United Nations University

WIDER

World Institute for Development Economics Research

Discussion Paper No. 2002/5

Redistribution Does Matter

Growth and Redistribution for Poverty Reduction

Hulya Dagdeviren,[1]
Rolph van der Hoeven[2]
and John Weeks[1]

January 2002

Abstract

Recent development literature has placed priority on poverty reduction, and on possible growth enhancement from a more equal distribution of assets and income. At the same time, empirical work consistently shows that economic growth is no more than distribution neutral. In that context, this paper explores the relationship among growth, inequality and poverty, and demonstrates the following general conclusions: 1) a redistributive growth path is always likely to be superior to a distribution neutral path ('trickle down') for reducing poverty; 2) a redistributive growth path is always superior if a country's per capita income and inequality are relatively high; and 3) a static redistribution from the rich to the poor is superior to a redistributive growth path in its effect on poverty for most countries, but not for all. The paper then considers policy that might be used to make growth more equitable.

[1]SOAS; [2]ILO

Acknowledgements

UNU World Institute for Development Economics Research (UNU/WIDER) was established by the United Nations University as its first research and training centre and started work in Helsinki, Finland in 1985. The purpose of the Institute is to undertake applied research and policy analysis on structural changes affecting the developing and transitional economies, to provide a forum for the advocacy of policies leading to robust, equitable and environmentally sustainable growth, and to promote capacity strengthening and training in the field of economic and social policy making. Its work is carried out by staff researchers and visiting scholars in Helsinki and through networks of collaborating scholars and institutions around the world.

1. Introduction

In the late 1990s the bilateral and multilateral development agencies came to place increasing policy emphasis on poverty reduction in developing countries.[1] Some agencies went so far as to establish specific targets for poverty reduction. The achievement of targets requires policies, and policies are most effective within an overall, coherent strategy. We argue that the central strategy choice is between poverty reduction through faster economic growth and reduction through distribution, though the two may be complementary. This paper develops an analytical framework to consider which of these would be the most effective in terms of resource allocation, given specific poverty targets, then proceeds to empirical investigation.

Following this introduction, we review recent literature on growth and distribution, and suggest that a consensus emerges that discards the previous 'trade-off' conclusion. More and more analysts have moved to the view that an 'initial condition' of greater asset and income equity enhances growth rates. This emerging view allows us to reject concerns that the redistribution strategy we consider need necessarily undermine poverty reduction in the long run by reducing per capita growth. The question then becomes, how effective would redistribution be in reducing poverty? We argue that this will vary by country, and the analytical framework to assess effectiveness is presented in Section 2. The framework formulates two abstract possibilities: poverty reduction through distribution-neutral growth, and poverty reduction through an equal redistribution of each period's growth increment. These are compared to a conventional one-off redistribution of current income. In Section 3, these possibilities are simulated for a large number of countries. The conclusion is reached that redistribution at the margin is far more effective in poverty reduction than increases in economic growth that are distribution neutral. In Section 4, the exercise in simulation is rendered concrete by discussion of specific policies that could be used to redistribute income, and this is followed by a summary of major conclusions.

2. Growth and distribution

2.1 Inequality and poverty

Of the many issues central to the development process, few have been characterised by the shifts, reversals and re-affirmations that have pledged the analysis of the interaction of growth, poverty and inequality. Evidence that inequality and poverty have risen in many countries in the 1980s and 1990s,[2] including some of the OECD countries, rekindled the ever-smouldering controversies. The mainstream literature has not so much evolved as

---

[1] See, for example, the discussion of targets in DFID 1997). It would appear that there was some controversy over this emphasis within the World Bank. In June 2000, the convenor of the World Development Report, Ravi Kanbur, resigned from his participation in the report. Press reports attributed this to internal disagreements over the relative emphasis to place on growth and redistribution (see *The Financial Times*, 15 and 16 June 2000).

[2] See, De Janvry and Sadoulet (1995), Ravallion and Chen (1997), Flemming (1998), Aghion, et al. (1999), Cornia (1999), Chu, et al. (1999), McDonald, et al. (1999), Milanovic (1999), and Atkinson (1999).

fluctuated over the past fifty years.[3] It is necessary to revisit the debates, in order to place the empirical discussion of a subsequent section in context.

