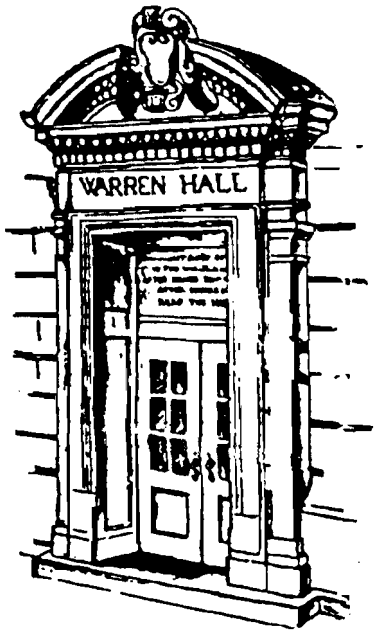

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Department of Agricultural, Resource, and Managerial Economics
Cornell University, Ithaca, New York 14853-7801 USA

INCOME DISTRIBUTION AND DEVELOPMENT

Ravi Kanbur

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INCOME DISTRIBUTION AND DEVELOPMENT

Ravi Kanbur*

Cornell University

Abstract

This paper is a review of the post-war literature on income distribution and development. It argues that the literature has cycled from one consensus to another, responding to emerging policy issues and new analysis. On the basis of the review, the paper identifies five areas that will command the attention of analysts in the coming two decades: ((i) country case studies rather than cross-country regression analysis, (ii) the phenomenon of increasing inequality, (iii) different levels of disaggregation, particularly distribution between broadly defined groups, (iv) intra-household allocation and (v) alternative modes of redistribution in face of inequality increasing tendencies.

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1. INTRODUCTION AND OVERVIEW

The second half of the 20th century has seen remarkably differentiated patterns of development in economies considered "poor" or "underdeveloped" in 1950. The focus of this paper is the interaction between these development processes and their accompanying distributional changes. The experience provides a rich set of variations with which to test different theories of development. It has also been used to draw policy inferences on the best way to influence or manage the process of development and distribution. The literature has cycled from one consensus to another—the latest being the position that it is possible to have both growth and equity. This paper will argue that such a consensus may be premature, that the trade off between growth and equity is ever present and needs to be negotiated by each society in the context of its own socio-political framework.

1.1 Some Ground Clearing

The topic of income distribution and development is vast, and there have been many surveys of it (e.g. Frank and Webb, 1977), Lecaillon et al. (1984), Adelman and Robinson (1988) and most recently, see the excellent and comprehensive review by Lipton and Ravallion (1995)). In order to keep this paper manageable, and to avoid undue repetition of what is already compiled in other surveys, it is necessary to limit and define the scope of this survey.

The relationship between the level and growth of per capita income (or consumption) and its distribution is the object of examination in this paper. We will, therefore, eschew broader notions of development, and broader notions of distribution. There has been much discussion of the limits to growth, and the impact of growth on cultural values and society, the implication being that increases in per capita national income do not necessarily capture all dimensions of national wellbeing. While accepting this in principle, we will retain our focus on income, noting only that whenever people vote with their feet, it seems always to be in the direction of economies with higher per capita income! By distribution we will mean the distribution of command over commodities, as conventionally measured by income or consumption. Thus we will not venture into broader conceptions of the standard of living, which incorporate such notions as "capabilities". These issues are treated elsewhere in this volume, and do not necessarily illuminate the line of argument we wish to pursue.

However, when we look at the evolution of the distribution of income or consumption we will consider the whole distribution. In other words, we will be interested in inequality, which measures dispersion across the whole distribution, as well as poverty, which focuses on the lower end of the distribution. Again, we will not go into the technicalities of measuring inequality or poverty—these are covered elsewhere in this volume. Nor will we discuss the data problems in developing countries, which are discussed, for example, in Lipton and Ravallion (1995).

Since we will be discussing the evolution of inequality, poverty and growth together, it is as well at this stage to consider the relationship between them. It is purely a matter of accounting, that any pattern of change in individual incomes will have associated with it a change in the mean of distribution, a change in measures of inequality, and a change in measures of poverty. In general, these changes need bear no relation one to the other. A restriction in the pattern of individual income changes can put more structure on the relationship between mean, inequality and poverty—again, in an accounting sense. Thus if all incomes change proportionately, mean independent measures of inequality such as the Gini coefficient will remain unchanged, and all standard measures of poverty will fall. On the other hand, if incomes change so as to leave the mean unchanged but move the Lorenz curve out uniformly, then most reasonable inequality measures will increase, as will a wide class of poverty measures which are sensitive to distribution among the poor (the behavior of the proportion of population below the poverty line, the head count index, is ambiguous).

Using these accounting properties, a number of authors (e.g. Kakwani, 1994) have offered methods for decomposing distributional change into a growth component and an inequality component, and poverty change into growth and inequality components. These decompositions are useful as far as they go, but they carry the danger of mechanistic extension. Thus, for example, from calculations which

show by how much poverty will fall if incomes increase proportionately, this being christened the "growth effect", it is easy to slip into using distributional neutral growth as the norm—or, rather to assume that distributionally neutral growth is policy neutral also. In fact, even to achieve distributional neutrality may require considerable policy intervention. More to the point, such macro level reduced form relationships between growth, inequality and poverty, miss policy and country specificities which we will emphasize in this paper.

In certain circles, it is common to view poverty as the overriding policy concern, and to treat inequality as being relevant only in so far as it affects poverty, in interaction with growth. The accounting procedures discussed above are the technical counterpart to this focus on poverty. In this paper we will look at the interactions between growth processes and both poverty and inequality. The reason for not treating inequality as a mere adjunct is, firstly, that even if poverty were the policy concern, the evolution of inequality may nevertheless give valuable clues about the development process and, secondly, that inequality is indeed a major policy concern. As we will discuss, the political economy of development and growth processes is much influenced by what happens to incomes in the middle of the distribution, and exorbitant increases in the very highest incomes, even though they have no effect on measures of poverty, have strong political consequences. At the same time, distribution and redistribution across socio-politically relevant groups turns out to be a key feature of the development process which influences policy choice—whether or not measured poverty or inequality changes one way or the other.

Thus, although we will spend some time in this paper reviewing the standard literature on the aggregative relationship between growth and distribution, our object throughout will be to drive for policy implications in the actual socio-political context of a given economy.

1.2 Overview

Post-war thinking on the interactions between development and distribution has gone through several phases. In the immediate post-war period, the focus was on rapid growth and industrialization (Rosenstein-Rodan, 1943; Mahalanobis, 1963). This is not necessarily because of a lack of concern with poverty and the poor. Rather, it was thought to be the best and quickest way of reducing poverty. To quote Rosenstein-Rodan: "It is generally agreed that industrialization of international depressed areas .... is the way of achieving a more equal distribution of income between different areas of the world by raising incomes in depressed areas at a higher rate than in the rich areas."

In fact, many writers in the 1950s discussed the distributional consequences of growth explicitly. Most famously, Kuznets (1955) put forward his "inverted U hypothesis", that inequality first increases and then decreases as per capita income rises. This hypothesis, and the literature surrounding it, will be discussed later in the paper. But the surplus labor model of Lewis (1954) also had implications that inequality would initially increase, as labor started to move from the low income traditional sector to the high income modern sector. Writing 30 years after his justly celebrated paper, Lewis (1983) once again emphasized why development and distributional might conflict—at least in the short run:

> "... development theorists have always maintained that growth is an inegalitarian process. This was so in the classical models of Smith, Ricardo and Marx. Theorists since the Second World War approached the subject differently, via the behavior of different sectors of the economy, but reached the same conclusion .... Development must be inegalitarian because it does not start in every part of an economy at the same time. Somebody develops a mine, and employs a thousand people. Or farmers in one province start planting cocoa, which grows in only 10% of the country. Or the Green Revolution arrives to benefit those farmers who have plenty of rain or access to irrigation, while offering nothing to the other 50% in the drier regions."

Of course in the longer term these benefits might spread more equally, but Lewis' (1983) characterization informs one of the central tenets of this paper, that the short run distributional consequences of growth processes need to be actively managed.

The 1960s and 1970s saw the culmination of concerns on the distributional consequences of fast growth, fed by the experiences of such countries as Brazil, where Fishlow (1972) argued that distributional worsening may even have been such as to increase poverty despite rapid growth. The Indian Third Five Year Plan explicitly took on distributional objectives. The President of the World Bank, Robert McNamara (1973), moved the focus of that institution away from heavy infrastructure towards rural areas and the urban poor. The World Bank's document "Redistribution With Growth" (Chenery et al., 1974)) is perhaps the best summary of development of thinking at that time, reflecting concern that growth of the type seen by Rosenstein-Rodan (1943), and promoted by the international community, might not benefit the poor because of its distributional pattern, and that active intervention was required to manage the distributional consequences of growth processes. Much of the discussion of "targeting" of transfers for poverty alleviation also comes out of this literature, and we will discuss this later on in the paper.

However, almost as soon as the "Redistribution With Growth" consensus was attempted, it gave way to a new development in thinking which, far from warning about possible conflicts and tradeoffs between growth and distribution, argued that both more growth and more equity were possible. There were four distinct strands in the literature which brought us to this point by the end of the 1980s. First was the large body of empirical work on the Kuznets hypothesis, which will be reviewed in this paper, which failed to find a systematic relationship between growth and inequality in the cross-section data. The second was the equally large body of work on the possible consequences of "structural adjustment" in the highly distorted economies of Africa and Latin America. It was argued that these distortions (e.g. exchange rate overvaluation) and other government interventions (e.g. large state owned enterprises) were both inefficient and inequitable. Policy reform in these dimensions would therefore not only raise national income but reduce inequality and poverty. This strand of the literature will be closely examined in this paper, but there can be no doubt that the focus on policy reform in the debt crisis decade of the 1980s was one of the reasons for decline in attention to growth-equity tradeoffs. The third strand in the literature was the phenomenal "growth-with-equity miracle" of East Asia. These economies, particularly with their development in the 1970s and 1980s, seemed to provide a clear demonstration that there need be no conflict—one could have more national income and more equity. This literature will also be examined in this paper, but one line of argument emphasized the role of equitable initial conditions—in terms of the distribution of land and of human capital—in ensuring that the proceeds of growth were distributed equally. This investigation of the East Asian story, which continued into the1990s (see World Bank, 1993) inspired and coincided with the fourth strand—a theoretical literature which helped to rationalize why equitable initial conditions might not only distribute growth equally but also facilitate higher growth than would otherwise take place. The fourth strand was the theoretical development of arguments about complementarities between reducing inequalities and increasing growth, which will be discussed later in the paper.

The World Bank's (1990) World Development Report and the UNDP's (1990) Human Development Report capture the consensus that seemed to rule at the start of the last decade of the 20th century. As Kanbur (1994) notes, it is remarkable how similar these two documents are in asserting that not only is growth necessary for poverty reduction but that growth and equitable distribution of growth can indeed go hand in hand—all that is needed are the right policies. The World Development Report, in particular, put forward a two-pronged strategy which seemed to resolve the conflicts highlighted in the earlier literature—the two prongs being labor-demanding growth based on private sector incentives, and public investment in basic education, health and infrastructure, these two prongs to be supported by social safety nets to protect the very poor and vulnerable. In their survey, Lipton and Ravallion (1995) argue that "While there are differences in emphasis, there now appears to be broad agreement on these basic elements of a poverty reduction strategy."

And yet, in the 1990s, a new wave of thinking has questioned the consensus that there is, essentially, no tradeoff between growth and equity. While much of the focus of this literature is on the short run, it has a pedigree going back to the 1950s and the work of Kuznets (1955) and Lewis (1954), and it is based on an examination of some uncomfortable evidence on the consequences of policy reform in Africa and Latin America, and even more recent evidence that, after two decades or more of growth accompanied by greater equity, inequality has begun to widen in some East Asian economies (Ahuja et al.; 1997). There is a possibility, therefore, that a consensus based on the experience of the 1970s and 1980s

may indeed be inappropriate for the 21st century. We will examine this phase of the literature in greater detail in subsequent sections.

An overview of the literature on development and distribution thus reveals four distinct phases. The first, from the 1940s to the 1950s saw growth and industrialization as the key to poverty reduction, and did not pay much attention to distributional consequences. The second phase, from the mid 1950s to the mid 1970s, emphasized possible conflicts between growth and distribution, and the need for intervention to manage the process. The third phase, from the mid 1970s to the early 1990s, led to the currently dominant consensus that if only policy can be engineered appropriately, there need be no conflict between fast growth and distribution, in the short run or in the long run. The fourth phase of the literature may be about to begin, and we would like to emphasize this phase in this paper. We predict that in the coming decade analysts and policymakers will rediscover the possibility of the conflicts and tradeoffs highlighted in the 1950s and 1960s, as the short run consequences of growth strategies and growth paths currently being followed, in the context of emerging global conditions, become clearer.

Throughout the four phases of thinking on development and within-country distribution, there has been an overlapping literature on between-country gaps in per capita income. The central issue has been one of whether per capita incomes were converging or diverging. This literature will also be reviewed in this paper, and we will argue that while the literature provides some interesting theories, and interesting tests, of development processes, its policy implications are not clear. If convergence is confirmed, say, should this give comfort to a poor country—simply to wait for convergence to take it to the levels of richer countries? We think not—countries can indeed accelerate or decelerate their growth though policies (including distributional policies), and there is no law of nature which determines a growth path.

