed to this report, particularly sections 4.5, 5.3, and 8.1.

A number of colleagues made thoughtful suggestion for changes. Notable were the time and efforts of Per Pinstруп-Andersen, Jere Behrman, David Sahn, Paul Glewwe, Peter Heller and Thanos Catsambas. Their comments were all carefully considered, and the majority incorporated. The final report has benefitted from those contributions.

Regrettably, responsibility for residual solecisms, both scientific and semantic, must reside with the author.

Hamilton, New Zealand
February, 1989

Grant M. Scobie

EXECUTIVE SUMMARY

Greater economic instability

For more than a decade, developing countries have been buffeted by a series of macroeconomic shocks.

These shocks have arisen from both external and domestic sources

There has been a wide range of sources of these shocks. The external economic environment has seen major shifts in the terms of trade, sudden changes in oil prices, high real interest rates, and slow growth in export demand facing the developing countries. Internal disruptions, including both natural and policy disasters, have often compounded the problem.

Macroeconomic imbalances have resulted

Excessive or unsustainable deficits in the current account balance and substantial rises in foreign debt levels have accompanied these episodes. Domestic inflation rates typically rose to levels above those characteristic of earlier periods.

This has led to pressure on developing countries to adjust their economies

The combination of internal and external shocks has led to unsustainable positions which have had to be corrected. Reduced foreign exchange reserves, high debt servicing obligations and little prospect of further borrowing has forced countries to adopt corrective measures.

Fundamental imbalances have to be corrected through macroeconomic adjustments

Both current account deficits and sustained high inflation are symptoms of excess aggregate demand. Total income generated by domestic factors (aggregate supply) is not sufficient to meet total domestic absorption. The macroeconomic adjustments which address these imbalances consist of both macroeconomic stabilization efforts that are adopted to reduce the level of aggregate demand and structural adjustment measures that potentially raise the productivity of resources in the short-run.

Goals of a macroeconomic adjustment program

The objectives of the macroeconomic adjustment are to restore a sustainable current account balance, to reduce the rate of inflation, to attain a manageable level of external debt and to accelerate and maintain economic growth.

Potential for positive effects

Eliminating the deadweight loss that accompanies parallel markets may result in higher output for the economy. In addition changes in parallel markets reduce rent opportunities, and outcome that will likely raise the income of the poor. Similarly, reduction of implicit taxes and reforms of public enterprise may increase incomes of low-income groups.

Importance of supply response

To eliminate the imbalances, aggregate demand must fall, and/or aggregate supply must expand. Structural policies which expand current and potential output by increasing the efficiency of resource use and raising the capital stock, together with changes in intersectoral incentives to alter the composition of output and absorption between the home and tradable goods sectors, are both vital to the sustained success of a policy reform program.

There are important external aspects

In addition to the domestic policies, external trade policies, economic activity in export markets and international financing policies condition both the outcome of a macroeconomic adjustment program and the choice of domestic policy instruments.

Distributional consequences are inevitable

Associated with the level and composition of output and absorption at any point in time is a configuration of factor demands and payments that generate a particular distribution of income through factors to households. Changes in the structure of output and absorption will inevitably be accompanied by changes in the distribution of income. The economy has to be brought back into equilibrium, and whether this is done as the result of conscious policy steps or by default, there will be changes in the pattern of income distribution.

Shocks can be severe

There is mounting, although not universal evidence, that for many countries the process of re-establishing macroeconomic equilibria may involve very severe shocks which adversely affect the welfare of significant sections of the population. Changes in real wages, unemployment rates, the size of the informal sector, household expenditures, calorie consumption, and health and nutrition indicators show deterioration in many instances. The evidence that the burden of adjustment may fall most heavily on the vulnerable groups of the population remains fragmentary and difficult to interpret.

Increasing attention is being given to these distributional impacts

There is increasing concern for these consequences among both international agencies and policy makers in developing countries. Both are seeking better information to guide policy formation.

There are both short and long run consequences

In the short run, a change in real consumption levels may signal immediate consequences for human welfare amongst the poorest. In the longer term, any reductions/increases in investment in human and physical capital which accompany the macroeconomic adjustment policies reduce/raise their future income earning capacity.

Several studies have been undertaken

A number of projects which address various aspects of this issue have been undertaken. They have provided much valuable material and added to the stock of knowledge. However they have generally stopped short (doubtless as a considered judgement on the complexity of the problem) of quantifying the impacts on the well-being of poor households. Nor have they tried to analyze the short run distributional consequences.

Central tenets of the proposed study

- It is proposed that the research be focused on poverty in general and the nutritional status of the poor in particular.
- Attention is centered on the short-run impacts (i.e., up to 5 years) of macroeconomic adjustment policies on the welfare of the poorest groups. The fundamental issue is one of human welfare, and how to formulate policies which raise the living standards of low income groups. That the policy reforms lay the basis for economic recovery and higher real incomes in the future does not constitute a justification for overlooking the priority of raising the incomes of the poorest in the short-term. There is nothing inherent in either the theory or evidence of adjustment programs that would ensure that those who would be the beneficiaries of long-term economic growth will also witness an increase in their real incomes in the short-term, or vice-versa.

Clients for proposed research

The primary clients for the proposed research are the national governments and international aid agencies involved in formulating and financing macroeconomic adjustment programs in developing countries, as well as policy makers in developing countries. The project will need to be structured in a manner that captures their interest and support through its relevance to the decisions they face. There is a derived demand for enhanced information concerning the distributional consequences to aid

in the formulation of domestic policies for macroeconomic adjustment and compensation.

Objectives of the proposed research

- To identify the principal mechanisms through which macroeconomic policies affect the real incomes and nutritional status of the poor.
- To review the evidence from selected countries that these policies have had a significant bearing on the distributional outcomes observed.
- By quantifying the impact, to evaluate the tradeoffs between achieving the macroeconomic growth objectives of a policy reform program and minimizing the fall or maximizing the rise in the real incomes of the poorest by modifying the mix and timing of macroeconomic policies.

Major elements of the proposed research strategy

There are four major components:

- The theoretical framework
- An overview of the evidence
- Case studies in selected countries
- Comparative analysis of country experiences

Case Studies

A series of country studies need to be undertaken on the basis of a range of experiences with macroeconomic adjustment policies, the nature and extent of shocks to the economy, the structure of the economy, and the availability of data and existing models.

- The case studies will provide a narrative of the policy setting and an analysis of the changes in poverty and nutritional status. These indicators, based on indices of both general and food poverty, will be mapped from changes in real household incomes. The changes in the extent of poverty will be decomposed across socioeconomic groups.
- Real income changes will in turn be mapped from changes in wages and employment, factor payments, price indices for major components of expenditure, transfers and taxes, and social services. Where feasible, a social accounting matrix is proposed as the central organizing framework for these flows, and will create the mapping from factor payments to households.
- The estimation of the SAM following the policy changes will be based on the use of multipliers. A series of behavioral equations will be added to describe the main components of production, consumption and price formation.

Methodological limitations

The complexity of the issue is such that there cannot be one single integrated model capable of predicting all the dimensions of the short-run impact of stabilization and structural adjustment policies on nutrition and poverty, starting from a position of severe macroeconomic disequilibria. In order to achieve the objective of quantifying the impact on welfare targets of policy instruments, it will be necessary to abstract from many of the nuances of the institutional and economic systems that in reality impinge on the distributional outcomes, and to restrict the range of targets and instruments that are examined.

In particular, the research should concentrate on an examination of domestic policies, and will focus on the short-run impact on decomposable poverty measures.

Comparative analysis

In addition to the information generated by each of the individual country studies, there is a need to undertake a comparative analysis of these results. The distributional consequences of macroeconomic adjustments will differ across countries. These differences can arise due to (a) differences in the nature of the shocks; (b) differences in the structure of economies (in part itself a reflection of the long term development policies); and (c) differences in the policies they adopt to deal with the economic crises. The essential task facing the comparative analysis is to isolate the extent to which the policy differences explain the diversity of outcomes.

1. INTRODUCTION

The 1980s have witnessed the severest economic recession in the developing countries since the Great Depression. The accompanying decline in real incomes has, in many countries, wiped out the gains of nearly two decades of economic growth. Stagnation or decline in real output, falling real wages and rising unemployment have reduced the real living standards of a large share of the population of these countries.

The recession and its associated decline in real incomes, followed from what, without being overly dramatic, can only be described as an economic crisis. That crisis arose from an unsustainable macroeconomic imbalance between aggregate supply and demand. It was expressed most generally as rapid domestic inflation (internal disequilibrium) and current account deficits (external disequilibrium).

Inevitably, countries undertook various forms of adjustment, sometimes planned, but not infrequently by default. The impact of these macroeconomic adjustments on the distribution of income in general, and more particularly on changes in the real incomes of the poorest has attracted growing attention and concern in recent years. The relation between economic policy and income distribution in developing countries is hardly a new topic. In fact, it has been a pervasive theme of much of the development literature for decades. However, only a few attempts, either theoretical or empirical, have been made to examine the short-run effect of macroeconomic adjustment and stabilization policies on either the distribution of income or the real incomes of the poorest.

Much effort has been directed to understanding changes in the distribution of income as economic growth proceeds, and to the influence of alternative long-term development strategies on the distribution of assets (both human and physical) and income. In the last decade, attention turned to the real incomes of the poorest and how specific policies might be directed to ensuring they had access to a minimum absolute level of real income. The generation and delivery of food, housing, education, health and sanitation services were examined with a view to creating policies that ensured the basic needs of the poorest were met. The design of interventions to meet these needs in a cost-effective way supplanted the earlier attention given the broader relationship between economic growth and income distribution.

At the same time, the question of macroeconomic adjustment policies in developing countries has been the subject of intense debate and has produced an equally voluminous literature. Much of that debate has centered on the issue

of whether there are inherent (structural) rigidities in both the pattern of production and demand, such that the use of certain policy instruments would be, at best, relatively ineffective in bringing about macroeconomic balance, and at worst be so inappropriate as to impose unnecessary adjustment costs in terms of foregone output. In the main, concern was with the performance of macroeconomic indicators, such as inflation, the balance of payments, investment and real output growth. It should be noted though, that the Latin American literature had considered the distributional consequences of macroeconomic policies (Foxley, 1981) since the 1950s at least. However, the focus was more the short-run consequences of such adjustment policies for income distribution in general, rather than on absolute changes in the welfare of the poorest in particular.

In contrast, the crisis facing many countries in the 1980s has been of such magnitude that real concern has been raised about the impact on the living standards of vulnerable groups. In particular, questions have been raised about the effect of the adjustment policies themselves. Some have argued that the nature of the policies adopted have resulted in a disproportionate share of the adjustment costs falling on the poorest. It is argued that this reflects the choice of instruments of domestic policy. But increasingly it is felt that it also stems from external conditions and the policies of international agencies and creditors which have left countries with few, if any, options, and have forced them to adopt adjustment strategies with scant regard for the distributional consequences. Implicit in these arguments is the hypothesis that a different mix of policies would have been able to achieve the same improvement in correcting the aggregate imbalance in the economy, while lessening, or even eliminating, the decline in real incomes of the poorest.

Others have argued that because stabilization and structural adjustment policies impose a severe burden on the poor, the sustainability of the program is itself in question. Only a repressive regime would be able to successfully implement such a program, and its ability to withstand the demands from those disadvantaged is unlikely to persist. These arguments suggest that not only are the distributional consequences of policy reform a matter of concern per se, but that the very viability of a macroeconomic adjustment program is intimately dependent on both the extent and the incidence of the costs.

To understand the consequences of macroeconomic imbalance for the level and distribution of real incomes, one must examine both its origins and the policy responses that it engendered. Only then will we be in a position to relate those consequences to the nature and magnitude of the macroeconomic disequilibria and to enquire as to whether other policy responses might have lead to different consequences.

That stabilization and structural adjustment programs will have distributional consequences is totally axiomatic. There is simply no escaping this fact. At any point in time, an economy has some structure of output, a level and composition of demand and an associated set of prices and payments to factors. These, together with a set of income transfers, both explicit and implicit which result from the intervention of the state, determine both the distribution of income and the absolute incomes of particular groups.

By definition, the disequilibria reached at the time of a crisis requiring adjustment program are simply not sustainable. The particular level of aggregate demand, pattern of output and the factor prices associated with the imbalances, and prevailing at the time of the crisis, cannot persist. The very process of correcting those imbalances requires that the structure and level of demand, together with the pattern and level of sectoral output, has to be altered. Were they to remain, the disequilibria would simply persist. In the process of changing they will move to adopt new values, and associated with those new values will be a different set of prices and factor rewards. The pattern of implicit transfer payments will change, and the opportunity to alter the explicit transfers will, as always, be present.

It may be the case that, in order to achieve the reallocation of resources in the economy, the associated pattern of factor payments may be "undesirable" in terms of the distribution of incomes. There will be gainers and losers from the changes, but of particular concern is the impact on the most vulnerable; on those whose current position is economically precarious.

This document attempts to move toward establishing a concrete research agenda to address the short-run impact of macroeconomic adjustment policies on the poor in developing countries. These policies do not comprise a clearly separable set, acting as they do in conjunction with the extant policy environment, and being conditioned by other policies. Chapter 2 endeavors to clarify these relationships, and to place in perspective the policies of concern to this study. From this discussion is distilled a brief statement of the objectives, which are set out for the reader's convenience as Chapter 3.

On purely theoretical grounds the distributive effects of adjustment policies are ambiguous. It is likely that the lack of compelling evidence concerning the relationships between the variables, is, at least in part, attributable to this ambiguity. For this reason it is important that future research give careful consideration to the underlying theoretical issues, and from these draw implications in the form of testable hypotheses. Failure to do so would condemn the effort to the same criticisms made of some of the related work that has relied largely on casual empiricism and apparent association, but lacked the analytical underpinnings necessary to untangle the complex evidence.

Chapter 4 addresses the theoretical issues, and draws on the dependent economy model as an organizing framework for the discussion. A variety of mechanisms are examined through which macroeconomic adjustment has an impact on income distribution. The nature of the major policy instruments is more fully explored in Chapter 5, and this is followed by a discussion of matters concerning the order, mix and timing of policy changes (Chapter 6).

A capsule view of some selected empirical work is presented in Chapter 7. Despite a rich and varied menu of approaches, it is found that few have addressed the objectives of this study.

Given that the focus is on the welfare of the poor, Chapter 8 reviews alternative indicators of poverty and nutritional status. The final chapter draws together the main threads of the story and sets out the principal elements of a research strategy designed to quantify the short-run impact of adjustment on the incomes and nutritional status of the poor in developing countries.

2. THE POLICY SETTING

In addressing the short-term impact of macroeconomic adjustment policies on the poor, it is important to recognize that there are a number of sets of policies which are involved. The central question of this study cannot be addressed without first identifying these various sets of policies, understanding how they are interrelated, and linking them to the distributional outcomes. Furthermore, as all these policies have distributional consequences, it is important to separate out those which are to be the focus of the study. It is simply not possible to encompass an analysis of all the various policies in one study.

The simple representation of the major policies shown in Figure 2.1 will help to guide the following discussion. Consider the situation prior to the onset of a macroeconomic crisis. The existing structure of the economy and the associated income distribution will, in part, have been determined by the long-term development policies that have been adopted. For example, the extent of the openness of the economy, the flexibility in the markets for foreign capital, the nature of the interest rate setting, the extent of indexing of wages, and the level of import protection and export taxes or subsidies will all have an important bearing on the growth of the economy and the manner in which assets and income are distributed. In addition, there may be long-standing systems for income transfers, either through intervention in particular markets (notably credit, housing, food, fuel and transport, public utilities) or through the provision of public services (notably in health and education), and systems by which government intervenes directly in markets, whether it be through wage policies or public enterprises such as agricultural parastatals.

At the same time, certain demand management policies will have been pursued. Some of these may have been in response to earlier changes in the external environment, such as in the terms of trade, or in the access to international credit markets. Others may reflect an expansionary policy of the government. In any event the selection of appropriate adjustment measures will be conditioned by the type of domestic aggregate demand management policies that are operating at the time, in addition to the existing sectoral policies being pursued by the government.

Given the emergence of a macroeconomic crisis a set of policies will be implemented. There has been much debate and confusion in the literature about whether there are two types of policies, typically labelled "stabilization" and

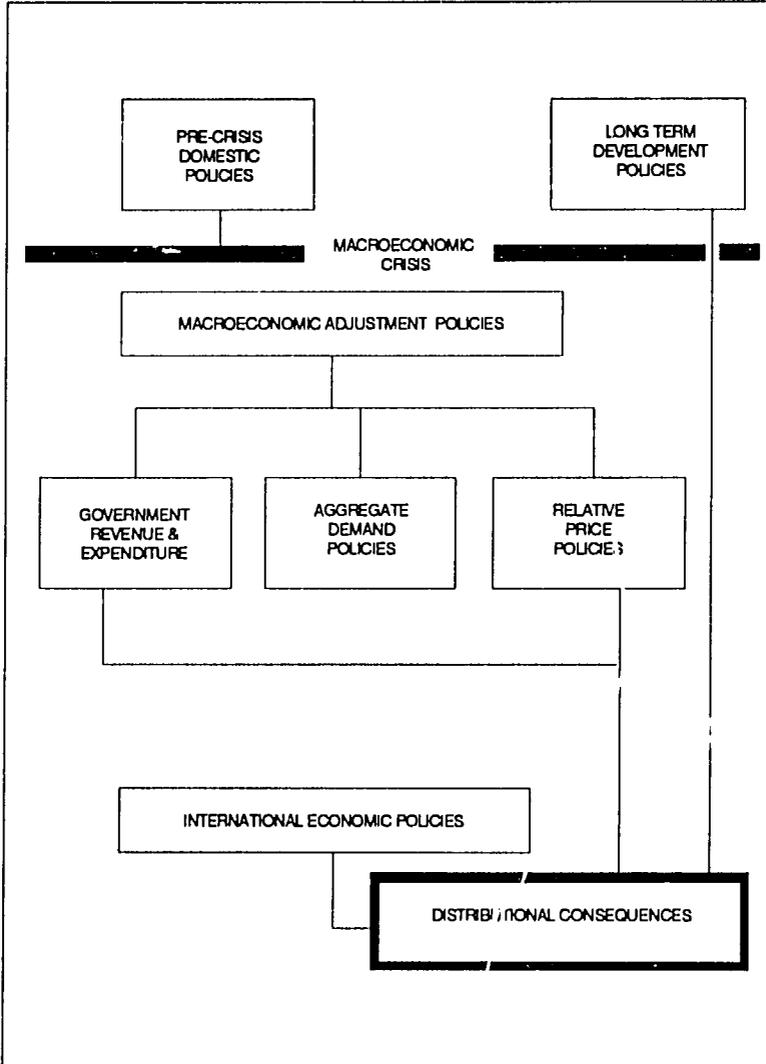


Figure 2.1
The Policy Setting

“structural” adjustment (Killick, 1986a; Buiter, 1986). There seems to be little point in pursuing the issue here, other than to note that there is no simple, useful distinction between the two.

It is sometimes argued that stabilization policies are those which are directed at demand management, while those aimed at increasing aggregate supply relate to structural adjustment. However, it may well be the case that in addressing the imbalances that have led to a crisis, attention should be focussed on increasing the supply from some sectors. In a case where there had been massive government interventions which had reduced the profitability of say an export crop, then a central part of a policy reform program may be an element of so-called structural adjustment, involving a realignment of relative prices through any of a variety of mechanisms, ranging from privatization of marketing to altering implicit and explicit taxation of agriculture. This could result in a rapid and significant rise in the exportable surplus and a corresponding reduction in the current account deficit.

Likewise a reduction in government spending on certain classes of goods will release resources for private consumption and lead to a “structural adjustment” in the economy toward the production of other classes of goods, while simultaneously contributing to “stabilization” by reducing the size of the unsustainable public sector deficit.

Further confusion in the terminology arises with the common use of “balance of payments adjustment.” Here adjustment is to be seen as a process, a mechanism or a means for achieving some change in the “balance of payments” (itself a term characterized by muddled use). In contrast, adjustment in the sense of long-run reallocation of resources engendered by changes in the structure of incentives is taken to be a goal in itself (Addison and Demery, 1987*e*).

In this paper, primary interest is on the short-term implications for the poor of policies that are implemented to deal with a macroeconomic crisis. Some of the relevant policies will come from both categories, and are referred to, in combination, as macroeconomic adjustment. What is crucial in the present context is to identify those policies which have an impact on the real incomes of the poor in the short-run. Whether they belong to one taxonomic group or another is a secondary matter.

Macroeconomic adjustment policies will be viewed in this paper as those measures taken to improve the balance between aggregate supply and demand (Crockett, 1981). It is presumed that the need for them arises from the presence of an unsustainable deficit in the current account, often accompanied by inflationary pressures.

Much has been made of the distinction between “orthodox” (or “monetarist”) and “structuralist” views of stabilization (Taylor, 1987). The monetarist view centers on the need to reduce the level of demand, as it is generally argued that the deficit on the current account and inflationary pressures arise when the rate of growth of national expenditure (demand) exceeds that of output (supply).

In contrast, the structuralist view has stressed that due to inherent inflexibilities in both production and demand, a reduction in domestic absorption will manifest itself largely in a decline in real output. The policy implied by such a view is one that encourages output growth (supply enhancing) rather than one that reduces absorption (demand constraining), in order to achieve a given improvement in the balance between aggregate supply and demand. Both approaches are concerned with how this adjustment is to be achieved. The mechanisms by which it occurs are, however, perceived to be quite different.

The structuralists argue that an autonomous change in demand, arising from export, investment or public sector demand, will lead to a rise in prices, a point not in contention with those of an orthodox persuasion. However for a variety of reasons, there are ‘structural’ bottlenecks and rigidities that preclude output expanding, or in the case of various sectors, resources from moving from one sector to another, or substitution occurring in production or consumption. This limits the adjustment mechanisms available to the economy. The result of the higher prices is to raise costs, which dissipates the pressure either in the form of increased returns to factors of production (labor or intermediate inputs) or in the mark-ups or margins (presumably the returns to capital, entrepreneurship and risk-taking). The next step hinges on the distribution of those streams. If there is less than full wage indexing so that nominal wages rise less than the price level, there will be a shift in the income distribution toward the group receiving the mark-ups as income. Finally as the marginal propensities to save are taken to differ among groups depending on their source of income, there will be ‘forced saving’ which brings about the equilibrium, *ex post*, between aggregate supply and demand.

It is not fruitful to limit the analysis to one arbitrarily defined set of policies to the exclusion of another set, and it is equally unproductive to regard the monetarist/structuralist debate as offering two mutually exclusive, competing theoretical positions. The success of a country in reducing the unsustainable gap between supply and demand will depend on the policies chosen and the existing institutional and structural setting. The particular mix of policies may well embrace moves to reduce supply bottlenecks and to change the institutional rules, thereby leading to a short-term supply response, in addition to policies to

constrain aggregate demand. The challenge for policy-makers is to select the best mix, not to make a simple choice between either supply-increasing or demand-reducing policies.

If demand exceeds supply, the shortfall can be addressed by either removing bottlenecks and constraints to more efficient resource allocation, leading to increased output, or by financing that issues claims against future output. When the former fails, or the latter no longer is viable because foreigners are no longer willing to accept additional claims, then adjustment will take place in an involuntary manner such that *ex post* there is, by definition, no imbalance. The imbalance between supply and demand must then inevitably be achieved by a reduction in the level of domestic absorption relative to real output – that is by an increase in the level of net domestic saving.

The distributional consequences will be a reflection of three sets of policies (Figure 2.1):

- (i) the stabilization policies adopted by the country (including aggregate demand and relative price and social expenditure and transfer policies);
- (ii) the long-term development strategy adopted by the country; and
- (iii) the international economic policies that the country faces.

The primary focus of this paper is on the first set of policies. These represent the set of domestic policy choices that face a country which must implement a policy reform strategy. It must be stressed that the principal concern of the study is the effect of alternative policies on the welfare of the vulnerable. Can countries exercise a choice from among a set of policies such that they can influence the distributional outcome of a necessary adjustment program?

The theoretical insights into the distributional consequences of adjustments policies are an important and necessary first step, and will be closely examined. The key issue, however, is the extent to which a country can choose the nature and sequencing of its stabilization and adjustment measures in order to modify the distributional outcomes, subject to the need to improve the balance between aggregate supply and demand, which lay at the root of the need to implement an economic reform program.

An important issue that must be addressed is whether it is necessary to consider the causes of the imbalances which are giving rise to the need for adjustment policies (Khan and Knight, 1983). Here there are two views. One position is that past events and policy responses are irrelevant; all that matters is that the country is facing an unsustainable combination of internal and external balances, and regardless of how these may have arisen, action has to be taken. The only issue at hand is to correctly analyze the current position and select appropriate policies to correct it.

An alternative view is that how the country arrived at its present state is of importance. Some have argued that whether the source of the imbalance was internal or external to the country is a key question in deciding on the policy response. Specifically, if the proximate cause of the disequilibrium is overly expansionary aggregate demand policies, then the solution should be to restrain domestic absorption.

In contrast, if the source of the disequilibrium is identified as exogenous changes in the external environment (such as a rise in international interest rates, a recession in major importing countries, or a fall in the terms of trade), then changes in domestic demand management policies may not be necessary if other solutions can be sought in terms of changes in the external environment. These could take various forms, involving trade negotiations for preferential access, commodity agreements, greater use of foreign credits, or deferral of debt repayments.

In practice, it is extremely difficult to separate out the influences of past changes. Not only are they complex, but they are seldom independent. The current circumstances will reflect both external and internal forces and, in particular, how domestic policies have reacted to past changes in external conditions. Rather than attempting to unravel this history, it might be more meaningful to consider whether the imbalances are temporary or permanent. If they are permanent, then they will call for fundamental changes in the relationship between supply and demand in the economy; domestic policies to reduce aggregate demand in the short run and to expand supply are in order. In contrast, if the disequilibrium has arisen from circumstances which are either internal or external but which are likely to be temporary, then the policy response may well be to seek short term financing.

The importance of this issue lies in the fact that domestic policy changes to reduce absorption and external solutions involving additional foreign financing are likely to have quite different distributional consequences. Hence, whether the problem is perceived as temporary or permanent is important in deciding what sort of policy to adopt. Having made that choice, the outcomes for the real incomes of different groups are likely to be quite different. It is in this sense that the past matters.

The question of whether the changes are permanent or temporary raises another aspect that is central to considering the distributional aspects of adjustments. Consider an economy that is initially in equilibrium. This state will have associated with it a particular configuration of outputs, prices, factor rewards, income distribution and real incomes accruing to specific groups. Now let there be a sudden change, in say the external terms of trade, a change which is assumed to be permanent. This will require a permanent restructuring of the economy,

so that a new equilibrium is reached with an associated but presumably different configuration of outputs, prices and incomes for particular groups. In other words there will be distributional changes associated with the change in the long-run equilibrium position of the economy.

At the same time, the imposition of this exogenous shock to the terms of trade will create a short-run macro-economic crisis whose resolution only comes about through the move toward the new long-run equilibrium position. In the interim there will be changes in the distribution of income which may deviate from the new long-run outcome. While it may be true that the real income of the economy in general, and of some specific group in particular, will be lower under the new equilibrium than that prevailing prior to the crisis, there exists the possibility that in the interim the incomes of specific groups may fall even further, subsequently recovering to their new, albeit lower level. In effect, there is a short run 'J' curve effect, whereby the real incomes of a group decline initially quite drastically and subsequently recover after the economy has had time to adjust to the new circumstances.