From the 1950s into the 1970s emphasis was on probable tradeoffs between growth and income distribution. This derived in part from the famous 'inverted U-hypothesis' (Kuznets 1955), which proposed that inequality rises in the initial phases of development, then declines after some crucial level is reached. Much research involved estimation of the so-called turning point (Fields 1980, Chapter 4). Growth theories could be cited that provided support for this trade-off. Kanbur (1998) and Kanbur and Squire (1999) pointed out the obvious correspondence between Kuznets' empirical results and Lewis' (1954) labour surplus model. The latter predicts that in a 'labour surplus' economy, with 'unlimited supply of labour', the profit share would rise relatively to the wage share until the labour surplus was exhausted. However, theoretical inconsistencies in the Lewis model undermine this conclusion (Weeks 1971). Other models, as suggested by Aghion, et al. (1999), might explain a trade off between growth and inequality. For example, Kaldor's well known growth model, in which capitalists have higher marginal propensity to save than workers, implies, as in the Lewis model, that redistribution to profits raises the growth rate. However, this model is most appropriate for developed countries, in which the functional distribution of income largely consists of wages and profits, and of less relevance to developing countries, considered in this paper.

In contrast, work in the 1970s sought to identify redistributive mechanisms for poverty reduction without hampering growth.[4] This was a short-lived focus of the literature, reversed with the rise of neo-liberalism and the *Washington Consensus* in the early 1980s. For the latter, growth itself would be the vehicle for poverty reduction, achieved through 'trickle down' mechanisms not always clearly specified. In the 1990s, both the neo-liberal analysis and the earlier view of a trade-off between growth and equity were challenged by a number of studies. Accumulating empirical evidence suggested no consistent relationship among growth, inequality and poverty across countries and over time.[5] At the same time, studies suggested that in many developing countries in Africa, in countries in transition, and in Latin America stabilization and adjustment policies had an adverse impact on poverty and inequality, or at best did not improve conditions of the poor (van der Hoeven, 2000). Further, a consensus emerged that the 'high performing' Asian countries, prior to the financial crisis of the late 1990s, combined rapid growth of per capita income with relatively stable and low inequality (World Bank 1993).

This recent literature that challenges the 'trade-off' and 'trickle down' approaches has roots, not always acknowledged, in the brief flowering of pro-distribution arguments of the 1970s. Chenery and Ahluwalia (1974a and 1974b) constructed a model of 'distribution with growth', which distinguished social groups by asset ownership or mode of access to assets. Growth and distribution were related through 'income linkages' between the groups; i.e., through the labour and commodity markets specified as creating the linkages. The simulation experiments with this model indicated that redistribution led to substantial improvement in the incomes of not only poverty groups, but other income groups as well if

---

[3] See Kanbur (1998) for a thorough review.

[4] See Chenery, Ahluwalia, et al. (1974).

[5] A clear and thorough survey is found on a World Bank website (Ferreira 1999).

aggregate productivity increased.[6] The general thrust of the Chenery and Ahluwalia work was that poverty *constraints* growth. The authors summarized the central conclusion of their work as follows:

> If [a poverty group] is provided with an appropriate mix of education, public facilities, access to credit, land reform, and so forth, investment in the poor can produce benefits in the form of higher productivity and wages in the organized sectors, as well as greater output and income for the self-employed poor. In the short-run, there may be a reduction in the growth of other groups through this re-direction of investment toward the poor, although this is by no means necessary. In the long-run, however, it can be argued that the transformation of the poverty groups into more productive members of society is likely to raise the incomes of all. (1974a: 47)

Later-day contributions repeat this focus on how inequality and poverty reduce the capacity for growth, and vice-versa. A distinction is often made between structural and transient poverty.[7] In the case of the former, possible positive effects of growth on poverty are likely to be limited, especially in the rural sector, by structural and institutional rigidities, such as the concentration of land ownership. Land reform might eliminate such constraints and lead to a rise in agricultural productivity and hence growth. If the productivity of small farms were higher than that of large farms,[8] because of disincentives caused by ownership and the intensity of effort in the small family farms, this would raise aggregate productivity even more.[9] Not withstanding the controversy of the so-called inverse size rule, statistical exercises, and they are no more than hypothesis tests, indicate that inequality of land distribution has a negative effect on growth, inequality and poverty.[10] This effect may be due to unspecified political economy factors, rather than differences in productivity by size.