We start in Section 2 with distribution within countries, and examine theories of relationships between development and distribution, and the evidence for such relationships. Section 3 moves to a discussion focussing, in particular, on the impact effects of policy reforms and alternative growth strategies. Section 4 considers three further aspects of distribution—national convergence, intra-household inequality and inter-group inequality, arguing that moving one level below and one level above the household introduces interesting dimensions to the way in which we think about development and distribution. Section 5 concludes the paper.

2. DISTRIBUTION AND THE PROCESS OF DEVELOPMENT

Perhaps the dominant strand in the income distribution and development literature is one which can be labeled "Kuznetsian" after one of the most famous contributions to the topic (Kuznets, 1955). The approach, in this strand of the literature, might be described as aggregative and reduced form in nature, because in its theoretical mode the ultimate interest is in deriving a relationship between measures of economy-wide income distribution and per capita incomes as the process of development evolves; and in its empirical mode the focus is on estimating this economy-wide relationship. The empirical literature sees the estimated relationship either as a test of a development process postulated, or as a stylized fact to be explained or taken into account in policy making. A central part of this approach is the attempt to either derive or test for the "Kuznets hypothesis" (which some have elevated to the Kuznets "law") that as per capita rises inequality first worsens and then improves. We will review the literature surrounding the Kuznets hypothesis, arguing that it is inconclusive—and for good reason. However, we will argue that this Kuznetsian literature, obsessed and focused as it is on the aggregative, reduced form relationship between inequality and per capita income, tends to overlook the rich texture of actual relationships between these two, which can be revealed by detailed case studies of development process—advice which was given by Kuznets (1955) himself, but is ignored by the literature which bears his name.

2.1 The Theory of Development and Distribution

Theoretical analysis of the interaction between development and distributions spans the full range from broad discussion to mathematical modelling, and from analysis which traces the link from development to distribution, to analysis which examines the linkage in the other direction. The classic analyses of Lewis (1954) and Kuznets (1955) take the approach of broad (though sophisticated) discussion

as opposed to mathematical modelling, and focus on the impact of development on distribution, viewing the changes in distribution as an integral part of the development process.

Thus the Lewis (1954) paper, which outlines a development process in which growth and accumulation starts up in a modern enclave in the economy, traces the distributional consequences of this process and the impact of the distributional evolution on development in turn. As is well known, in the complicate the model further, for example, by introducing unemployment or underemployment in the modern sector to go with the wage premium being earned by those employed (Todaro, 1969), but the basic analysis remains the same. The process of development, at least initially and possibly for a considerable length of time, leads to a widening of income disparities, so long as the impact on the traditional sector is not felt though rising wages and incomes there. As Lewis (1983) notes:

> "This failure of response is also one reason why development widens inequality: incomes rise in the enclave, while all around in the traditional sectors incomes may remain the same. The differences can be astonishingly wide: the average income in the cocoa region may be five times as high as the average income of surrounding provinces—a degree of difference which could not persist very long in a developed country, where labor would be flowing rapidly to the richer region and capital flowing rapidly to the poorer."

What Lewis has in mind in the above is the eventual exhaustion of the surplus labor pool in the traditional sector and subsequent increases in the wages in that sector. If nothing else happens, such as technical progress in the modern sector which can utilize labor more efficiently even at the higher wages, or technical progress in the traditional sector which can continue to release more labor, the initial impact of wage increases will be to reduce profits of capitalists in the modern sector and thus, given the accumulation assumptions a reduction in the rate of growth. This shows how complex the relationship between per capita income, or growth in per capita income, and inequality can become even in this very simple setting.

In the surplus labor phase of the Lewis (1954) model, inequality will rise with per capita income. Once the surplus labor phase ends, increases in per capita income will continue, but with narrowing inequality. This pattern is nothing other than the inverse-U hypothesized by Kuznets (1955) which we will come to presently. What about growth and inequality? In the simplest Lewis model, with no technical progress, diminishing returns in the modern sector will continually reduce profits and hence accumulation and growth—thus decreasing rates of growth will coincide with increasing inequality. It should then be clear that the introduction of technical progress will lead to even more complex and indeterminate effects—depending on exactly how the technical progress is modelled.

Thinking through the complex consequences of the simple Lewis (1954) model is a good antidote to the somewhat simplistic conclusions that are sometimes drawn from another classic paper in the literature—Kuznets (1955). In keeping with the nature of the discourse in the 1950s, Kuznets focussed on intersectoral shifts of population as a defining characteristic of the development process. Unlike the Lewis (1954) paper, however, he did not model the origins of this transfer, concentrating instead directly on the implications of this population transfer on the distribution of income, under various assumptions:

> "An invariable accompaniment of growth in developed countries is the shift away from agriculture, a process usually referred to as industrialization and urbanization. The income distribution of the total population, in the simplest model, may therefore be viewed as a combination of the income distributions of the rural and of the urban populations. What little we know of the structures of these two component income

> distributions reveals that: (a) the average per capita income of the rural population is usually lower than that of the urban; (b) inequality in the percentage shares within the distribution for the rural population is somewhat narrower than in that for the urban population .... Operating with this simple model, what conclusions do we reach? First, all other conditions being equal, the increasing weight of urban population means an increasing share for the more unequal of the two component distributions. Second, the relative difference in per capita income between the rural and urban populations does not necessarily drift downward in the process of economic growth; indeed, there is some evidence to suggest that it is stable at best, and tends to widen because per capita productivity in urban pursuits increases more rapidly than in agriculture. If this is so, inequality in the total income distribution should increase."

The above quotation from Kuznets (1955) is important for several reasons. First, it illustrates the non-formal style of reasoning which was prevalent in the 1950s—indeed, much of the recent literature is devoted to formalizing these basic insights. Secondly, and relatedly, it highlights a particular approach which starts from stylized facts and processes and drives for distributional implications. It is interesting that the subsequent literature, which models development processes more formally and in greater detail, often judges itself by whether or not it can produce "Kuznets-like" results. Thirdly, and finally, note that the focus of attention in this Kuznetsian discourse is to explain or derive a widening in the distribution of income as development starts. This is to be set against the subsequent focus of the Kuznetsian literature on whether or not there was a "turning" point where, eventually, inequality would start decreasing with development. Interestingly, as we shall discuss presently, the empirical evidence on the basis of which Kuznets (1955) launched his discussion, long run data for England, Germany and the United States, all showed declining inequality with increasing per capita over time. It was to incorporate this finding that Kuznets continued the process discussed in the quote, arguing that eventually population shifts on its own would tend to decrease inequality, and that various policy measures and interventions would begin to reduce inter-sectoral and intra-sectoral inequality—hence the observed decline, the only tendency for which he had evidence.

This last point highlights a duality in the literature which persists to this day. Most authors want their discussion, or their models, to speak to the short run and the long run time path of income distribution as development proceeds. They want, indeed, to be able to explain both in a simple framework. Thus, in the Lewis framework the prediction is that until the surplus labor phase ends inequality will increase. In the Kuznets framework there is a similar tendency to try and capture 50 or more years of distributional evolution in the "inverted-U"—inequality first (in the short run) increases with development and then (in the long run) decreases beyond a "turning point". It cannot be overemphasized how important, and how (ultimately) damaging is this need to capture all aspects in one, aggregative reduced form relationship. In particular, as we shall see in the review of the empirical literature, there is a tendency to try and capture the whole inverted-U in the data. And, when this attempt is unsuccessful, to throw out any relationship between growth and distribution—even in the short run. The fact that in the long run, or in a cross-section with wide variation in per capita income, where structural and policy variations can swamp other effects, no relationship is found between growth and distribution is not a reason to believe that one might not exist in the short run. And, as we shall argue in the next section, the existence or otherwise of a reduced form relationship may have very little to say to policy makers—certainly in the short run.

As noted earlier, the theoretical literature which followed Lewis (1954) and Kuznets (1955) is in one sense nothing other than various attempts at formalizing their insights. In fact, in a strange way the framework set out by the originators may have by now become a straightjacket which inhibits fresh thinking, as every new attempt to model development and distribution does so with at least half an eye on whether or not the model can, in principle, generate an inverted-U relationship between inequality and development, while most empirical work keeps returning to the question of whether or not there is an inverted-U pattern to be discerned in the data.

A formalization of the implicit distributional process in the Kuznets (1995) paper is presented in Anand and Kanbur (1993a), following on from early attempts by Robinson (1976) and Fields (1980). Modelling the national income distribution as the population weighted sum of two sectoral distributions,

Anand and Kanbur (1993a) trace through the implications of shifts in the population weights under various "Kuznetsian" assumptions. Thus, for example, it can be shown that if the sectoral distribution whose population share increases "first-order dominates" (in the sense of Hadar and Russell (1969)) the other distribution, the population shift will lead to a first-order dominating shift in the national distribution. Such a change would be preferred by all social welfare functions which are increasing in individual income. Similarly, for second-order dominance, so that population shift will lead to a national income distribution which is preferred by all social welfare functions which are increasing, symmetric and quasi-concave in individual incomes. This analysis can then be specialized to the behavior of Lorenz curve, and specific inequality indices. Anand and Kanbur (1993a) derive the relationship between per capita income and six inequality indices for the pure population shift case, and specify conditions for there to be a "turning point" leading to the famous Kuznets inverted-U.

These relationships are then tested on cross-section data (see later discussion), but an equally important issue is the incorporation of movements and processes that go beyond pure population shift. Consider, for example, the implications of superimposing on the change in sectoral population shares a change in sectoral means. For inequality measures that are invariant to a proportional change in all income, it should be clear that the key determinant will be the behavior of the ratio of the sectoral means relative to the population shift. In the Kuznets (1995) quote given above, the assumption is that the ratio of the means widens, at least in the initial stages. Ahluwalia (1976) extends this assumption as follows:

> "The assumptions(s) of ... equal growth rates in sectoral incomes (is) obviously unrealistic. In fact, we would expect ... mean income differences to change systematically with development. Interestingly, there are plausible reasons for supposing that these changes may reinforce the U-shaped pattern in overall inequality ... The ratio of mean incomes between sectors may also follow a U-shaped pattern with intersectoral differences widening in the early states .... These differentials can be expected to narrow in the later stages of development ...."

Anand and Kanbur (1993a) show that while the heuristic argument that the above pattern of mean changes would reinforce the inverted-U prediction may appear plausible, the interactions between the effects of population shift and means shift on measures of inequality can be quite complex. Just as there is no guarantee that even in the pure population shift case there will be an inverted-U, whether or not a given pattern of mean shift reinforces the argument cannot be guaranteed—it depends on conditions which may or may not be met in practice.

The "Kuznets process', as christened and formalized by Anand and Kanbur (1993a) is a useful device as far as it goes, but it is somewhat mechanical, with very little economic modelling of the underlying process. Lewis (1954) is of course an early attempt at modelling the development process, although it can be argued that the focus of attention was not so much the distributional consequences but the dynamics of capital accumulation and labor shift from traditional to modern sector. Lewis (1954, 1983) himself drew some distributional implications of this process and Anand and Kanbur (1985) extended the basic model to incorporate rural-urban migration decisions in the spirit of Todaro (1969). It is shown that each enriching of the basic Lewis (1954) surplus labor model, by modelling economic decision making complicates the relationship between development and distribution, making it increasingly difficult to draw out sharp conclusions—let alone a relationship as specific as the Kuznets inverted-U.

In another strand of the theoretical literature, the formal modelling of growth and distribution owes much to attempts to enrich the famous Solow neo-classical model of economic growth. In the basic model, with identical agents, the economy achieves a steady state equilibrium path where per capita income is constant, its level depending on technology and preferences. If the economy starts with per capita income below this level, it can be shown that per capita income will increase monotonically. Hence the possibility that if we could move from the assumption of identical agents and introduce heterogeneity, there may well be a pattern in the time path of inequality as per capita income increases. Stiglitz (1966) is an example of an early modelling effort in this direction. But such modelling has really taken off in the last decade, incorporating other advances in the literature such as the introduction of endogenous growth or the analysis of political and voting equilibrium. Interestingly, a feature of growth and distribution models

in the last decade has been to emphasize causal links from distribution to growth. In fact, many of the models determine growth and distribution in equilibrium simultaneously. There are a large number of papers in this tradition, and we illustrate the type of analysis involved by focussing on a few recent efforts which cover a range of interesting issues.

Galor and Tsiddon (1996) is an example of a paper which combines a number of elements that have emerged in the recent literature, and attempts a fairly comprehensive approach at deriving an aggregative relationship between distribution and growth. The basic building block is a neo-classical growth model with endogenous technological progress. Output is a function of capital and human capital, and the overall efficiency of production is a function of the total human capital of the labor force. In addition, it is assumed that while all individuals are born with identical preferences, an individual's level of human capital depends on the parental level of human capital: this in turn affects their own decision to invest in education, and so on. Fairly standard assumptions are invoked on consumption preferences, but with the earlier assumptions it is easy to see how a distributional dynamic can be set in motion—the amount of investment in human capital increases with the parental level of human capital, and also with the overall efficiency of technology which in turn depends upon total human capital.