Of particular concern to this paper is the extent to which those short-run changes in the real incomes of the poorest are a reflection of the policies which are adopted to deal with the transition to the new equilibrium position. The challenge is to tease out of the evidence the short-term changes, that are amenable to the choice of policy, from the longer term distributional consequences of the exogenous, permanent change in the country's circumstances. The scope for policy analysis is not the difference between the original and new equilibrium positions. Rather, it is the path of the adjustment, and whether through an appropriate choice of policies, that path is amenable to influence. In particular, is it possible to choose a level and mix of policies which result in a sufficient short-term supply response so as to avoid the need for economic contraction that would reduce the incomes of particular vulnerable groups?

The distinction between the distributional consequences of a permanent shift in the economy and the time path of the distributional changes between the old and the new equilibrium positions is of central concern. As an illustration, consider the case of a country which faces a permanent fall in the price it receives for an export commodity. As noted by Bourguignon (1987), producers may face lower real incomes even after the economy has had time to adjust and a new configuration of output and resource use has emerged. This outcome may well be independent of whatever policies are adopted, and hence is not to be attributed as a 'social cost' of adjustment. What is relevant is the path of real incomes of producers during the adjustment phase. The nature of the policies adopted in the short-run concerning such matters as the domestic commodity prices, producer and consumer subsidies, the real exchange rate, the type of

commercial policy, and the labor and credit market policies will influence the time path of the earned incomes of producers and determine whether there are serious transitional losses.

None of this is to suggest that the actual level of the new equilibrium is not itself a function of the nature of the macroeconomic adjustment policies which are chosen to deal with the imbalances arising from the exogenous change. This is simply an added complication that must be recognized. If for example, the cut in domestic absorption was made by reducing investment rather than current consumption, then the economy's stock of capital would be lower at the start of the new equilibrium than would otherwise have been the case. This will itself have implications for the future rate of growth and the distribution of incomes. Alternatively, a policy such as reforming marketing arrangements for cash crops and domestically consumed food crops may result in a sufficiently significant short-term supply response, as to altogether avoid the need to cut domestic absorption.

Most of the studies that have addressed the impact of stabilization and adjustments on income distribution have taken as their starting point the onset of the crisis and the initiation of policy measures to restore macroeconomic balances. There has been almost no attention paid to the changes in income distribution that accompanied the policies that lead to the crisis. If the economy was destabilized by a rapid growth in the public sector deficit and the concomitant increase in the current account deficit, it is virtually certain that this period saw changes in the income distribution. Likewise, the heavy taxation of agriculture unquestionably affected the returns to factors, and the distribution of incomes in the rural areas, and between urban and rural areas.

For example, in some countries, transfer payments were allowed to increase and were financed by monetizing the fiscal deficit. Now that there has to be disabsorption, it is possible that the level of these transfers will need to be reduced. Another example would be reducing the fertilizer subsidies that had long been benefiting certain groups of farm households. The higher price of fertilizer will affect not only its level of application, but yields, output, and the balance of payments as mediated by the shift in the domestic supply and derived demand curve for food crops. There will also be accompanying changes in the distribution of income. It would be convenient to argue that in such cases the policies leading to the crises were unsustainable (by definition), and their reversal would simply return the economy and its associated pattern of production, consumption, factor rewards and income distribution to the previous, or trend, level.

However, there can be no presumption that those who might have gained in the destabilizing phase will correspond to those who will lose, either relatively or absolutely, in the adjustment period. One could presumably make the case that in fact, the political forces were such that those gaining in the destabilizing phase were not the poorest; and those who did gain will resist the subsequent erosion of those gains, so that burden of adjustment may fall on the weakest. The very act of destabilizing an economy through excess domestic absorption, and misallocation of resources, followed by an adjustment program to reduce the excess demand and return prices to represent scarcity value will, in and of itself, lead to a different distribution of income to that which would have prevailed had the cycle of destabilizing and distorting followed by restabilizing and restructuring never occurred.

Further research should take account of the changes in the destabilizing and distorting phase; what occurs to incomes in the stabilization phase may reinforce or offset earlier, temporary changes. It is the change over the total period that is relevant. Once again some recognition of policies and outcomes prior to the crisis is potentially important.

Long-term development policies, especially those to do with commercial policy and the management of the real exchange rate, may or may not result in short-term responses. However, they will undoubtedly influence the long-term allocation of resources and the composition of the economy's output. For example, a narrow export basis and a highly protected industrial sector are commonly found as the consequences of a protective trade regime and an overvalued real exchange rate. The extent of substitution in both production and consumption between the sectors is generally limited. As is so frequently stressed by the structuralist school, the scope for export expansion at the margin is quite limited. At the same time, imports are confined to essential raw materials and capital goods.

When the scope of structural reforms to bring about short-term supply responses is limited, these two conditions frequently means that the only way to improve the current account balance in the short run is to reduce imports. This is achieved by a combination of a contraction in domestic demand, together with often quite draconian measures involving the removal of import licenses, raising tariffs substantially, increasing prior import deposits, or even an outright ban on the import of many categories of goods. Latin American imports were 43 percent lower in 1983 than they had been in 1980 (Geller and Tokman, 1986). It is almost inevitable that drastic cuts in imports will lead to a drop in output in vulnerable industries, with a concomitant decline in employment.

These characteristics reduce the flexibility of the economy and heighten the chances that it will be costly, painful and politically tortuous to achieve rapid reallocations of resources in the short-run. Furthermore, the nature of the long-term policies may well predispose an economy to reaching the point of unsustainable macroeconomic disequilibria, and also make it harder to respond. For both these reasons, it is important to be cognizant of the historical policy setting that has led to a crisis.

In a similar manner, the prevailing set of policies relating to the conduct of international trade and payments will have a bearing on the distributional outcome of the macroeconomic policies; in fact they will almost certainly constrain the choice of policies that a country faces. If there is no possibility for renegotiating loan repayments, gaining preferential access to markets or arranging for additional funding to assist in the implementation of the macroeconomic adjustment program, then clearly the choices facing the country will be more constrained.

Considerable attention has been given to the role of these international policies. They include among other matters:

- the importance of the trade, exchange rate and reserve management policies of the developed countries;
- the influence of the macroeconomic policies of the developed countries on the demand for imports from the developing countries;
- the system of international credit creation; and
- the role of private and concessionary capital flows.

The extent to which these issues should be addressed in designing a research strategy poses a real dilemma. On one hand, they are often central to the success or failure of a country's own economic recovery program. Some have argued that the inadequacies of these policies have compounded the problems faced by countries trying to adjust their aggregate balances (Dell and Lawrence, 1980). For example, the increasing role of private capital flows relative to public flows tends to make the international capital market behave pro-cyclically rather than anti-cyclically, and this can hamper the access of developing countries to international borrowings, a potentially important mechanism for adjustment (Killick, 1986b). To the extent that countries have reduced access to capital markets, the burden of adjustment must be borne more heavily by the domestic economy. As a consequence, the likelihood is increased that the adjustment program will have deleterious impacts on the distribution of income.

Helleiner (1986a) notes that these changes in the nature of the international capital markets has meant that the volume of resources available to the lowest income countries has decreased at the very time they were most severely buffeted by adverse events, both in the international economic environment and in their

domestic economies. This highlights another dimension of the international setting on the question of the distributional consequences of policy reforms. Not only has the reduced volume of resources available to developing countries meant that they have had to rely on internal adjustments to a greater extent than in the past, but the capital that has been available has gone disproportionately to the higher income countries, generally perceived as having greater credit-worthiness. As a result, as well as influencing the distributional impact of stabilization and adjustment policies in any one given country, the international financial system has consequences for distribution across countries. If a few large poor countries have to rely largely on domestic adjustments, then the adverse impact on the most vulnerable groups in global terms is likely to be greater.

There is another dimension to the role and importance of the international environment. In addition to conditioning the choice of policies that a country faces, unforeseen changes in international circumstances can modify the outcome of domestic policies. In the case of many Latin American countries, their domestic policies were successful in bringing about a recovery in their external balances. However, due to sluggish demand for their exports in industrial countries and the continued high level of interest rates, the adjustment came about principally through a decline in imports and a concomitant fall in output and a rise in unemployment. Africa now faces similarly worrisome prospects, as adjusting countries boost their production of export goods (e.g., cocoa). The prospect for a dramatic fall in international commodity prices needs to be considered. The success or failure of a country's efforts cannot be judged in isolation from changes in the international conditions which it faces.

To be successful, a policy reform program must result in a restructuring of the economy. There are two necessary conditions for this to be attained. The domestic structure of incentives has to be altered; the cost of domestic value added has to fall in order for the country to be internationally competitive. But this is not sufficient; growth of export markets must accompany the shifts in domestic policy. Krueger (1981) argues that maintaining access for the exports of developing countries is the single most important policy that the industrial countries must pursue in order to ensure the success of the reform programs in developing countries.

Certainly, it seems clear that the distributional impact of a country's own policies will be conditioned by the international policy environment. To this extent, they have an important bearing on interpreting the outcomes observed in a particular country. On the other hand, to broaden the scope of research to encompass the full set of international economic relations and policies would be to make it simply unmanageable.

The decision to restrict attention to the set of domestic policies from which a country may choose is made with full recognition of the fact that at the end, one might well be forced to conclude that the only really significant options for reducing the impact of macroeconomic stabilization and adjustment on the poor lie, in fact, in the international arena. In other words, whatever course of action an individual country adopts, there will inevitably be a serious decline in the real incomes of the poorest households. Choosing different mixes and sequencing of policies from the domestic set of options would, at best, make only a marginal difference to this outcome. The only way to avoid the deleterious effect would be, let us suppose, an infusion of additional resources to permit a staged restructuring of the economy, so that aggregate supply and demand were brought into line without the imposition of drastic declines in the real income of the most vulnerable.

By choosing to restrict the study to the domestic options, rather than to encompass both the domestic and international policy instruments, we run a risk that important policy changes will be excluded in the interest of making the study manageable. In effect we are imposing a "small country" assumption with respect to the international environment; implicitly we are arguing that in the short-run the country has explored all possible external options, and it now must take the international economic and institutional setting as given exogenously. No action by the country can change the conditions it faces. The adjustments to the country's disequilibria will come solely from domestic changes, be they planned or involuntary.

This approach recognizes, but chooses deliberately to set aside, such strategies as bargaining for greater access to world markets for commodity exports, negotiating the rescheduling of debt repayments either individually or collectively, and unilateral declarations of repayment moratoria. It is to be stressed that in no way does the focus chosen for this paper imply that such questions are unimportant.

3. STATEMENT OF THE PROBLEM

The fundamental objectives that should be pursued in further research are:

1. To better understand and document the impact of structural adjustments and stabilization programs on the real incomes and nutrition of the poor. The additional knowledge should help in the formulation of macroeconomic policies for developing countries which reduce the social costs of adjustment.
2. To assist national governments in developing improved methods and institutional arrangements for the monitoring and surveillance of the impact of proposed macroeconomic adjustment programs.

In pursuit of these objectives, three central questions need to be addressed:

- A. What are the mechanisms through which domestic policies aimed at restoring macroeconomic balances affect the real incomes of the poor?
- B. Similarly, what are the transitional impact on the poor of measures taken to remove market bottlenecks and to eliminate parallel markets?
- C. What is the evidence from selected developing countries that the choice of domestic adjustment policies have had a significant bearing on the observed distributional outcomes?
- D. To what extent is it possible to select a mix and sequence of domestic policies that reduce or eliminate the decline in the real incomes of the poor while accomplishing the goal of improving the macroeconomic balance?

4. THEORETICAL FRAMEWORK

4.1 Some Preliminary Matters

Macroeconomic adjustment involves the adoption of policies aimed at improving the balance between aggregate supply and demand in the economy. In order to establish the basis for a discussion of these policies (Section 4.2), and their distributional consequences (Section 4.3), it is necessary to review the fundamental national income accounting relationships in the context of an open economy. While these relationships are nothing more than variations on a theme of basic identities, they provide a convenient structure for reviewing the alternative policy measures, their impacts and limitations.

In an open economy, the total value of the output produced is purchased by either domestic or foreign residents. The part purchased by foreign residents corresponds to exports (X). The purchases by domestic residents of domestic goods and services is simply their total spending, less the amount spent on imports (M). Total spending by domestic residents is defined as absorption (A), and is made up of spending by the private sector (p) and the public sector (g), so that

$$A = A_p + A_g \quad (4.1)$$

If imports are deducted from total absorption, then the remainder is the spending that is directed at domestic goods.

$$A - M = A_p + A_g - M \quad (4.2)$$

The value of national output (or national income) (Y) is given by total spending, domestic and foreign, on domestic goods, or

$$Y = A_p + A_g + (X - M) \quad (4.3)$$

In the closed economy, the value of output must be equal to the value of spending, or $Y = A$. In an open economy, some of the demand comes from foreign sources, and part of the domestic spending falls on foreign goods. Rearranging (4.3) yields

$$X - M = Y - (A_p + A_g) \quad (4.4)$$

which shows that the balance of trade is identically equal to the gap between national income (the value of the output, or aggregate supply) and domestic absorption (the total spending by domestic residents, or aggregate demand). If net international transfers (R) are added to both sides, the following statement of the current account balance (CAB) is obtained:

$$CAB = X + R - M = Y + R - (A_p + A_g) \quad (4.5)$$

If there is a current account deficit ($CAB < 0$) it is identically equal to the excess of spending by domestic residents over their income. Aggregate demand exceeds the level of aggregate supply, or in popular terms, the country is living beyond its means. If the level of autonomous capital flows are not sufficient to cover this deficit, and if the possibilities for further accommodating capital inflows have been exhausted, then domestic absorption (either private or public) must fall or national income (or national output) must rise.

Absorption comprises spending on consumption (C) or investment (I), so that (4.5) can be written

$$CAB = Y + R - \{(C_p + I_p) + (C_g + I_g)\} \quad (4.6)$$

If we now introduce net taxes (T),

$$CAB = \{Y + R - T - C_p\} - I_p + \{T - (C_g + I_g)\} \quad (4.7)$$

Finally, by denoting the first term on the right hand side of (4.7) as savings (Sp), we obtain

$$CAB = (S_p - I_p) + \{T - (C_g + I_g)\} \quad (4.8)$$

or that the current account deficit is identically equal to the level of net domestic savings, made up of private savings and public savings. Reducing domestic absorption implies raising the level of net savings in the economy. The net domestic savings are exactly equal to the change in the stock of claims on the rest of the world (dNFA), so that

$$CAB = \text{Net Domestic Saving} = dNFA \quad (4.9)$$

(Private + Public)

If there are no net savings in the private sector, then it follows immediately that a public sector fiscal deficit implies a current account deficit. This implies a decrease in the stock of net foreign assets, or an increase in the level of foreign liabilities. The point will eventually be reached where there are no further foreign exchange reserves on which to draw, and neither can the country issue claims to the rest of the world in order to acquire, through foreign borrowing, the resources needed to meet the deficit. At this point domestic absorption must fall in relation to the value of output. Alternatively put, the gap between aggregate demand and supply must be reduced. This is the essence of the problem of macroeconomic adjustment stabilization. The next section addresses the mechanisms for improving this balance.

4.2 A Basic Model

While the basic identities are applicable to any economy with trade and financial links to the rest of the world, the following discussion is cast in the spirit of the small, open economy, alternatively described as the dependent economy

(Salter, 1959; Swan, 1960; Corden, 1985). This model, which has been widely used, assumes that the country being analyzed is a price-taker, which faces given world product and factor prices, and whose own actions have no effect on these prices. Although not explicitly stated, the model also assumes that the country is “small” with respect to the international institutional environment. At least in the immediate future, the country has no influence on the rules and mechanisms of international trade and finance. The importance of this issue was discussed in Section 2.

Consider a small open economy which produces and consumes three classes of goods; importables, exportables and home goods. The domestic prices of the first two categories, collectively termed tradable goods, are predominately determined in world markets, subject to the country’s commercial policies (trade taxes and subsidies) and to the exchange rate. Provided that the relative price of importables to exportables does not change, they can be validly grouped as tradable goods. The small country assumption, which takes the terms of trade as given, permits this aggregation.

The country is assumed to have reached the point of an external imbalance, which may have arisen for any one of a number of reasons. We will not address the issue of the pre-crisis policies at this point. There may also be a state of internal imbalance, often evidenced by accelerating inflation. For ease of exposition we will focus initially on the external imbalance.

As shown in the previous section, this external disequilibrium is a symptom of excess aggregate demand. If the home goods market is in equilibrium, the current account deficit is simply the excess demand for tradable goods. In other words, the excess demand for importables exceeds the excess supply of exportables, so that there is an overall excess in the domestic demand for tradable goods. The size of this excess is exactly the amount by which total domestic absorption exceeds national income. This view of the imbalance makes transparent the nature of the task facing macroeconomic adjustment policies — namely that the excess demand for tradable goods has to be reduced. How is this to be achieved?

The excess domestic demand could be reduced by policies that reduced expenditure or raised output. This would involve reducing the domestic demand for exportables, and increasing the supply of exports. At the same time, the fall in the demand for importables would reduce the demand for imports. The net effect would be to reduce the excess demand for tradables and eliminate the current account deficit.

But recall that the home goods market was initially in equilibrium. Any policy that reduces total domestic absorption will lead to a fall in demand for home goods, as well as that for tradables, so that while the current account balance

improves the non-tradables market is no longer in equilibrium. In fact, the contractionary demand policies have, in the first instance, eliminated the excess demand in the traded goods sector and substituted excess supply in the home goods sector.

What mechanisms exist to eliminate this excess supply of home goods? If the prices of home goods are totally flexible, the excess supply will put downward pressure on the price. This will mean that the price of tradables, assumed to be constant in nominal terms (recalling the small country assumption), will rise relative to home goods whose prices fall as a result of their excess supply.

This change in the relative profitability will draw resources from the home goods sector and shift them into the production of tradables. The domestic demand for tradables is reduced by the contractionary policies, while the change in the relative prices induces an increase in their supply. Equilibrium in the external account is restored by eliminating the excess demand for tradables, and the home goods market returns to equilibrium. The structure of the economy will have changed, as the output of the traded goods sector will have increased relative to the production of home goods.

This result follows from what is clearly a rather stylized model, on the surface of which there are no immediate implications for the distribution of income. Nothing has been said about the nature of the demand reducing policies and the extent of the expected supply response. We will defer that discussion to the following two chapters. Of more immediate importance is the need to examine assumptions that were deliberately left implicit in the first statement of the model. It was assumed that prices were flexible, and that all resources were homogeneous and would move freely and costlessly between sectors.

Suppose that the nominal price of home goods had not fallen. This would have meant that there was no change in the relative prices, as the price of tradables is assumed to be given to the economy, and we defer consideration of trade and marketing policy at this point. With no change in relative prices and incentives to production there is no mechanism to restore equilibrium in the home goods market. The excess supply in that market will be eliminated, by definition, but only by creating unemployed resources in that sector. The external imbalance in that case will have been eliminated by substituting domestic unemployment for an unsustainable foreign trade deficit. It is this type of adjustment that occurs in an economy whether the authorities consciously implement a stabilization policy or not.

The economic managers have two targets; external and internal balance, or the elimination of excess demand or supply from the markets for traded and home goods. To achieve these two targets, two key changes are needed. The first is the reduction in absorption relative to domestic income. The second is the

change in domestic relative prices. If there was to be solely a change in the level of expenditure, with relative prices unaltered, there would be unemployment in the home goods market. Alternatively, if there was only to be a change in relative prices with no reduction in demand, what would the outcome be?

In the traded goods market, the rise in the relative price would reduce domestic demand and encourage supply. This increase in supply would come as a result of resources moving from what is now the relatively less profitable home goods sector. But with the fall in the price of home goods relative to traded goods, there will be an increase in the demand for home goods at precisely the same time as a fall in the supply. The only way that the excess demand can be eliminated from the home goods market is for the price to rise. This will continue until all the excess demand is eliminated, or in other words until the relative price is restored to its original position. This will of course, leave the excess demand in the traded goods market unresolved.

From the foregoing discussion it will be clear that both a reduction in aggregate demand and a change in relative prices are needed. Neither instrument alone is sufficient to achieve both internal and external balance. If the prices of home goods are sticky, then it will be necessary to bring about the change in relative prices by a nominal devaluation, which raises the domestic prices of tradable goods, causing the pattern of absorption and production to switch. This provides a mechanism for offsetting the excess supply in the home goods market arising from the fall in demand. The success of the switching policy will depend on the extent of the rise in the price of tradables relative to home goods. A rise in the latter price must be avoided, otherwise the effect of the devaluation would be negated.

The eventual success of a macroeconomic adjustment program hinges crucially on the extent to which the effective price of tradables is raised relative to the price of non-tradables. There is simply no other way of inducing the changes in the production and consumption of traded goods needed to ensure the reduction in the current account deficit. There are two major instruments: demand constraint and devaluation. Devaluation raises the nominal prices of the traded goods directly; contractionary policies reduce the pressures on the price of non-traded goods. Both policies act to reinforce the improvement in the ratio of domestic prices of tradables to non-tradables (PT/PN).

If there is no nominal devaluation to raise the numerator of this crucial ratio, all the adjustment must come through a decline in the nominal prices of non-traded goods. This will imply a major contraction in domestic demand to bring this about, and if either nominal wages or prices are sticky, this will generate more unemployment. The inevitable adjustment will then be achieved by unemployment.

On the other hand, if there is no restraint on aggregate demand, prices of non-traded goods will rise and offset the effect of a devaluation which raised the price of traded goods. The adjustment will then be achieved by inflation.

4.3 The Role of the Labor Market

The preceding discussion has highlighted the role of changes in relative prices and the relative importance of policies to reduce absorption and achieve a switching of output and demand. If prices in the non-traded goods sector are fully flexible downwards, then the effect of a reduction in absorption will be to create an initial condition of excess supply in the home goods market. A decline in their price would eliminate this, and raise the price of tradables relative to home goods. The switching would be achieved automatically, and the average price level would decline. Furthermore there is no need for devaluation to achieve the change in the relative prices needed to adjust the pattern of production and demand.

Clearly, the real world is seldom characterized by such complete flexibility. If home goods prices or money wages are not downwardly flexible, then devaluation will be needed to alter the relative goods prices. The essential point is that real wages in terms of traded goods must decline in order to reduce the cost of domestic value added. This can occur in one of two ways. Either the conditions in the labor market are such that wages decline and reduce costs or, when wages are inflexible, devaluation will raise the domestic price of tradables, lower the price to foreign buyers, and improve the competitive position of the country in export markets.

In practice the structure of labor markets is quite complex, and this precludes any simple conclusions about the effects on wages and employment. The fundamental economic forces associated with a stabilization program operate through the markets for tradables (both adjustment and exportables) and home goods. Changes in their prices lead to variation in the levels of output, and so to changes in the demand for factors.

There is no simple way to map those changes into the labor market (Terrell, 1987). Within each sector, there are various categories of labor (unskilled, semi-skilled, managerial, etc.) and various types of labor markets. There may well be a modern sector (petroleum, mining, financial services) in which nominal wages are sticky, contrasted with traditional sectors (self-employed, unorganized workers, artisans, petty services) where returns to labor are highly flexible and constitute a significant mechanism for adjustment. Both the traded and non-traded sectors can have elements of both the so-called modern and traditional labor markets. Restrictions on labor mobility may mean that wages are not equalized across the two markets, even within the one productive sector.

Labor may flow more readily between the modern parts of both the tradable and non-traded goods sectors (e.g., between urban factories and construction) than between the modern and traditional segments of the labor market in say, the production of agricultural exportables. In short, the nature of labor markets will have a significant bearing on how the incidence of stabilization policies is felt by different groups.

If labor is strongly organized in some sectors of the economy, then it is probable that inflationary pressures will lead to attempts to hold real wages constant. Such real-wage resistance, caused by increases in money wages sufficient to compensate for price rises, will mean that no switching can take place, in effect eliminating one policy instrument. As a result, the external imbalance will be corrected only by a reduction in aggregate demand sufficient to lead to a major decline in output and rising unemployment. The extent of unemployment becomes the adjustment mechanism. Devaluation can only have a real impact on the economy if the nominal value of some variable does not move in step with the exchange rate. If all nominal prices and wages in the economy move in proportion to a devaluation, then any change in real (i.e., relative) prices is precluded. If relative prices and hence output is unchanged, then the current account deficit is also unaffected, except through contraction.

Again, however, the nature of the labor markets is important. It is never the case that the entire labor market is in the strongly organized sector; in point of fact, this will typically be a rather small part. Total employment may decline in the sector as a result of the excessive real wage, but the cost of this may be borne in part by a shift of labor at the margin to the informal and small farm sectors. These sectors become the residual pool into which labor flows when aggregate demand declines and out of which it is drawn when the output of the modern sectors is rising. An increase in informal sector employment and a corresponding decline in the average income represent the burden of adjustment. That burden has been transmitted from say the modern home goods sector (urban construction, for example) to the informal sector of say exportable agriculture. In sum, real wage rigidity in one part of the economy will show up in part in unemployment: but another part may be transmitted to informal sectors of the labor market and the cost of the adjustment borne by lower average incomes. This emphasizes the importance of examining all sectors of the labor market, in order to trace the effects of adjustment on wages, incomes and employment.

4.4 Adjustment and Distribution

The primary focus in the proposed case studies are changes in household incomes within low income groups, rather than on changes in the distribution of income per se. In order to analyze the effects of economic reform policies on household incomes in the target groups, it is helpful (following Corden, 1985) to break down income into a number of key components.

- (a) Earned (or Productive) income is that which is generated by providing the services of the household's labor and capital to the market. The demand for and the prices of those services will be determined by conditions in the factor markets. This will reflect the derived demand for the factors in the various producing sectors.
- (b) Disposable income is earned income adjusted for transfers and direct taxes.
- (c) Social income is the value of services provided by the public sector, other than direct transfers.
- (d) Total income is the sum of disposable and social income.
- (e) Real income is total income deflated by a relevant price index, reflecting changes in both relative prices and movements in the general price level.

The contribution of theoretical analyses to our understanding of the short-run impact of adjustment policies on the various components of income is extremely limited. For the most part, the standard framework as outlined in Section 4.2 and variants of it, is restricted to addressing changes in the functional distribution of income. As such it is concerned only with the earned income component. However, this is not the only avenue through which stabilization policy reforms impinge on the real incomes of poor households. In many cases, evidence has accumulated that cuts in transfers and social income as a result of macroeconomic adjustment policies have had a markedly deleterious effect on the welfare of particular groups (Jolly and Cornia, 1984).

Furthermore, most of the theoretical literature that addresses the question of distributional changes (Knight, 1976) is concerned with comparative static changes. While there have been some attempts to trace adjustment paths through time (Dornbusch, 1982), these have generally been restricted to key macroeconomic aggregates such as real output, inflation and the level of international reserves (Khan and Knight, 1982).

There is a further dimension to the dynamic impact of adjustment programs which has been largely neglected. It is quite feasible that the immediate impacts on the welfare of poor households may differ from the intermediate or longer run effects. There are two reasons for this. In the first place, some of the elements of the adjustment policies may well have an impact over an extended period, rather than the entire effect being felt in the initial year in which the policies are

implemented. Secondly, the first effects of a policy reform program may be those of stabilization measures that tend to be contractionary, while there are greater lags in bringing about increased output as a result of policies which aim to restructure the economy and make changes in the overall strategy, such as the degree of openness to foreign trade and capital movements, or the extent of the involvement of the state in productive enterprises.