Transient poverty on the other hand is the outcome of temporary shocks, such as adverse movements in the terms of trade, crop failures or economic reform policies that lead to unemployment. However, the distinction between permanent and transient poverty may not be clear-cut. Households may anticipate moving in and out poverty, and if so may behave

---

[6] Two of the experiments are especially worth noting. In the first, re-distribution to lower income groups took the form of better nutrition, health, and access to education, which led to an increase in the output-capital ratio in the sectors using wage labour. In this case, consumption and income of all groups increased after redistribution. In the second experiment redistribution directly increased the earning capacity of the poor; e.g. redistribution of the investment share of national income. This simulation led to an increase in the incomes of and the assets owned by the poor, as well as a substantial increase in the aggregate capital stock of the economy.

[7] See, for example, IFAD (1999), Cornia (1999).

[8] The study by Ravallion and Sen (1994), for instance, is based on the hypothesis that small farms are more productive than large farms.

[9] However, the allegation that small farms are more productivity than large units is fraught with analytical and empirical controversy .A thorough and sceptical review of the debate over the 'inverse size rule' is found in Dyer (1997). See also Platteau (1992).

[10] See, for example, Deininger (1999), and Alesina and Rodrik (1994). The work of Ravallion and Sen (1999) suggest that land transfers reduce the poverty of landless and near-landless households.

differently from households which are more secure. The precautionary principle may prompt this 'transient poor' not to invest in education, land, and other assets, thus reinforcing their precarious status. In other words, those households above but near the poverty line are likely to be a heterogeneous group, consisting of ones who anticipate permanent rise from poverty, and those fearing a descent into poverty.

Almost by definition the transient poor are those affected by economic cycles and growth. Much of the work that examined the relationship between growth and income distribution in the 1990s is basically empirical, with unclear theoretical foundation. Janvry and Sadoulet (1995) reported that during recessions inequality rises,[11] while positive growth rates are distribution-neutral. Bruno and Ravallion (1998) confirmed that the effect of growth on inequality is indeterminate, based upon a sample of 45 countries for which at least four or more surveys were available over a period of at least two decades covering the 1960s into the 1990s. They further concluded that lower initial inequality raises the likelihood that growth will reduce poverty. As shown in our simulations below, this conclusion follows almost by definition. Li, Squire, et al. (1998) demonstrated that income inequality is relatively stable within countries, a confirmation of almost every other cross-country study, but that it varies significantly among countries. Though obvious as well, the latter finding indirectly supports the pessimistic conclusion that poverty levels tend to persist as countries grow.

Of special interest to our study is that empirical work focussed on policy, that considers the impact of different distributive measures on growth, inequality and poverty. Two points emerge as important: the form of redistribution, and the cost and the incidence of redistributive programs. With regard to impact, productivity-raising redistribution ensures, as shown in the insufficiently appreciated Chenery-Ahluwalia work of the 1970s, that distribution does not reduce poverty at the expense of growth, and produces sustainable poverty reduction. That is, those raised from poverty do not regress to their former deprivation. Enhancing asset ownership for the poor is the clearest way to accomplish this. Investment in infrastructure, credit targeted to the poor, land redistribution, and education emerge as important mechanisms to make growth 'pro-poor'. In the 1990s considerable stress was placed on education, perhaps because of its non-controversial nature. The approach was that of a 'human capital' framework, which apparently allows the acquisition of skills to be treat on par with ownership of physical assets. This approach is dubious, since accumulated education as such cannot be sold by the 'asset holder', while land and other tangible property can. Thus, if a worker loses his or her job during a general fall in aggregate demand, education provides no asset that can serve as a 'safety net' when sources of livelihood are temporarily lost (i.e., it is not 'liquid').

If poverty and inequality have a transitional component, induced by external shocks such as business cycles and price instability, they will be affected by short-term macro policies. Particularly controversial are the possible adverse effects of stabilization and structural adjustment programs on poverty. While some World Bank studies sought to deny the importance of adverse effects, this sanguine view failed to establish itself.[12] In response to

---

[11] This is not a surprising conclusion, since recessions generate unemployment.

[12] Referring to adjustment programmes in the sub-Sahara, Demery and Squire concluded, '…*effective reform programs are associated with reduced overall poverty, inadequate ones with worsening poverty*' (1996, 40, italics in original). For a critique, see Weeks (1997), along with their reply (Demery and Squire 1997).

the controversy over adverse effects of adjustment on the poor, the World Bank and IMF proposed 'social safety nets' and 'social funds' in some countries, to target adjustment-induced poverty, with these programmes typically were designed for a limited period.[13] An evaluation of these social safety nets suggest that these programmes, typically financed by multilateral lending, had some positive impact on what might be called 'adjustment losers', but did not necessarily reach the poor. Stewart argued that internally funded and locally designed antipoverty programmes proved more effective in reaching the poor than social funds (Stewart 1995)

2.2 Methods and incidence of redistribution

If redistribution is used to reduce poverty, then key policy issues are redistribution from whom, to whom, and by what mechanism, which relate directly to the empirical work of this paper. The loss and gain of distributive programmes on income groups, and their reaction to these losses and gains, will depend on the nature of the programme. Similarly, the administrative burden will vary by programme.