Given the non-linearities and feedback built into the assumptions, it should not be too difficult to see why, unlike as in the basic Solow growth model, there may be multiple locally stable steady state equilibria to which dynasties converge, leading to inequality even in the long run. Suppose that the economy wide technological externality kicks in only after some critical level of human capital has been reached so that, up to this point, the key influence on dynamics is the parent-to-child human capital externality. Then Galor and Tsiddon (1996) show that under certain conditions the economy polarizes to two dynasties, rich and poor. But when the global technological externality kicks in, it can cause a qualitative change in the nature of the dynamical system which, again under certain assumptions, leads to a unique steady state equilibrium to which both dynasties converge. Of course, what we have here is the Kuznets inverted-U: inequality first increases and then decreases. In this model, and in models like it, it is possible to do comparative static exercises by changing the initial distribution of human capital, and combine this with the dynamic analysis to argue as follows:

> "…. for some initial distribution of human capital the model can demonstrate that at the early stages of development, an increase in the aggregate level of investment in human capital may not be feasible unless the distribution of human capital (and consequently the distribution of income) is unequal. Inequality enables members of families from the highly educated segments of society to overcome the gravity of a low stable equilibrium and to increase their investment in human capital. Thus, inequality may be essential in order to increase the aggregate level of human capital and output during the early stages of growth. As the investment in human capital of the upper segments of society increases and income inequality widens, the accumulated knowledge trickles down to the lower segments of society via a technological progress in production ….. investment in human capital becomes more beneficial to members of all segments in society. In particular, members of the less educated segments, who initially invested relatively little in the formation of human capital, find it beneficial to increase their investment. Due to diminishing returns to the family-specific external effects, the rate of investment (at a certain stage) becomes higher among members of the lower segments of society. Thus, in accordance with the Kuznets hypothesis, during the early stages of development, output growth is associated with increased income inequality whereas in the later stages output growth is accompanied by a more equal distribution of human capital and income."

We have quoted at length from the Galor and Tsiddon (1996) paper because it illustrates very well some features of the burgeoning literature on growth and distribution based on neo-classical endogenous growth models. First, particular types of interlinkages and externalities drive the dynamics of inequality, accumulation and growth. Thus non-linearities and interlinkages in savings functions could generate some of these results directly in the standard Solow growth model with heterogeneous agents—indeed, such results are to be found in Stiglitz (1966). But the results are very sensitive to key assumptions. While

Galor and Tsiddon (1996) draw the conclusion that "a relatively poor economy which values equity as well as prosperity may face a difficult trade-off between equity in the short-run and equity and prosperity in the long run" other papers derive the pure result that equitable distribution of assets unambiguously raises growth rates (e.g. Banerjee and Newman, 1993). Second, notice the "Kuznetsian" drive to generate an aggregative relationship between growth and inequality and, indeed, satisfaction at having derived an inverse-U shape for this reduced form relationship. Thirdly, notice the paucity of real world policy implications—is the recommendation to engineer an increase in inequality at the start of the development process?

The recent explosion of work on political economy models also provides a channel for thinking about the relationship between growth and distribution. A good example is the paper by Alesina and Rodrik (1994). Once again, the basic model is one of endogenous growth. Output depends on capital, labor and a public good, which is financed through a proportional capital tax. Individuals differ in their endowment of capital and labor. Given identical, time separable, isoelastic utility of consumption, it can be shown that all capital endowments grow at a common rate which depends upon the proportional tax rate. Each individual will have a different view on what the common tax rate should be, since the tax revenue will deliver a common benefit but cost individuals in proportion to their capital ownership—those with a low share of capital income will prefer a higher tax rate. Using the median voter theorem one can investigate the relationship between distribution and growth. As the ratio of the median to the mean wealth rises, i.e. this measure of equality increases, the median voter is more and more concerned about capital taxation—the actually voted for tax rate will thus be lower, and the growth rate higher.

The basic story developed by Alesina and Rodrik (1994) is present in many papers in the recent literature, in more or less elaborate form. Thus Perotti (1993) has a model in which individuals invest in their education, but all individuals benefit indirectly through an externality. Imperfect capital markets means that some individuals will invest more than others in education, and hence will have higher income in the next period. The economic structure is thus similar to that of Galor and Tsiddon (1996). In a very poor economy, under certain conditions, only a very unequal distribution may give enough resources to those at the upper end to invest in education and thus generate the economywide externality to in turn generate growth. The issue then is the preference of the median voter over redistributive taxation. Once again, it should not be surprising that Perotti (1993) drives for a Kuznets inverted-U, and expresses some satisfaction that his model can generate such an aggregative reduced form relationship.

There has thus been a veritable explosion of theoretical work trying to generate a relationship between growth and distribution. Under various assumptions, different types of relationships can be derived—even the Kuznets inverted-U, indeed, most papers seem to set themselves the goal of demonstrating that such a shape is possible in their models. We will discuss the policy significance of all this later in the paper. For now we turn to the empirical evidence on development and distribution.

2.2 Econometric Testing

Given the obsession of the theoretical literature with the Kuznets inverted U, it should not be surprising that the dominant strand of the empirical literature is that which attempts to estimate and test for, with different degrees of complexity and sophistication, the reduced form relationship between measures of inequality and measures of per capita income (a selection of these studies includes Saith (1983), Cumpanao and Salvatore (1988), Tsaklogou (1988), Clarke (1993), Anand and Kanbur (1993b), Jha (1995), Ram (1995) and Ravallion (1997)). Given data constraints, most of the variation in observations is provided by cross-country observations—time series data does not stretch back very far for most developing countries, and very few intertemporal observations are typically available. We will argue that the "Kuznetsian" empirical literature, although moving towards a consensus still presents a wide array of results from which support can be drawn for a range of competing hypotheses.

We start by considering the truly vast literature which looks at data across countries (with, perhaps, a small number of intertemporal observations for some countries). The issue of comparability and quality of distributional data strikes one immediately as being a central issue. Kuznets (1955) himself emphasized requirements for the quality of distributional data which seem to have been forgotten by some

of the subsequent literature. A very widely used source is the compiliation by Jain (1975), and the compiliation by Paukert (1973), for example, is used by Persson and Tabellini (1994) to test propositions on the impact of inequality on growth—a data set which Deininger and Squire (1996a) do not give very high marks to.

In fact, Deininger and Squire (1996a), following on from Fields (1989a,b), set out a series of criteria which distribution data should satisfy:

(1) The unit of observation has to be either the household or the individual. In other words, the generation of "synthetic" distributions from national accounts and applying distributions from other "similar" countries would run foul of this criterion.

(2) Coverage of the population has to be comprehensive. Thus, for example, if only the urban household distribution of income is available, it is not permissible to translate this directly into the national distribution. The same is true if the data is restricted only to the economically active, to wage earners, etc.

(3) Measurement of income (or expenditure) has to be comprehensive. For example, income from self-employment and production for auto-consumption should be included.

These criteria are similar to those used by Fields (1989a,b) and by Anand and Kanbur (1993b) to trim down the compilation in Jain (1975) and other sources up to the 1970s. Deininger and Squire (1996a) perform a considerable service to the literature by first assembling an up to date set of Gini coefficients and other distribution measures reported in the literature. From the more than 2600 such observations, they went back to primary sources to assess the quality and comparability applying the three criteria above. This led to a data base of 682 observations for 108 countries. If the same criteria had been applied to Fields (1989a,b) his 105 observations would have been reduced to 73 observations for 36 countries. Similarly, Paukert's (1973) 55 observations would have been reduced to 18 for 18 countries, and Jain's (1975) 405 observations would have been reduced to 61 for 30 countries. In fact, Anand and Kanbur (1993b) do an even more stringent stripping of the Jain (1975) data set to arrive at 38 observations for 18 countries.

Even for the Deininger and Squire (1996a) data set, 35 percent of the observations are not calculated directly from the primary source but quoted by a reliable secondary source. Ravallion and Chen (1997) conduct a similar quality and comparability exercise, but base their calculations only on surveys that were directly available to them. This gives rise to a data set for 67 countries of which 42 have at least two surveys since 1980, giving 64 "spells" of growth and distribution change. For example, they only make intertemporal comparisons when both observations are based on nationally representative household surveys which use the same indicator (income or expenditure). They also ensure that measures of inequality are household size weighted. Deininger and Squire (1996a) also recognize these problems, and that such stricter criteria will further reduce their number of observations.

It would be somewhat tedious to keep track of the data problems of individual studies as we go through our assessment of the empirical literature on growth and distribution. Suffice it to say that most econometric estimation in this area is subject to the criticism that the data set underlying it is not of very high quality. We have already noted Persson and Tabellini's (1994) reliance on Paukert (1973). But even studies which have made attempts at weeding out problematic data points can be subjected to criticism. Alesina and Rodrik (1994) in a test of their model discussed earlier in this paper use the data set of Fields (1989a,b) who, according to Deininger and Squire (1996b) "uses quality standards that are similar to ours—the only difference being his inclusion of distributional data that refer to the wage earning population only." However, even the data set used by Deininger and Squire (1996a) to test the Kuznets hypothesis does not satisfy the stricter criteria of Ravallion and Chen (1996).

These data shortcomings cast a dark cloud over the whole "Kuznetsian" approach of seeking an aggregative, reduced form relationship between distribution and development in cross-section data. However, leaving these data problems to one side, what sort of a picture merges from this mountain of

econometric work? Let us start by examining the Kuznets curve literature. As noted earlier, Kuznets himself discussed long-run, time series, data for England, the United States and Germany. He did not have, at that time in the immediate post-war period, any data of note from developing countries. A major boost to examining the relationship for developing countries was given by the work in the mid 1970s leading up to the World Bank's "Redistribution With Growth" volume Chenery et al., (1974), in particular the compiliation of cross-country data in Jain (1975) and the econometric work of Ahluwalia (1976). The same period saw other work and other compilations of data (e.g. Paukert, 1973). The Ahluwalia (1976) paper is important in having set the framework for much of the later discussion. Quite simply, Ahluwalia regressed inequality (actually, a measure of equality—the income share of the bottom 40 percent of the population) against per capita income and per capita income squared for a cross-section of countries (he also included regional dummies to capture the uniformly higher inequality in Latin America and the uniformly lower inequality in the then socialist economies of Eastern Europe). He found a confirmation of the Kuznets inverted-U through testing for the sign of the coefficient on the quadratic term in per capita income.

This finding, and other similar results at the time, set off an enormous industry examining the relationship between inequality and per capita income, with studies using different data sets, different inequality measures, and different econometric methodologies. Thus, for example, Anand and Kanbur (1993a) derived the functional form of the relationship between inequality and per capita income for six inequality indices, based on an explicit modelling of the intersectoral population shift process implicit in Kuznets (1955). They then estimated these specific functional forms (which differ from inequality index to inequality index) for the same data set as Ahluwalia (1976). They found that the estimates "differ vastly in goodness-of-fit, in turning point, and in the predicted behavior of inequality in the long run". For some of the cases, the statistical significance of the coefficient did not support a turning point at all. For most, the restrictions implied by the "Kuznets process" of intersectoral shifts was rejected. Anand and Kanbur (1993b) is a more direct investigation of the robustness of the Ahluwalia (1976) results, focussing on their sensitivity to choice of data set and functional form. It is argued that we must test alternative functional forms against each other, since some support the inverse-U and others do not. After an exhaustive set of tests it is concluded that for data sets of higher quality than used by Ahluwalia (1976), and for functional forms which are supported by the data, the inverse-U is not supported.

Throughout the 1980s and 1990s, an extraordinarily large number of studies have attempted to confirm or reject the inverse-U. While a consensus seems to be developing that the evidence for such a relationship is not strong, in even the latest studies one finds differing points of view. One of the most recent tests is that by Deininger and Squire (1996c) based on their newly developed data set, Deininger and Squire (1996a). They estimate a relationship between the Gini coefficient and the per capita income and the inverse of per capita income. They also include a dummy for socialist countries. For the "pure" cross section, where they use averages whenever they are multiple observations for a country, they do indeed find an inverse-U. But the result does not stand up to robustness tests, as might be expected from Anand and Kanbur (1993a,b). Among the variations they try are to estimate the model in decadal differences than in levels. This does not provide support for the Kuznets curve (the same as in Ravallion, 1995). They also find, matching the recent work of Fields and Jakubson (1995) that sometimes there is evidence of a U rather than an inverted U—a result also found in Anand and Kanbur (1993b). As they conclude: "Together, these results offer virtually no support for an increase of inequality at low levels of income and a decrease at higher income levels as suggested by Kuznets' inverted-U relationship." This statement by Deininger and Squire (1996b) seems to us to capture the emerging consensus and the weight of recent work. But it would be appropriate to point out that there continue to be studies which do indeed offer support for the Kuznets curve. One recent paper, which emphasizes econometric techniques is that by Ogwang (1994), who uses the data set developed by Ram (1988). This data set also emphasizes data quality and comparability, but Ogwang's (1994) contribution is on functional form, in the framework of nonparametric regression. Using the kernel method he estimates the relationship between inequality and per capita income and finds support for the Kuznets inverted-U.

Fairly clearly, large and cross-country variations in key variables such as policy and initial conditions might be explaining some of the weak relationship between inequality and per capita income. Bruno, Ravallion and Squire (1995) take one country for which relatively long run time series on

inequality are available—India—and try to estimate a Kuznets relationship. For 33 observations spanning 1951 to 1992, they conclude that: "There is no sign that growth increased inequality, including during the period of higher growth in the 1980s. On running the Anand-Kanbur test equation appropriate to the Gini index one obtains, not an inverted U but an ordinary U, though for most of the range of the data inequality falls as average income increases. However, if one takes first differences of the above equation (so that it is the change in the Gini index between surveys which is regressed on the change in average income and the change in its inverse) then the relationship vanishes. There is no sign in these data that higher growth rates in India put any upward pressure on overall inequality."