There is a presumption that while the policies associated with the stabilization may result in cuts in domestic absorption, the greater economic efficiency engendered by the adjustment and restructuring policies will result in higher rates of real economic growth than would otherwise have been the case. Viewed in this light, the question is one of timing, and in particular, whether supply augmenting policy reforms, by their very nature, will only begin to take hold after the poor have borne the effects of short-term stabilization measures; or alternatively, whether the payoffs of restructuring, in terms of higher real incomes, will be sufficiently immediate as to avoid a period of reduced private and public consumption.

Even if there are significant short-term gains to the economy from price-oriented policy reform that raises incentives to producers and increases the efficiency of markets, there can be no presumption that the benefits will accrue to the groups bearing the costs in the initial periods. In addition, as the proposed focus is on short-run changes in the real incomes of the poorest groups, current cuts in their real income from belt-tightening measures, such as eliminating subsidies, can be so devastating as to make future, uncertain compensating gains largely irrelevant.

Macroeconomic adjustment policies may operate in a whole series of ways to influence the distribution of income and the real income of specific groups. This section identifies seven major avenues through which the impact can occur. These are output and employment, product markets, factor markets, asset markets, transfers, investment, and the creation or removal of rights.

4.4.1 Output and Employment

It is almost certain that, in the majority of cases, the single biggest set of influences on household incomes arising from adjustment operates through output and employment.

If restructuring succeeds in creating incentives for expanding the output of tradables while managing to avoid a major recession in the rest of the economy, there will generally be an increase in employment. It is not uncommon for the real prices paid to farmers to have fallen so low due to an appreciation of the

exchange rate that perennial, labor-intensive crops are left untended. An improvement in these prices has a directly beneficial effect on the demand for landless labor and also expands the exportable surplus.

Inflation, the shortage of foreign currency and the erratic supplies of imports often make the climate for investment uncertain and lead to under-utilization of installed capacity in the manufacturing sector. These features often characterize an economy which has reached a position of unsustainable imbalances. A policy reform program that removes these bottlenecks will encourage employment growth in the non-farm sector.

The structure of an economy plays a crucial role in determining the distributional outcomes of macroeconomic adjustment policy. Similar policies applied in different countries may be equally effective in restoring macroeconomic balance but have markedly different consequences for the incomes of different households. Central to this issue is the extent to which relative factor intensities differ by sector, the effect of the adjustment policies on the relative profitabilities of different sectors, and the extent of the short-run supply responses. For example, in an economy where the export sector employs much of the economically active population in small peasant farms, a rise in the relative price of exports will increase the incomes of factors in that sector. If this is the low income group, then the overall impact of the change may be quite favorable. The impact on the urban poor will depend on the extent of migration to the rural sector to gain employment in the expanding export sector, their consumption bundle in terms of the amount of traded to non-traded goods they buy, and on the extent of remittances through family ties to the rural sector.

Contrast this with an economy where most of the exports are minerals, and the population is concentrated in domestic food production and services. There is likely to be only a modest expansion of employment in mining following a devaluation. The income distribution effects will depend on the extent to which the state captures the rents to mining and redistributes these through public expenditure programs as well as upon the extent of domestic inflation.

4.4.2 Product Markets

As the incentives facing different sectors alter, so will output and prices change. The distributional consequences of changes in relative prices will depend on differences in the pattern of expenditures among households. If in general the prices of tradables rise relative to non-traded products, then those households whose consumption is more heavily weighted toward tradable goods will be relatively disadvantaged. As a very high proportion of the total expendi-

tures of the poorest households are concentrated on food and housing, the impact on their real incomes will depend crucially on what happens to the prices of these commodities.

If macroeconomic adjustment follows an extended period of an overvalued exchange rate, the prices of non traded goods will have been raised relative to traded goods. This, combined with inflation, will tend to drive up the relative price of housing services, penalizing low income renter households. The outcome of a policy reform program may then be to lower the relative price of housing. The outcomes of these forces are, however, difficult to predict, and depend on a complex set of forces involving patterns of asset ownership, access to credit, the functioning of capital markets, and the role of inflationary expectations.

There is some evidence that in periods of inflation, which are a typical prelude to the implementation of stabilization and restructuring programs, the price of food tends to rise faster than the general price index. Where this is the case, a deflationary period might be expected to be associated with a fall in the relative price of food and an improvement in the real incomes of the poorest households. However, the dominant forces are likely to be the composition of food purchases in terms of tradable and non-tradable foods and the supply responses in the short-run.

4.4.3 Factor Markets

Changes in the derived demand for productive factors will be transmitted to household incomes through shifts in the quantity and prices of labor and capital supplied by the household sector. Of particular importance is the behavior of the labor market, as discussed in Section 4.3. One of the most frequently cited allegations concerning adjustment programs is that they lead to a fall in real wages and to a rise in unemployment as a result of the contractionary effect.

While it is generally true, and in fact necessary, that the real product wage fall in the traded goods sector, whether or not overall wages fall depends on the movements in the prices of both home and traded goods. As Corden (1985) notes, it is conceivable that real wages could rise, if the declining profitability in the home goods sector has resulted in downward pressure on those prices, even in the presence of fixed nominal wages. What is of major importance is the composition of expenditures. If the demand of the poorest is concentrated on home goods, then the real measure of their real income should reflect this rather than some average level for the whole community.

Changes in wages, and particularly employment by sector, are an essential and significant part of the effect of adjustment on household earnings. In the formal sectors, however, changes in the duration of unemployment, hours worked and participation rates are important secondary characteristics of the labor market.

Little attention has been given to the role of credit markets, especially in the informal sectors. Macroeconomic adjustment policies may result in changes in the cost and availability of credit, with important consequences for incomes in the small informal trading sector.

4.4.4 Asset Markets

In some countries, changes in economic incentives and the concomitant new pattern of output, will be accompanied by changes in the values of existing real and financial assets. This will result in a redistribution of wealth and possibly changes in the real wealth of some poor households. Of particular importance may be housing and land prices; whether in fact this directly affects the welfare of low income households will depend on the pattern of asset ownership, together with the depth and the extent of asset markets. Where there is a well developed land market, for example, changes in domestic incentives in favor of a previously repressed agricultural export sector might be accompanied by significant changes in the stock of real wealth. By reducing the demand for real assets, such as housing, as a means of protecting the real value of wealth from inflation, the relative price of housing may fall, directly benefitting the low income urban population.

4.4.5 Transfers

The current incomes of poor households will often contain a significant element of transfer payments, and to a lesser extent, taxes. Any assessment of the impact of macroeconomic adjustment on real income would be incomplete without attention to these flows. Transfers can originate in the private or public sectors. In the case of private transfers, there are circumstances where private (generally family) remittances are an important element of real household incomes. The transfers may be of an on-going or periodic nature. It is the former that are of primary concern in the context of the present study. The latter are often associated with deaths, marriages or other family occasions.

These on-going transfers may originate from foreign earnings of migrant workers, or from other sectors, as in the case of rural families supporting an urban member, or urban earnings flowing to rural households. These income transfers are described by Kaufman and Lindauer (1986) as a redistributive mechanism reflecting a social contract for insuring against falling below the

perceived level of basic needs. They present a simple model of transfers among social networks of households, from which estimable transfer functions are derived whose arguments are the shortfall between actual income and a 'basic needs' level, together with structural characteristics (size and composition) of the household. Estimates were made for data from El Salvador, where in the city in question transfer payments were received by one third of a sample of 500 households, and constituted nearly 40 percent of income.

The magnitude and even direction of these flows are likely to alter as a consequence of adjustment policies. Those policies will, if effective, alter the relative outputs, employment and wage earnings in different sectors. For example, if there is a downturn in domestic construction as a result of a switch out of home goods, then remittances from urban workers to rural families may decline or even cease. Those workers might be supported during a period of subsequent unemployment by food and/or cash transfers from the rural sector. While such payments may have no effect on the distribution of income, or even the overall extent of poverty, they may be associated with a changed pattern of transfer to low income households following an adjustment program. Other private transfers may arise from non-governmental charitable organizations.

In addition to these private sources of transfer payments, there are often direct and, even more important, indirect transfers from the public sector. Subsidies on food, fuels, utilities and transport can represent an important component of the real income of some poor households, although the leakages to the non-poor of major fiscal programs in these areas are notorious. If reductions in aggregate demand are achieved by reducing these elements of public expenditure, the real incomes of the poor may be adversely affected.

4.4.6 Investment

While macroeconomic adjustment efforts often involve reducing domestic absorption through cuts in public investment spending, they may also involve an increase in external financing for development expenditures, compensating for any decline in investment. These cuts of potential expansions can affect the flow of investment to augment both the stock of physical and human capital. Investments in roads, sanitation, rural electrification, or drainage and flood control all affect the future stock of capital in the economy and the future real incomes of labor; although the marginal returns to the misguided investments may have little consequence for economic growth or the stream of future earnings. Similarly, investments in schooling, hospitals, health clinics, or job training affect the future stock of human capital held by individuals. The task of macroeconomic adjustment policies is daunting. Conceptually, it is a straightforward problem whereby

the net present value of the future foregone net income streams, identified by socio-economic group, should be added to any other direct reductions in a household's income in the current year.

The task of empirically sorting out the distributional consequences of changes in investment is likely to prove extremely difficult. At the same time, it is a potentially important distributional consequence of adjustment policies. There is a reasonable presumption that such cuts might well impinge most severely on the poorest households. Middle and upper income classes tend to rely less on the public provision of the services of health and education.

4.5 Parallel Markets

The disequilibrium conditions which often characterize foreign exchange and commodity markets which have rigid prices provide opportunities for the creation of parallel markets. Often when the official market channels including the channel for foreign exchange have excess supply or demand such parallel markets achieve market clearing. However, such markets are often illegal, and participants face some probability of penalties (Landauer, 1988). Participants will then devote some resources to avoiding such costs. This results in dead-weight loss to society, the removal of which leads to an overall increase in social welfare.

Another feature of parallel markets is that they generally result in rents accruing to some members of society (Krueger, 1974). Recipients of such rents will devote resources to protect them. If adjustments and market reforms eliminate these rents there may be a sizeable loss of income to segments of society. Restriction in foreign exchange availability is one commonly studied means by which rents are created; individuals which gain access to exchange at a relative low exchange rate (below the free or parallel market) or who are allotted import quotas can acquire goods at prices below the scarcity cost of the resources and below the price which may prevail in the [parallel] market.

Exchange rate distortions give rise to both parallel markets in foreign currency as well as to smuggling. Import quotas create incentives for the latter but do not by themselves encourage parallel market for foreign exchange (Sheikh, 1976). Smuggling, both into and out of an economy, is also encouraged by tariffs and other trade barriers. Economic reforms which remove implicit or explicit taxes may reduce the incentive for this smuggling. The economic gains that may be expected include the reduction in the costs of smuggling, but can be exaggerated if the move from an underground economy to the official economy is taken to be an increase in the volume of production and trade rather than a shift in market channels.

Economic rents which may be affected by adjustment policies are not restricted to those stemming from foreign exchange and import quotas. Any two-tier market which results from a restricted availability of a commodity (including inputs and credit) at a below-market clearing price results in rents accruing to individuals who obtain such a commodity. From this perspective, a subsidy on maize or rice results in rents accruing to a subset of consumers, often, but not always those in urban areas. Limited and, hence, rationed credit and fertilizer provided under a system of quotas are other examples of rents which are obtained by a subset of the general population and which may be reduced or eliminated with market rationalization. Opportunities for publicly subsidized education, particularly higher education, may fall in this category as well. Adjustment policies often may have only a small impact on market clearing or parallel market prices yet may have a large impact on the size and distribution of rents and, hence, income. The extent that this occurs is an empirical question and the net impact will vary from situation to situation.

5. THE NATURE OF MACROECONOMIC ADJUSTMENT POLICIES

5.1 Expenditure Switching

5.1.1 Devaluation

While a key role of devaluation is to alter the relative prices in order to expand the traded goods sector, exchange rate changes can be expected to have an impact on the level of absorption. Whether the impact of devaluation is expansionary or deflationary is a matter that has received considerable attention in the literature. In the past, it has generally been assumed that to the extent that a devaluation had any persistent real effects, they would be expansionary. The change in the relative price would switch both foreign and domestic demand toward domestic output. Output, and as a consequence employment, would be stimulated, especially in the presence of unused resources.

A cautionary note was raised by Diaz-Alejandro (1963 and 1965), who argued that a devaluation would redistribute income to groups whose marginal propensity to save was higher. The resulting decline in aggregate demand would more than offset the increase in foreign demand for their country's output. The issue was later pursued by Cooper (1971b) and more recently by Krugman and Taylor (1978). They argued that the contractionary effect on the demand for output caused by a fall in real incomes may offset any expansion in the export sector. In the short-run, a devaluation would always raise the costs of imports such that the extra domestic currency spending on imports would exceed the extra income generated in the export sector; aggregate demand must thereby decline and with it output, including the production of home goods (Hanson, 1983). The result hinges critically on the low short-run responses in the supply of exports and the demand for imports (Ahluwalia and Lysy, 1981). In effect, if substitution possibilities in production and consumption are ruled out, there can be no switching effect accompanying a devaluation. The entire adjustment must, inevitably, come as a result of a decline in aggregate demand.

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Recently, the argument that a devaluation might be contractionary has been strengthened by the analysis of van Wijnbergen (1986). In contrast to the earlier concerns which focussed on the effect of a devaluation on aggregate demand, this study identifies three channels through which a devaluation may have a direct contractionary impact on the aggregate supply side of the economy. These are the rise in the cost of imported intermediate goods, wage indexing when the consumption basket includes imported wage goods, and the higher price of credit paid in the curb market by firms needing working capital.

If these effects are important, then they are potentially more damaging than any suppression of aggregate demand. This is because a contraction of supply will be inflationary and will tend to offset the real impact of a change in the nominal exchange rate.

The primary purpose of a nominal devaluation is to increase the domestic prices of tradable goods, both importables and exportables, relative to the general level of prices in the economy. The associated rise in the output and decline in the domestic demand for these goods generates the increase in the supply of tradables needed to correct the current account deficit. A necessary condition for an expansion in the supply of tradables is a fall in nominal wages relative to the product price. Devaluation contributes to this by raising the price of tradables; nominal wages may even be able to rise provided that the product price increases enough to ensure the relative wage falls (Johnson and Salop, 1980).

In fact, as seen, where nominal wages are sticky, a contraction in aggregate demand may result in unemployment. With no fall in nominal wages due to downward rigidity, and no change in the price of tradables in the absence of a devaluation, there will be no incentive to expand output and hence increase the demand for labor in the tradable goods sector. By introducing a currency devaluation, it may be possible to lower the cost of labor in the tradable goods sector by raising the product prices even with a fixed nominal wage. In this manner a devaluation can moderate the rise in unemployment that would have accompanied contractionary demand policies in the face of sticky nominal wage rates.

There are other aspects of exchange rate management which often accompany a policy reform program. As well as a devaluation, there may be a realignment of multiple rates and a consequent reduction in the taxes and subsidies that are implicit in such a system. Some sectors that have enjoyed access to foreign exchange at subsidized rates may lose by this move, while other sectors may face lower implicit taxes by no longer being forced to surrender their foreign earnings at an artificially low rate. Typically, this will mean that the subsidy to importers and the tax on exporters will be reduced.

It is indeed difficult to specify how these changes will affect the distribution of income. There will be an immediate effect associated with a redistribution of the rents to the intervention. There will also be a longer term effect to the extent that unification of the exchange rate alters the relative prices in domestic currency facing different sectors. For example it may now be the case that traditional exports are no longer discriminated against relative to manufactured exports. Their relative effective price will rise and resources will be reallocated away from sectors that have become relatively less profitable. The distributional consequences will then depend, once again, on the relative factor intensity and the pattern of consumption by income level. If traditional exports are intensive in the use of unskilled labor, and if tradables are a low proportion of the consumption of the lower income households, then it may well be that the unification of the exchange rate leads to a redistribution toward the poor.

5.1.2 Commercial Policy

Countries implement commercial policies (which collectively constitute the trade regime) for three main purposes. In the first place, the trade interventions (tariffs, taxes, licenses, quotas, prior deposits) have the effect of changing the relative domestic currency prices of exportables and import-competing goods. This means that the structure of production, and with it the pattern of employment, factor rewards and income distribution, will differ from that which would have prevailed in the absence of the interventions. Holding down the domestic price of a wage good by an export tax (e.g., beef in Argentina), or protecting the jobs of workers in domestic industry by tariffs on imports (shoes in the United States), are well known examples of this use of commercial policy.

Second, these policies have their origins in attempts by the government to influence the balance of transactions between domestic and foreign residents (Krueger, 1981). A sudden and blanket ban on all "non-essential" imports is a well tried, if not proven, crisis-induced technique for managing foreign exchange reserves.

Finally, many countries have historically relied heavily on trade taxes for the public purse, and where other taxation mechanisms are not well developed, there is often a reluctance to abandon a convenient way to raise revenue.

A country faced with the need to reduce the balance of payments deficit may perceive a difficult trade-off. The external imbalance must be corrected by reducing the excess demand for tradable goods, which means that policies which have suppressed the relative price of tradables need to be reversed. Commercial policies, as commonly applied tend to overvalue the real exchange rate. On the other hand, there will almost undoubtedly be a lag before output responds to a change in the relative prices, and there is an immediate and pressing need to

reduce the current account deficit. As a result, it is not uncommon to see greater use of commercial policy as a short-run attempt to cut imports and subsidize exports.

A balance of payments deficit reflects an excess supply of money, frequently brought about by the expansion of domestic credit to finance public sector deficits. With a fixed exchange rate, the inflationary impact of the monetary expansion is not fully passed on to domestic prices. In an effort to avoid the inflation that would accompany a devaluation, a country may seek to use instruments of commercial policy to contain the external deficit in the short-run. While this strategy may contain the inflation in the immediate future, it can entail other costs arising from disruption to the flow of imported intermediate goods needed in the productive sectors. It is not clear that the distributional consequences through the decline in output and employment are necessarily less than those that would have accompanied a rise in the inflation rate.

The shortage of raw materials will hamper output in the productive sectors, and the utilization of the installed capacity will decline. At the same time, a reduction in the imports of plant and equipment, often viewed as postponable, will reduce the future stock of installed capacity and shift part of the adjustment through time. In the long-run, issues of macroeconomic demand management can be addressed apart from those of the trade regime. In the short-run, when faced with the imperatives of responding to an unsustainable external imbalance, the two become intertwined. Any assessment of the distributional implications of macroeconomic in the short-run cannot overlook the role of commercial policy, changes in which often impose abrupt and severe adjustments.

5.1.3 Fiscal Proxies

It has long been recognized that the effect of a devaluation in the goods market could be replicated by an equi-proportionate tax on all imports, matched by a subsidy to exports. In this way, the domestic price of tradables would have risen relative to home goods in a manner analogous to that which would have been achieved with a devaluation of the currency. These tools of commercial policy could be used, not to alter the pattern of trade flows, but to substitute for an explicit change in the domestic price of foreign currency.

More recently, it has been shown that this equivalence is only true if all foreign exchange transactions are covered. Furthermore, the outcome is not independent of the manner in which the scheme is financed (Laker, 1981). In practice, the tax and subsidy rates are never applied uniformly, nor are they comprehensive in their coverage. As they create opportunities for rent seeking, their effectiveness is likely to erode over time as misuse, corruption and evasion become more prevalent. The inherent political economy of the process almost

guarantees that the rates will be unevenly set. The desire to avoid a devaluation may well lead to the use of fiscal proxies, but they will be of a patchwork nature and will add to, rather than alleviate, the inefficiencies and real resource costs of a multitude of trade legislation. Direct and selective controls on trade have been widely used and are advocated by those who consider that the so-called orthodox approaches result in excessive contraction (Ahluwalia and Lysy, 1981; Eshag, 1983), or fail because of political opposition (Thorp and Whitehead, 1979). The essential point is however, that if 'correctly' applied, such an amalgam of selective controls would duplicate the effect of the devaluation, and hence create exactly the same political opposition that lead to a rejection of devaluation as a tool of adjustment in the first instance.

5.2 Demand Management

5.2.1 Monetary Policies

Most attempts to reduce the rate of growth of domestic absorption involve controlling the growth in the rate of credit expansion to the private sector. This is achieved either by changing the reserve requirements of the banking system or limiting the expansion of the monetary base. These steps may be accompanied by selective policies to encourage or restrict the credit to specific sectors. It is inevitable that agents in the private sector will not be uniformly affected by a restrictive credit policy. Some will receive preferential treatment based on their prior access to cheap credit; others will have access to foreign funds or will depend on the curb markets. To the extent that non-price rationing of credit prevails, the smaller firms, self-employed in the informal sector, and small farmers are all likely to be disadvantaged in their access to credit. The price of credit will rise due to the restrictions on the growth of supply. The real, albeit implicit, interest rate facing various sectors will increase disproportionately for some, having potentially serious implications for income distribution.

Interest rate policy is a potentially powerful instrument for encouraging the growth of the productive stock of capital. This is an important supply-side measure of adjustment policies. A rise in the real interest rate will discourage private consumption and make private capital formation more attractive. A repressed financial system often involves nominal interest rate ceilings which, under high inflation, imply low or negative real rates of interest. Eliminating the ceilings will result in a higher equilibrium rate of interest. Assuming that the supply of savings (from domestic or foreign suppliers of funds) is responsive, then the level of savings and private sector investment will shift to a higher level. The increased flow of foreign savings will permit a larger current account deficit than would have otherwise been the case, and so ease pressure on the need for

macroeconomic adjustment to reduce the unsustainable external imbalance. The more attractive investment climate has, in effect, made part of that unsustainable deficit now sustainable by stimulating the flow of foreign funds. Recent evidence on capital flows to countries where real interest rates were raised indicate that this can be an important element of the stabilization package. Nonetheless, the prospect of financial deregulation leading to greater capital flight, more than offsetting the increased capitalization, needs to be carefully assessed.

Whether such a policy has direct distributional consequences is not something that can be readily predicted, although greater access of low income households to more credit at lower cost often follows moves to liberalize previously repressed financial markets. This may be particularly important in the informal and small farm sectors.

In addition to interest rate controls, taxes on interest earnings and tax credits for certain classes of investment affect the rate of private capital formation. Furthermore, a reduction in the public sector deficit will reduce the public sector demand for savings, and with it the crowding out effect in private capital markets. Whether this leads to growth in the total potential capacity of the economy will depend on how the real resources previously captured by the public sector were used.

Where the cost of borrowing for some sectors has been maintained at levels held artificially below the rates facing other sectors, or below the international rates, those sectors have been receiving a subsidy. The cost of these transfers is met by the less favored sectors paying more than they otherwise would have, and by the loss of international reserves. When a macroeconomic adjustment results in an increase in the effective cost of credit to some sectors, it can imply substantial redistribution of rents generated by selective credit policies and non-price rationing. The political economy of these transfers is such that they would typically be regressive. This would suggest that the changes might have a favorable effect on the distribution of income. However, it has to be recognized that those previously capturing the rents will not relinquish them in silence, and there is no guarantee that tightening of credit expansion will have a desirable distributional outcome. There is little guidance on these issues in the literature. The role and importance of the credit markets for distribution under an economic restructuring plan has not been extensively analyzed or documented.

If there are well functioning capital markets, an increase in interest rates will reduce the level of investment. While this may be desirable in terms of reducing the level of aggregate demand and reducing investment in projects that were

only marginally productive at the previously subsidized rates of interest, it may come at the expense of investment in long-term projects which will result in a lower productive capacity in the future.

However, the reality is that interest rates are seldom the key mechanism for allocating credit. More often than not, the financial system is regulated, and interest rate controls are combined with direct rationing. Under these conditions, higher rates will encourage savings at the expense of consumption and release resources from low yielding investments. The total level of investment may not decline, absorption may fall and the efficiency of resource use may be improved. This will lead to an efficiency gain by withdrawing resources from projects whose rate of return was below the social opportunity cost of capital. Whether the effect on the distribution of income would be favorable is not something that can be predicted *a priori*. The type of project, the nature of its output, its foreign trade components, and the factors used intensively in both the investment and operating stages would determine the distributional consequences. Such an example is not atypical — many of the adjustment policies will have distributional consequences which simply cannot be predicted in any generalizable manner. This underlines the need for empirical investigation.

If the monetary authorities attempt to avoid any rise in interest rates, they have to ensure that the stock of money supplied is equal to the desired holdings of the non-bank public. To accomplish this, there will need to be a continuous injection of domestic credit in order to offset the decline in net foreign assets occasioned by the current account deficit. In this way the stock of high powered money remains constant. Why would the authorities pursue such a course? As Hanson (1983) notes, one obvious reason is that more output and employment can be sustained by stimulating domestic absorption in excess of the aggregate supply (real output), through increases in the monetary base. If the economy is operating at near full employment capacity, this pressure will be partly dissipated by inflation and only sustainable while international reserves or the capacity to borrow still exist. However, the very essence of the need for adjustment policies is that these options no longer exist.

There is no reason to suppose that maintaining the real money stock through increases in the domestic credit component of the monetary base can do more than generate a short term boom in output and employment, at the expense of running down reserves and creating inflationary pressures. Maintaining the real moneystock at a level which is commensurate with domestic absorption in excess of output is inconsistent with a policy to redress the external imbalance. In fact, the need for the stabilization program may well have arisen from precisely that type of expansionary policy in the pre-crisis period. Attempts to freeze the level of the money supply and nominal interest rates at their levels, which correspond

to a position of excess aggregate demand at the current real wage rates, are counter-productive to a policy aimed at eliminating the imbalances. Short-term political expediency will inevitably tend to favor such a course as the costs of adjustment may thereby be postponed, at least temporarily.

Restrictions on credit and money supply which are necessary to realize macroeconomic goals may interfere with adjustment. A combination of internal market rationalization and liberalization of trade will generally provide producers and traders with a vastly different set of market signals than they had faced previously. Much of the existing capital structure will be inappropriate and the ability to retool or to reestablish inventories will be hampered by restrictions on credit. To some degree this is more an issue of the speed of adjustment than the nature of the new investments. But it is an important concern for our study of short term impacts and may also be a factor in the acceptability of reforms.

5.2.2 Revenue and Expenditure Policies

Macroeconomic adjustment programs will customarily include restrictions on the rate of expansion of credit by the Central Bank to the public sector. Faced with reduced capacity to finance its deficits by creating claims at the Central Bank, and by definition, the lack of further access to foreign borrowing, the fiscal deficit must be reduced by a combination of raising revenues and cutting public expenditures. While the process of adjustment involves both supply enhancing and demand constraining elements, the urgency of the task and the lack of access to additional resources and/or the slow pace at which the economy responds to price adjustment potentially means that greater reliance must be placed on demand management. In such circumstances, a reduction in the public sector deficit becomes an important short term aim of the policy reform program.

Such a reduction is not necessarily a 'cost of adjustment' (Khan and Knight, 1985). The fundamental aim is to bring total absorption into a sustainable relation with the economy's level of real output. Unsustainable levels of public sector spending, unmatched by increases in taxation to fund it, not infrequently lie behind the high level of domestic absorption. This is not to deny that the reduced spending will imply reduced real incomes for some groups. The real concern is whether those cuts fall disproportionately on the poor.

In the short-run the options for raising additional taxes are limited, and the burden of those taxes will not fall uniformly. Salary and wage workers in the modern and public sectors, consumers of finished imports and export producers typically find their disposable incomes reduced by additional taxes. The self-employed, farmers producing non-traded foods and professionals are relatively less affected by these tax increases.

Cuts in expenditure fall heavily on 'postponable' projects. Public employees and firms supplying services for investment projects (e.g., road building, earthworks, school or hospital construction) will be most directly affected. In addition to their direct influence on the rate of growth of aggregate demand, the mix of revenue and expenditure policies can influence the level and composition of output, the external deficit and the rate of inflation. Ideally, a country would want to choose those measures which, while reducing domestic absorption, also enhance the allocation of resources through the structure of relative prices.

There are severe methodological hurdles in assessing the incidence of expenditure. The public sector provides many types of services and is involved in many enterprises. The direct impact on, say, wages of a cut in expenditures represents only the initial impact (Catsambas, 1987) and a more complete analysis needs to trace through the final effective incidence, in a manner analogous to estimating the incidence of taxes, as distinct from impact on who pays the tax. If the government cuts health expenditure, it makes little sense to consider the impact on the poor of a fall in income flows to doctors in public hospitals. For some items of expenditure that constitute merit or public goods, identifying even the initial beneficiaries is a high impossible task. There is nothing even comparable to the statutory incidence on the tax side. However, given that the impact of expenditure programs is likely to be of much greater significance than tax incidence to the social income component of poor households, the proposed study should place much greater weight on this aspect of the distributional consequences of macroeconomic adjustment policies.

While, conceptually, increases in revenue can be used to reduce the fiscal deficits, it has been found that there is, in reality, limited scope to capture more revenues in the short run. Increasing taxation at a time when real incomes are declining is politically difficult. As the taxation receipts of most developing countries are weighted heavily toward indirect taxes, they typically are not a significant factor in altering the distribution of income. Most commodities consumed by low income groups are typically exempt from consumption taxes. In any event, it is very difficult to generalize about the incidence of indirect taxation because its distributional consequences are linked to the economic structure of individual countries (Bird, 1987). Surcharges on income taxes are likely to fall most heavily on the wage and salary workers in the modern and public sectors.

As trade taxes often form a major part of public receipts, increased tariffs on imported consumer goods can raise revenue and are typically progressive. However, the supply of evasion methods is highly elastic as a rule, and the administrative costs of effective policing can be excessively high. Increases in export taxes will come at a time when the domestic output of tradables needs to

be expanded and will typically fall directly on producers. The scope for shifting the tax burden to foreign consumers is generally quite limited. The producers of traditional exports tend to bear a higher share of taxes, reflecting a bias in the effective tax structure towards credits and exemptions for the export of manufactures and other non-traditional items. If the export taxes divert production to domestic markets, it may be the case that consumers are benefitted as a result of prices that are lower than would have prevailed in the absence of the interventions. The redistributive effect then hinges on the relative incomes of the producers who are taxed in order to subsidize the consumers. Export taxes are often implicitly applied through the operation of parastatal marketing boards, the evidence from which suggests that, not atypically, a tax on low income farmers is redistributed to domestic consumers or middle income bureaucrats.

The direct impact of cuts in public spending will fall on the wages and salaries of public sector employees, typically part of the middle income classes. Ceilings on the growth of public sector employment, often an underlying cause of excess demand, combined with limits on pay increases to reduce the real incomes of this group, can, potentially at least, often release resources that can be channelled to services for the poor. Conversely, if there is no targeting of the remaining resources, then public sector retrenchment may imply a reduction in social services.

A central issue, for which there is little clear empirical evidence, is the relation between the levels of public and private investment. If, through competing for resources (either physical or financial), public investment has crowded out that in the private sector, it does not necessarily follow that a reduction in public investment will be equivalent to a net decline in total investment. If there are profitable investment possibilities in the private sector, investment levels may rise. Much depends on the type of investment that was being undertaken by the public sector (as to whether there was crowding out or a complementary effect), on the credit policies (that determine the access to and price of funds to the private sector), and on the expected return to investment perceived by the private sector (in particular, whether a decline in economic activity associated with macroeconomic adjustment would adversely affect the climate for investment).

5.2.3 Social Expenditures and Transfers

Much attention was given in the 1970s to the possible worsening of the income distribution as a consequence of rapid rates of economic growth. It was argued that the lack of a trickle down would leave behind an increasingly impoverished

sector who were denied the benefits of economic growth. Were that the case, one might have expected the corollary to hold: that in a period of sustained recession, poverty would diminish. In fact, the evidence is to the contrary.

Throughout the period when real economic growth was proceeding in a significant and sustained manner, all indications are that the basic measures of human welfare improved, in many cases quite dramatically. But in contrast, the recessionary period of the 1980s has seen cuts in social spending, with both immediate and long-term consequences for welfare (Musgrove, 1987; Beharie, 1987; Inter-American Development Bank, 1986).

When reductions in public sector spending occur as part of a demand management strategy to reduce domestic absorption, the distributional consequences will depend on the exact form those cuts take. Public spending covers many areas including defence, justice, administration, social programs, productive enterprises and infrastructure. At the same time the expenditures may be for current outlays (government consumption) or for capital works (government investment). Expenditure elasticities which relate the change in a particular item to the total change in public spending can be constructed (Hicks and Kubisch, 1984). The results are quite sensitive to the time period selected, the coverage of countries, and the coverage of the public sector accounts (central versus state or local government) and to the extent to which any one category or type of expenditure is cut varies greatly.

Nor is it necessarily true that the magnitude of the cuts in, say, national education expenditures are a particularly useful guide. In the first place, it may be that capital programs are postponed in an effort to maintain current operating costs, raising the issue of the inter-temporal impact of the policies. Secondly, even small cuts in some essential items may lower the overall productivity to an extent very much greater than that suggested by the decline in overall spending; in other words the quality may be quite adversely affected. Thirdly, the cuts may fall in areas that have a disproportionately high cost to the poorest families. Politically vociferous middle and upper income urban classes may retain their claims to public resources for secondary and tertiary education, and for large hospitals, while the funds for rural primary schools and health posts suffer a real decline.

It may well be that total social service spending can be cut without any detrimental effects on the poor. Improved efficiency in the administration of the programs, the introduction of realistic charges for services by those who can afford to pay, and much greater targeting in the delivery of services to ensure that the poor are actually the beneficiaries are such examples. In some circumstances the leakages of benefits to the non-poor has been so great that cuts in public spending would have posed little or no threat to the welfare of the poor.

It is not uncommon for a wide range of goods and services to be provided by the public sector at prices below marginal costs. Increases in these prices can help improve the efficiency of resource allocation and reduce domestic demand. On the other hand, this may impinge directly on the incomes of the poor and raise inflation if the added costs are built into wage increases.

Cuts in social services often occur at the same time as a decline in employment accompanying a major contractionary period. As a consequence, public expenditure acts pro-cyclically, reducing the real incomes of households by cutting the social as well as the earned components of total income.

5.3 Structural Policies

There is a range of policy reforms aimed at achieving a restructuring of the economy and a restoration of economic growth. In contrast to the demand management policies which aim to achieve macroeconomic equilibrium for a given level of installed capacity, these structural programs are concerned with improving the efficiency of resource use and expanding the productive capacity of the economy. There can be no pretence that there are clear demarcations between these various groups of policies; in fact the impact of some demand management and switching policies might well be to increase investment and to encourage resource movements so that overall economic efficiency is enhanced.

In the main, however, the structural policies are those which involve some time lag. New institutional arrangements, increased supply of perennial crops, new investments in previously stagnant sectors all take time to plan, implement and come to fruition. It is the intention of this paper to focus on the short-term consequences and it is argued that much of the growth that occurs as a consequence of structural adjustment policies, including major trade liberalizations, a reduced role of the state in the economy, the realignment of relative prices and a redirection of investment, will not positively affect low-income groups in the short term.

Furthermore, there seems to be a widely held presumption that in the medium term, when such policies are expected to show a significant effect, the risk of a decline in real incomes of the poor is less. Better targeting of social programs, higher levels of output and employment, less intervention resulting in the seeking and capturing of rents, and less pressure to reduce public spending will all contribute to favorable distributional consequences. It is at this stage that the upper half of the 'J' curve takes over, if in fact such a pattern does describe the course of the real incomes of the poor throughout an adjustment program.

5.3.1 Market Liberalization

Market liberalization essentially involves removal of interventions and regulations to clear the way for the free flow of resources. In developing countries, product and factor markets suffer from controls and restrictions. Liberalization aims to identify and address these interventions with a view to create the conditions for the free flow of goods, services and factors and to introduce efficiency in the allocation of resources.

In foreign trade, exchange rate adjustment and/or tariff alignment are often considered by policy-makers, if at all, as policies of last resort. Initially, critical foreign exchange shortages are addressed by quantitative restrictions and other administrative measures. The immediate responses to critical balance of payments difficulties usually involve import restrictions, foreign exchange control, licensing of imports, prior deposits, quotas or a complete ban on "non-essential" imports and on imports that compete with domestic production. This system of controls assures continued automatic protection for inefficient import substitution. At this stage, imports may be limited to capital goods, with resulting adverse effect on exports. Hence export subsidies, rebates, tariff exemptions of imported inputs for exportable production with the aim of supporting exports directly, are instituted. But, these involve a complex administrative hurdle and much delay. By the time all these combinations of administrative allocation of foreign exchange are tried and exhausted, the exchange rate often becomes even more over-valued.

Similarly, the production and flow of goods, factors and services in the domestic market suffer from a host of administrative regulations. In agriculture, some producers are restricted to the production of one type of product but not other types. In some extreme cases, the technology of production is also determined by administrative fiat. Different pricing rules and access to inputs and outputs are common place. These result in leakages from government sanctioned beneficiaries of lower-priced inputs to those without similar access to the subsidized inputs; thus, creating the impetus for additional controls. Uniformly fixed pan-territorial prices for producers supplemented by various types and degrees of compulsion and, in a few cases, by out-right requisitioning have been excised to ensure access to agricultural products by state parastatals. This has been facilitated by setting-up roadblocks and check-points. As a result, national markets have been broken and parallel markets with wide price differentials across adjacent areas have evolved.

In the Sub-Sahara African (SSA) context, an efficient agricultural marketing arrangement can be decisive in averting the stagnation in agriculture, in improving the macroeconomic imbalances and in introducing a more equitable economic system. The state, in addition to reserving near-monopsony right for

itself in domestic products, has a pervasive role in export marketing. Prices paid to farmers are often far less than export prices. Marketing costs are in general expected to be higher in SSA due to the poor infrastructure. But, payment to farmers is further depressed by high explicit export tax rates or levels of taxation implicit in the pricing by these marketing agencies or due to the inefficiencies in their operation. The results are lower farm income and a distorted system of production incentives against tradable agricultural products, particularly exportables. In other cases, the privileges accorded to marketing agencies and/or trade restrictions have created incentives for smuggling.

To compensate for lower producer prices, inputs are usually subsidized. Often the provision and marketing of inputs such as fertilizer, pesticides, and credit fall under the state sector. Although input marketing and pricing is aimed to correct for the disincentives to production, it introduces a new set of biases by encouraging their use beyond the socially optimum level. Moreover, since these inputs are usually rationed, the priority input distribution favors big producers instead of the small producers whose marginal production is likely to be higher, thus, the input marketing and pricing system introduces both allocational and distributional inefficiency instead of correcting for distortions in the product market. For industrial goods, use of domestic sources of inputs is required before venturing to use imported ones. Following the same rationales of controls and interventions, the monopoly position created for domestic manufacturing of consumer goods is tackled by instituting price controls.

The distorting effects of these decisions have become obvious. The flexibility and a reasonable degree of certainty required for efficient resource allocation is lost. The price of goods, factors and services do not signal the real value of scarce resources. Once the "non-essential" imports are cut, there is no room for further administrative maneuvering. Running the system of controls itself uses up scarce administrative manpower. Even with best of intentions, decisions are often delayed. Incentives for rent-seeking activities, corruption and efforts to circumvent the government rules are enhanced. Controls, instead of taxes, charges and levies, also deprive the government of badly needed revenue.

Market liberalization is crucial to the success of price-induced policy changes. Policies that aim to align domestic relative prices to their international equivalents and to integrate domestic markets cannot produce the desired result unless economic agents observe the price signals. Exchange rate adjustment and changes in tariff and subsidy policy become fully effective in directing resources to productive sectors only if the changes in relative prices are known and become the basis of decision making. In policy initiatives, exchange rate adjustment and a review of the structure of import tariffs, taxes and subsidies is indeed essential. But, as a start, such a policy should involve the minimizing and gradual lifting of

the administrative restrictions that obstruct the smooth functioning of any price-induced policies. In export and domestic agricultural marketing, reducing existing inefficiencies, encouraging a more competitive environment and creating an integrated national market are a pre-requisite for a sound and broad-based agricultural policy. Failure in this regard makes the prospect of well-intentioned policies almost ineffectual.

Market liberalization should clear the way for the free flow of resources. Unifying the domestic market and legalizing existing parallel markets and the opportunities in smuggling will help to re-route transactions to the formal channels and ease the burden on state marketing agencies. In the process, however pre-existing rights to rent-seeking activities are eroded. New prospects in resource allocation and distribution are also created. Exchange rate adjustment, revision of agricultural output prices and change in tariff structure are likely to benefit the rural and agricultural sector only if the market is capable of relaying the signals properly.

5.3.2 Public Enterprise Reform and Privatization

Public enterprises (PEs) are a diverse set of firms fully or partly owned by the state and distinguished from other state functions by their sale of goods and services to generate revenue. The size and structure of PEs vary significantly and depend on the range of conditions that led to undertake the operation in the public sector in the first place. In most cases, the inclusions and exclusions of the PE sector, its organization, and mode of operation are often arbitrarily determined and reflect individual country's economic, historical, social, political and ideological circumstances and predilections.

PEs face and receive signals from the market just as do private firms. As public units, however, they are also subject to central control and direction which influence resource allocation effort and day-to-day management. Often PEs are set-up in response to private market failure to produce efficient outcomes. Market failure can occur due to the existence of public goods, externalities, information asymmetry, technological indivisibilities and thereby natural monopolies. PEs are viewed essential due to the underdeveloped nature of markets, limited resources of capital and skill in the private sector, differences between private and public sector returns, differences in the planning horizon (foresight) of the two, and willingness to take risk. PEs are also intended as a means to achieve social objectives such as the creation of employment opportunities and ensuring regional equity in the distribution of economic activities.

Comparison of the performance of PEs and private enterprises is often difficult. The performance of PEs is mixed. Their poor performance in the 1970s and 1980s has become among the central concerns of policy debate and reform

in recent years. Their large and growing claim on the budget and the fiscal, monetary and balance of payments implications of their domestic and foreign borrowing are responsible at least for part of the macroeconomic disequilibria. With the objective of improving efficiency various measures are being instituted. But, the contradictions in the objective for which PEs are established, the absence of competition, too much government interference in their day-to-day operation and the absence of incentives for managers hinder the attainment of the objectives of improving efficiency in the management of resources in their command. Measures to improve their performance should therefore be addressed to eliminate or minimize these shortcomings.

Market structure determines allocative efficiency. In cases where the number of firms is large (each having a limited market influence) privatization can be considered as a likely candidate for a reform measure. In cases where scale economies are absent, and operations divisible, privatization plays a crucial role for efficient resource allocation. In pursuit of profit, competition among private enterprises ensures full economic efficiency. This is possible for instance in agricultural marketing and truck transportation. But, for the private sector to thrive, market restrictions should be removed and entry and exit into the market should be made easy. Efficiency can also be introduced into the PEs if they can be made to compete with the private sector. This can expose the sector to the discipline of the market and thereby lead it to increase its efficiency.

The benefits from privatization, including joint venture arrangements, emerge from reduced political interference, a change in property rights and more effective financial management. The same efficiency standard can, however, be met if PEs are made to compete among themselves while maintaining financial profitability.

The objectives and rationale for PE and the prospects for privatization differ across sectors and countries. Privatization in the case of natural monopolies can actually be counter productive since it involves reduction in supply and an increase in price. Social services usually cannot be produced by the private sector in sufficient quantity and made available to consumers on the basis of ability-to-pay. Compromise of objectives may be involved if social objectives have to be met by the private sector.

Although some economic operations can be privatized, the conditions required for an efficient private sector conflict with the initial requirement and the processes of privatization itself. For instance, PEs, in many cases, emerge because of private market failure.

Where PEs are to be maintained, a strategy should be pursued which includes a clear definition and prioritization of the objectives for which PEs are established, and an explicit statement of the non-commercial goals together with their

costs and benefits. The PEs should be operated on a purely commercial basis using the profit to achieve social objectives. The level of autonomy and accountability of PE management should be enhanced and efforts should be made to avoid government interference in the day-to-day operation of enterprises. Attempts should be made to introduce a system of periodic review and monitoring of performance with yardsticks agreed upon by the government and PE, to institute appropriate managerial incentives, to improve the capital structure of enterprises and to provide skill up-grading programs.

5.3.3 Short-Term Supply Response to Price Oriented Adjustment

Agriculture is the largest economic sector in most developing countries. It is the major contributor to foreign exchange earnings and absorbs much of the labor force. However, the sector has not received the attention commensurate with its importance and there is generally a large divergence between stated intentions and policies. The specific disincentives to agriculture originate from policies that directly aim to keep agricultural prices low and/or from policies resulting from wide parastatal margins. Indirectly, policies that aim to promote import-substituting industrialization, cause over-valued exchange rates and create an inflationary pressure through expansionary fiscal and monetary policies produce similar disincentive effects. Through the effect of the latter, the depression in the relative price of agricultural goods is further compounded.

In the 1950s and 1960s, parts of the agricultural economics discussion and policy debate was dominated by the real or imagined perversity in supply response. The argument rested on the premise that the income effect of a price change could outweigh the substitution effect. As a result since a producer could decide to consume part of the increased income in terms of leisure such that labor supply, the main productive factor, would decline and thus result in reduced production. Recent empirical findings generated from restricted market conditions and quantitative restrictions seem to support this assertion (Bell, 1974; Berthelemy and Gnaegy, 1987; Bevan, Bigsten and Collier, 1987; Barnum and Squire, 1979; Yotopolous and Lau, 1974). But, under normal conditions and in the absence of restrictions in the factor and product market, there is wide evidence that farmers respond positively to price incentives. The type and quantity of products grown, inputs used and farmers' openness to technical and organization changes can be significantly influenced by a conducive pricing and macroeconomic policy environment.

Supply response is generally higher in the long-run and for individual crops than in the short run for aggregate agricultural production. Under conditions of fragmented markets, delays in the flow of information and farmers' attitudes

towards the persistence of policy changes, it may take some time for farmers to respond to the signals and to shift labor and capital from one crop to another. The lag in tree crops is longer than for annuals. Furthermore, the response in aggregate output depends on the existence of idle resources and the possibilities of bringing these resources into productive use, the availability and possibilities of adopting new technology, the agricultural sector's capability to attract labor and capital from other productive sectors, and the trade-off among individual crops.

Even here, there is wide difference both conceptually and in the interpretation of empirical estimates of elasticities depending on the data used for quantity and the relative price measure. For a subsistence crop, the production response, whether aggregate or for an individual crop, is generally lower than the response of marketed surplus. The latter response comes either from an increase in production or a decline in consumption or some combination of the two. Production, in turn, can be a result of acreage expansion or improvements in yield.

Recent policy prescriptions aiming at reversing the decline in agricultural output, aggregate economic growth and the volume of exports suggest adjusting agricultural prices upward, reducing parastatal involvement, improving their performance, cutting export taxes, devaluating the domestic currency and taking measures to keep domestic inflation low. These measures, in addition to their positive effect on growth, are expected to improve income distribution and equity since most of the poor reside in agricultural and rural areas. A positive growth and distributive effect is likely. But, as a higher producer price generates improved return to surplus growing farmers, it leaves pure subsistence farmers unaffected. Net purchasing farmers and non-agricultural households who are wage earners, on the other hand, are affected adversely. This conflicting outcome often creates a dilemma to policy-makers and determines the success in policy debate and policy prescription.

To conclude, it is important to reiterate the crucial role that liberalization plays in promoting efficiency in the use of resources. Of course, privatization, where viable, should be an integral part of such a liberalization program. But, privatization without liberalization and competition could amount to replacing one form of inefficiency, namely bureaucracy, with another form, that of the market.

There is a general reluctance on the part of policy-makers to launch programs of liberalization and privatization due to the real or imagined sub-optimal outcomes they expect, and/or equally important, due to existing vested interests in the status quo. As a result, concerted effort in this respect is very recent. The experience is therefore sketchy and review of results is at best mixed.

Finally, even if there is agreement on the efficacy of the program, converting thoughts into deeds is not easy. Recent experience has shown that a program of liberalization and privatization requires careful assessment and planning of what is to be liberalized or privatized, the timing and duration over which the program will be undertaken and needs a fairly extended period of learning-by-doing. Experience has shown that either due to resource limitations or lack of confidence, the private sector will not automatically fill the gap created by the cutback in the public sector. Therefore, it is noteworthy that an abrupt and pervasive government retrenchment from economic operations could have severe short-term repercussions and can engender the long-term success of the entire program.

Secondly, the government could clearly define whether the privatization program is open to nationals alone or whether foreigners could participate in the acquisition of the ventures open for privatization. In some cases, nationals may not have the financial capital, the managerial and the technical skills to take over the operation, in which case, the government should stand to support both by extending short and long-term capital and by training the necessary manpower. To attract and to promote foreign participation, if it is in its interest, the government should also introduce a program of reform in the investment codes, in the regulations governing foreign exchange repatriation, and reforms affecting the domestic capital market. Lastly, the government should instill a sense of confidence and assure economic agents that the program is real and persistent.

6. IMPLEMENTING ADJUSTMENT POLICIES

6.1 Order of Policy Changes

There is almost no theoretical foundation for analyzing the question of the 'optimum' order in which macroeconomic adjustment policies should be implemented. In fact the subject has scarcely been broached in the literature. What little can be said must be gleaned from some very fundamental propositions, combined with a growing literature documenting the experience of countries with major liberalization reforms, particularly in the Southern Cone (Corbo and de Melo, 1985; Edwards, 1984 and 1985).

A country experiencing major imbalances, reflected in high rates of domestic inflation and unsustainable levels of current account deficits, must face the immediate task of implementing an adjustment program. In so doing, it is logical to consider the extent to which the existing policies have contributed to the current imbalances. Not infrequently, it is evident that a large degree of government regulation in labor, financial and commodity markets lies at the heart of the problem. In an effort to ensure that the reform measures lead to sustainable economic growth, the country may well decide, either of its own volition or with the prodding of creditors and international agencies, to introduce a program of liberalization in conjunction with the adjustment measures.

This will involve the simultaneous introduction of a considerable range of new policies, and the order in which these are introduced can have a significant bearing on the sustainability of the reforms, and the outcomes of the adjustment program. For example, if the demand management policies place contractionary pressure on the economy as a whole, and this is reinforced by trade liberalization removing the protection previously afforded the import-substituting sector, then the resulting recession may be too severe to be sustainable.

It is likely that where there are serious imbalances, there will be pressures from international financial institutions that these should be reduced through appropriate demand management measures before attempting to proceed with liberalization. In other words, the size of the initial disequilibria is an important factor in considering the order of implementation. A necessary condition for a successful liberalization is a stable and competitive level of the real exchange

rate. This may not be easy to achieve when starting from a position of high inflation. If the macroeconomic adjustment program results in an appreciation of the real exchange rate as a consequence of the order and mix of policies that were adopted, the resultant squeeze on the tradables sector will place the liberalization at risk.

Financial deregulation at a time of large disparities between domestic and foreign interest rates may induce sudden capital inflows, and an accompanying appreciation of the real exchange rate. This will finance an expansion in domestic absorption in excess of real output. The increased demand will fuel inflationary pressures, which in turn will lead to further appreciation of the real exchange rate as the price of non-traded goods rises. However, if this is not expected to be sustainable, the pattern could suddenly reverse, and an economic boom be converted into yet greater recessionary forces.

6.2 The Timing of Changes

There is rather more speculation than hard evidence about the pace at which macroeconomic adjustment should proceed. In part this reflects the fact that the ability of economic models to predict the time paths of adjustment following a major policy change is still quite limited. The restoration of sustainable internal and external balances is a transitory problem (Huang and Nicholas). It could be argued that rapid shock treatment will restore the economy to equilibrium more quickly, and hence have a higher payoff than a drawn-out strategy of gradualism. In other words, if there are gains to be made from eliminating the disequilibria then they should be realized as soon as possible. Gradualism will only prolong the costs and delay the receipt of the benefits, so reducing the return to the 'investment' in the policy change.

From a distributional perspective, the case for rapid changes depends on the incidence and the severity of the costs in the short-run. There can be no presumption that those bearing the costs are in a position to do so without severe hardship, or that they will benefit in a commensurate manner when the economy has adjusted. This highlights the importance of the dynamic paths of adjustment and emphasizes the need to address these, in spite of the inherent difficulties that such an undertaking will face.

A rapid response in some Asian countries to the rise in the price of oil allowed their economies to continue to grow, in contrast to other countries where an appreciating real exchange rate and accelerating inflation were accompanied by low or negative real growth (Sachs, 1985). There is a general presumption that by acting early, rather than postponing the introduction of policies, and by selecting specific items for, say, the expenditure cuts, less overall austerity will be needed (Selowsky, 1987; Tanzi, 1987).

The two central aims of any adjustment process should be to minimize the overall costs of the adjustment to the economy and to minimize the impact on the most vulnerable groups. The two aims are clearly inter-related. By reducing the total cost of the adjustment, the amount to be borne by all groups will be lessened. It is reasonable to suppose that the impact on the poorest segments of the population will be, or at the very least potentially could be, lower in these circumstances. In this sense the aims are complementary. However, as with most problems involving multiple goals, there is an element of trade-off. It can well be the case that a certain adjustment policy, or more accurately, a set of policies, may contribute to minimizing the total cost of the adjustment, but may not necessarily minimize the impact on the most vulnerable groups.

How are the total costs to be minimized? There are two components to these costs. In the first place, the policies should avoid creating idle resources and loss of output. Foregone production imposes a serious and direct cost on the economy and through the associated unemployment has immediate distributional consequences. Secondly, the policies should minimize the frictional costs that are inevitably associated with the reallocation of resources. It is in relation to this second question that the matter of temporary versus permanent disequilibrium is important.

If the disturbances that lead to the crisis are identified as temporary, then it is important to adopt a set of policies that will not signal the need for major resource reallocations in the economy. The costs associated with such movements could not be viewed as an investment, as the resource movements would need to be reversed in the near future. In contrast, if the causes of the macro-economic disequilibria are of a permanent nature, then adjustments in the allocation of resources will be needed to respond to the changed structure of incentives. This will frequently involve a movement of resources from the home goods sector into the tradable goods sector.

It is almost inevitable that the costs of making these changes will rise, often steeply, the faster the adjustment program proceeds. Both the total costs and the burden on the poorest will generally be reduced if the adjustment process takes place over a longer period. The timing of the policies is therefore a potentially significant element in the distributional outcome of economic reforms and restructuring policies.

6.3 The Mix of Policy Changes

Correctly identifying the nature and source of the disequilibria is important for choosing the appropriate response. The particular mix of policies selected will have an important bearing on the distributional outcomes. If, for example, the problem is deemed to be temporary, the correct solutions will involve

temporary financing, either through borrowing or the use of reserves. The access to additional resources will obviate the need for reductions in domestic absorption and will alleviate possibly unfavorable distributional changes. However, if the problem is in fact of a permanent nature, application of temporary solutions will only postpone the eventual adjustments that will be required. By the time those adjustments are implemented they will in all probability need to be more severe, and will almost inevitably have unfavorable distributional consequences.

The converse may equally apply. If a set of policies is implemented to deal with a problem perceived to be permanent, but which in fact was only temporary, there may be adverse, and in fact unnecessarily severe, distributional implications. The likelihood of this type of error, given the political costs, is admittedly lower than seeking temporary solutions to permanent disequilibria.