Let us turn now to the literature which tests the relationship from distribution to growth. As Bruno, Ravallion and Squire (1995) point out, not only are all the standard data problems from the Kuznets literature still present, but, "the noisy inequality variable is now on the right hand side, so there must be a general presumption that standard estimators will give biased results." These problems have not stopped a crop of recent studies claiming to support a negative effect of initial inequality on subsequent growth, which is consistent with at least some of the models in the "endogenous growth-policy economy" tradition, as discussed earlier in the section. But Fishlow (1996) reports that with a Latin American dummy, there is no such relationship. Deininger and Squire (1996b) use their data set to estimate growth as a function of initial inequality and other variables. They find that while the effect of initial income inequality on growth is not robust, initial land inequality is indeed associated with low growth.

2.3 The Country Case Study Approach

Despite the huge amount of resources devoted to the development-distribution relationship in the Kuznetsian approach, it has to be said that the harvest is meager. This is so whether we look straightforwardly for a relationship between inequality and development, or for its implications for the nature of underlying development processes, or (as we shall argue in the next section) for its policy implications. An alternative to the Kuznetsian approach is to examine in great detail the development experience of individual countries, telling an overall story which incorporates a range of influences, including policy. A number of such studies are available, and we will illustrate this method by recounting the argument in an excellent recent paper by Chu (1995).

By all accounts, Taiwan's post-war experience has been one of growth with equity. It is one of the economies of East Asia that managed to achieve extraordinarily high rates of growth with extraordinarily (by international standards) low levels of inequality and, indeed, declining inequality. One might, of course, take an aggregative reduced form approach to this and try to estimate a Kuznets curve on the 20 or so distributional observations available (indeed, some of these observations are present in the Kuznetsian literature reviewed earlier), but the usual problems would attend such an exercise, and it is not clear that we would learn more from it than from the earlier Kuznetsian literature. However, Chu (1995) weaves together a compelling account of how Taiwan managed to attain high growth and equity, building on the earlier pioneering work of authors such as Ho (1978), Fei, Ranis and Kuo (1979) and Kuo (1983). It is a tale worth retelling in some detail, and we follow Chu (1995) closely in doing so.

The "initial conditions" for Taiwan's post-war miracle came about as a result of its particular history. Before the war, when Taiwan was under Japanese colonial rule, much of the land was owned by sugar companies, which were in turn owned by the Japanese. About one tenth of all cultivated land in the 1930s was owned by them. There was also considerable Japanese ownership of large areas of cultivated land. After the war, when Taiwan was returned to Nationalist Government in China, the Government expropriated all property belonging to the Japanese and thus became, at a stroke, the largest landlord. After their defeat by the Communists and their arrival in Taiwan, the Kuomintang enacted major land reforms through rent reduction, sale of public land and compulsory sale of private land.

Chu (1995) divides the development of Taiwan into three phases (i) the 1950s and early 1960s, (ii) 1964-1980 and (iii) 1980 to the present. The first phase was that of rapid agricultural development and import substitution. Although distributional data are sparse and unreliable for this period, an account can be pieced together from various sources. Inequality of income among farm households was low and fell from a Gini of 0.2860 in 1952 to a Gini of 0.1790 in 1967. Clearly, the land reform was central to this

trend, as well as to growth. Ho (1978) argues that land improvement and agricultural education both benefitted from land reform. Chu (1995) also argues that, moreover, smaller land holding households had a higher percentage of members involved in off-farm employment, and the Gini of wage income was particularly low. Finally, with the network of roads and broad spread of factory employment, and a relatively free labor market, an even income distribution was consolidated. Data on distribution within farm households is almost non-existent, but Kuznets (1980) argued that the ratio of per capita farm household income to the national average rose from 54.88 in 1952 to 56.20 in 1962. However, the fact that the population share of non-farm sector was rising would, Kuznets (1980) argued, be a factor in increasing overall inequality. Chu (1995) also argues that one would expect, given rapid expansion of import-substituting industry in the 1950s, that capitalist income would increase and thus contribute to greater inequality—however, this would be counteracted by the fact that there was a considerable degree of nationalization of large enterprises, and that the small and medium enterprise sector played a key role in industrial expansion. For what the data are worth, Taiwan's Gini coefficient fell from 0.558 in 1953 to 0.440 in 1959 and 0.321 in 1964. But what is important in Chu's (1995) analysis is the finely textured appreciation of the many different factors, some pulling in opposite directions, which contributed to this decline. Far better, in our view, to conduct this type of analysis than to feed the aggregative Ginis into an attempt to test a reduced form relationship between per capita income and inequality.

By the mid 1960s, agriculture's share in national output had fallen to under 30 percent, and the import substitution strategy was running out of steam. As is well documented in a host of retrospective studies, the Government introduced policies to encourage export expansion—including export processing zones, tax rebates on imports for export manufacture, and exchange rate alignment. With these changes, Taiwan plugged into the still buoyant U.S. import demand at a time when Japanese labor costs were beginning to increase. From 1964 to 1970 the Gini coefficient of household income fell from 0.321 to 0.294 and then to 0.277 in 1980. Chu (1995) follows earlier work by Fei, Ranis and Kuo (1979) in carrying out a detailed decomposition analysis and concludes as follows:

> "In 1964-80, inequality started at a low level due to initial conditions set in the 1950s and early 1960s. It stayed low and is suspected to have declined further. This has been shown to be mainly the result of low and shrinking inequality of wage income, which in turn was due mainly to the popular participation in employment in the export-driven, labor-intensive manufacturing industries. As before, the labor market was accessible: as before, strong demand more than offset the rapidly rising labor force, the result was mass employment or very low unemployment ..... More specifically, the shrinking wage income inequality among households is suspected to reflect the shrinking inequality among individual workers/income receivers. The latter has been shown to be attributable to the fall in marginal returns to education and to working in the cities. Supply of workers was rising fast, that of higher education workers rose faster due to significant improvement in education. Demand for all types of labor rose faster than supply, that for low-skill (low education as a proxy) labor rose even faster. Consequently, average wage rate rose, and that of the low-education workers rose faster, resulting in narrow wage differentials."

During the 1980s and 1990s, total supply of labor in Taiwan fell, although the share of population aged 6 or above receiving secondary education or above increased to 44% in 1980 and 65% in 1985. The increase in unskilled wages, which was a centerpiece of decreasing inequality, combined with currency appreciation in the late 1980s (to which the phenomenal export surplus contributed) hit labor-intensive exports. In fact, the economy started the process of upgrading to skill-intensive products domestically, and overseas investment in labor intensive plants in cheap labor economies such as Malaysia, Thailand, Mauritius and Bangladesh. One would expect the skilled-unskilled wage ratio to respond to such a change in demand—the average wage of those with college education as a ratio of those with primary education or less declined from 2.24 in 1976 to 1.72 in 1980, but rose to 1.80 by 1986-87. Latest figures indicate that the trend has continued. At the same time, the share of capital and property in total income increased, which was linked to the increasing importance of larger private enterprises, and the steep escalation of land values. However, according to Chu's (1995) detailed decomposition analysis, the major factor explaining increasing household inequality in the 1980s and 1990s—one which is missing from nearly all studies in

the "Kuznetsan" tradition—is the pattern of household formation. Household size fell from 5.85 in 1970 to 4.84 in 1980 and 4.10 in 1993.

Once again, for our purposes, Chu's (1995) analysis is interesting not only for its own sake but as a contrast to the Kuznetsian aggregative, reduced form approach. With this alternative approach one gets a much better sense of the links between development processes and their distributional consequences. (For broader illustrations of the case study approach, see Wade (1990). Oshima (1994) and Jung (1992)). From 1980 onwards the Gini coefficient in Taiwan rose, from 0.277 in 1980 to 0.312 in 1990 and 0.316 in 1993, during a period when per capita income has kept on increasing at very high rates by international standards. Thus, running a straightforward time series regression between the Gini coefficient and per capita income for Taiwan would give the exact inverse of the Kuznets curve—inequality decreased from 1953 to 1980 and then increased to the present. But it should be clear that whether or not a U or an inverse-U exists for this country over time is quite beside the point, and a focus on this would divert attention away from a far richer discussion of the exact nature of the processes of development and their distributional consequence, and the policy implications of this experience.

The trends identified by Chu (1995) as the driving forces behind Taiwan's inequality in the 1980s and 1990s have begun to appear in some East Asian "miracle countries", certainly by the mid 1990s. Thus, for example, trends in income and wage inequality have tended to turn upwards (see Ahuja et. al., 1997). The stories, while having their own peculiarities, all contain skyrocketing land values and increasing returns to skilled labor. The similarities with developments in the U.S. (e.g. Freeman and Katz (1994) over the last 15 years, particularly on the skilled/unskilled wage differential, should be apparent. Paradoxically, therefore, a detailed examination of the very latest trends in the East Asian miracle countries, whose experience in the 1960s, 1970s and 1980s contributed to the current consensus that growth and equity might be simultaneously achievable, are beginning to raise questions about whether this is true in the emerging conditions of the 1990s and of the next century. They also raise questions about the policy mix needed not only in the East Asian countries, but about the policy lessons for other developing countries. The next section turns to a discussion of the role of policy in the relationship between income distribution and development.

3. DISTRIBUTION, DEVELOPMENT AND POLICY

3.1 Policy and the Kuznetsian Literature

The Kuznetsian literature's drive for deriving and estimating an aggregative, reduced form relationship between inequality and development has a strong tendency to minimize the role of policy—indeed, to treat the distribution/development relationship as a law. For example, this tendency is always present, no matter how hedged, in both supporters and critics of the inverted-U relationship. Supporters of the inverted-U relationship draw one of two inferences. The more left-leaning commentators view it as a warning that growth will have disruptive short run distributional effects, with increasing inequality and perhaps even poverty. The more conservative commentators view the relationship as vindicating a drive for growth—since inequality will eventually fall, all the better to accelerate growth and get over the "hump" of the inverted-U. Those who do not find an inverted-U in the data use this finding typically to argue against those who are seen as warning against growth because of its distributional consequences—since there is no systematic relationship, no law which decrees that inequality must increase as growth accelerates, policies for accelerating growth can safely be followed (and these policies, as we shall see, may well entail inducing greater equity). These commentators add that even if inequality increased with growth, the net effect on poverty may still be positive. Thus, for example, Deininger and Squire (1996b) conclude their analysis as follows:

> "First, while policy makers should certainly pay attention to the distributional consequences of different policy options the fear of a systematically negative effect of economic growth on the distribution of income is ill-founded. Second, unequal distribution of assets, more than income, can be an impediment to rapid growth, implying that redistributive policies could enhance growth. Third, while redistributive policies have the potential to benefit the poor both directly and indirectly, they will do so only if

redistribution does not jeopardize productive investment. This disqualifies conflict-ridden redistributive policies of the past and implies that, if countries want to implement redistributive policies, their ability to devise mechanisms that would at the same time maintain or increase investment incentives may well be decisive for the final success of such programs."

We will return presently to the second and third conclusions above, with which we largely agree, but consider the first conclusion that policy makers need not fear any systematic negative effects of growth on distribution. The problem with this conclusion is not whether it is valid or not, although in the previous section we have pointed to alternative positions in the literature, but that it is not particularly useful for a policy maker because it does not bear any relation to specific policy instruments. Does it really imply that growth can be maximized without fear of distributional worsening? If not, then which policy combinations are better than others? And, as Ravallion's (1996) analysis shows, about one fifth of the spells he studied were cases in which poverty was rising, some in cases with positive growth.

It seems to us far better to focus directly on policies, or combinations of policies, which will generate growth without adverse distributional effects, rather than rely on the existence or non-existence of an aggregative, reduced form, relationship between per capita income and inequality. In this section we will consider three main types of policies—macroeconomic adjustment and liberalization, asset redistribution, and targeted public expenditures. As we shall see, the impact of each of these can be very country specific, depending on particular conditions in place and the realm of the politically feasible.

Let us approach the question of whether or not there is a "trade-off" between growth and equity through the policy space as follows. Imagine the evolution of growth and distribution to be determined by buttons on a policy instrument panel. Pressing each button can be thought of as implementing a particular policy (tariff reform, reducing fiscal deficits, reorienting public expenditure, etc.) which can be as specific and detailed as necessary. The panel can be thought of as being large enough to include all feasible policy options. Pressing combinations of buttons constitutes a policy package, and its impact on the economy is determined by the model of the economy (which for the moment we can think of as a black box under the panel). We can now ask two questions:

(a) Does there exist a (sufficiently broad, if necessary) set of policy instruments such that, if implemented, the economy will eventually achieve both higher per capita income and higher equity?

(b) Does there exist a (sufficiently narrow, if necessary) set of policy instruments such that, if implemented, the economy will, in a sufficiently short time horizon, get higher per capita income only at the expense of greater inequality and perhaps even greater poverty?