Perhaps the overriding aspect of the question of the mix of policies in the present context is the extent to which a country introduces a blend of macroeconomic adjustment measures and policies directly concerned with protecting the poor during the period of adjustment. Modifying the overall policy reform strategy to ensure that excessive contraction is not imposed on sectors where there are vulnerable households, and targeting the existing — or even a reduced overall — level of spending on social programs to ensure that vulnerable groups receive adequate attention, are important aspects of the mix of policies that are adopted.

6.4 Interdependence of Economic Policies

The policies adopted in the OECD countries have a demonstrable impact on the macroeconomic performance of the developing countries (Dornbusch, 1985, 1986a). In an interdependent world where commodity and financial markets have become increasingly global in nature, it is axiomatic that there will be strong linkages between different groups of countries. While this paper has taken the domestic policies of the developing countries themselves as the principal focus, it is inevitable that the external environment which they face will influence their adjustment programs.

In addition to the policies of the developed countries, the external environment also involves the policies of international agencies, in particular the World Bank and the IMF, together with international trading rules, as influenced by the GATT and international commodity agreements. There has been considerable discussion in the literature on the role of international agencies (Goldstein and Monteil, 1986; Helleiner, 1983b; Katseli, 1983; Killick, 1982; 1984a; 1984b; 1986a; 1986b) and an analysis of the IMF's stabilization programs from a distributional viewpoint (Khan and Knight, 1985). There is no shortage of advice on how the Bank and the Fund might improve the conduct of their affairs

(Taylor, 1987). It is not the intention of this paper to add to that literature. There remains however, a less widely discussed aspect of the external environment, i.e., the influence of the economic policies of the developed countries.

There are a number of ways that influence can be manifested (Goldsbrough and Zaidi, 1986). Firstly, the external conditions can limit or modify the choice of the domestic policy package that a country can or would like to implement. Secondly, the outcome which is actually observed will reflect the influence of changes in those external conditions, as well as the response to the domestic policies. Thirdly, the sustainability of the domestic policies will be influenced by events external to the country.

Trade as an engine of growth has long been recognized as an important part of the linkage between the industrial and developing countries. In broad measure, that relationship has been empirically substantiated. The level of economic activity in the OECD will influence the demand for exports from the developing countries, the prices in world commodity markets, and interest rates (Sengupta, 1985). Furthermore, the extent of trade barriers, the flow of aid and credit, and the behavior of exchange rates are all potential vehicles through which the policies of the OECD are transmitted to the developing countries.

However, the matter is not simple. On one hand the effects will depend on the nature of the policy changes in the OECD. Increased economic activity due to an investment led expansion in the OECD might pull more imports from the developing countries; but at the same time if real interest rates were to rise, lending to LDCs could decline and simultaneously the cost of debt servicing could rise. On the other hand, the widely varying circumstances of the developing countries themselves preclude any general conclusions about the transmission of effects from the OECD. Some are net exporters and others are net importers of particular commodities whose prices or conditions of access may have changed. The level of outstanding debt differs markedly, and with it, the importance of changes in interest rates. Countries with high debts and low dependence on exports might benefit from a recession in the OECD if the fall in real interest rates were to be sufficient to offset the decline in the demand for their exports. In other developing countries, the trade effect may overshadow the debt servicing effects, and they would be helped by an expansionary period in the OECD.

In summary, it is impossible to generalize. In the present context, the important message is that when examining the response to domestic adjustment policies in a particular developing country, regard must be paid to changes in the external conditions. Sharp rises in real interest rates, a fall in commodity prices for exports, a rise in the price of imports and a decline in the foreign demand for traded goods can all frustrate the planned outcomes of a domestic

program of demand management and economic restructuring. Of even more significance for this study is the potential impact of these unforeseen shocks on the distributional consequences of the domestic program. It could conceivably be the case that due to, say, a marked fall in the export receipts for a particular crop, incomes to producers were drastically reduced. This could have a deleterious impact on poverty in that sector, quite apart from the fact that the country's own set of policy reform measures would have raised the relative price of this commodity in domestic currency terms, a move which could have been expected to have had a most favorable impact on the incomes of poor rural producers. Naturally, not all unforeseen shocks are harmful, and there will undoubtedly be circumstances in which what may have been an unfavorable outcome of the domestic policy mix is averted by an improvement in external conditions.

7. MODELLING APPROACHES

The purpose of this section is to provide a brief overview of some of the approaches that have been taken to the formal modelling of the distributional consequences of policy reforms. The central problem is to examine the impact of macroeconomic adjustment policies on the incomes of the poor. Ideally, a review of existing modelling approaches would be restricted to that subject. However, there does not exist a single example of such a study. In fact, it is only in the last decade or so that distributional concerns have been incorporated in empirical models of any types.

The problem is extremely complex. In the first instance a model would have to deal with the impact of macroeconomic adjustment policies on the performance of the economy in the short run. It would need to allow for a range of policy measures covering fiscal, monetary and exchange rate, market liberalization and privatization policies, and to map their impact through time on broad aggregate indicators such as real output, capacity output, interest rates, inflation, the current account balance and the level of net foreign assets.

The second step would be to trace the changes in these macro and aggregate variables to the level of economic activity by sector, and changes in the demand for factors occasioned by such changes in sectoral output. The next step is to take this factor income (or value added in each of the activities) and distribute it to institutions, from whence, in the next step, it is distributed as income to households. These may be disaggregated by type (e.g., rural or urban) and broken down by income groups. In order to account for all the changes in the real income of the household, both the earned income and the social transfers need to be accounted for, together with changes in relative prices. Finally, to consider the welfare implications, the effect of the policies on the intra-group distribution of income must be assessed, together with the changes in transfers and access to social services. Changes in the level and the pattern of demand are then fed back to be consistent with the output of each activity. Changes in investment and savings will follow, and will alter the pattern of asset ownership in the broadest sense (including physical and human capital) and hence alter the intertemporal pattern of income generation.

Models which encompass such a comprehensive sweep simply do not exist. Nor is it contemplated that one all-encompassing analytical scheme could, or should, be developed for the current study. The following is a synopsis of some

of the approaches that have been used to address parts of this complex, interrelated chain. The objective is to identify models relevant to the key parts of the problem at hand, and to obtain guidance about those aspects which can be set aside as not central to our purpose.

Before proceeding to selected examples of modelling approaches, it is important to clarify different concepts of the income distribution (Adelman and Robinson, 1987b). In the first instance, one may enquire about the functional distribution of income which describes the shares of value added accruing to primary factors of production (land, capital and labor). This can be broken down into different groups, reflecting the type of production, location, or sector to form the extended functional distribution. The second broad approach is the size distribution of income, whereby the total income is allocated to units (e.g., individuals, households, economically active) by their level of income.

Most of the theoretical, and a significant amount of the empirical, estimates concern the functional distribution of income, interest in which dates from the early classical economists. However, that interest centered largely on the effect of long-term growth on the shares of income going to primary factors. More recently, the linkage to policy reform has been incorporated through the proposition that short run adjustment takes place by altering the distribution of income among groups with different marginal propensities to save. In this way, the volume of savings necessary to match the investment requirements is generated for any given level of income (Taylor, 1979 and 1983). It is presumed that the recipients of labor and capital income have different propensities to save, and that a redistribution toward labor would improve overall equality in income distribution, although this link to size distribution is tenuous.

In contrast, the size distribution has been viewed largely from a microeconomic or individual perspective. This approach traces the size distribution of income by concentrating on the attributes of individuals; their sex, health, age, education and location. The structure of output and employment and factor rewards in the economy are taken as given. As Dervis, de Melo and Robinson note, "work in the size distribution tradition thus ignores both the importance of macroeconomic fluctuations and their impact on incomes in the short run ..." (1982, p.400).

In summary, the studies of macroeconomic adjustment that do address the distribution of income are concerned, at best, with the functional distribution. In contrast, those concerned with size distribution take as given the very fluctuations and adjustments that are the central concern of this paper. Neither the theoretical basis nor empirical precedents exist for an analytical framework that links short-run policy reforms to changes in the size distribution of income, in particular the concern with changes in the extent and severity of poverty.

7.1 Sector Models

There have been many models constructed to analyze the impact of policies in a particular sector. Recent examples that typify this approach are provided by Braverman et al. (1987) and Quizon and Binswanger (1983 and 1986).

The first is described as a multimarket analysis which has as its central core a series of behavioral equations that describe the interconnected supply and demand relations for a specified set of commodities. The approach is suited to the analysis of trade policies, taxes and subsidies, and allows one to estimate the effect on the government budget, on foreign exchange earnings, on changes in factor demands, and on consumer and producer welfare. In a country where a very large portion of the population is rural and macroeconomic adjustment has a direct impact on the agricultural sector through expenditure cuts and devaluation, or changes in the operation rules of marketing boards, the multimarket approach can provide a relatively straight forward, low cost modelling approach to the major impacts of policy changes coming through a reform program.

However, in the context of assessing the distributional consequences, the multimarket approach has two limitations. In the first instance, it does not explicitly link changes in the demand for factors to household incomes. This is an important aspect where changes in the level and mix of output imply direct and immediate changes in the demand for, say, landless labor, and hence on wage earnings. Secondly, there is no linkage to the rest of the economy, so that changes in the agricultural sector estimated by the model are not necessarily consistent with economy wide changes stemming from the overall reform program.

The linkages to the rest of the economy are more explicitly treated in the work of Quizon and Binswanger, who model the effect of productivity change and policy on the agricultural sector. This work is of particular interest because it analyses changes in the size distribution of income, for four income quartiles in both the rural and the urban sectors. The income of each group is determined by their supply of factors (labor, land and draught power), input prices, and non-farm income which is given exogenously. The real income of each of the groups is found by deflating the nominal income by a price index specific to that group's pattern of consumption. Migration is allowed for by treating the movement between the urban and rural sectors as a function of the real wage in the rural sector. This model illustrates the difference in policy impact when the economy is open to trade compared to a closed economy model.

7.2 Social Accounting Matrices

Social accounting matrices (SAMs) are a unified way to present a set of accounts for an economy that describe the circular flow (Pyatt and Round, 1985; Thorbecke, 1985, 1986, 1987a, 1987b; Robinson, 1986; Adelman and Robinson, 1986, 1987b). A SAM is a square matrix in which the rows depict the receipts and the columns the expenditures for as many groups as one wishes to specify. These 'groups' typically encompass:

- a. Production sectors or activities (eg. staple crops, export crops, perennial crops, livestock, fibers; various non-agricultural sectors such as manufacturing, services, financial, utilities etc);
- b. Factors of production (labor, capital) that receive as income the value added by the production sectors);
- c. Institutions (such as households);
- d. Capital account (to receive savings and make investments);
- e. Government; and
- f. Rest of the world.

The flows of products between the productive sectors are represented by an input-output table. A SAM can be viewed as an expanded input-output matrix, to which has been added the flows of the producing activities to the primary factors (the value added); the flows from these factors to institutions such as households (in the form of income for factor services) and governments (in the form of taxes), and eventually completing the circular flow of funds in the economy by tracing the demand for goods from the producing sector generated by households, government and foreign residents.

The SAM captures the flows across markets, where a movement of commodities or factor services is matched by a corresponding payment flow in the reverse direction. Of particular importance in the present context is the fact that in addition, the financial flows which have no real counterparts are also captured by the SAM (Robinson, 1986). These include for example the payment of transfers from government to the household sector. Remittances from foreign to domestic residents, or internal remittances from one group of households to another can, conceivably, be represented explicitly.

The double accounting that arises through the sums of the rows and columns provides a discipline on the consistency of the data often gleaned from disparate sources. It also ensures that all the flows in the economy are accounted for; i.e., no leakages out of, or injections into, the system are permitted. Every receipt by some agent is matched by a corresponding item of expenditure in the column of another agent.

A SAM establishes an initial set of conditions which can form the basis for an analysis of policies, after generating a post adjustment SAM to reflect the structure of output and the associated factor rewards and income distribution after the imposition of the policies. A SAM does not comprise a model of how the economy actually functions, and hence generates the new array of flows. To achieve that step requires that some behavioral assumptions be added. One can note at this point, however, that merely by having specified those flows in an organized, systematic and internally consistent manner is, of itself, an aid to identifying the key behavioral relationships. Naturally the process of specifying the structure of the flows cannot be divorced from what is known about the behavioral issues. The two matters inevitably proceed in a simultaneous rather than a sequential manner.

The simplest and most direct way to create a model of the economic processes based on a SAM is through a multiplier analysis. This allows us to predict how changes in some elements of the matrix will be reflected in changes of other flows. For example, one can ask: what would happen if government expenditure fell 10 percent, if export demand rose by 10 percent, or if investment fell by 10 percent?

These changes in final demand are translated to changes in sectoral output and factor demand, and finally to changes in the income of households by solving for the multipliers based on the static coefficients derived from a SAM. The coefficients are computed by dividing each element in the column by the column sum, under the assumption that they remain fixed over time. For this reason it is important to define those accounts in a manner which makes feasible the fact that the expenditure coefficients are constant over the length of run contemplated. However, as a SAM is a square matrix and the coefficients in every column must sum to unity, there is no inverse to the matrix. This dilemma is only resolved by specifying that one (or more) of the accounts in the SAM be exogenous. Obvious candidates are the government account, the foreign account or perhaps the capital account.

The post adjustment SAM is not independent of the choice of which account(s) to make exogenous. If the capital account is exogenous, for example, a demand driven model will result in which income responds to the stimulus of increased investment until a level is reached such that the savings from nominal income are sufficient to close the model by matching the exogenous rise in investment spending. Each choice of exogenous accounts implies a different form of macroeconomic closure and generates a different final solution.

In an application to United States agriculture, Adelman and Robinson (1986) demonstrate the use of a SAM to examine a range of policy questions, and importantly, to estimate the impact on the distribution of income. In addition,

they employ the decomposition of the multiplier matrix to find the direct and indirect effects of exogenous changes. They are able to compare the impact on the incomes of the poorest 40 percent of households stemming from a range of policies, including transfers, trade and price supports or input subsidies. They stress that in its basic form involving fixed coefficients, the SAM does not allow for substitutions in consumption and production arising from relative price changes, nor does it address resource allocation. However it does not preclude the insertion of richer behavioral specifications allowing for, say, profit maximizing by firms in the determination of factor demand, or a system of commodity demand equations to reflect utility maximizing behavior by consumers.

A SAM based approach is used by Drud and Grais (1983) to examine macroeconomic demand management in Thailand, tracing the consequences of short term measures including fiscal policies (a cut in government consumption; increased taxation of households and producing sectors), commercial policy (an increase in tariffs or export subsidies to reduce the external imbalance), and devaluation.

7.3 Computable General Equilibrium Models

The next step in the evolution of multi-sector models was to enrich parts of the SAM framework with behavioral and technical relations that describe how the flows are generated. This can be seen as a further step in going from a framework for the static organization of data to a consistent model. This evolution is surveyed by Thorbecke (1985), and the topic comprehensively treated in Dervis, de Melo and Robinson (1982).

Typically, CGE models have been more concerned with evaluating the longer term consequences of development strategies. They are real models concentrating on the implications of relative prices and ignoring the monetary side of the economy. The question of income distribution has been analyzed "in terms of comparative statistics between one equilibrium and another. Little is said about the adjustment process out of static equilibrium. This problem is of particular concern in the context of short run macro policy problems ... with disequilibria in either commodity or factor markets" (Bruno, 1979, p.9).

Robinson (1986) sketches the essential elements of CGE. The SAM structure provides a base (either explicit or implicit) which identifies the receipts and expenditures of each group of agents. These typically include producers, in different sectors or modes of production, and households. The government and foreign sectors are added to achieve completeness. The behavioral mechanisms have to be specified for each group of actors, and assumptions about the institutional environment imposed. Are consumers and producers maximizers;

do they respond to price signals; how are markets allowed to clear; are there fixed prices in some markets?

A summary of CGEs applied to agricultural price policies in six countries is given by de Janvry and Sadoulet (1987). Of particular interest is their comparison of the results of the CGEs with those obtained from partial equilibrium analyses, or multi-market studies discussed above. For example, an increase in output of food crop would tend to benefit consumers, a standard result of partial analyses. But when the income, employment, wage and price effects are allowed for (the very strength of a CGE approach), the result is less clear, and some groups of consumers may be harmed. The authors stress the importance of the wage determination mechanism in governing the distributional outcomes.

Steps have been taken to make the models more dynamic. If they are to be useful in assessing the short run distributional consequences, then this is an important development. Sarris (1986, 1987a and 1987b) applies a CGE fitted to a SAM for each of four countries to address the impact of policy reform in the short and medium run. The model incorporates labor migration, factor reallocation to various products according to their relative profitabilities, and a range of substitution possibilities. Dynamic adjustments occur in the allocation of capital to sectors, non-agricultural wage formation and labor migration. The distributional outcomes are limited to an analysis of the changes in rural and urban incomes, though conceptually a more disaggregated breakdown of households could be included. A range of adjustment policies is examined, including devaluation, cuts in public sector employment, and cuts in imports, government expenditures and transfers to households. While there was an improvement in the external and internal balances, real GDP fell in all years (up to 10), suggesting a strong contractionary effect.

The CGE models will all map the distribution of income from the productive sectors to factors of production; i.e., the value added in the productive sectors is allocated as factor rewards to primary inputs (labor and capital). However, interest extends beyond this functional distribution of income. This value added is then mapped to institutions, including households. The socio-economic classification of households is chosen to represent the major categories whose level and sources of income differ. The mapping to each of these mutually exclusive and exhaustive groups is made within the SAM or CGE framework. In order to address the question of poverty, or to construct the overall size distribution of income, it is necessary to consider the distribution within each of the groups. This last step is not typically part of the CGE structure, but is important, as the variation in income across groups often explains no more than one half of the total variance in incomes. Dervis, de Melo and Robinson (1982) review the two alternatives of generating information about the within-group variance from the

output of the model or imposing it exogenously. The distribution to households is derived from the incomes of the economically active individuals, after taxes and transfers. This requires a mapping based on household composition, which combines individuals from different sectors with dependents and unemployed members to form the income of the household. Adelman and Robinson (1978) provide a detailed discussion and an application to Korea.

8. WELFARE INDICATORS

In order to assess the impact of macroeconomic adjustment policies on a particular group of the population, there are three fundamental steps.

- (1) One must be able to *identify* the target group.
- (2) An *indicator* of the welfare of the individuals in the group has to be specified.
- (3) The *mechanisms* have to be defined whereby the policy instruments lead to *changes in the welfare indicator*.

For example, it might be the case that the target population is landless agricultural workers. The welfare indicator might be their nutrient consumption, postulated to depend on their real incomes and the relative price of food. The adjustment policies might have the result of increasing the demand for wage labor and raising domestic-output, marketing and prices of staple foods. The response of individuals (households) to these changes in their real incomes and the prices they face will be to adjust their food consumption with consequent implications for nutrient intakes. Some aggregate measure of their intakes will presumably respond, either increasing or decreasing.

The target groups may be exogenously identified by, for example, political concerns, social characteristics or data availability. Often, however, it is desired to identify the groups which are most deprived according to a specific welfare criterion such as income or nutritional status. In these cases choosing the indicator precedes identifying the target groups and the entire exercise typically occurs early in the analysis. The same indicator may of course be used much later in an analysis to examine the changes the policy instruments have had on the target groups.

Measures of the severity of poverty and the incidence of malnutrition can be viewed as welfare measures, or perhaps as correlated with them. But they have alternative interpretations as well: They are imperfect attempts to make operational and quantifiable the imprecise terms "poor" and "malnourished." In this light they do not attempt interpersonal welfare comparisons, but use specific criteria to make objective statements about the relative severity of poverty among socioeconomic groups. To understand the impact of structural adjustments on poverty, such measures are necessary.

However, without fear of contradiction, it can be asserted that none of these three basic steps is in any way a trivial task. Conceptual difficulties, measurement

problems, and limitations on the type and coverage of available data bedevil every stage of this exercise. Yet without resolution of these three steps, there is little prospect for any constructive contribution to come from further research. That resolution will doubtless be imperfect. What is needed is to specify the target population, to agree on some important indicator(s) of their well being, and to construct a measure, gross changes in which can be traced in an analytically defensible manner, to responses by the members of the group to changes in their real incomes (broadly conceived as all the earned and non-earned components including access to social services), and the prices they face. Only in this manner will it be possible to compare the implications for welfare of alternative economic reform policies. This step is seen as the most crucial if an assessment is to be made of the impact on nutrition of different policies to restore macroeconomic stability.

The purpose of this section is to provide a review, albeit extremely brief, of some of the key issues which underlie the three fundamental steps identified above.

8.1 Identifying the Poor and Measuring Poverty

8.1.1 Absolute versus Relative Poverty

It is not necessary to explain a concern for the poor, but it is useful to clarify what is meant by poverty and malnutrition. To begin with it is necessary to distinguish poverty and malnutrition from inequality in the distribution of income, expenditure, or consumption. Inequality may be undesirable and a major cause of poverty, but it is not the same thing. Poverty and malnutrition contain an element of absolute deprivation while inequality is relative to the rest of the population.

In section 7, two basic approaches to the measurement of the income distributional consequences were discussed. These were the functional and the size distribution of income. Changes in the functional distribution, i.e., the share of income going to primary factors of production, do not in and of themselves convey much information about the consequences of policy changes on welfare. At the very least they have to be supplemented by a mapping into the income of individual units. This step was described in review of the SAMs.

From this one can obtain the size distribution of income by, say, households. Information about changes in the share of income going to, say, the lowest 20 percent certainly gives a clue about the consequences of the policies, although at least in the context of many of the trade and liberalization policies whose distributional consequences have been analyzed, the size distribution of income is remarkably invariant with respect to a wide range of development strategies

(Adelman and Robinson, 1978), and incidentally with respect to alternative models (Adelman and Robinson, 1987a).

In contrast to the stability which tends to characterize the size distribution of income, the distribution of income to the different socioeconomic groups has been shown to be quite highly sensitive to policy changes (Adelman and Robinson, 1987b). "This means that the group composition of the deciles changes dramatically, even though the overall shares by deciles remain stable. Economic policy can thus be a very powerful instrument for reshuffling the incidence of poverty (and wealth) among occupational and socioeconomic groups without doing much to increase equity" (Adelman and Robinson, 1978, p.191.) Furthermore, there is significant variability even within a socioeconomic group, so that restricting an analysis to changes in the mean income or the share of income going to a group would provide a very incomplete picture of the distributional consequences.

For these reasons, it is proposed that further research should focus directly on the measurement of poverty, however defined, and not concern itself with changes in the distribution of incomes *per se*. Kanbur (1987) argues that there are good reasons for adopting a focus on poverty rather than inequality. From a policy perspective, major interest centers in changes in the extent of poverty under alternative policies. The absolute well-being of the poorest is of more immediate concern than changes in their position relative to the non-poor. In addition, in both the national and international policy debate about the nature and timing of macroeconomic adjustment, information about impact on poverty is likely to make it easier to achieve a consensus about measures aimed to modify the policies themselves or the role of compensatory measures.

8.1.2 Measures of Poverty

In theory, income is the preferred variable for measuring absolute and relative poverty because it measures the ability to acquire goods deemed necessary for the typical household or member of society. However where one individual in the family controls most cash income, actual consumption may not reflect the whole family's needs or desires. Consequently, consumption is a better measure of need satisfaction. In addition, consumption has less inter-temporal variation than does income and according to some forms of the permanent income hypothesis is a better measure of expected or average income than is measured income.

In empirical work, the choice is usually dictated more by data quality and availability than by theory. Consumption and expenditure are more easily and accurately measured and the detailed consumption data for specific items, in particular food, are frequently useful in their own right.

To differentiate the poor from the non-poor, a poverty line must be set. There are many techniques and the resulting poverty lines will have different properties and capabilities. For example, a minimum consumption vector of nutrient, clothing and housing needs may be defined and with the least cost bundle chosen and priced using linear programming. But households whose expenditures correspond exactly with the poverty line, but do not purchase the precise basket of goods, will be deficient in one or more nutrients.

Alternatively the poverty line can be based on observed market behavior to allow a typical low-income consumer just sufficient resources to freely purchase goods satisfying his minimum needs. As Sen has pointed out, both of these are useful and reasonable representations of "poverty." The choice should be determined by the desired use. For example, for a government program to supply food and clothing, the cost of the goods is appropriate whereas estimating the number of deprived people requires a measure which allows for consumer choice.

Consumption and income are continuous variables. The poverty line makes a discontinuous distinction between the poor and the non-poor. To the extent that poverty — as opposed to inequality — has an element of absolute deprivation, a few dollars may in fact make a large difference. But it is difficult to quantify needs even for purely physiological needs such as nutrition. As a result sensitivity analysis is important to test the robustness of any conclusions and recommendations. As Kanbur (1987, p.66.) says, "while a critical attitude to data is healthy, it should not stop us from using what data there are to the best of our ability."

Thus far we have dealt predominantly with identifying poor individuals. Identifying target groups or evaluating policy impacts requires measuring the severity of deprivation felt by a group based on its income distribution and the poverty line. Such a summary statistic able to assess the state of poverty in a nation is necessary for analysis, monitoring and evaluation, but involves a loss of information and requires a measure sensitive to several dimensions. Sen (1976) proposes three properties which he argues are fundamental to the notion of poverty: 1) that poverty is greater when the income of any poor person falls; 2) that poverty is greater when the number of poor people rise; and, 3) that poverty is greater when the amount of inequality among the poor increases. The severity of poverty is not influenced by the incomes of the non-poor but should be a function of the incomes of the poor. The most common poverty measure is the proportion of poor people within the population. This measure responds neither to the degree of deprivation or inequality. Recently there has been a convergence in this literature toward the use of a poverty measure that satisfies Sen's properties, and is simple to apply and is decomposable, so that extent of poverty in various categories can be compared (Foster, Greer and Thorbecke, 1984).

This class of poverty measures allows for varying degrees of sensitivity to transfers between poor households, by incorporating a parameter for poverty aversion. The larger this aversion, the more weight is attached to the extent that the poor fall below the poverty line is weighted by the shortfall.

The issues involved in the quantitative assessment of changes in poverty stemming from adjustment policies have been reviewed by Achdut and Bigman (1987), Bigman (1986) and Kanbur (1986a). A SAM or OGE model only provides an estimate of the change in the income of a certain group. Were it possible to specify those categories in a manner such that the overall variance of income was almost exclusively a function of differences between the groups, then changes in group incomes could be used directly to map changes in the level of poverty. Such is not the case however; intra-group variances in income are quite significant. Thorbecke and Berrian (1987, p.21.) note that if, for example, the "...CGE model estimates that real incomes of small farmers will go up 4 percent it is not at all clear that any of the poor small farmers will receive the additional income." Information about intra-group variance may come from survey data or by assuming a frequency density function such as log-normal distribution. Different approaches are outlined in Thorbecke and Berrian (1987).

Of particular relevance to the proposed study is the extension of the poverty line to measuring food poverty. An approach due to Greer and Thorbecke (1986) allows for regional prices and preferences to be reflected in the food poverty line, by estimating the relation between observed nutrient intakes (generally restricted to calories) and food expenditures. The poverty line is that level of expenditure needed to acquire a specified number of calories purchased at prices, and from foods, that reflect local conditions. The authors convert this to an implicit calorie deficit by calculating the amount by which an individual's consumption would fall short of requirements were they to consume a diet whose pattern was typical of the region, given their incomes and the prices they face.

Kanbur (1986a and 1987) shows how the poverty measure can be used to assess the impact of adjustment policies. The approach hinges on using a stylized representation of the changes induced by various policy instruments reflecting expenditure reducing policies, and analyzing how this affects the income of different groups. The impact of the policies is seen to be either additive or multiplicative; examples of the latter are changes in the price of an export commodity, which will raise incomes in proportion to farm sales, or a cut in food subsidies that will reduce incomes in proportion to food expenditures on subsidized items.

Using these methods, one can compute the change in the poverty index that will accompany a given change in policy, or the elasticity of poverty, with respect

to, say, a cut in food subsidies, or a contractionary demand policy that reduces incomes in a group by, say, 25 percent (Besley and Kanbur, 1987). This can be done across all socioeconomic categories that have been specified, in a manner such that overall change in poverty is decomposed among groups.

A logical extension of this poverty analysis is to reverse the question, and instead of asking what is the impact on poverty of this or that policy, ask what type or mix of policies would minimize (or at least reduce) the rise in the poverty index. For example, based on the use of decomposable food poverty measures, one could seek policies that minimized the negative nutritional impact subject to achieving a predetermined improvement in macroeconomic balances.

The other main use of poverty measures, assuming an additively decomposable measure has been used, is to decompose poverty according to the poverty of various subgroups which make up the society. A profile of poverty can be created from several poverty decompositions each along a different socioeconomic variable. Poverty profiles are limited in that each decomposition table is by one or two variables and other variables are not held constant. While such correlations are of limited use in pinpointing casual linkages, they provide useful information for formulating or evaluating policy. They are particularly appropriate in the initial phases of a study since they frequently suggest directions for further analysis.

8.2 Measuring Nutritional Status

Health and nutritional status reflect the status of many basic human needs. On the basis of earlier case studies, concern has been expressed that data on health and nutritional status show a significant and often severe loss of welfare (Jolly, 1984, 1985, 1986a, 1986b; Cornia, 1986a, 1986b, 1986c). The argument is made that such changes have been associated with the recession of the 1980s and the adjustment policies adopted by developing countries in response to it. Jolly concludes that "as it mostly operates at the moment, adjustment policy ...transmits and usually multiplies the impact on the poor and the vulnerable. The result, as shown in many countries, is rising malnutrition in the short-run" (1985, p.3).

Behrman (1986) provides a comprehensive review of the literature on the impact of macroeconomic policies on the health and nutritional status, highlighting the shortcomings in our theoretical and empirical knowledge. He notes that there are a number of mechanisms for buffering the potential negative impacts, through substitution in consumption toward cheaper nutrient sources, through dissaving (perhaps in some less than obvious form such as not investing in a child's education but rather adding him to the work force), through changes in energy output, through changes in labor force participation and behavior, and,

by implication, the time allocated to household production of child quality, by various household members.

None of this is to deny that there are significant changes in the real income of households. But it does caution that the household's responses may take a wide variety of forms; some of these will involve household incomes rising as incentives to production are restored, while in other situations incomes may fall. In the case of the latter, the impact of a fall in real income may be transmitted to other items, perhaps education, housing or clothing, rather than directly on health and nutrition. Certainly they represent a fall in income and investment, so that future real well-being, including health and nutritional status may be affected. Such intertemporal transfers however would not be identified by anthropometric and clinical measures of health status because they measure only short-run effects.

There are two ways of measuring nutritional status: output measures and input measures. Output measures look at actual performance — arm circumference, weight for height, average birth weights, or infant mortality rates for population groups. Input measures look mainly at measures of food consumption and occasionally at ancillary factors such as safe water, health facilities or pest control. Governments have more control over inputs, but the true efforts are represented by output.

Child anthropometric measurements are determined by many health and environmental variables, but nutrient consumption is the primary one. Arm circumference, skin thickness and most importantly, children's growth levels are all used. Child growth measurements can distinguish between chronic undernourishment and a recent short-term serious malnutrition, often an important distinction. Anthropometric measurements are most useful if combined with household socioeconomic data, in a process similar to the poverty profile.

Based on the principles of a Beckerian household production and time allocation model, Behrman (1987) outlines a rich specification for the analysis of health and nutritional status. A health production function is specified with nutrients, market inputs, individual attributes and time as arguments. He stresses that the relation between health status and nutrient intake may not be a straightforward one.

A mortality function is defined in terms of health status falling below a critical level, making mortality a health status indicator ("albeit extreme and irreversible") whose determinants are those of health status itself.

Nutrient intakes depend on food consumption plus the time and human capital of the food preparer (the "mother"). A utility function whose arguments include health, nutrients and mortality is maximized subject to a full income constraint, and the resulting first order conditions yield a set of reduced form

demand functions, whose predetermined variables include prices, wages, and human and physical capital. These reduced form equations describe the effect of the price and income changes stemming from the adjustment policies on the nutrient intakes, health status, food consumption and mortality, for given levels of assets, individual endowments and schooling of individuals in the household.

An empirical application would have to grapple with dynamic effects of asset accumulation and with the possible simultaneous determination of health status and wages. But from a short-run perspective, overlooking these may not be too serious a source of bias. Of more immediate concern is the data needed to estimate the system of reduced form equations. At the very least a household food consumption survey is needed, together with some measure(s) of health status, and information about other households characteristics. Of primary concern however will be the effect of income and price changes on food consumption and the associated implications for nutrient intakes. Increases in the prices of food staples are a major mechanism whereby the impacts of macroeconomic adjustment are transmitted to poor households in the short-run.

Policy reform ultimately affects the health and nutrition of individuals through changes in prices and incomes. "Prices are broadly defined to include the total cost to an individual or a household to obtain goods and services, whether from a private vendor or a governmental agency. If, for example, health clinic services are reduced as part of economic adjustment policies so that patients have to wait longer for free (in monetary terms) services, the total price of those services has increased" (Behrman, 1986, p.14). As a result, any mapping of the consequences for health and nutrition will inevitably have to follow estimates of changes in prices and incomes. Using health and nutritional status indicators is not a substitute for measuring real income changes at the household level. Such indicators can be used for additional insights into how particular dimensions of well-being adjust to severe economic changes. What is more, these are only two, albeit important indicators. Conceptually, one might include other basic needs such as education, shelter or clothing. For these reasons it will be important to incorporate a comprehensive index of economic welfare, in addition to the particular expression of that welfare through nutrition. The following section addresses this issue.

9. TOWARD A RESEARCH STRATEGY

9.1 A Research Strategy: A Synoptic View

In this section, some of the principal issues which have been addressed in the body of the report are drawn together. They constitute the basis for identifying the nature of the research strategy, and it is from this basis that are drawn the specific elements outlined in the final section. Four central matters are seen as key to the proposed study, and these are discussed first.

- (a) Of overriding importance to the entire paper is the focus of the research on poverty in general, and the nutritional status of the poor in particular. It is axiomatic that there will be distributional consequences of adjustment policies. What is of concern here is one dimension of those consequences, namely the impact on the nature and extent of absolute poverty. One aspect of poverty justifying particular attention is the nutritional status of the poor.
- (b) Second, it is proposed to focus on the short-run impacts on the poor. This has important implications for the design of the research. In the first place, the long-term effects of it take as a given that those policies whose fundamental objectives are to enhance economic growth and raise incomes through expanding the productive base of the economy, or increase aggregate supply through efficiency gains, have the potential to reduce absolute poverty through a supply response. The extent to which they actually do in the short-term and the reasons for their particular distributional outcomes represent an important branch of economic enquiry, relevant to the proposed research. In addition, addressing the short-run implications is consistent with a focus on poverty. Fundamentally, the issue is one of human welfare, and policies which reduce the real incomes of the already impoverished are a matter for serious and urgent concern. That those policies might lay the basis for economic recovery and higher real incomes in the future cannot constitute a defense for imposing significant cuts in the absolute incomes of the poor in the short-run. Above all else, there is nothing inherent in the process of stabilization cum structural adjustment that ensures that those who experience real income declines now will reap the subsequent benefits.

- (c) The third major aspect of the proposed research is the focus on domestic policies. There are both substantive and pragmatic reasons for this choice. Given the concern with poverty, this is rightly seen as the primary domain of internal political concern. Certainly, domestic policies do have large and direct distributional consequences, and there is some evidence to suggest that greater weight attaches to domestic policies than to external causes of macroeconomic imbalances. Policies to protect the real incomes and nutrition of the poor during periods of macroeconomic adjustment inevitably are very largely of domestic origin. It cannot be stressed too heavily that the external policies, both the domestic policies of other countries and the international economic environment, can and do have a significant bearing. They condition both the choice and the consequences of domestic policy actions. But to encompass the full range of policies relating to the international system of trade, finance, access to world capital markets, debt repayment and interest rates would simply expand the scope of the proposed research to cover an impossibly large set of issues.
- (d) Finally the proposed research is to provide quantitative estimates of the impact on the incomes and the nutrition of poor households, of different policies. A number of existing projects have provided a rich qualitative assessment of the experience of the 1980s. However, there is a need to go beyond either explaining the past or forecasting the future. In the first instance, past experience is a reflection of a multitude of forces and a complex series of interrelated policy reactions both domestic and international. Before and after comparisons are simply not a methodological approach which would lead to forming quantitative estimates of the impact of policy on the poor. They can provide clues and stylized facts, but if estimates of policy impacts are required, a greater degree of abstraction has to be imposed. Nor is it conceivable that forecasts could be developed. There are too many exogenous forces that will shape the course of future events, and many lie well outside the scope of the proposed research. The principal emphasis will lie on contributing information for domestic policy makers. They are seen as the primary clients. Improved knowledge about the impact on poverty of macroeconomic adjustment measures will help them in both the formulation of domestic policies and in their negotiations with international agencies.

9.2 Major Elements of the Research Strategy

9.2.1 Theoretical Framework

While the importance of theory to provide a framework for future research has been stressed, it is evident that there is no clear, straightforward set of theoretical propositions on which to base the study. The theory has acted as a guide to those factors which may be important in determining changes in the primary distribution of income. However, there is little theoretical guidance about the impact on the secondary distribution; the theoretical linkages between macroeconomic aggregates and the incomes of the poor are at best rudimentary, and substantive insights into the dynamics of the process of adjustment and its distributional consequences await development.

The major theoretical task is not, therefore, to provide a comprehensive structure for further research, but rather to amplify theoretical issues relating to particular pieces of the analysis. Close attention to theoretical concerns should help in the formulation of analyses for the determination of macroeconomic aggregates, of the functioning of labor markets, and of the determination of nutritional status.

Often economic theory only provides unequivocal predictions about the direction of an impact through a high degree of abstraction. In the process, some very relevant features of the real world may be bypassed. Even where the theory does permit the direction of the change to be predicted with confidence, the actual magnitude remains an empirical matter. For these reasons, there is a need to undertake empirical studies.

9.2.2 Overview of the Evidence

It is suggested that limited resources be devoted to a compilation of existing data for a broad, cross-section of countries. There is no presumption that such an exercise could provide sufficient detail to analyze the distributional consequences of economic reform policies. However, it is argued that such information could provide the basis for developing a series of stylized facts about the course of adjustment and its impact on some distributional indicators. The following list is intended as a guide to this information.

- Real GDP growth; total and per capita
- Changes in inflation and the current account balance
- Changes in output by sectors
- Level and composition of public sector spending
- Real wage rates and unemployment
- Changes in real exchange rates
- Changes in the level and composition of imports and exports
- Changes in consumption and investment spending

9.2.3 Country Case Studies

The purpose of country studies is to draw on the diverse and rich experience of the past; to extract from that experience lessons which will add to the stock of knowledge about the way an economy responds to macroeconomic adjustment policies and how the costs are borne by different groups.

In order that research can lead to generalizable results, it must draw on a sufficiently wide range of experiences; otherwise, it is at best, a recounting of the experience in some selected situations. Every one of these situations has its own peculiarities and unique features, and if only a small number are examined, it will be hard to create credible conclusions that might have some broad applicability.

By selecting a small number of countries, resources could be focussed on detailed assessments by analysts with specialized local knowledge. In contrast, greater coverage would lead to more widely applicable results. In part, this conflict is resolved by the two pronged approach. The first, outlined in the previous section, involves a compilation of results from a large number of countries using existing information available from international agencies. The second involves a series of more detailed case studies in selected countries.

In any event, the assessment of the evidence in a particular country faces the inescapable issue of establishing the counterfactual case; i.e., what would have happened if some other course of action had been taken. Income distributions will change even if a country opts to take no deliberate adjustment measures. The very fact that an economic crisis involves unsustainable disequilibria, guarantees there will be adjustment, whether deliberate or not. The process of adjustment will simply occur involuntarily in the absence of conscious policy actions. Note that even "doing nothing" is still a policy, as it will permit the adjustment to take place through say, an acceleration in the domestic inflation rate, the emergence of a black market in foreign currency, rising unemployment or a return to semi-subsistence production, etc.

The comparison of the income distribution before the economic reform program with that prevailing after is, nevertheless, an important part of the puzzle. It does mean, however, that careful attention has to be paid to what is meant by both "before" and "after". Selecting the distribution prevailing at the point of the crisis will generally not be appropriate, as by definition it reflects an unsustainable level of absorption which must have been going to change (Johnson and Salop, 1980; Addison and Demery, 1987b). Likewise, if the adjustment policies have included elements whose contribution to sustainable economic growth will not be evidenced in the short-run, but which may well lead to improvements in the distribution of income, then the perception of what is "after" needs careful thought.

None of this is to suggest that the actual experience of a given country should not be analyzed. It is both necessary and important to document that experience. It is improbable that the data and the analytical apparatus will be such as to conduct this step in a formal, rigorous manner. More likely it will form part of a narrative of the events, policies, reactions and outcomes, which collectively represent a rich body of evidence.

This narrative represents an important part of the country studies. It needs to document the background to the evolution of the macroeconomy; identify the causes of imbalances; give the policy responses that were chosen, and how these were conditioned by the political forces internally and the nature of the external environment; discuss the characteristics of the mix and timing of the policy changes; note changes in the external conditions, and distinguish between the intended and actual outcomes of the policies. In short, the problem is of such complexity that reliance cannot be placed solely on the results of an empirical analysis. This qualitative and descriptive stage not only highlights the variables and relationships that should receive attention in the particular country study, but also adds nuances and insights into the policy process that cannot be captured in the analytical model. But this approach alone is not sufficient to assess the effect of other policies that might have been adopted.

A primary purpose of the proposed research is to consider the effect of alternative policy choices in pursuing the macroeconomic objective (e.g., improved balance of payments, reduced deficit) on the real incomes of the poor. There are a number of ways in which this comparison of alternative policies can be conducted.

- (i) In principle, the evidence from a given country that has employed different strategies at different points in time could be examined. However, there are likely to be few cases where distinct experiences could be identified and where data was available over a sufficient length of time to enable the effects of different policy approaches to be sorted out.
- (ii) In a given country, one can pose the question: what would have been the outcome in terms of the real incomes of the poor if some alternative strategy had been employed? To conduct such a policy analysis requires that there be a model constructed to reflect the salient features of that economy which can be used to simulate the outcomes of policies other than those which were implemented. This would allow a comparison of the actual policy with an alternative policy, as well as an evaluation of the effects of a range of alternative policies. The analytical steps to do this are enumerated below.
- (iii) Finally, one can use a series of country studies, chosen to cover a range of circumstances and policy styles, and through a comparative analysis of their

experiences draw conclusions about the effect of different approaches to macroeconomic adjustment on the real incomes of the poor. In this manner, one can address the question: does the policy matter?

Both approaches (ii) and (iii) involve holding constant the effect of other influences; in (ii) this is done explicitly, while in (iii) it is done more informally, by having a sufficiently large sample of country case studies. It would be useful in this case to include one or more examples of countries where adjustment has not taken place.

We now turn to the question of implementing approach (ii), across a selection of case study countries. The central proposition is the need to be able to quantify the impact of adjustment policies on the welfare of the poor and to compare the outcomes of alternative policies. This means that formal analytical procedure has to be specified. At the same time, the value of the case studies is greatly enhanced if it is possible to generate results on a comparable basis. This will significantly strengthen the comparative analysis of country experiences proposed in (iii) and discussed in the following section.

To achieve this uniformity and thus the comparability, it is tempting to argue that the same methodological procedures should be applied in each case. For others, it is sufficient if there were to be general agreement about definitions, measures and concepts. Beyond that, the actual procedures followed should be essentially "free-form." Such an approach allows greater scope for reflecting the diversity of circumstances in each country. In fact, it could be argued that because of this diversity there is no one approach that is appropriate for all countries. Furthermore, the stock of existing analyses on which to draw, the availability of data, and the skills, creativity and interests of the country investigators will all differ markedly across countries.

All research projects involving country studies face this dilemma. As in most things, neither of the two end points of the spectrum offer satisfactory solutions, and a compromise has to be sought. A compromise will be found by identifying a minimum set of analyses common for all cases; where the resources exist this can be amplified. Exactly what is envisaged in that "minimum set" is the task of the remainder of this section.

The discussion will be aided by reference to Figure 9.1 which, while highly stylized, is intended to capture the main elements of the analytical scheme and to illustrate the key mappings. Before commencing a detailed discussion of the steps involved, it will be helpful to recall the key propositions of the project:

1. The focus of the research is on the linkages between stabilization and restructuring policies and the welfare of the poor. Of particular concern is their nutritional status.

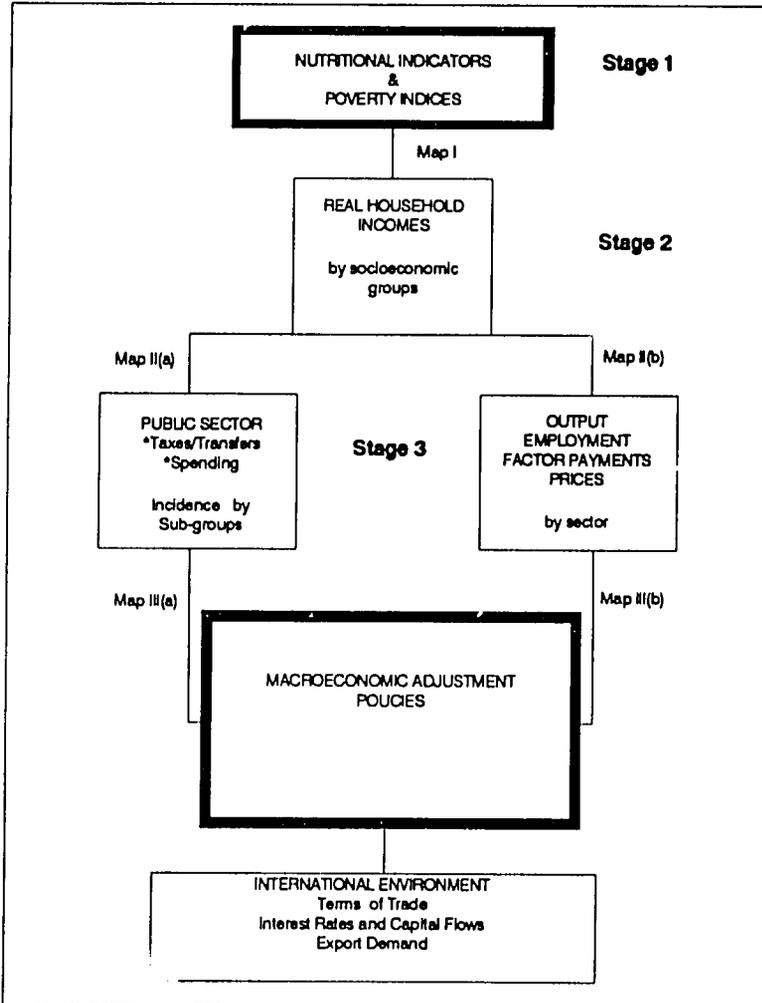


Figure 9.1
Schematic Outline of the Major Elements
of the Research Strategy for Case Studies

2. The research is concerned with countries facing unsustainable disequilibria in their internal and external balances.
3. As a consequence they will have to adopt certain measures to restore macroeconomic stability and to improve markets and the ability of the economy to respond to market signals.
4. Whatever course they adopt, including that of no deliberate change in policy, will have distributional consequences. These distributional consequences are to be addressed by focussing on overall poverty measures and the impact on nutrition in poor households.
5. The objective of the country studies is to provide quantitative estimates of the changes in these welfare targets in response to selected policy instruments.
6. It is recognized that achieving this objective requires both abstraction from many of the nuances and complexities of economic, institutional and human systems, and restriction of the scope of the enquiry.
7. Both the range of the targets and the instruments will be deliberately restricted, in an attempt to keep them within manageable bounds.
8. Of the many policy instruments, only a small subset relating to the short-run correction of macroeconomic imbalances will be considered. These will be further confined to domestic policy alternatives, rather than a wider range involving the country's international economic linkages through trade, factor movements and financial markets. This is done with the fullest recognition of the potential importance of these measures, but with the need to set some limits on the bounds of the exercise.
9. Market reforms aimed at improving economic efficiency will also be considered both in the context of changes in market clearing prices and in the context of changes in rents and subsidies. Wherever possible the modelling of spillovers from one factor or commodity market to other markets will be preferred to single market analysis.
10. The complexity of the issues is such that there is no one single integrated "model" that can predict the short-run impacts on nutrition and poverty of changes in policies starting from a position of macroeconomic disequilibria.

Figure 9.1 represents the skeleton of the analytical scheme for the country studies. The rationale for the proposed scheme is perhaps best understood by reviewing the figure from the top and highlighting the mappings that are involved at each stage. It is these that form the core of the analytical tasks. Note that the order of the presentation that follows is not in the order in which the analysis flows. The model actually flows from stage 3 (the macroeconomy) to stage 1

(household and individual welfare). The objective is to provide a broad guide to these tasks. The details and mechanics of implementing them are so inextricably tied to the circumstances and the available data in the case study countries that they can only be added by the country investigator.

Stage I

The target variables are the measures of welfare related to nutrition and the extent of poverty. These measures are a reflection of changes in a broadly defined measure of real household income. Depending on data, one can either construct a model which maps changes in real income stemming from changes in prices and assets into other welfare measures such as nutrition and consumption or go directly from prices and assets to consumption with a reduced form. The former mapping is indicated as map I in figure 9.1 while the latter implicitly encompasses both map IIa and map IIb as well as map I. Any of a number of measures can be employed, including consumption, anthropometry and various income and expenditure variables.

One preferred alternative for measuring the extent of poverty is to develop an overall poverty index, based on the intra-group variations in household income. That intra-group variance has been addressed in a number of ways, including the use of a two parameter lognormal distribution. The group-specific log variances have either to be estimated from survey data or taken from other sources. In cases where the individual is the unit of analysis, information on household composition for each group is needed to aggregate back up to a typical household in the group.

Such a poverty index is based on defining a poverty line, and represents a summary measure computed as the weighted average of the poverty gaps (e.g., the difference between the estimated income determined poverty line and the household's actual income) of all poor households. By using a form of a poverty index that is decomposable across groups, either longitudinal survey data or household models can be used to estimate the change in the magnitude and the extent of poverty. The overall change in poverty is then the weighted average of the changes in the poverty index for each sub-group of the population. This approach lends itself to subsequent policy discussions by identifying and quantifying the change in poverty in the sub-groups. A particular set of adjustment policies may result in, say, a 7 percent rise in the overall poverty measure, 86 percent of which, for sake of illustration, was concentrated among the informal urban sector and the landless agricultural workers. If decision makers are concerned with alleviating the welfare impacts of the economic reform measures through, say, compensatory policies, then the proposed method identifies where those efforts would be needed and the possible magnitude required. It would

also help in suggesting the type of policies which would minimize the distributional impact for particular groups.

This approach can further contribute to the policy debate by posing the question: what level or mix of policies would achieve the required improvement in the macroeconomic balances while not permitting the change in poverty in certain vulnerable groups to exceed a specified limit (including of course, no change)? By viewing the policy issue in this manner, the possibility arises of changes in the external, as distinct from the domestic, policies. If it were possible, for example, to obtain additional resources, then extra time might allow the attainment of the policy reform goals with a minimal increase in the level of poverty among the key vulnerable population sub-groups.

The same type of decomposable poverty measure can be applied to create a food poverty index in which the typical consumption pattern and the prices facing each of the sub-groups is explicitly reflected. While the specification of nutrient requirements is not a matter on which there is universal agreement, the approach does provide a practical, relatively straightforward means of quantifying the impact of the policy changes on nutrition, which is both decomposable and comparable across sub-groups. Whether or not it provides an adequate base for absolute assessments of nutritional adequacy is a question that can be left to one side in the present context.

There is a further dimension to which the decomposability of the food poverty index can be applied. Within any one sub-group, the changes in the index can be decomposed into the parts reflecting changes in income, prices, or transfer programs (e.g., food distribution or subsidy schemes).

These poverty measures require information on the household expenditure patterns, a minimal necessary data requirement for the study. In the event that additional household information is available concerning other measures of nutritional status, health indicators and human capital stocks together with food consumption, then it may be possible to estimate the behavioral equations underlying these variables. They can then be used to predict the consequences of changes in income and prices on the nutritional well-being of individuals. This is a potentially important step. Households do not comprise a homogeneous set of members and there is widespread evidence of intra-household variations in poverty. Age, gender, occupation and sector of employment may all affect differentially the welfare of individuals, and not just the household alone. Clearly the extent to which these matters can be incorporated will depend on the data available in particular countries.

Stage II

The essential part of the research is to identify the sources of income, broadly conceived, and to map the changes in those sources into the incomes of households in each of the socioeconomic groups. (Maps IIa and IIb) Before turning to these sources, it will be helpful to discuss the classification of households by socioeconomic groups.

These groups are ideally selected in order to maximize the differences in the between-group changes in incomes. They are not necessarily based on differences in the level of income per se. If two groups exhibit the same change in real incomes stemming from the adjustment policies then, variations in intra-group income aside, the distinction between them is of no particular interest in the present context. Furthermore, as the focus is on the poorest households, detailed disaggregation of the non-poor households is unnecessary. A possible caveat to this contention arises if an understanding is important of the political conflicts that condition the choice of policies. If there are potential changes in the real incomes of some politically powerful non-poor group (e.g., the military, the civil service, the urban professional or the agricultural capitalists) then it justifies a greater disaggregation of the non-poor.

Occupation, sector of employment, location, pattern of consumption expenditures, importance of public sector transfers and services, asset endowments and type of organization of production are all criteria that bear on the selection of these groups. A prototypical classification might include:

- Rural** - landless agricultural workers
 - small farmers
 - medium and large farmers
 - non-farm services
- Urban** - industrial and service workers (skilled and unskilled)
 - informal sector self employed
 - civil servants
 - professionals
 - capitalists

The final taxonomy should reflect the circumstances of the particular country, and will inevitably be conditioned by the data that is available.

The mapping into household incomes must reflect the sources of those incomes. To summarize the earlier discussion, the total real income of the household depends on:

- (1) Wage income
- (2) Non-wage income
- (3) Market prices of the most important commodities purchased
- (4) Taxes and transfers

(5) Benefits of services provided by the public sector.

The first three sources transmit changes in quantities and prices emanating from responses in the product and factor markets to adjustment policies (Mapping IIb), while items (4) and (5) reflect the incidence of costs and benefits of public sector programs which are subject to change under a policy reform program (Mapping IIa).

At this point it is necessary to recognize the importance of a full evaluation of income, including that earned through parallel markets. Estimates of the magnitude of underground earnings have been made for a variety of countries (May, 1985 and Tanzi, 1983). It takes some extrapolation, however, to attribute such earnings in the aggregate to holders of types of assets. For example, it is plausible that cocoa smuggling reflects border price differentials in various years, but to go from there to attributing such exchanges to different size farms and different locales requires some savvy. nevertheless, it is an endeavor that needs to be considered. In many cases, however, expenditure data are available and provide an alternative measure of long-run income in accord with a standard interpretation.