The answer to both questions, for reasonable models of the economy, is surely yes. Those who say that policy makers should not worry about the adverse effects of growth on distribution often, implicitly, have in mind configurations of policy adjustment which can deliver equity with growth over the medium run. Those who urge caution are essentially concerned that in reality, and in the short run, the range of feasible policy choices may not be broad enough to counteract the adverse distributional effects of growth. Let us return, for example, to the insightful discussion of Lewis (1983), who argued that growth typically starts in enclaves and is thus by its nature inegalitarian. Indeed, he argued that growth in the enclave might even immiserize the surrounding area because:

"The development enclave may be predatory on the traditional sectors. It may, for example, as so often in Latin America and Africa, drive people off their lands, reduce them to serfdom, or put taxes on them to force them to work for wages. It may, as Stalin did to the Russian farmers, seize their food to feed the towns; or, as Latin American elites do, turn the terms of trade against the countryside through import substitution policies ..... Products of enclaves may compete with and destroy traditional trades .... Office machinery destroys clerical jobs; household equipment destroys domestic services;

available. To take another example, consider the implications of reducing an excessive fiscal deficit, without which inflation will scupper the chances of investment and long run growth, and may have long run inequitable consequences. Clearly, the reduction in fiscal deficit can be achieved in many different ways—the short run consequences of these different methods will be very different on short run growth and on short run equity. Too fast a contraction may itself adversely affect investment and growth. And the pattern of expenditure reduction can be pro-poor or not. It should be clear, therefore, that an assertion that there is no systematic relationship between growth and inequality in country level data is cold comfort to a policy maker faced with difficult policy choices, whose short term (and long term) consequences he will have to live with. Direct analysis of these policy choices is needed, and we consider some of these policies in what follows.

3.2 Macroeconomic and External Sector Adjustment

As noted in Section 1, from the late 1970s onward, the literature on growth and distribution took a particular turn, brought on by the debt crisis in Latin America and Africa, and the severe macroeconomic and trade distortions which this crisis revealed. These countries were diagnosed as having excessive fiscal deficits, severely misaligned exchange rates, restrictive trade policies and patterns of public expenditure which were inefficient and inequitable. We will return presently to patterns of public expenditure. But the focus on fiscal prudence and openness was enhanced by the growing realization that these were precisely the foundations of the growth with equity miracle of the East Asian economies—discussed for the case of Taiwan in the previous section. Despite the fact that these countries generally had a period of successful import substitution before they switched to export based growth strategies, it was judged that the import substitution policies in Africa and Latin America had largely failed, being both inefficient and inequitable because unlike in East Asia, they were not preceded or accompanied by policies promoting equitable agricultural growth such as land reform. This is the current mainstream view, and has been confirmed not only by detailed country case studies for East Asia but also by cross country analysis in the Kuznets tradition. Thus Bourguignon and Morrison (1990) find that the presence of protection worsens income distribution, while Barro (1991) and Sachs and Warner (1997) are among the many authors who find that measures of trade distortion are associated with lower growth.

Accepting that a movement towards greater openness is desirable from the point of view of efficiency in the medium run, what are the distributional consequences of policy reform which moves the economy in this direction? Let us conduct the following stylized exercise (adapted from Kanbur, 1992) for an economy with an overvalued exchange rate which undertakes a devaluation (an earlier analysis is present in Knight (1976)). What this does is to increase the relative price of tradeables to non-tradeables. The immediate impact effect of this is to increase the profitability of tradeable goods production and decrease that of non-tradeable goods production. Thus entrepreneurs in the tradeable goods sector benefit while those in the other sector lose. At this, first, stage the effect on inequality and poverty depends on the relative characteristics of the distribution of income within the entrepreneurial class in each production sector. At the next stage, if we assume that factors are immobile between sectors in the short run, factor prices will be bid up in the tradeable goods sector. The impact in the non-tradeable sector will depend on how flexible factor prices are in that sector. If they are downwardly inflexible in the very short run, some factors will become unemployed, causing the distribution of factor income to worsen. As factor prices in this sector begin to decline with the pressure of excess supply of factors, overall factor incomes will fall relative to these in the tradeable goods sector—the impact of this on overall distribution will depend on differences in mean factor income and in factor income inequality in the two sectors. Finally, in the next phase, as factors migrate across sectors in search of higher returns, output in the tradeable goods sector will expand and that in the non-tradeable goods sector will contract (which was the objective of the devaluation in the first place) but, if the conditions of the Stolper-Samuelson theorem hold, the relative return to the factor which is used more intensively in the tradeable goods sector will rise.

Much of the analysis of external sector liberalization typically jumps straight to the last stage, and looks for the distributional consequences of an increase in the return to the factor used more intensively in the tradeable goods sector. Thus, if we consider a model with labor and capital as the two factors of production, and characterize tradeables (exports and import-competing production) as labor intensive then, clearly, returns to labor will rise relative to capital. This is argued to be the mechanism for greater equity in the labor-intensive export processing booms in the East Asian economies. It has also been argued to be the mechanism which would ensure that external sector liberalization in African and Latin America, a central plank in their adjustment programs after the debt crisis, would indeed be equitable.

We will return presently to this claim, but notice the many intermediate stages—during different lengths of the "short run". It can be argued that this "short run" can be quite long in calendar time, especially in economies which do not have well developed infrastructure and well functioning factor and product markets to facilitate rapid adjustment, and it is precisely these effects which are relevant to policy makers and politicians. In the very first phase, entrepreneurs in the tradeable goods sector will benefit and those in the non-tradeable goods sector will lose. Who are these entrepreneurs? The picture is complicated, and differs from country to country. The tradeable goods sector covers a wide range of situations in Africa, for example. It includes the small holder primary export sector, the mineral exporting sector, and the newly emerging non-traditional sectors such as finance or the export of cut flowers. Since in many countries the producer price of commodity exports is controlled by the government and decided on a year to year basis, the impact on how much of the price increase the government decides to pass though to the small farmers and, to the extent that it does not, what it does with the higher revenue. In the mineral sector, there are typically long run contracts which specify the extent of pass through, often automatic, so that it is the mineral companies which largely benefit. And the main beneficiaries of a sudden improvement in the profitability of non-traditional exports will be those who have the capital, the skill and the contacts to take advantage of the opportunity opened up. Thus in the tradeable sector some already rich people will benefit, although many poor farmers may also do so. On the non-tradeable side, there are similar differences. Not all non-tradeable production is concentrated in large, inefficient, state protected enterprises. Domestic service, or the production of food crops, is a non-tradeable production (often carried out by women). Similar complications can be illustrated for the following phases. Certainly, if unemployment is created in the non-tradeable sector this will add to inequality.

Faced with these complications, the literature has resorted to three types of analysis. (There is, indeed a huge literature. A selection of the studies include Addison and Demery (1985). Azam et al. (1989), Bourguignon, de Melo and Suwa (1991), Bourguignon, Morrison and Suwa (1991), Cornia et al. (1987), Glewwe and Hall (1994), Grootaert (1995), Huppi and Ravallion (1991), Lenaghan (1992), Maasland and van der Gaag (1992), Pinstrup-Andersen (1989), Ravallion and Huppi (1991), Ribe et al. (1990), Sahn and Sarris (1991) and Streeten (1987)). The first is straightforwardly to look at outcomes on inequality and poverty before and after an adjustment package is put into place. This is very useful, and it is after all the final outcome which matters, but it does not help understand the processes involved, particularly since adjustment packages are themselves quite complex, and exogenous factors are changing all the time. The second type of exercise is to develop specialized, and highly stylized, frameworks to trace through the impact of different policy measures. Thus, for example, in Kanbur (1987a,b) the national distribution is decomposed into two sub-distributions, and it is assumed that the impact of income change is uniform (additively or multiplicatively) within each sub-distribution, although of course different across the sub-distributions (incomes increasing in one, and decreasing in the other). Then, using the sub-group decomposable class of poverty indices of Foster, Greer and Thorbecke (1984), the impact on national poverty of various patterns of income change is analyzed (a similar analysis could, in principle, be carried out for decomposable inequality measures). Interpreting the two distributions as tradeable and non-tradeable incomes, and using stylized empirical data Kanbur (1990) argues that trade liberalization is unlikely to increase poverty in the Cote d'Ivoire. The third and final type of exercise is one which models the structure of and interactions in the economy in far greater detail (e.g. Demery and Demery, 1991; Thorbecke, 1991; Bourguignon et al., 1991a; in a general equilibrium framework. Such exercises also provide insights, particularly on the consequences of price rigidity in one sector—not surprisingly, the distributional consequences are worse Bourguignon et al., (1991). They also allow the evaluation of alternative policy packages. The difficulty, however, is that with a complicated general equilibrium framework the intuitive reasoning behind the results gets lost or, if one does succeed in providing an

intuitive explanation, it is essentially by suppressing many of the complications and feedback effects (Kanbur, 1990).

The evidence on the impact of macroeconomic adjustment and external sector liberalization on inequality and poverty is mixed. Horton, Kanbur and Mazumdar (1997) and Berry, Horton and Mazumdar (1996) are among those who review the recent literature. For Africa, lack of data is a particular problem, since analysis requires at least two comparable household surveys which span a period of adjustment. For six such countries (Cote d'Ivoire, Kenya, Nigeria, Tanzania, Ghana, and Ethiopia), Demery and Squire (1995) compare the change in percentage of population below the poverty line with the change in a weighted score of macro-policy variables (including fiscal deficit and exchange rate misalignment). In five of these six countries, macro-policy improved and the incidence of poverty fell. In the sixth (Cote d'Ivoire), macro-worsened and the percentage of poor rose. For Latin America, Moreley (1994) has argued strongly that adjustment and the climb out of recession improved poverty—poverty increased in 55 of the 58 cases of recession and it fell in 22 out of 32 recoveries. Moreover, inequality worsened during recessions and improved during the recoveries which followed adjustment. However, Berry (1995) has questioned the empirical basis of these results. He finds that income distribution worsened in Argentina, Chile, Columbia, the Dominican Republic, Ecuador, Mexico, and Uruguay, and he argues further that trade liberalization has a significant causal influence. In fact, for Africa, Demery and Squire (1996), while arguing that national income increased and poverty fell with policy reform in Africa, also note that relative inequality did increase with policy reform.

The evidence on increasing inequality raises a question which we note here but will deal with in detail later. The results on poverty (and on inequality) are the aggregation of a myriad of income changes, combining the fortunes of winners and losers. If the losing groups are sizeable, it is cold comfort that the winning groups (or, at least, their winnings) are even greater in number, so that overall poverty falls. Moreover, among the winners will be some who are very rich, and among the losers will be some who are very poor. Much of the politics of policy reform, and NGO perceptions of the consequences of reform (Watkins, 1995), are driven solely by the losers from reform. Thus relatively well off civil servants and unionized workers may lose, as may selected groups of extremely poor people. Aggregation, while useful, loses these effects and may contribute to misperceptions and miscommunication among those who advocate reform on the basis of aggregative long term effects and those who have to deal with its disaggregated short term consequences.

Returning to the effects of trade reform on inequality, one strand of the literature has looked at skilled/unskilled wage differentials. Wood (1995) confirms Chu's (1995) analysis for Taiwan, that wage inequality increased. He also arrives at the same finding for Hong Kong, but not for Korea and Singapore. Here the relative supply of skilled workers increased rapidly enough to keep the differential in check. This highlights the importance of taking supply and demand side factors together. Again, Robbins (1995a,b) finds widening differentials for Chile, Costa Rica, Colombia, the Philippines and Argentina. A widening of differentials in Mexico after trade liberalization has been identified by a number of authors (Feenstra and Hanson, 1996; Revenga and Montenegro, 1995; and Alarcon and McKinley, 1995). In developed countries, there is a similar debate about the role of openness in driving a remarkable increase in wage inequality (Atkinson, 1995; Freeman, 1995).

We have already touched on how an opening up of the economy may influence wage differentials. If the two factor model is interpreted as one with skilled and unskilled labor, and we characterize more developed countries with having a greater relative supply of the former, then an opening up will lead to imports of unskilled labor intensive production into the developed countries from the developing countries. This will increase wage inequality in developed countries but should decrease it in developing countries (holding factor supply constant). We certainly seem to be seeing the increasing of inequality in developed countries, but its converse, decreasing inequality in developing countries, is not yet apparent in the data. As argued earlier, some of this may come simply from short run (which can be quite long) rigidities as the economy works its way through various phases of adjustment. However, Wood (1994) has argued that in a model with three types of labor the complications may survive even in the long run. He postulates a model in which labor either has no education, or basic education, or high education. He further characterizes labor-intensive manufactured exports from developing countries as requiring at least basic education. Thus

expansion of these types of exports will increase the return to those with basic education. This narrows the gap between them and those with higher education, but increases the gap vis-a-vis those with no education. The net effect is indeterminate.

The experience of Taiwan, described in the previous section, is one of an economy where almost the entire workforce had basic education by the time of the export boon of the late 1960s to the early 1980s. Thus the policy of opening up led to higher growth and greater equity. But in Latin America and in Africa, and in some countries in South-East Asia, those with a sufficiently high level of education to benefit from a growth strategy of light manufacturing are quite small in number. These groups will

> enclaves, managed by the Export Processing Zone Authority ... Cavite is home to one of the oldest zone authority enclaves ..... JRA, Philippines, which makes Jordache jeans for sale in U.S. department stores, transferred to Cavite from Manila three years ago ..... JRA employs 350 workers (who) can earn as much as $480 a month, which is more than school-teachers or government office workers make .... Romeo Gil M. Santos, 38 a production manager who considers himself lucky to have a job with JRA .... The factory is so well known for good wages and benefits, he said, that the demand for jobs far exceeds the number of openings ..... Santos is experienced in the garment business .... Workers without previous experience in the garment business have little chance of getting a job with JRA.
>
> Armando Rodriquez does not know how to operate machines. Rodriquez, 38, is a fisherman and owns a small boat. He remembers the days when bay fishing was good and he could earn about $120 a month in the peak season. But that was long ago ... Armando Rodriquez feels little effect of the export processing plants on his own life. 'The zone authority helps, because it is able, to provide jobs, especially for my sister', he said. 'But we small fisherfolk feel threatened, especially if the (authority) is going to expand and cover other areas ....' "

Interestingly enough, the East Asian tigers, who based their growth with equity miracle on labor-intensive exports and universal education, are themselves feeling the strain as investment moves to new areas of cheap labor surplus such as the Philippines or Bangladesh. Demand for unskilled labor has started to fall relative to supply, leading to a situation similar to that in the U.S. Industry in these countries is moving to upgrade to more skill intensive products. Robbins (1995a) and Leamer (1995) are among those who have developed analyses which suggest that such processes, which interact strongly with capital inflows, may widen skill differentials unless the supply of highly skilled labor also increases. Whether it is in the East Asian tigers, or in the poor economies of South-East Asia, Africa, and Latin America, education policy—or policy to deal with the distribution of human capital—turns out to be key, and we turn to an examination of this and other distribution policies.

3.3 Redistributive Policies: Land, Education and Transfers

In the face of possible short and long run distributive consequences of alternative growth policies, and theoretical and empirical argument that equitable distribution of assets, in particular, can be the foundation of economic growth, a considerable literature had developed on distributive policies. In this section, we will focus on policies towards land, towards education, and on the role of transfers and the targeting of policies towards the poor.

The distribution of physical and human capital emerges from the theoretical and empirical literature as the key to the distributional consequences of growth, and as a determinant of growth itself. In

the Kuznets curve literature, where the primary focus is on estimating a relationship between inequality (or poverty) and per capita income, measures of inequality in physical and human capital turn out to be significant explanatory variables, even when no clear conclusions can be drawn on the independent influence of the level or growth of income. Thus Bourguignon (1994), Bourguignon and Morrison (1990), Papanek and Kyn (1986) and Jung (1992) are examples of innumerable studies which find that equality, and growth, benefits from universal basic education, and from a wide spread of secondary education. In addition, as noted earlier in this section, Deininger and Squire (1996b) is the latest in a long line of studies to emphasize the role that land inequality plays in holding back growth, equity and poverty reduction, a position that was also advanced in the consensus attempted by the World Bank in its 1990 World Development Report.

An examination of the empirical literature on the consequences of land redistribution shows the difficulties of implementing such reforms in practice. There is, of course, the basic political economy problem that in most countries where the land distribution is highly unequal, the landed elites tend to control the political process. The land redistribution in Taiwan and Korea occurred under very special war-related circumstances. The literature is replete with examples of attempts at redistribution which were circumvented in practice by the elites (see Bardhan, (1984)). Some particular method of land reform, such as restrictions on tenancy, can actually harm the poor in the absence of effective ownership ceilings because landlords will, quite simply, take land out of the renting market, thereby reducing a source of income for the landless poor. As noted by Chu (1995) there were effective ownership restrictions in Taiwan, enforced by mandated selling at below market prices by those above the ceiling. Moreover, since a large proportion of land was in public ownership, sales could be controlled by the government. But the key here was the fact that the Nationalist government (perhaps in response to developments in mainland China in the 1940s and 1950s) was determined to achieve an equal land distribution. Attempts in Latin America to collectivize farming have failed (Thiesenhusen, 1989). In Africa, the distribution of landholding at independence was highly unequal in many Eastern and Southern African countries but relatively equal in Western Africa. In Zimbabwe, for example, almost two decades after a government committed to land redistribution took over, land inequality remains acute, and the source of highly unequal distributional outcomes. At the same time, the Ujaama experiment of collective farming in Tanzania is generally recognized to have been a failure.

Lipton and Ravallion (1995) argue that even if effective land redistribution can be effected, its impact on distributional outcomes may not be as large as might appear at first sight.

> "The rural poor usually do overlap substantially with those who own and or operate little or no land. But there are exceptions. Rural teachers, shopkeepers, and artisians are often welloff though landless; in parts of West Africa rural non-farm employment, not occupancy of farmland, appears to predict lower risk of poverty (Hill, 1972; Reardon et al., 1992). Conversely, households that own and operate as much as 3 or 4 hectares of bad land can be very poor; in Western India, they are no likelier to escape poverty than are the landless (Visaria, 1980; Lipton, 1985). In better farming areas, lack of land is a clear correlate of poverty, but it is an imperfect one; this constrains the prospects of reducing aggregate rural poverty by land based redistributions (Ravallion and Sen, 1994)."

The above also highlights the large variations in the possible impact of land redistribution—from the very high man-land ratios in South Asia to conditions approaching "land surplus" in parts of Africa, from good quality irrigated and intensely cultivated land dedicated to single crops to poor quality, rainfed land with multiple cropping, from historically highly unequal distributions to areas where distribution is already relatively equal, from countries coming out of experiments in large scale collectivist farming, to countries where most land is already privately owned, and so on. Add to this the political economy constraints, and the fact that land is by no means a perfect correlate for income, and we can see why the literature, while agreeing on the importance and efficacy of land reform in theory, is much less bullish on the practicalities of such reform.

In fact, there is a far greater consensus in the literature on the importance, and the feasibility, of improving the distribution of education (and health) in the population (see Anand and Ravallion, 1993). There is now almost total consensus that universal basic education is a necessary condition for sustained equitable growth. Special emphasis is put on girls education, since this in turn reinforces not only the health of children but also the equality of intra-household distribution, an issue we shall take up in the next section. In fact basic education is distributed quite unequally in most poor countries. The adult literacy rate, for example, is close to 100 percent in the industrialized countries. In the newly industrializing countries of East Asia, it is also high—97.6% in Korea, 90.3% in Singapore, 93.6% in Thailand and 82.2% in Malaysia. But in Niger this figure is 12.8%, in Burkina Faso 18.0%, in Pakistan 36.4% and 50.6% in India (see UNDP, 1996). With these figures, it should be clear why a strategy based on exports whose manufacture requires labor with basic education (Wood, 1994) would be equitable in Korea but inequitable in Burkina Faso or Pakistan. Clearly, for all countries that fall below it, as rapid a move as possible to universal basic education has to be the priority.

Not surprisingly, once we move beyond basic education to the secondary and tertiary levels, inequalities increase. The implications of inequalities in high levels of skill, in those countries specializing in skill-intensive production and exports, are worrying. Countries like Taiwan, as their unskilled labor-intensive export strategy comes face to face with huge pools of equivalent but lower wage labor in mainland China, Vietnam, and so on, have to move to skill intensive production. But higher levels of education are distributed much more unequally than basic education. Unless Taiwan accelerates the equalization of higher levels of education, the required growth strategy will be disequalising.

Thus the redistributive policies needed in the area of education vary from country to country. In the poorest countries, equalization of basic education is needed to ensure equitable, labor intensive manufactures based growth. In the newly industrializing countries, the urgent need is to upgrade labor force skills and education to the next highest level. This is not the place to discuss the technicalities of implementing education policy in developing countries. Suffice it to say that in most countries in Africa, Latin America and south East Asia, public expenditure on basic education is disproportionately low. In Burkina Faso, 32% of public expenditure on education is on the tertiary level, and in Egypt it is 37% compared to 30% in Hong Kong, 16% in Malaysia and only 7% in Korea (UNDP, 1996). While efficiency of such expenditure is clearly important, figures like those for Burkina Faso and Egypt are not consistent with a policy to equalize basic education. (There is a large literature on allocation of public expenditure e.g. Foxley (1979), Meerman (1979), Selowsky (1979), Selden and Wasylenko (1994), etc.).

While accelerating skill upgrading in the population is a key policy, this is not something that can be achieved overnight, or even quickly enough to match the pace of change in labor demand. But for the poorest countries, with very large numbers of people with minimal or no education, it may take quite some time to approach even moderate spread of basic education. As discussed earlier, in the meantime a light manufactures exports led strategy will then lead to greater inequality, and perhaps even immiserization of those with no education. This suggest that policy should first and foremost target those with no education, and with little prospect of crossing over into the ranks of the educated over a five to ten year horizon. This seems to be the analytical basis of the call from many NGOs (for example, Watkins, 1995) for a focus not on an outward oriented, export based growth strategy but one which targets increasing food production yields ("food self-sufficiency"), particularly by women. This, together with basic education, health and infrastructure targeted at rural areas is the core of their proposed strategy for equitable growth, particularly in Africa. While overall growth may indeed be lower (though this point is not fully conceded) its pattern will benefit the poor.

For the newly industrializing countries, there remains the prospect that, over a five to ten year horizon, while those with higher levels of education will benefit, those with lower or no levels of education may lose out. In Taiwan and Korea unskilled unemployment is on the rise, causing social tensions in its wake—a phenomenon well known from OECD countries in the last ten years. And the fact has to be faced that there may be a significant number of people who cannot be retrained or retrained quickly enough, to meet the new realities. For these people, transfers of income must form an important component of survival. An analytical framework for thinking through this problem in its most general form is provided in Kanbur and Tuomala (1994). Using the Mirrlees (1971) model of optimum income taxation, they ask—what happens to the extent and nature of the optimal degree of redistribution (i.e. redistribution which takes into account incentive effects) when inherent inequality (in the Mirrlees model, the inequality of underlying labour productivity) increases? The answer, perhaps obvious, is that the optimum income tax system becomes more progressive, taxing the better off at higher rates to support the less well off. Changes in the global trading and production environment, discussed throughout this paper, can be interpreted as having increased inherent or underlying inequality in developed, newly industrializing and developing countries. Thus one of the policy responses should be a greater willingness to redistribute through the tax and transfer system. There is a huge literature on appropriate targeting of public expenditures and transfers so that they do indeed reach those less well off, prompted by many failures of the 1960s, 1970s and 1980s, where expenditures ostensibly intended for the poor ended up in the hands of the non-poor (e.g. Cornia and Stewart (1995), Cox and Jimenez (1994), Datt and Ravallion (1993, 1994), Foxley (1979), Grosh (1994), Hammer, Nabi and Cercone (1994), Meerman (1979), Ravallion (1993), van de Walle (1994)).

The Mirrlees (1971) model of optimal non-linear income taxation is, in fact, a prototype model of income based targeting, except that it also deals integrally with the issue of raising revenues. Among the best recognized results from this paper, and the literature that followed it, are that (under certain conditions) marginal tax rate should be zero at the top and the bottom end of the distribution, and that the marginal tax rates fall over the bulk of the income range. The U.S. literature of the 1960s and 1970s on the negative income tax is in this tradition, facing explicitly the tradeoff between providing sufficiently high transfers to the poor and the high marginal tax rates that this would necessitate further up the income distribution if the government's budget constraint were to be met. Akerlof (1978) was one of the first to point out this tension could be eased somewhat if the government could distinguish individuals not only by their income but by other easily observable and monitorable characteristics. The information base of the government would expand, and the overall effect on social welfare was bound to be beneficial. Immonen, Kanbur, Keen and Tuomala (1998) are among those who follow this tradition of combining targeting by income relation and targeting by contingent or group characteristics. It is shown in Immonen et al. (1998) that allowing for such group specific income tax schedules can make significant gains compared to the case where no group differentiation is allowed. Moreover, the group specified schedules can have very different properties from the single schedule case. Thus, for example, one of the stylized findings of calculations based on the Mirrlees (1971) model (see Tuomala, 1990), is that with the usually assumed range of overall revenue requirement of 10%-30%, marginal tax rates tend to fall over a large part of the distribution. However, Immonen et al. show that with two groups the tax schedule for the poorer group can display increasing marginal tax rates over a significant range. This is attributed to the fact that in the optimum a relatively large transfer is required for the poorer group, and we can thus interpret the problems as choosing an optimal non-linear schedule for this group with a large negative revenue requirement, a range of parameters not considered by the earlier, Mirrlees-inspired, literature.

Kanbur and Keen (1989) derive results for the two group case by restricting attention to the class of linear income tax schedules. However, it can be argued with the administrative weaknesses in most developing countries, any form of income relation is problematic if not infeasible. A literature has thus developed on targeting of income and expenditure transfers which rely solely on observable characteristics of individuals or household—every unit with the same characteristic is treated identically, and indeed given a uniform transfer. The basic analytics of this framework are developed in Kanbur (1987a) for the case of two group distributions, and an overall budget for disbursement. It is assumed that any budget allocated to a group will raise all incomes in the group in identical fashion—this can be an additive increase, or multiplicative increase. Rules of thumb are then derived for reallocation of budget based only on observable summary statistics of group distribution (the actual analysis is carried out for poverty indices,

but the application is much broader). This type of "indicator targeting" is sometimes used in practice in its pure form, but more often it is used indirectly—for example, by targeting the housing renovation budget to poorer areas, or restricting supplementary feeding programs to particular districts, or restricting transfers to those above (or below) a certain age (Grosh, 1995). While the details differ, the basic framework, and trade-offs, are very similar. Ravallion and Chao (1989) apply this framework to a simulation exercise showing how much improvement in targeting of a given transfer budget there would be if, instead of being divided equally among the rural population, it were optimally targeted to different categories of land holding. They find some improvement, but still significant leakage because land holding is not a perfect correlate of low living standards.