In order to provide a systematic and consistent framework in which to organize the data for these flows and to map them to changes in household incomes, it is proposed to use Social Accounting Matrices as a common unifying theme across the case study countries. This will permit a mapping from the sectoral breakdown of production through the primary factors of production to the disaggregated classification of household discussed above. The structure of a typical SAM will likely include the following accounts:

- (a) **Activities:** Corresponding to the producing sectors of the economy and disaggregated to reflect aspects that influence the incomes of the poor, and even more crucially, the impact of adjustment policies. Because of the importance of food in both the consumption and income generation of poor households, the agricultural sector should be disaggregated into such groups as tradables (export and cash crops; food staples) and home goods (some basic food crops). In the non-farm sector, agricultural processing is often an important activity, together with construction, utilities and services.
- (b) **Factors:** Labor and capital (including land)
- (c) **Institutions:** Households by socioeconomic groups and the government sector
- (d) **Capital Account:** Consolidates savings and allocation to investment goods.
- (e) **Rest of the World**

The organization of the information in the form of a SAM will itself provide much insight into the key flows that have an impact on the incomes of the poor. Even if it were not possible to proceed beyond this stage, considerable information can be gleaned from the structure of the SAM and the magnitudes of the various flows. Conceptually, the incidence of the public sector services can be incorporated. As changes in social service expenditures are potentially a powerful mechanism through which macroeconomic policies affect the income of poor households, particular attention should be paid to this step. It is recognized that the incidence of public sector expenditure is not a trivial task; it has been attempted for selected items in some countries. However the aspect is of such importance that to ignore it would in some cases overlook one of the major channels of the impact of adjustment in the short-run. Conversely, it can represent a mechanism whereby the real incomes of the vulnerable groups are protected or through which they receive compensation for falls in income arising from changes in prices and quantities in the factor and product markets.

It is necessary to specify how the original SAM (the pre-adjustment pattern of flows) is to be transformed to the post-adjustment SAM. The simplest and most direct procedure is to specify one or more exogenous accounts in stage III and construct a matrix of SAM multipliers. A range of experiments relating to exogenous changes can then be performed, and their impacts traced through mappings I and II to the poverty indices outlined above. The model is demand driven and as it assumes fixed coefficients, it does not allow for substitution possibilities. In the short run this may not be too serious for some parts of the economy. But in the consumer demand section, this could be a major limitation and the SAM multiplier approach would need to be supplemented with an estimate of the effect of implied price changes on consumption patterns, especially for basic foods.

However having organized the information in the form of a SAM, the stage is set for introducing a richer set of behavioral specifications, especially with respect to the producing sectors and the demand system. As the income effects of employment and wages are among the more significant paths, attention to the labor market is especially warranted. The evidence is that there have been both wage and employment effects; to capture these will mean specifying how the market clears in various sectors. Changes in non-wage incomes are likely to be important for the poor in the small farm and informal urban sectors.

The SAM-based behavioral model will typically have production functions for each of the producing sectors from which labor demand is derived. Factor incomes then follow from which the changes in income for the household sector are determined. The public sector behavior is probably best treated as exogenous in the present problem. Equilibrium in the product markets follows

from the supply and demand by sector. The model is completed with specification of the external sector and the condition for balance of payments equilibrium, together with the mechanism for the adjustment of savings to investment. Dynamic versions derive from a period-by-period updating of the sector-specific capital stocks and any technical change parameters. In the present study, even if attention were to focus solely on the impact over one year with an adequate mapping of the ensuing changes in incomes, this would be a significant step forward. Endeavouring to trace the dynamic paths when there are major initial macroeconomic disequilibria is probably attempting more than can reasonably be expected with the current state of the modelling arts.

Linking Policy Changes with Stage III

The final step in the link between the adjustment policies and their distributional consequences, is to map the specific policy instruments into the SAM-based framework that is used to represent the flows and model the exogenous changes. (Map IIIa and b) Many macroeconomic models have been used to consider the impact of policy reforms on macroeconomic aggregates. Given the focus on the distributional impacts, it would seem quite inappropriate for the country studies to engage in a macro modelling exercise, without any interaction with household or sectoral models.

The simplest way to deal with this module is to treat it as totally exogenous and to specify those instruments of adjustment policy that can be entered directly as exogenous changes to the SAM-based scheme. Shifts in the level and pattern of public spending, changes in tax receipts, transfers and subsidies, can all be handled in this manner. Similarly, the elimination of rents under parallel markets can be approached in this manner. To a large degree, these specifications of exogenous shifts in policy affect stage III through map II and subsequently, the remainder of the model. The extent to which these measures improve the macroeconomic imbalances is not something that can be assessed within the context of the proposed model. That would have to be determined as a separate exercise. However, it is argued that it is unrealistic to attempt to construct a single model that encompasses the entire spectrum.

9.2.4 Comparative Analysis

The comparative analysis or "cross-country" approach has been successfully applied in a number of research projects, including trade policy and employment, exchange rate and foreign trade regimes, trade liberalization, and agricultural pricing policy. Each is concerned with the effect of the policy environment on some aspect of economic performance. This approach exploits the rich and varied experience of individual countries. Many countries faced

similar external shocks in the 1970s and early 1980s stemming from oil prices, terms of trade changes and rises in real interest rates. Their policy responses differed, and the subsequent performance of their economies differed markedly (Sachs, 1985).

While our knowledge is quite incomplete, it is inconceivable that the striking differences in the inflation rates, in the real GDP growth rates and in the ratio of debt:exports which resulted from application of different adjustment policies were not accompanied by different distributional consequences. This cross-country experience is an important potential source of insights into the impact of policy choice on the real incomes of the poor and will form an important part of any future research.

The comparative analysis would be based on the individual case study results. In effect, it is a more detailed basis of comparison of experience across countries than can be gleaned from the overview. It would be specifically addressed as the question: does the choice of policy matter to the distributional outcome? In other words, given the range of experiences across countries, is there evidence that the type of policy mix chosen has a bearing on the impact of macroeconomic adjustment on poverty measures?

A further matter which can be addressed in the context of the comparative analysis is the extent to which the structure of an economy influences the outcomes of an economic reform program. Of particular interest is the impact of the foreign trade and exchange rate regime. There is a mounting body of evidence that the degree of outward or inward orientation of the economy has had considerable bearing on the growth of real per capita incomes, the rate of industrialization, levels of savings and the productivity of investment. Furthermore, the performance of the economy following exogenous shocks appears to depend, in significant measure, on these differences in structure that reflect alternative long-term development strategies.

There are two possible explanations of why the distributional consequences of macroeconomic adjustment policies may differ across economies with significantly different structures. In the first place, the inherent capacity of the economic system to adjust is influenced by both the structure of the economy and the set of policies prevailing at a point in time. More crucially, the same exogenous shock met with the same policy response in two contrasting economies can lead to different distributional outcomes. An economy whose long-term development strategy has been inward looking and whose internal markets are characterized by a high degree of intervention and regulation, may have fewer avenues for adjustment than one exhibiting a more outward looking policy with less constraint on the functioning of internal economic processes. It is conceivable that the burden of adjustment will fall more heavily on the poor

in the former case. Secondly, the type of policy response itself may be conditioned by the existing structure of the economy. Some policy options may simply not be available or not chosen. Examining hypotheses about the impact of macroeconomic adjustment on the welfare of the poor under differing policy settings is a potentially valuable part of the comparative analysis.

BIBLIOGRAPHY

ACHDUT, L. and D. BIGMAN (1987) *The Anatomy of Changes in Poverty and Income Inequality under Rapid Inflation: Israel 1979-1984* (Jerusalem: The Hebrew University).

ADDISON, T. and L. DEMERY (1985) Macro-Economic Stabilisation, Income Distribution and Poverty: A Preliminary Survey. Working Paper 15 (London: Overseas Development Institute).

ADDISON, T. and L. DEMERY (1986a) The Impact of Liberalisation on Growth and Equity. International Employment Policies, Working Paper No. 4 (Geneva: International Labour Office).

ADDISON, T. and L. DEMERY (1986b) The Consequences for Income Distribution and Poverty of Macroeconomic Stabilization: A Project Summary (London: Overseas Development Institute).

ADDISON, T. and L. DEMERY (1986c) Poverty Alleviation under Structural Adjustment (London: Overseas Development Institute).

ADDISON, T. and L. DEMERY (1987a) "Adjustment and Income Distribution: Some Methodological Issues," paper presented to a workshop on Analytical Methods for Estimating the Short-term Nutritional and Poverty Effects of Macroeconomic Adjustment Policies in Developing Countries. Cornell University, June 30 - July 2.

ADDISON, T. and L. DEMERY (1987b) "Adjustment and Income Distribution: Some Methodological Issues," paper prepared for a meeting on Methodological Issues in the Research on Adjustment and Equitable Growth Development Research Centre, OECD, Paris, April 21-25.

ADDISON, T. and L. DEMERY (1987c) Adjustment and Poverty: Notes on the Current Work of the International Agencies (London: Overseas Development Institute).

ADELMAN, I. and S. ROBINSON (1978) *Income Distribution Policy in Developing Countries: A Case Study of Korea* (Oxford: Oxford University Press).

ADELMAN, I. and S. ROBINSON (1986) "U.S. Agriculture in a General Equilibrium Framework: Analysis with a Social Accounting Matrix," *American Journal of Agricultural Economics* 68:95:1196-1207.

ADELMAN, I. and S. ROBINSON (1987a) Macroeconomic Adjustment and Income Distribution: Alternative Models Applied to Two Economies (Berkeley, Cal.: Department of Agricultural and Resource Economics, University of California).

- ADELMAN, I. and S. ROBINSON** (1987b) *Income Distribution and Development: A Survey*. Working Paper No. 436 (Berkeley, Cal: Department of Agricultural and Resource Economics, University of California).
- AHAMED, L.** (1986) "Stabilization Policies in Developing Countries," *The World Bank Research Observer* 1(1):79-110.
- AHLUWALIA, M.S. and F.J. LYSY** (1981) "Employment, Income Distribution, and Programs to Remedy Balance-of-Payments Difficulties," in W.R. Cline and S. Weintraub (eds.) *Economic Stabilization in Developing Countries* (Washington, D.C.: The Brookings Institution):149-190.
- AHLUWALIA, M.S., N.G. CARTER and H.B. CHENERY** (1979) "Growth and Poverty in Developing Countries," *Journal of Development Economics* 6(3):299-342.
- AKIN, J. and N. BIRDSAIL** (1987) "Financing Health Services in LDCs," *Finance and Development* 24(2):40-43.
- ARIDA, P.** (1986) "Macroeconomic Issues for Latin America," *Journal of Development Economics* 22(1):171-208.
- ARIDA, P. and L. TAYLOR** (1985) "Development Macroeconomics," mimeo.
- BACHA, E.L. and C.F. ALEJANDRO-DIAZ** (1982) *International Financial Intermediation: A Long Tropical View*. Essays in International Finance No. 147 (Princeton, N.J.: Princeton University).
- BARNUM, H.N. and L. SQUIRE** *A Model of Agricultural Household: Theory and Evidence*, World Bank Occasional papers, No. 27 (Baltimore: The John Hopkins Press).
- BEHARIE, N.O.** (1987) "Macroeconomic Adjustment, Government Expenditure on Health and Related Social Programs, and the Poor in Latin America and the Caribbean, paper presented to a workshop on Analytical Methods for Estimating the Short-term Nutritional and Poverty Effects of Macroeconomic Adjustment Policies in Developing Countries." Cornell University, June 30 - July 2.
- BEHRMAN, J.R.** (1987) "The Impact of Economic Adjustment Programs on Health and Nutrition in Developing Countries," in David E. Bell and Michael R. Riech (eds.), *Health, Nutrition and Economic Crises: Approaches to Policy in the Third World* (Boston: Oelgeschlager, Gunn and Hain Publishers, Inc.).
- BEHRMAN, J. and E.M. KING** (1987) "Macroeconomic Adjustment, Household Food Consumption, Nutrient Intakes and Health Status," paper presented to a workshop on Analytical Methods for Estimating the Short-term Nutritional and Poverty Effects of Macroeconomic Adjustment Policies in Developing Countries. Cornell University, June 30 - July 2.
- BELASSA, B.** (1981a) *Structural Adjustment Policies in Developing Countries*. World Bank Staff Working Paper 464 (Washington, D.C.: World Bank).

- BELASSA, B.** (1981b) Adjustment to External Shocks in Developing Countries. World Bank Staff Working Paper No. 472 (Washington, D.C.: World Bank).
- BELASSA, B.** (1982) "Structural Adjustment Policies in Developing Countries," *World Development* 10(1):23-38.
- BELASSA, B.** (1983) "The Adjustment Experience of Developing Countries after 1973," in J. Williamson (ed.) *IMF Conditionality* (Washington D.C.: Inst. for International Economics).
- BELASSA, B.** (1984) "External Shocks and Policy Responses in Sub-Saharan Africa: 1973-78," *Finance and Development* 21(1):10-12.
- BELASSA, B.** (1985) "Exports, Policy Choices, and Economic Growth in Developing Countries After the 1973 Oil Shock," *Journal of Development Economics* 18(1):23-36.
- BELL, C.** (1974) "A Note on 'perverse' Producer Response to Changes in Prices," in David Lehman, ed. *Agrarian Reform and Agrarian Reformism* (New York: Holmes and Meier Publishers, Inc.).
- BERTHELEMY, J.C. and F. GNAEGY** (1987) "The Agricultural Supply Price Elasticity in Africa, A Note on Peasants' Rationality in a Non-Walrasian Context," *European Economic Review*, Vol. 31, No. 8.
- BEVAN, D. L., A. BIGSTEN, and P. COLLIER** (1978) "Peasant Supply Response in Rationed Economies," *World Development*, Vol. 15, No. 4.
- BESLEY, T. and R. KANBUR** (1987) "Food Subsidies and Poverty Alleviation," paper prepared for a meeting on Methodological Issues in the Research on Adjustment and Equitable Growth. Development Research Centre, OECD, Paris, April 21-25.
- BIANCHI, A., R. DEVLIN and J. RAMOS** (1987) "The Adjustment Process in Latin America," paper presented to a workshop on Trade and Macroeconomic Policies' Impact on Agriculture, IFPRI, Annapolis, MD., May 27-29.
- BIGMAN, D.** (1987) *On the Measurement of Poverty and Deprivation* (Jerusalem: The Hebrew University).
- BIRD, G.** (1978) *The International Monetary System and the Less Developed Countries* (London: Macmillan Press).
- BIRD, R. M.** (1987) "A New Look at Indirect Taxation in Developing Countries," *World Development* 15(9).
- BLACK, S.W.** (1981) "The Impact of Changes in the World Economy on Stabilization Policies in the 1970s," in W.R. Cline and S. Weintraub (eds.) *Economic Stabilization in Developing Countries* (Washington, D.C.: The Brookings Institution):43-82.
- BOURGUIGON, F.** (1987) "Macroeconomic Adjustment and Income Distribution in Developing Countries: A Methodological Note," paper prepared for a meeting on Methodological Issues in the Research on

- Adjustment and Equitable Growth. Development Research Centre, OECD, Paris, April 21-25.
- BOURGUIGON, F., G. MICHEL and D. MIQUEU** (1983) "Short-run Rigidities and Long-run Adjustments in a Computable General Equilibrium Model of Income Distribution and Development," *Journal of Development Economics* 13:21-43.
- BOYD, D.** (1986) "Stabilization Policies and Poverty: The Case of Jamaica," University of the West Indies.
- BRANSON, W.H.** (1983) "Economic Structure and Policy for External Balance," in A.W. Hooke (ed.) *Exchange Rate Regimes and Policy Interdependence* (Washington, D.C.: International Monetary Fund):39-66.
- BRAVERMAN, A., J. HAMMER and A. GRON** (1987) "Multi-market Analysis of Agricultural Price Policies in an Operational Context: The Case of Cyprus," *World Bank Economic Review* 1(2):337-356.
- BRUNNER, K. and A.H. MELTZER** (eds.) (1982) *Economic Policy in a World of Change. Carnegie Rochester Conference Series on Public Policy* 17.
- BRUNO, M.** (1979) "Income Distribution and the Neoclassical Paradigm," *Journal of Development Economics* 6(1):3-10.
- BUFFIE, E.F.** (1984) "Financial Repression, the New Structuralists and Stabilisation Policies in Semi-industrialised Economies," *Journal of Development Economics* 13:305-322.
- BUFFIE, E.F.** (1986) "Devaluation, Investment and Growth in LDCs," *Journal of Development Economics* 20(2):361-380.
- BUITER, W.H.** (1986) *Macroeconomic Responses by Developing Countries to Changes in External Economic Conditions. Discussion Paper No. 93* (London: Centre for Economic Policy Research).
- CATSAMBAS, T.** (1987) "Distributional Implications of Government Tax and Expenditure Policies: Issues, Problems and Methodology," paper presented to a workshop on Analytical Methods for Estimating the Short-term Nutritional and Poverty Effects of Macroeconomic Adjustment Policies in Developing Countries. Cornell University, June 30 - July 2.
- CLINE, W.R.** (1983) "Economic Stabilization in Developing Countries: Theory and Stylized Facts," in J. Williamson (ed.) *IMF Conditionality* (Washington D.C.: Inst. for International Economics).
- CLINE, W.R. and S. WEINTRAUB** (eds.) (1981a) *Economic Stabilization in Developing Countries* (Washington, D.C.: The Brookings Institution).
- CLINE, W.R. and S. WEINTRAUB** (1981b) "Introduction and Overview," Ch.1 in W.R. Cline and S. Weintraub (eds.) *Economic Stabilization in Developing Countries* (Washington, D.C.: The Brookings Institution):1-42.

COOPER, R.N. (1971b) "An Assessment of Currency Devaluation in Developing Countries," in G.Ranis (ed.) *Government and Economic Development* (New Haven: Yale University Press):472-515.

COOPER, R.N. (1986) "Macroeconomics in an Open Economy," *Science* 233:1155-1159.

COOPER, R.N. (1971a) *Currency Devaluation in Developing Countries. Essays in International Finance No. 86* (Princeton, N.J.: Princeton University).

CORBO, V. and J. de MELO (eds.) (1985) "Liberalization with Stabilization in the Southern Cone of Latin America," *World Development* 13(8), Special Issue.

CORDEN, W.M. (1984) "Booming Sector and Dutch Disease Economics: Survey and Consolidation," *Oxford Economic Papers* 36(3):359-380.

CORDEN, W.M. (1985) *Inflation, Exchange Rates and the World Economy* (Oxford: Clarendon Press, 3rd edition).

CORDEN, W.M. (1986a) "Fiscal Policies, Current Accounts and Real Exchange Rates: In Search of a Logic of International Policy Coordination," *Weltwirtschaftliches Archiv* 122:423-438.

CORDEN, W.M. (1986b) *The Relevance for Developing Countries of Recent Developments in Macroeconomic Theory. Working Papers in Trade and Development No. 86/1*, National Centre for Development Studies, Australian National University.

CORNIA, G.A. (1986a) "Adjustment and the Children: An Outline for the Discussion of Growth Oriented Adjustment Policies with a Human Face," UNICEF, mimeo.

CORNIA, G.A. (1986b) "Orthodox Adjustment Policies: Their Direct and Indirect Effects on Children," UNICEF, mimeo.

CORNIA, G.A. (1986c) "Recession, Adjustment and Human Welfare in the First Half of the 1980s: An Overview," UNICEF, mimeo.

CORNIA, G.A., R. JOLLY and F. STEWART (1987) *Adjustment with a Human Face: Protecting the Vulnerable and Promoting Growth* (Oxford: Oxford University Press).

CORTAZAR, R. (1986) *Employment, Real Wages and External Constraint: The Case of Brazil and Chile. International Employment Policies, Working Paper No. 4.* (Geneva: International Labour Office).

CROCKETT, A.D. (1981) "Stabilization Policies in Developing Countries: Some Policy Considerations," *IMF Staff Papers* 28(1):54-79.

CUDDINGTON, J.T., P. JOHANSSON and K. LOFGREN (1984) *Disequilibrium Macroeconomics in Open Economies* (Oxford: Basil Blackwell).

de JANVRY, A. and E. SADOULET (1985) "Agricultural Price Policy in a General Equilibrium Framework: A Comparative Analysis," Working Paper

- No. 342 (Berkeley, Cal.: Department of Agricultural and Resource Economics, University of California).
- de JANVRY, A. and E. SADOULET (1987) "Agricultural Price Policy in General Equilibrium Models: Results and Comparisons," *American Journal of Agricultural Economics* 69(2):230-246.
- de JANVRY, A. and S. SUBRAMANIAN (1986) "The Politics and Economics of Food and Nutrition Policies and Programs: An Interpretation" (Berkeley, Cal: University of California).
- de MELO, J. and S. ROBINSON (1982) "Trade Adjustment Policies and Income Distribution in Three Archetype Developing Economies," *Journal of Development Economics* 10:67-92.
- de MELO, J. and S. ROBINSON (1980) "The Impact of Trade Policies on Income Distribution in a Planning Model for Colombia," *Journal of Policy Modeling* 2:81-100.
- DELL, S. (1981) *On Being Grandmotherly: The Evolution of IMF Conditionality. Essays in International Finance No. 144* (Princeton, N.J.: Princeton University).
- DELL, S. (1982) "Stabilization: The Political Economy of Overkill," *World Development* 10:597-612.
- DELL, S. and R. LAWRENCE (1980) *The Balance of Payments Adjustment Process in Developing Countries* (New York: Pergamon Press).
- DEMERY, L. and T. ADDISON (1987) "Food Insecurity and Adjustment Policies in sub-Saharan Africa: A Review of the Evidence," *Development Policy Review* 5:177-196.
- DERVIS, K., J. de MELO and S. ROBINSON (1981) "A General Equilibrium Analysis of Foreign Exchange Shortages in a Developing Economy," *The Economic Journal* 91:891-906.
- DERVIS, K., J. de MELO and S. ROBINSON (1982) *General Equilibrium Models for Development Policy* (Cambridge: Cambridge University Press).
- DETHIER, J-J. (1986) "Macroeconomic Adjustment Policies and Human Nutrition: The Macroeconomic Relationships" (Washington, D.C.: International Food Policy Research Institute), mimeo.
- DIAZ-ALEJANDRO, C. (1963) "A Note on the Impact of Devaluation and the Redistributive Effect," *Journal of Political Economy* 71:577-580.
- DIAZ-ALEJANDRO, C. (1965) *Exchange Rate Devaluation in a Semi-Industrialized Economy: The Experience of Argentina* (Cambridge, Mass.: Boston University Press).
- DIAZ-ALEJANDRO, C. (1981) "Southern Cone Stabilization Plans," in W.R. Cline and S. Weintraub (eds.) *Economic Stabilization in Developing Countries* (Washington, D.C.: The Brookings Institution):119-148.

- DIAZ-ALEJANDRO, C.** (1985) "Good-bye Financial Repression, Hello Financial Crash," *Journal of Development Economics* 19(1-2):1-24.
- DONOVAN, D.J.** (1982) "Macroeconomic Performance and Adjustment under Fund Supported Programs: The Experience of the Seventies," *IMF Staff Papers* 29:171-203.
- DORNBUSCH, R.** (1980) *Open Economy Macroeconomics* (New York: Basic Books).
- DORNBUSCH, R.** (1982) "Stabilization Policies in Developing Countries: What Have We Learned?," *World Development* 10(9):701-708.
- DORNBUSCH, R.** (1985) "Policy and Performance Links between LDC Debtors and Industrial Nations," *Brookings Papers on Economic Activity* 2:303-356.
- DORNBUSCH, R.** (1985) "External Debt, Budget Deficits and Disequilibrium Exchange Rates," in G.W.Smith and J.F.Cuddington (eds.) *International Debt and the Developing Countries* (Washington, D.C.: The World Bank):213-235.
- DORNBUSCH, R.** (1986a) The Effects of OECD Macroeconomic Policies on Non-Oil Developing Countries. World Bank Staff Working Paper No. 793.
- DORNBUSCH, R.** (1986b) Inflation, Exchange Rates and Stabilization. *Essays in International Finance* 165 (Princeton, N.J.: Princeton University).
- DRUD, A. and W. M. GRAIS** (1983) "Macroeconomic Adjustment in Thailand: Demand Management and Supply Conditions," *Journal of Policy Modeling* 5(2):207-231.
- EDWARDS, S.** (1984) The Order of Liberalization of the External Sector in Developing Countries. Essays in International Finance No. 156 (Princeton, N.J.: Princeton University).
- EDWARDS, S.** (1984) The Order of Liberalization of the Balance of Payments: Should the Current Account be Opened Up First? *World Bank Staff Working Paper No. 710* (Washington, D.C.: World Bank).
- EDWARDS, S.** (1985) "The Order of Liberalization of the External Sector: An Analysis of the Southern Cone Experience," (Los Angeles, Cal.: University of California) mimeo.
- EDWARDS, S.** (1987) "Sequencing Economic Liberalization in Developing Countries," *Finance and Development* 24(1):26-29.
- EDWARDS, S. and S. TEITEL** (eds.) (1986) "Growth, Reform and Adjustment: Latin America's Trade and Macroeconomic Policies in the 1970s and 1980s." *Economic Development and Cultural Change* 34(3).
- ESHAG, E.** (1983) *Fiscal and Monetary Policies and Problems in Developing Countries* (Cambridge: Cambridge University Press).
- FIELDS, G.S.** (1980) *Poverty, Inequality, and Development* (Cambridge: Cambridge University Press).

- FISHLOW, A.** (1985) "The State of Latin American Economics," Ch. 5 in *Economic and Social Progress in Latin America* (Washington, D.C.: Inter-American Development Bank).
- FOSTER, J., J. GREER and E. THORBECKE** (1984) "A Class of Decomposable Poverty Measures," *Econometrica* 52(3):761-766.
- FOXLEY, A.** (1981) "Stabilization Policies and their Effect on Employment and Income Distribution: A Latin American Perspective," in W.R. Cline and S. Weintraub (eds.) *Economic Stabilization in Developing Countries* (Washington, D.C.: The Brookings Institution):191-234.
- GELLER, T. and V.E. TOKMAN** (1986) "External Debt Crisis and Latin American Development Rethinking: Theories and Practice." Ch.7 of *Stabilisation, Adjustment and Poverty. International Employment Policies, Working Paper No. 1.* International Labour Office, Geneva.
- GLEWWE, P. and D. de TRAY** (1987) "Structural Adjustment and the Poor: Weathering the Period of Transition," paper presented to a workshop on Analytical Methods for Estimating the Short-term Nutritional and Poverty Effects of Macroeconomic Adjustment Policies in Developing Countries. Cornell University, June 30 - July 2.
- GOLDSBOROUGH, D. and I. ZAIDI** (1986) "How Performance in Industrial Economies affects Developing Economies," *Finance and Development* 23(4):6-9.
- GOLDSTEIN, M.** (1986) *The Global Effects of Fund-Supported Adjustment Programs.* Occasional Paper 42 (Washington, D.C.: International Monetary Fund).
- GOLDSTEIN, M. and P. MONTIEL.** (1986) "Evaluating Fund Stabilization Programs with Multi-country Data: Some Methodological Pitfalls," *International Monetary Fund Staff Papers* 33(2):304-344.
- GREER, J. and E. THORBECKE** (1986) "A Methodology for Measuring Food Poverty Applied to Kenya," *Journal of Development Economics* 24 (1):59-74.
- GROUND, R.L.** (1984) "Orthodox Adjustment Programmes in Latin America: A Critical Look at the Policies of the IMF," *CEPAL Review* 23:45-82.
- GUITIAN, M.** (1987) "The Fund's Role in Adjustment," *Finance and Development* 24(2):3-6.
- HANSON, J.A.** (1983) "Contractionary Devaluation, Substitution in Production and Consumption, and the Role of the Labour Market," *Journal of International Economics* 14:179-189.
- HARBERGER, A.C.** (1977) "Fiscal Policy and Income Distribution," in C.R. Frank Jr. and R.C. Webb (eds.) *Income Distribution and Growth in the Less Developed Countries* (Washington, D.C.: The Brookings Institution).