Food subsidies have always been an enormously popular method of attempting to target the poor. Fairly obviously, the efficacy of this method depends on which items are being subsidized. Besley and Kanbur (1988) derive rules for targeting these subsidies if the objective is poverty minimisation—under various conditions. For example, one of the key indicators turns out be the ratio of the consumption by the poor of a commodity to the total consumption of that commodity in the economy. Commodities for which this ratio is higher should attract a higher subsidy. The intuition behind this is as follows. A unit reduction in the price of a commodity is equivalent to a transfer of purchasing power in proportion to the consumption of that commodity. Thus total consumption of that commodity is proportional to the budgetary cost of the subsidy while the consumption of the poor is proportional to the impact on poverty (the latter relation is exact for certain measures of poverty). Hence the "poverty reduction per unit of budgetary cost" is proportional to the proposed ratio. Of course, in practice it turns out that food subsidies are not allocated according to this or similarly motivated rules.

Another method of making transfers which has received attention in the literature is based on employment. Ravallion (1991) and others have examined the efficacy of Employment Guarantee Schemes in the Indian state of Maharashtra and elsewhere. The schemes in India date back from the Famine codes of the British colonial era. The idea is that instead of simply making unconditional transfers, or transfers based on socio-demographic characteristics, a public works scheme will be set up at which labor will be hired at a given wage rate. Obviously, only those for whom income in alternative time use is lower than this wage will turn up. If it is assumed that these are the poor group, then the scheme targets through self selection. Of course, the targeting is not perfect. For example, the old and the infirm will not benefit from an employment based scheme. But as Ravallion's (1991) survey shows, in practice such schemes will target the poor relatively well, and create local infrastructure in addition. However, one of the lessons from all these experiences is on the importance of administrative capacity to manage such schemes.

Thus if, as we have argued in this paper, there is sometimes a tendency for the growth process to accentuate inequality or even immiserize certain groups in the population, even if only in the "short run", targeting of transfers in cash and kind may be one policy response. On the face of it, this seems quite attractive—simply identify (directly or indirectly) those who are poor or adversely affected by the changes in question, and target either transfers or income raising interventions to them. But, as Besley and Kanbur (1993) warn, targeting should not be seen as a panacea—or, at least, it should not be seen as costless. They identify three principal problems. First, implicit in the notion of targeting is the feature that as the individual or household gets better off the benefit is withdrawn. This is true whether the transfer is in cash, in kind, or in terms of help with productive inputs (e.g. credit for farmers, school scholarships for children from poor households, etc.). It is also true whether the targeting is based directly on measures of the standard of living, or on group characteristics based on indicators. To different degrees, the basic feature that for targeting to be effective benefits have to be withdrawn rapidly as the poverty threshold is crossed will mean, in effect, high marginal tax rates on the poor. The trade off between incentive and targeting effects will have to be managed, as shown in Kanbur, Keen and Tuomala (1994).

The second problem highlighted by Besley and Kanbur (1993) is that of administrative costs and capacity. The more sophisticated and "fine" a targeting system, the greater its requirements in terms of administrative input. Anand and Kanbur (1991) discuss the administrative problems caused by the reform of Sri Lanka's rice ration system in the late 1970s. Before the reforms, there was a general rice ration, delivered through the public distribution system which had been set up during the war and functioned quite well. But, because this general subsidy had a high rate of leakage to the poor, it was decided to target the

rice ration only to those households with income below a certain level. Thus rolls had to be developed and maintained on eligible households. For a start, the criteria themselves were more complex than a simple income level—there were different income levels for different household sizes. And there was the issue of "cleaning out" the rolls every year--an administrative and political nightmare. Ultimately the new scheme was introduced and did function, but such detailed engineering would be even more problematic in a country without such a high level of administrative competence as Sri Lanka is recognized to have.

The third problem with targeting as a panacea is political. There are good political reasons why transfers are not finely targeted to the poor in most societies—including developed ones. The Sri Lanka case is again instructive. As Anand and Kanbur (1991) note, after the reforms which retargeted the rice ration budget to the poor, this budget itself declined (the value of the subsidy was allowed to be eroded by inflation) without eliciting any of the protest that earlier attempts to reduce the generalized subsidy had given rise to. Quite simply, those above the (low) income threshold which cut off the subsidy were no longer interested in the level of the subsidy—the poor were left to their own political devices. Besley (1997) discusses this political economy dimension of targeting, and he points out the limits of fine targeting as a redistributive device when the overall degree of redistribution in the economy is itself subject to a political game.

4. BEYOND NATIONAL INCOME DISTRIBUTIONS

Up to now we have more or less restricted ourselves to the national income distribution. But many of the issues in the realm of income distribution invite us to go beyond the national income distribution in different dimensions. First, while the focus in this paper, and indeed in the literature, has been the distribution of income (or consumption) between households or individuals, many important aspects of the political economy of the development process concern distribution across racial, ethnic or regional groups. Second, there has been a great increase in attention paid to intra-household distribution, including distribution by gender. And third, going from a lower to a higher level of aggregation, an important strand of the literature addresses the issue of the global distribution of income, in particular, the gaps in per capita income between nations. We will discuss these three extensions to the core literature on income distribution and development in this section.

4.1 Inter-group Distribution

The core literature on Income Distribution and Development is strangely silent on inter-racial or inter-ethnic dimensions of distribution as development proceeds, while the daily political discourse in many countries, particularly in Africa, has this as a constant topic of discussion and tension. The recent ethnic strife in Central Africa, which is recognized to be at least in part based on distributional struggle, or the acknowledged success of Malaysia's active management of interethnic distributional issues, should raise some questions on why so little attention is paid in the analytical literature to these issues.

One reason, it seems to us, is the inexorable pull in the literature towards an individualistic Utilitarian social welfare function which sees social welfare simply as an (additive) aggregate of individual wellbeing derived from consumption. With this overall framework, it is not surprising that inter-group issues are seen primarily and merely as contributing to a discussion of interpersonal distributional issues, rather than being important in their own right. Thus, for example, Anand (1983) and others decomposed aggregate, national inequality in the interpersonal distribution of income in Malaysia into its "within ethnic-group" and "between ethnic-group" components for data from the 1970s. The ethnic dimension of distribution between Malays, Chinese and Indians came to the fore when the country was torn apart by race riots in the late 1960s, and the government formulated its New Economic Plan to foster growth and stability. From the three group decomposition of standard inequality indices such as the Theil index, it was possible to distinguish between the "between group component" of inequality (i.e. the interpersonal inequality that would remain if incomes within each group were equalized) and the "within group component" (i.e. the inequality that would remain if the mean of the three groups were equalized at the national mean through proportional scaling). Through such an "analysis of variance" it turned out that the between group component of inequality was "only" around 15%. It was these quantitative magnitudes that

led Anand (1983) and others to argue that the dominant component of the government's strategy had to be within group inequality and not, as was the case in the New Economic Plan, between group differences.

The point is, of course, that such a focus on the interpersonal distribution misses one of the central

The effect of ethnicity on growth and distribution is most discussed in Africa, where the overlay of nation states on intersecting tribal jurisdictions give a high degree of ethnic fragmentation. Bates (1981) is an example of a political science based analysis. Easterly and Levine (1997) use an ethnic fragmentation variable in a cross-section econometric study of growth in Africa and find the variable to be significant. But a richer analysis of the interplay between ethnicity, growth and distribution is possible only with a case study approach, and several papers in the political science literature do this. We will highlight one such paper (Austin, 1996) which illustrates well the nature of this approach, and its contrast with the standard focus on interpersonal distribution. Austin's focus is development, distribution and ethnicity leading up to the mass killings of 1994 in Rwanda, an attempted genocide of the Tutsi minority by the Hutu majority. He considers two views in the literature of the importance of ethnicity in sub-Saharan Africa:

"One is the argument that ethnicity is 'primordial', meaning that it is an original and permanent feature of African societies, with the implication that economic variables are neither a cause of ethnic conflict nor, potentially, a means of reducing it. At the other extreme is the view that ethnicity is of no causal importance in itself, being simply a channel through which other causes (economic included) operate. If that is so, it follows that ethnic tensions could be reduced or even eliminated by the creation of appropriate economic conditions. The argument of this (paper) is that both views are mistaken, and specifically that they are mistaken because they are ahistorical. Rather, we should recognize the historicity of ethnicity, in the double sense that ethnic identities are "constructed" in particular historical contexts, and are therefore malleable; but, on the other hand, that they are malleable only in ways constrained by the very paths through which they evolved. The operational implications of this are correspondingly double-edged. On the 'optimistic' side, ethnic divisions do change, and, more specifically, the risks of ethnic war can be reduced by economic policy. But, more 'pessimistically', they cannot be changed easily, because past experiences and the perceptions of these experiences condition present responses to new policies and incentives. Applying these to Rwanda yields the propositions (a) that it is worth specifically trying to devise economic incentives for interethnic cooperation, but, (b) that these are unlikely to be very effective unless certain political conditions are met which would increase trust between different ethnic groups."

For our purposes, the interaction between distribution and ethnic conflict, for which Austin (1996) supplies more than enough evidence, is the most important conclusion to draw from his analysis. He shows that while there is not much evidence of major disparities, on average, between Hutus and Tutsi's in the rural areas of Rwanda, the fears of a land grab by Tutsi's in the wake of a victory by their rebel (RPF) army, motivated individual and group acts of murder by the Hutus of their Tutsi neighbors in their local areas. Thus growing rural poverty exacerbated an ethnic conflict which already had deep historical roots. In urban areas, the ethnic distribution of public sector jobs had always been divisive. There were explicit programs to redistribute these jobs under different regimes in favor of Hutus. The fear of these jobs disappearing if there should be a Tutsi victory, or improving the prospect of promotion or advancement for oneself or one's relatives by literally eliminating Tutsis in jobs, seems to have been the reason why a large number of lower level Hutu civil servants (including teachers) participated in the massacres in the capital and smaller towns.

What about future policy? The Rwanda case is illustrative, in extreme form, of the problem of growth and distribution faced by many if not most African countries. The countries desperately need growth in order to oil the wheels of ethnic compromise. But if the "standard" measures such as openness,

privatization of state-owned enterprises, land distribution, etc., have impact effects which are ethnically differentiated, then the very social equilibrium which policy makers are trying to sustain may be disrupted. There are two points to be made here—first, that the real issues faced by policy makers on the ground are not so much the impact of growth inducing policies on measures of inequality and poverty in the interpersonal distribution of income but whether their impact is likely to be acceptable to the social and ethnic consensus. Second, there may well be a short term tradeoff between fast growth and ethnic equilibrium, depending on the specifics of the case. Thus Malaysia's spectacular growth performance in the last decade, based primarily on a surge of foreign investment, is based on the social equilibrium fashioned through redistribution in the decade before of sluggish growth. For Rwanda, Austin (1996) warns us to be careful about the interethnic aspects of privatization policy, for example:

> "In principle, if state monopolies merely become private monopolies without effective regulation, the result may be a further opportunity for the appropriation of rents. If the state itself remains an ethnic monopoly, those rents are likely to accrue exclusively to be selected members of the dominant ethnic group. Indeed, precisely this is alleged to have happened in privatizations carried out in the terminal period of the old regime (Prunier, 1995). Even foreign ownership would not necessarily solve the inter-ethnic problem in employment unless the companies have incentives to avoid discrimination. Whatever the form of ownership, there must be a strong case for the introduction of ethnic monitoring of employment."

Austin makes a similar case for a range of policies, and the parallels with the policy discussion in Malaysia in the late 1960s and early 1970s should be clear.

We have argued that extensive use of standard measures of inequality and poverty, which are built up from individual income/consumption, and which are "decomposable" to boot, assists the easy slide into a neglect of inter-group inequality in the current literature. Foster and Sen (1996) have recently challenged the reasonableness of the axiomatic foundations of decomposability, which essentially posit an excessive degree of independence of supposedly irrelevant outcomes elsewhere in the distribution. These axioms, while leading to a convenient class of measures which have become the work horse of the theoretical and empirical literature, go against basic institution and considerable evidence which suggest that individuals do indeed pay special attention to outcomes for their particular racial, ethnic or regional group—perhaps because this embodies a prediction of their own prospects in an uncertain world. The literature on inequality and poverty measurement now needs to axiomatise group dependence, and develop corresponding measures. Such a development would help the broader literature focus on the undoubted importance of intergroup distribution in the interactions between income distribution and development.

4.2 Intra-household Distribution

The most commonly used procedure for constructing an income or consumption distribution is as follows. From a household survey, a measure is constructed of total consumption (or income) for each household. While there may be data on income earned or time use patterns by individuals, consumption data is typically collected at the household level. If a household has total income y and number of members n, this is treated as n observations of consumption y/n each. In more sophisticated exercises, n is the number of "adult equivalent" members which takes into account differing consumption needs. However, the basic feature of the construct should be clear—total household consumption is divided equally among all members of the household.

This basic assumption has been questioned in recent years from a number of different directions, starting with the pioneering work of Sen (1983), which looked at vastly different outcomes by gender within the household, at different ages. The figures, which range from food consumption to hospitalization to mortality rates, confirm a significant gender bias, at least in South Asia. A huge literature has developed to substantiate and extend this work (a selection of the papers includes: Alderman et al. (1995), Bardhan (1985), Bardhan (1982), Haddad, Kanbur and Bouis (1995), Browning (1992), Chen, Huq and d'Souza (1981), Dasgupta (1987), Garcia (1991), Greenhalgh (1985), Haddad (1991) Haddad and Kanbur (1990,

1992), Kanbur and Haddad (1994), Harris (1990), Louat et al. (1993), Standing (1985) Svedberg (1990), Thomas (1990)).

As an example, consider Haddad and Kanbur (1990), which uses individual level calorie-intake data from a special survey conducted in the Philippines. The data problems and issues are discussed in the paper. The basic argument is that since we have individual level data we can calculate "true" measures of inequality and poverty, and then compare these with what we would have got had we gone the traditional route of calculating total consumption at the household level. Not surprisingly, the traditional method will always understate inequality and poverty as measured by "Lorenz-sensitive" measures. But by how much? Haddad and Kanbur (1990) show that the understatement can be significant—about 30% to 40% for this data set. However, what about use of the conventional approach for targeting—for ranking different socio-demographic groups by their inequality and poverty? Here, it is shown that such rankings do not change when based on household characteristics—thus, for example, the ranking of groups by region or by primary crops grown does not change dramatically when comparing the "true" situation with that which would be revealed under the conventional method of collecting consumption data only at the household level. However, the relative rankings of groups by individual characteristics e.g. men versus women, is indeed sensitive to what type of data is used—indicating that intra-household inequality has a strong gender dimension.

Another cut at the issue of intra-household allocation is through tests of the "income-pooling" restriction. In the standard neo-classical model of the household, which maximizes a common utility function, consumption patterns should depend only on total household income and not on who earns that income. If, however, intra-household allocation patterns are determined by bargaining between different parties, we would expect that the income pooling restriction would not hold. While there is still some room for debate because the econometric results can be interpreted in different ways, Alderman et al. (1995), in their review, argue that the consensus is moving away from the "unitary" model of the household to the "collective" model.

Once one allows departures from the "unitary" model of the household, there are profound implications for policy. Among other things, it opens up the question as to whether it is the household or individuals within a household who are the targets of transfer policies. In many developed countries there is a perennial debate as to whether child benefit should be paid through the tax system (so that it would typically be the father who brings home the money) or through the social security system (so that it would typically be the mother who picks up the money at the social security office), a debate which would be meaningless if income-pooling were the norm. The evaluation of supplementary feeding programs in developing countries which target undernourished children at the feeding stations has to be tempered with the realization that the extra glass of milk at the station could mean a glass of milk less at home for the child. Employment guarantee schemes have to worry about the differential impact of male and female hiring on the allocation of resources to women and children in the household.

As an important example of how gender bias in the intra-household allocation of resources can affect policy analysis, consider the literature discussed in the previous section on structural adjustment and distribution. There, it was argued that measures such as evaluation, which increase the profitability of tradable goods production relative to non-tradable goods production, will have a beneficial effect on poverty because the incidence of poverty in the non-tradable goods sector was lower than that in the tradable goods sector. But the empirical basis of this claim, as in Kanbur (1990), are standard household surveys which collect information on consumption only at the household level. Thus, typically households are classified by occupation or activity of the head of the household or, for farm households, the dominant source of income. This would be reasonable if income pooling was the norm. But it is not, and add to this the fact that there are significant differences between men and women in farm activity—in many African countries, men control the cash crop plot and women control the food crop plot. The former is typically an exportable such as cocoa, while the latter is non-tradable such as roots and tubers. Moreover, childbearing and child rearing, the quintessential non-traded activity, is largely the domain of women. With these structural characteristics, we might expect some negative impact of the standard macro level terms of trade adjustments on women. The framework developed in Kanbur (1987a,b) and elsewhere cannot accommodate the possibility of such effects, which have been highlighted by many NGOs (Watkins, 1995).

Thus the area of intra-household resource allocation without income pooling is one of the most exciting new areas in the analysis of income distribution and development. Once income pooling is abandoned, a number of interesting theoretical, empirical and policy issues arise which the literature has only just begun tackling.

4.3 Global Distribution

Having worked on income distribution within a country, it might be tempting to analyze the evolution of income distribution in the world as a whole. The overall distribution of income in the world is conceptually simply a population weighted sum of national distributions. Thus overall inequality depends upon inequality within each country, the population shares, and per capita incomes across countries. Overall poverty can be derived applying a common poverty line across the global distribution (e.g. Chen, Datt and Ravallion, 1994). Such exercises are fraught with methodological and data problems, ranging from establishing income comparability across different countries, through the conceptual basis of a common poverty standard for all countries, to the comparability of disparate household surveys across countries (plus the fact that some countries do not have any worth using).

But, nevertheless, there seems to be a demand in international policy circles for such work—at least for global numbers on "the poor". Lipton and Ravallion (1995) summarize the sorts of results that can be obtained:

> "Recent estimates following this methodology indicate that about one-fifth of the population of the developing world in the mid-1980s had a real consumption level less than India's poverty line of about $23 per month in 1985 U.S. prices (adjusted for cost-of-living differences between countries). At a more generous poverty line of $31 per month—one dollar per day—the head-count index of poverty increases to about one in three. There are no strictly comparable earlier estimates, but the proportion of people poor has probably fallen since the mid-1970s, while the absolute number of poor has probably increased. However, these aggregates hide great regional diversity, for example, while the proportion who are consumption poor has declined in much of Asia it has probably increased in sub-Saharan Africa and Latin America during the 1980s (World Bank, 1990; Chen et al., 1994)."

It is not clear what exactly the policy implications are of such estimates of global income distribution. As for poverty, its calculation is dominated by assumptions and adjustment to measures of per capita income—technical adjustments to the China data can, and do, swing the estimates around considerably. But the influence of per capita income is behind another standard issue in the "global income distribution" literature—that on whether or not per capita income converge or diverge. There is considerable controversy on the theory of such evolution, on the empirical evidence for it, and on what it might mean for policy.

In the standard Solow neo-classical model of growth, the economy tends to a steady state of constant per capita income, with a negative relationship between per capita income and the growth rate on the path to the steady state. Thus if all countries followed this model with the same technology, savings and population growth assumptions, there would be absolute convergence towards the common steady state per capita level of income. The conditional convergence hypothesis predicts the same outcome of a negative relationship between per capita income and growth rate in per capita income, and the consequent convergence to the same per capita income in the long run, but only for those countries which have the same preferences, technologies, rates of population growth, government policy, etc. But Galor (1996) argues that both of these hypotheses are related to the unique and globally stable steady state equilibrium in the standard neo-classical growth models, so that the long run evolution of the economy is determined independently of initial conditions. If the dynamic system had multiple, locally stable, equilibria, then in order to converge to the same steady state countries would have to have not only the same technologies, etc. but also not be too different in their initial conditions. This is christened the club convergence hypothesis. In this framework, countries can indeed diverge in the long run, and transitory shocks (and policy) can alter the long run equilibrium. As Galor (1996) notes:

> "Once the neoclassical growth models are augmented so as to capture additional empirically significant elements such as human capital, income distribution, and fertility, along with capital market imperfections, externalities, non-convexities, and imperfectly competitive market structure, club convergence emerges under broader plausible configurations. The incorporation of human capital formation into basic growth models provides an environment in which club convergence is a viable theoretical hypothesis under plausible scenarios. Countries that are identical in their structural characteristics but differ in their initial level or distribution of human capital may cluster around different steady state quilibria in the presence of social increasing returns to scale from human capital accumulation (e.g. Lucas, 1988; and Azariadis and Drazen, 1990), capital market imperfections (e.g. Galor and Zeira, 1993), parental and local effects in human capital formation (e.g. Benabou, 1996; Durlauf, 1996; and Galor and Tsiddon, 1994), imperfect information (e.g. Tsiddon, 1992) and non-convex production function of human capital e.g. Becker, Murphy and Tamura, 1990)."

There is considerable empirical literature on whether or not per capita income levels in fact converge over time. Kuznets (1966, 1971) had already discussed this issue. In the 1980s, the work of Baumol (1986) and others drew considerable interest. In the 1990s, Barro (1991), Barro and Sala-I-Martin (1992, 1995), Mankiw, Romer and Weil (1992) are among the best known papers in a large and growing literature. In a recent paper, Pritchett (1997) argues that the following eight facts characterize the pattern of growth rates in the last century or so: (i) massive divergence in absolute and relative per capita income; (ii) steady and near equal growth rates amongst the leaders in the long run, (iii) the currently poor countries have had very low growth historically; (iv) in the modern period, some countries that began poor in 1960 continued to stagnate; (v) but other countries who started poor had extremely rapid growth; (vi) growth rates have varied dramatically across developing countries; (vii) growth over time for individual developing countries has also been highly variable; and (viii) growth rates in developing countries have not been characterized by persistence.

These stylized facts obviously reject simple absolute convergence. They also indicate support for the club convergence hypothesis. Certainly, getting the structural features right can change the growth prospects for a country—the "conditioning" variables in standard regression tests are the usual ones such as physical and capital accumulation rates. So can "initial conditions" which include, for example, the initial distribution of land holdings. It is possible to understand the development of Taiwan, discussed earlier in the paper, in terms of the fortuitous initial condition of a relatively equal land distribution, as the result of the war, and continual policy adjustment, which kept the country on an equitable growth path. Perhaps the most worrying aspect of early discussions of, and seeming support for, "convergence" was the tendency to sideline policy—if "convergence" was the norm, there was nothing that could be done but accept lower growth rates for the leaders, and perhaps all the laggards had to do was to wait for "convergence" to pull them up. The theoretical and empirical literature of the last two decades has laid to rest such simplistic tendencies. Convergence has not come to the rescue of the poor countries who have stagnated since 1960. On the other hand, there are very clear policy reasons for why those countries which have grown rapidly have done so. In short, there is no underlying law for the world distribution of income to either equalize or disequalize—whether this happens or not is very much the aggregate effect of a myriad of policy decisions taken at the country level.

5. CONCLUSION: DIRECTIONS FOR THE NEXT DECADE

The literature on income distribution and development ends the 20th century in a vibrant state, with the new conditions of the time raising new questions, and old questions anew. We would like to highlight the following promising directions for the next decade from this review of the literature.

5.1 Country Case Studies

We have shown that the literature of the last three decades is dominated by an approach which drives for an aggregative, reduced form relationship between measures of inequality and measures of development, often tested with data from a cross-section of countries. We have argued that such exercises

are useful as far as they go, but they have severe limitations either as tests of alternative hypotheses on the development process itself, or as indicators of what policy responses are appropriate. A superior approach is one which looks at country experiences in their historical and policy detail, and approaches the issues of policy directly and specifically—relying on cross country regressions of inequality on per capita income or towards the view that growth with equity was definitely a feasible option. The experience of East Asia, and analysis of the macroeconomic distortions in Africa and Latin America, seemed to suggest that it was possible to have more growth and more equity. But, it seems, that no sooner had the consensus been formulated than it began to be questioned by developments, not least in East Asia. Skill-biased technical progress, and vast increases in the global supply of unskilled labor as the result of greater openness, have together begun to widen inequality in many countries—even if poverty continued to decline. The analysis of these new trends, and the possible policy responses to them, will keep the literature active in the years to come.

5.3 Disaggregation

Many of the key policy issues in the area of income distribution and development show themselves in very disaggregated fashion. Thus if overall measured poverty falls as development proceeds, but this is the aggregation of improvements and deteriorations in poverty across the country, quite often the real policy story—or certainly an important component of it—is the plight of those immiserized by the process. The literature needs to focus more on these disaggregated effects. Similarly, if overall inequality in the interpersonal distribution of income remains unchanged, or even it improves the real policy consequences may flow from charges in various intergroup distributions of income—for example, movements in the ratios of ethnic mean incomes in an ethnically divided society. The individualistic tendency in inequality measurement, which is reinforced by the use of convenient decomposable inequality measures, skates over these intergroup issues which will demand increasingly greater attention.

5.4 Intra-household Allocation

Till the mid 1980s, the intra-household and gender dimension of income distribution and development had not received sufficient attention in the analytical literature. But in the last decade, driven to some extent by growing policy concerns, considerable work on this topic has begun. Analytically, the area spans work on intrahousehold allocation, models of discrimination, disaggregated measurement of inequality and poverty, and intergenerational transmission of disadvantage. The policy importance is given by the fact that many policy instruments may have a gender differentiated impact, and gender based targeting may be a key policy approach to enhancing not only distribution but also growth.

5.5 Alternative Modes of Redistribution

If it is true that globalisation and technical progress will create strong forces for increasing inequality in the early decades of the next century, it stands to reason that redistribution will come to the fore in the policy discussion, just as it did in the 1960s and 1970s. The task of the analytical literature will be to learn from the mistakes (and successes) of extensive attempts in these decades to redistribute, and to provide policy makers with a framework for discussion and with rankings of alternative forms of redistribution—particularly where transfers are concerned. These issues will not go away—indeed, they may reappear in even stronger form in the next decade.

These five areas—country specific analysis, new inequality trends, disaggregated approaches, intra-household allocation and alternative forms of redistribution—stand out as requiring further research in the coming decade. There is every prospect, then, that the literature on distribution and development will continue to excite and interest economists in the years to come.

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