- HARBERGER, A.C.** (1982) "The Chilean Economy in the 1970s: Crisis, Stabilization, Liberalization, Reform," in K. Brunner and A.H. Meltzer, *Economic Policy in a World of Change. Carnegie Rochester Conference Series on Public Policy* 17:115-152.
- HARBERGER, A.C.** (1985) "Lessons for Debtor Country Managers and Policy Makers," in G.W. Smith and J.T. Cuddington (eds.) *International Debt and the Developing Countries* (Washington, D.C.: The World Bank):236-257.
- HARBERGER, A. C.** (1986) "Economic Adjustment and the Real Exchange Rate," in S. Edwards and L. Ahamed (eds.) *Economic Adjustment and Exchange Rates in Developing Countries* (Chicago: University of Chicago Press).
- HASAN, P.** (1984) "Adjustment to External Shocks," *Finance and Development* 21(4):14-17.
- HAZELL, P.B.R.** (1987) "Agricultural Growth Linkages and the Alleviation of Rural Poverty: Importance and Implications for Agricultural and Macro Models," paper presented to a workshop on Analytical Methods for Estimating the Short-term Nutritional and Poverty Effects of Macroeconomic Adjustment Policies in Developing Countries. Cornell University, June 30 -July 2.
- HELLEINER, G.K.** (1983a) *The IMF and Africa in the 1980s. Essays in International Finance* 152 (Princeton, N.J.: Princeton University).
- HELLEINER, G.K.** (1983b) "Lender of Early Resort: The IMF and the Poorest," *American Economic Review* 73(2):349-353.
- HELLEINER, G.K.** (1984) "Aid and Liquidity: The Neglect of the Poorest in the Emerging International Monetary System". Development Studies Program Working Paper A.14 (Toronto: University of Toronto).
- HELLEINER, G.K.** (1985) "Stabilization Policies and the Poor," paper presented to a conference on Government Policy and the Poor in Developing Countries (Toronto: University of Toronto, April 25-26).
- HELLEINER, G.K.** (1986a) "Stabilisation and Adjustment Policies and Global Poverty: Agenda for Change." Ch.3 of *Stabilisation, Adjustment and Poverty. International Employment Policies*, Working Paper No. 1 (Geneva: International Labour Office).
- HELLEINER, G.K.** (1986b) "Balance-of-Payments Experience and Growth Prospects of Developing Countries: A Synthesis," in S. Dell and R. Lawrence (eds.), *Balance-of-Payments Adjustments in the 1980s*. Special Issue of *World Development* 14(8):877-908.
- HEMMING, R. and A. MANSOOR** (1988) *Privatization and Public Enterprises, Occasional Paper 56*, (Washington, D.C.: IMF).
- HICKS, N. and A. KUBISCH** (1984) "Cutting Government Expenditure in LDCs," *Finance and Development* 21(3):37-39.

- HUANG, Y. and P. NICHOLAS** (1987) "The Social Costs of Adjustment," *Finance and Development* 24(2):22-24.
- IBARRA, D.** (1985) "Crisis, Adjustment and Economic Policy in Latin America," *CEPAL Review* 26:147-154.
- IGLESIAS, E. V.** (1984) "Latin America: Crisis and Development Options," *CEPAL Review* 23:7-28.
- INTER-AMERICAN DEVELOPMENT BANK** (1985) *Economic and Social Progress in Latin America: External Debt: Crisis and Adjustment*. Annual Report (Washington, D.C.: Inter-American Development Bank).
- INTER-AMERICAN DEVELOPMENT BANK** (1986) *The Social Cost of Crisis and Adjustment in Latin America and the Caribbean*. Economic and Social Development Department (Washington, D.C.: Inter-American Development Bank).
- INTERNATIONAL LABOUR OFFICE** (1986) *Stabilisation, Adjustment and Poverty*. International Employment Policies, Working Paper No. 1 (Geneva: International Labour Office).
- INTERNATIONAL LABOUR OFFICE** (1987a) "Appropriate Stabilisation and Adjustment Policies in Developing Countries," Ch.3 in *Background Document WEP2-46-04-02 for the Tripartite Meeting on Employment and Structural Adjustment* (Geneva: International Labour Office).
- INTERNATIONAL LABOUR OFFICE** (1987b) "The Recession and the Workers of Latin America," Ch.3 in *World Recession and Global Interdependence: Effects on Employment, Poverty and Policy Formation* (Geneva: International Labour Office).
- INTERNATIONAL MONETARY FUND** (1986) *Fund Supported Programs, Fiscal Policy and Income Distribution*. Occasional Paper 46 (Washington, D.C.: International Monetary Fund).
- ISLAM, S.** (1984) "Devaluation, Stabilization Policies and the Developing Countries," *Journal of Development Economics* 14(1-2):37-60.
- JOHNSON, O.** (1987) "Currency Depreciation and Export Expansion," *Finance and Development* 24(1):23-25.
- JOHNSON, G.** (1987) "Currency Depreciation and Imports," *Finance and Development* 24(2):18-21.
- JOHNSON, O. and J. SALOP** (1980) "Distributional Aspects of Stabilization Programs in Developing Countries," *IMF Staff Papers* 27(1):1-23.
- JOLLY, R.** (1985) "Adjustment with a Human Face," The Barbara Ward Lecture, 18th SID Conference, Rome, 1-4 July.
- JOLLY, R.** (1986a) "Adjustment with a Human Face: Context, Content, and Economic Justification for a Broader Approach to Adjustment Policy," mimeo.

- JOLLY, R.** (1986b) "The Crisis for Women and Children: What Can Be Done?" *Journal of Development Planning* 15:99-112.
- JOLLY, R. and G.A. CORNIA** (eds.) (1984) *The Impact of World Recession on Children* (New York: Pergamon Press).
- KALDOR, N.** (1983) "Devaluation and Adjustment in Developing Countries," *Finance and Development* 20(2):35-37.
- KANBUR, S.M.R.** (1984) "The Measurement and Decomposition of Inequality and Poverty," in F. van der Ploeg (ed.) *Mathematical Methods in Economics* (New York: Wiley).
- KANBUR, S.M.R.** (1986a) "Poverty: Measurement, Alleviation and the Impact of Macroeconomic Adjustment," paper prepared for the Fiscal Affairs Department (Washington, D.C.: International Monetary Fund).
- KANBUR, S.M.R.** (1986b) "Structural Adjustment, Macroeconomic Adjustment and Poverty; A Methodology for Analysis," paper prepared for the Country Policy Division, World Bank (Washington, D.C.: World Bank).
- KANBUR, S.M.R.** (1987) "Measurement and Alleviation of Poverty with an Application to the Effects of Macroeconomic Adjustment," *IMF Staff Papers* 34(1):60-85.
- KATSELI, L.T.** (1983) "Devaluation: A Critical Appraisal of the IMF's Policy Prescriptions," *American Economic Review* 73(2):359-363.
- KAUFMAN, D. and D.L. LINDAUER** (1986) "A Model of Income Transfers for the Urban Poor," *Journal of Development Economics* 22(2):337-350.
- KHAN, M.S.** (1987) "Macroeconomic Adjustment in Developing Countries: A Policy Perspective," *The World Bank Research Observer* 2(1):23-42.
- KHAN, M.S. and M.D. KNIGHT** (1981) "Stabilization Programs in Developing Countries: A Formal Framework," *IMF Staff Papers* 28(3):1-53.
- KHAN, M.S. and M.D. KNIGHT** (1982) "Some Theoretical and Empirical Issues related to Stabilization in Developing Countries," *World Development* 10(9):709-730.
- KHAN, M.S. and M.D. KNIGHT** (1983) "Sources of Payments Problems in LDCs," *Finance and Development* 20(4):2-5.
- KHAN, M.S. and M.D. KNIGHT** (1985) *Fund-Supported Adjustment Programs and Economic Growth*. Occasional Paper 41 (Washington, D.C.: International Monetary Fund).
- KHAN, M.S. and J.S. LIZONDO** (1987) "Devaluation, Fiscal Deficits and the Real Exchange Rate," *The World Bank Economic Review* 1(2):357-374.
- KHAN, Q.M.** (1985) "Will an IMF-Type Austerity Package Always Work? The Macroeconomics of Agricultural Development and Food Consumption in an Economy Inside its Production Possibility Frontier," Department of Economics, Bowdoin College, mimeo.

- KILLICK, T.** (ed.) (1982) *Adjustment and Financing in the Developing World: The Role of the International Monetary Fund* (Washington, D.C.: International Monetary Fund).
- KILLICK, T.** (ed.) (1984a) *The IMF and Stabilisation: Developing Country Experiences* (London: Heinemann Educational Books).
- KILLICK, T.** (ed.) (1984b) *The Quest for Economic Stabilisation: The IMF and the Third World* (London: Heinemann Educational Books).
- KILLICK, T.** (1986a) "Balance of Payments Adjustments and Developing Countries: Some Outstanding Issues," in M. Posner (ed.) *Problems of International Money: 1972-85* (Washington, D.C.: International Monetary Fund/Overseas Development Institute).
- KILLICK, T.** (1986b) "Developing Countries and the Changing International Financial Environment." Ch. 2 of *Stabilisation, Adjustment and Poverty. International Employment Policies*, Working Paper No. 1 (Geneva: International Labour Office).
- KILLICK, T.** and **M. SUTTON** (1982) "Disequilibria, Adjustment and Financing in Developing Countries," in T. Killick (ed.) *Adjustment and Financing in the Developing World: The Role of the International Monetary Fund* (Washington, D.C.: International Monetary Fund).
- KNIGHT, J.B.** (1976) "Devaluation and Income Distribution in Less-developed Economies," *Oxford Economic Papers* 28(2):200-227.
- KNOX, A.D.** (1985) "Resuming Growth in Latin America," *Finance and Development*: 22(3):15-18.
- KRUEGER, A.O.** (1983) *Exchange-rate Determination* (Cambridge: Cambridge Univ. Press)
- KRUEGER, A.O.** (1981) "Interactions between Inflation and Trade Regime Objectives in Stabilization Programs," in W.R. Cline and S. Weintraub (eds.) *Economic Stabilization in Developing Countries* (Washington, D.C.: The Brookings Institution):83-118.
- KRUGMAN, P.** and **L. TAYLOR** (1978) "Contractionary Effects of Devaluation," *Journal of International Economics* 8(3):445-456.
- LAKER, J.F.** (1981) "Fiscal Proxies for Devaluation," *IMF Staff Papers* 28(1):118-143.
- LAL, D.** (1980) *A Liberal International Economic Order: The International Monetary System and Economic Development. Essays in International Finance No. 139* (Princeton, N.J.: Princeton University).
- LAL, D.** (1986) "A Simple Framework for Analyzing Various Real Aspects of Stabilization and Structural Adjustment Policies" (Washington, D.C.: World Bank), mimeo.

- LANDAUER, D. (1988) "Parallel, Fragmented or Black? Defining Market Structure in Developing Economies," HIID mimeo.
- LAROSIERE, J. de (1984) "Does the Fund Impose Austerity?" (Washington, D.C.: International Monetary Fund).
- LECAILLON, J., C. MORRISON, H. SYNDER and E. THORBECKE (1987). *Macroeconomic Policies and Agricultural Performance in Poor Countries* (Paris: OECD).
- LLUCH, C. (1979) "Models of Employment and Income Distribution," *Journal of Development Economics* 6(1):31-46.
- MACEDO, R. (1986) "Brazilian Children and the Economic Crisis: The Evidence from the State of Sao Paulo," UNICEF.
- MACIEJEWSKI, E.B. (1983) "Real' Effective Exchange Rate Indices: A Re-examination of the Major Conceptual and Methodological Issues," *IMF Staff Papers* 30(3):491-543.
- MASSAD, C. and R. ZAHLER (1984) "The Adjustment Process in the Eighties: The Need for a Global Approach," *CEPAL Review* 23:83-106.
- MATEUS, A.M. (1987) "Impact of Stabilization Policies on Employment, Poverty and Traditional Sector in the Short and Medium Run," paper prepared for a meeting on Methodological Issues in the Research on Adjustment and Equitable Growth. Development Research Centre, OECD, Paris, April 21-25.
- MAY, E. (1985) "Exchange Controls and Parallel Market Economies in Sub-Saharan Africa," World Bank Staff Working Paper #711.
- McKINNON, R.I. (1982) "The Order of Economic Liberalization: Lessons from Chile and Argentina," in K. Brunner and A.H. Meltzer, *Economic Policy in a World of Change. Carnegie Rochester Conference Series on Public Policy* 17:159-186.
- McKINNON, R.I. and D.J. MATHIESON (1981) *How to Manage a Repressed Economy. Essays in International Finance No. 145* (Princeton, N.J.: Princeton University).
- MICHALOPOULOS, C. (1987) "World Bank Lending for Structural Adjustment," *Finance and Development* 24(2):7-10.
- MONTES, M.F. (1986) "Macroeconomic Adjustments and Their Effect on Living Standards in the Philippines" (Washington, D.C.: International Food Policy Research Institute), mimeo.
- MUSGROVE, P. (1987) "The Economic Crisis and its Impact on Health and Health Care in Latin America and the Caribbean," *International Journal of Health Services* 17(3):411-441.
- MUSSA, M. (1986) "The Effects of Commercial, Fiscal, Monetary, and Exchange Rate Policies on the Real Exchange Rate," in S. Edwards and L.

- Ahamed (eds.) *Economic Adjustment and Exchange Rates in Developing Countries* (Chicago: University of Chicago Press).
- NASHASHIBI, K. (1983) "Devaluation in the Developing Countries: The Difficult Choices," *Finance and Development* 20(1):14-17.
- NELSON, J. (1984a) "The Political Economy of Stabilization: Commitment, Content and Public Response," *World Development* 12(10):983-1006.
- NELSON, J. (1984b) "Short-run Public Reactions to Food Subsidy Cuts: An Interim Research Report" (Washington, D.C.: Overseas Development Council), mimeo.
- NELSON, J. (1984c) "The Politics of Stabilization," in R. Feinberg and V. Kallab (eds.) *Adjustment Crisis in the Third World* (Washington, D.C.: Overseas Development Council).
- NOWZAD, B. (1981) *The IMF and its Critics. Essays in International Finance* No. 146 (Princeton, N.J.: Princeton University).
- ODLING-SMEE, J. (1982) "Adjustment with Financial Assistance from the Fund," *Finance and Development* 19(4):26-30.
- OVERSEAS DEVELOPMENT INSTITUTE (1986) "Adjusting to the Recession: Will the Poor Recover?," Briefing Paper (London: Overseas Development Institute).
- PARKIN, V. (1983) "Economic Liberalism in Chile, 1973-82: A Model for Growth and Development or a Recipe of Stagnation and Poverty," *Cambridge Journal of Economics* 7(2):
- PENATI, A. (1983) "Expansionary Fiscal Policy and the Exchange Rate," *IMF Staff Papers* 30(3):542-569.
- PFEFFERMANN, G. (1986a) "Poverty in Latin America: The Impact of Depression". Report No. 6369 (Washington, D.C.: World Bank).
- PFEFFERMANN, G. (1986b) "The Social Cost of Recession in Brazil" (Washington, D.C.: World Bank), mimeo.
- PFEFFERMANN, G. (1987a) *Public Expenditure in Latin America*. World Bank Discussion Paper No. 5 (Washington D.C.: World Bank).
- PFEFFERMANN, G. (1987b) "Economic Crisis and the Poor in Latin America," *Finance and Development* 24(2):32-35.
- PINSTRUP-ANDERSEN, P. (1987a) "Macroeconomic Adjustment Policies and Human Nutrition: Available Evidence and Research Needs," *Food and Nutrition Bulletin* Vol. 9, No. 1.
- PINSTRUP-ANDERSEN, P. (1987b) "Nutrition Interventions" in: Andrea Cornilia, Richard Jolly, and Frances Stewart (eds.) *Adjustment With a Human Face* (Oxford: Clarendon Press).

- PINSTRUP-ANDERSEN, P.** (1988) "Macroeconomic Adjustment and Human Nutrition," *Food Policy* 13(1):37-46.
- PYATT, G.** (1987) "Adjustment with Equity: In Search of a Strategy," paper prepared for a meeting on Methodological Issues in the Research on Adjustment and Equitable Growth. Development Research Centre, OECD, Paris, April 21-25.
- PYATT, G. and J.I. ROUND** (eds.) (1985) *Social Accounting Matrices: A Basis for Development Planning* (Washington, D.C.: World Bank).
- QUIZON, J. and H. BINSWANGER** (1983) "Income Distribution in Agriculture: A Unified Approach," *American Journal of Agricultural Economics* 60(3):526-538.
- QUIZON, J. and H. BINSWANGER** (1986) "Modeling the Impact of Agricultural Growth and Government Policy on Income Distribution in India," *World Bank Economic Review* 1(1):103-148.
- RACZYNSKI, D.** (1986) "Politica Social, Pobreza y Grupos Vulnerables: Los Niños en Chile" (Santiago, Chile: UNICEF).
- ROBINSON S.** (1986) *Multisectoral Models of Developing Countries: A Survey*. Working Paper No. 401, Department of Agricultural and Resource Economics (Berkeley, Cal.: University of California).
- ROBINSON, S. and L. D. TYSON** (1984) "Modeling Structural Adjustment: Micro and Macro Elements in a General Equilibrium Framework," in H.E.Scarf and J.B.Shoven (eds.) *Applied General Equilibrium Analysis* (Cambridge: Cambridge University Press):243-271.
- SACHS, J.** (1986) "Managing the LDC Debt Crisis," *Brookings Papers on Economic Activity* 2:397-431.
- SACHS, J.D.** (1985) "External Debt and Macroeconomic Performance in Latin America and East Asia," in W.C. Brainard and G.L. Perry (eds.) *Brookings Papers on Economic Activity* 2:523-573.
- SALTER, W.** (1959) "Internal and External Balance: The Role of Price and Expenditure Effects," *Economic Record* 35:226-238.
- SANDERSON, W.C. and J.G. WILLIAMSON** (1985) *How Should Developing Countries Adjust to External Shocks in the 1980s? An Examination of Some World Bank Macroeconomic Models*. World Bank Staff Working Paper No. 708 (Washington, D.C.: World Bank).
- SARRIS, A.H.** (1986) "Stabilization and Structural Adjustment Policies and the Food and Agriculture Sector of Developing Countries," paper prepared for FAO, Rome.
- SARRIS, A.H.** (1987a) "The Impact of Macroeconomic Adjustment Policies on Real Incomes of the Poor brought about by Changes in the Agricultural Sector," paper presented to a workshop on Analytical Methods for Estimating the

- Short-term Nutritional and Poverty Effects of Macroeconomic Adjustment Policies in Developing Countries. Cornell University, June 30 -July 2.
- SARRIS, A.H. (1987b) "Agriculture and Non-agriculture Interactions and the Impact of Stabilization and Structural Adjustment Programs" (Athens, Greece: University of Athens).
- SCHLOSS, M. and V. THOMAS (1986) "Adjustment with Growth: Colombia's Experience," *Finance and Development* 23(4):10-13.
- SCHYDLOWSKY, D.M. (1982) "Alternative Approaches to Short-term Economic Management in Developing Countries," in T. Killick (ed.) *Adjustment and Financing in the Developing World: The Role of the International Monetary Fund* (Washington, D.C.: International Monetary Fund).
- SELOWSKY, M. (1987) "Adjustment in the 1980s: An Overview of the Issues," *Finance and Development* 24(2):11-14.
- SEN, A. (1976) "Poverty: An Ordinal Approach to measurement," *Econometrics* 44: 219-231.
- SEN, A. (1983) "Poor, Relatively Speaking," *Oxford Economic Papers*, 35(2):153-169.
- SINGH, I., L. SQUIRE and J. KIRCHNER (1985) *Agricultural Pricing and Marketing Policies in an African Context: A Framework for Analysis*. World Bank Staff Working Paper No. 743, 1985 (Washington D.C.: World Bank).
- SENGUPTA, A. (1985) "Recovery, Interdependence, and the Developing Economies," *Finance and Development* 22(3):11-14.
- SHEIKH, M. (1976) "Black market for Foreign Exchange, Capital Flows and Smuggling," *Journal of Development Economics* 3:9-26.
- SISSON, C.A. (1986) "Fund-Supported Programs and Income Distribution in LDCs," *Finance and Development* 23(1):33-36.
- SKIDMORE, T. (1975) *The Politics of Economic Stabilization in Latin America*. Discussion Paper in Economic History EH 75-27 (Madison, Wisconsin: University of Wisconsin).
- SOLIMANO, A. (1986) "Contractionary Devaluation in the Southern Cone: The Case of Chile," *Journal of Development Economics* 23(1):135-152.
- SPENCER, G.H. (1983) "Real Exchange Rate Adjustment to Terms of Trade Shocks," *IMF Staff Papers* 30(3):570-600.
- SPRAOS, J. (1986) *IMF Conditionality: Ineffectual, Inefficient and Mismatched*. Essays in International Finance No. 166 (Princeton, N.J.: Princeton University).
- STEWART, F. (nd) "The Statistical Imperative: Statistics for Adjustment with a Human Face," UNICEF, mimeo.

STEWART, F. (nd) "Alternative Macro-policies and Vulnerable Groups," UNICEF, mimeo.

SWAN, T. (1960) "Economic Control in a Dependent Economy," *Economic Record* 36:51-66.

TANZI, V. (1983) "The Underground Economy in the United States: Annual Estimates," *IMF Staff Papers*, 30 (2): 283-305.

TANZI, V. (1987) "Fiscal Policy, Growth and Stabilisation Programs," *Finance and Development* 24(2):15-17.

TAYLOR, L. and F. LYSY (1979) "Vanishing Income Redistributions: Keynesian Clues about Model Surprises in the Short Run," *Journal of Development Economics* 6(1):11-36.

TAYLOR, L. (1979) *Macro Models for Developing Countries* (New York: McGraw-Hill).

TAYLOR, L. (1981) "IS/LM in the Tropics: Diagrammatics of the New Structuralist Macro Critique," in W.R. Cline and S. Weintraub (eds.) *Economic Stabilization in Developing Countries* (Washington, D.C.: The Brookings Institution):465-506.

TAYLOR, L. (1983) *Structuralist Macroeconomics: Applicable Models for the Third World* (New York: Basic Books).

TAYLOR, L. (1985a) "IMF Conditionality: Incomplete Theory, Policy Malpractice," mimeo.

TAYLOR, L. (1985b) "WIDER Project on Stabilization Policy," mimeo.

TAYLOR, L. (1987) "Varieties of Stabilization Experience: Toward Sensible Macroeconomics in the Third World," paper prepared for the World Institute for Development Economics Research, Helsinki.

TERRELL, K. (1987) "A Methodology for Analyzing the Effects of Stabilization and Structural Adjustment policies on Labor Markets in Developing Countries," paper presented to a workshop on Analytical Methods for Estimating the Short-term Nutritional and Poverty Effects of Macroeconomic Adjustment Policies in Developing Countries. Cornell University, June 30 - July 2.

THORBECKE, E. (1985) "The Social Accounting Matrix and Consistency-type Planning Models," Ch.10 in G. Pyatt and J.I. Round (eds.) *Social Accounting Matrices: A Basis for Development Planning* (Washington, D.C.: World Bank):207-256.

THORBECKE, E. (1986) "Planning Techniques for Social Justice," paper presented to the World Congress of the International Economics Association, New Dehli.

THORBECKE, E. (1987a) "Impact of Stabilization and Structural Adjustment Measures and Reforms on Agriculture and Equity," paper presented to a

- Conference on Policy Reform and Equity in LDCs, Sequoia Institute, May 20, 1987, Washington D.C.
- THORBECKE, E.** (1987b) "Structural Adjustment and its Impact on Employment, Poverty and Rural Development: Methodological Questions and Issues," paper prepared for a meeting on Methodological Issues in the Research on Adjustment and Equitable Growth, Development Research Centre, OECD, Paris, April 21-25.
- THORBECKE, E. and D. BERRIAN** (1987) "Use of Computable General Equilibrium Models to Assess the Impact of Structural Adjustment Policies on Poverty and Nutrition," paper presented to a workshop on Analytical Methods for Estimating the Short-term Nutritional and Poverty Effects of Macroeconomic Adjustment Policies in Developing Countries. Cornell University, June 30 - July 2.
- THORP, R. and L. WHITEHEAD** (eds.) (1979) *Inflation and Stabilisation in Latin America* (New York: Holmes and Meier).
- TSENG, W.** (1984) "The Effects of Adjustment," *Finance and Development* 21(4):2-5.
- UNICEF** (1985a) Sri Lanka: The Social Impact of Economic Policies During the Last Decade (Colombo).
- UNICEF** (1985b) Adjustment Policies and Programmes to Protect children and other Vulnerable Groups in Ghana (Accra, Ghana).
- UNITED NATIONS** (1985) *Economic Survey of Latin America and the Caribbean. Vol 1.* Economic Commission for Latin America and the Caribbean (Santiago, Chile).
- VEDOVA, M.A.** (1985) "Economic Recession in Costa Rica and its Consequences on the Poor," Centro para la Promoción de la Ciencia y el Desarrollo Socioeconomico, Costa Rica, mimeo.
- VELLUTINI, R. de A.S.** (1985) "Macroeconomic Adjustments, Agricultural Performance and Income Distribution in Brazil after 1973: An Overview." IFPRI, mimeo.
- WEEKES-VAGLIANI, W.** (1987) "Adjustment Programmes and Equitable Growth: Agricultural and Rural Development." Development Research Centre (Paris: OECD).
- WEISNER, E.** (1985) "Domestic and External Causes of the Latin American Debt Crisis," *Finance and Development* 22(1):24-26.
- WIJNBERGEN, S. van** (1986b) "Exchange Rate Management and Stabilization Policies in Developing Countries," in S. Edwards and L. Ahamed (eds.) *Economic Adjustment and Exchange Rates in Developing Countries* (Chicago: University of Chicago Press).

WIJNBERGEN, S. van (1986a) "Exchange Rate Management and Stabilization Policies in Developing Countries," *Journal of Development Economics* 23(2):227-248.

WIJNBERGEN, S. van (1982) "Stagflationary Effects of Monetary Stabilization Policies: A Quantitative Analysis of South Korea," *Journal of Development Economics* 10:133-169.

WILLIAMSON, J. (1983) "On Seeking to Improve IMF Conditionality," *American Economic Review* 73(2):354-358.

WILLIAMSON, J. (ed.) (1983) *IMF Conditionality* (Washington D.C.: Inst. for International Economics).

WORLD BANK (1986) *Poverty and Hunger: Issues and Options for Food Security in Developing Countries* (Washington D.C.: World Bank).

WORLD BANK (1986) *Financing Adjustment with Growth in Sub-Saharan Africa, 1986-90* (Washington, D.C.: World Bank).

WORLD BANK (1987) "Protecting the Poor During Periods of Adjustment" (Washington, D.C.: World Bank), mimeo.

YOTOPOULOS, P.A. and L. LAU (1974) "On Modeling the Agricultural Sector in the Developing Economies: An Integrated Approach of Micro and Macroeconomics," *Journal of Development Economics* 1(2).