Superficially, land distribution and income distribution would seem to be polar cases. It might be argued that redistributive land reform, from large landowners to landless peasants involves a one-off redistribution, which, once achieved, can be left to generate a more equal distribution and lower poverty levels. On the other hand, a redistribution of income, without asset redistribution, must be implemented by a continuous application of progressive taxation and equity-biased public expenditure. In practice, the alternatives are not so clear-cut. For example, land redistribution unaccompanied by rural development expenditure might generate a class of poverty-stricken smallholders. Most of the land redistribution programmes in Latin America, even those that radically changed ownership patterns (as in Peru), proved in practice to be poverty-generating rather than poverty reducing (Thiesenhusen 1989). Land redistribution that generates sustainable poverty reduction may require substantial current expenditure, which in the medium term could equal or exceed the cost of administering a progressive tax system and pro-poor distribution of expenditures. Perhaps more importantly, the more equitable land distribution may prove to be unsustainable in the absence of permanent administrative restrictions on accumulation of land (ownership 'ceilings').

Like land redistribution, progressive taxation would appear to be an obvious vehicle for redistribution. However, studies of tax incidence and impact have produced mixed conclusions. Some indicate that progressive taxation is a limited tool for reducing inequalities in income distribution, as a result of evasion by the rich. A study of Latin America concluded that tax systems did not contribute significantly to the reduction of inequality (Alesina 1998). Using a hypothetical data set, Harberger reached the same conclusion, suggesting that the redistributive effects of progressive and moderate taxation systems were quite similar (Harberger 1998). As an alternative, he proposed that broadly based taxes, such as a value added tax, could be modified to increase their equity by exemptions and exclusions. All such these results are sensitive to the analytical framework made by each researcher, as can be shown by studies that conclude quite the opposite. For example, it would appear that the progressivity of income taxes during 1980-1996 in

---

[13] Cornia and Reddy (1999) take issue with the dubious distinction between the 'adjustment poor' and 'chronic poverty', on analytical and practical grounds.

5

Taiwan had 'positive influence in restricting the expansion of the income gap [between rich and poor]' (Jao 2000). A cross-country study of thirty-six developing countries that in thirteen cases total taxation was progressive, was proportional in seven, and regressive in six. Income tax systems were progressive in twelve cases out of fourteen (Chu, et al. 1999). A survey by the ILO reached similar conclusions (ILO 1992).

Revenue raised *via* progressive taxation can generate a further redistributive impact via progressive expenditure, depending on targeting or incidence. Empirical work has adopted either a 'benefit incidence' or an 'expenditure incidence' approach. Expenditure incidence examines the effects of public spending on the *incomes* of the beneficiaries, while benefit incidence examines the comparative benefits of public goods for intended beneficiaries. The provision of public goods can be considered progressive if the benefits to the poorest quintile are larger than for the richest quintile. As an alternative measure, public spending can be considered progressive if the benefit-income ratio for the poorest quintile is larger than that for the richest quintile.

The studies of public education typically show that expenditure on primary and secondary education reduces inequality, and expenditure on tertiary education has a regressive impact.[14] In this context, Alesina maintained that subsidising higher education *at the expense of* primary and secondary education reduces the redistributive impact of public spending, because these subsidies will accrue to the middle or high income. He went further and argued that most social welfare and benefit programs favour the urban middle classes, rather than the poor, because provision of social services is more concentrated in the urban areas. The allegation expenditure on tertiary education is regressive reflects a partial equilibrium, static perspective. It takes no great insight to point out that the middle and upper classes in almost every country take advantage of tertiary education, and the poor do not. This is not a serious argument against public funding of tertiary education, for the scientists, technicians, even entrepreneurs who will be crucial to growth typically require university education; i.e., there are externalities to tertiary education. Further, a university system that is purely privately funded may reinforce the power rigidities that are the basic cause of inequality. That the poor do not go to universities is no more an argument against public funding than the absence of the poor from most legal cases is an argument against public funding of courthouses.

The perceived ineffectiveness of redistributive measures leads some to advocate targeting public expenditure to the poor, and to judge effectiveness by accuracy of that targeting.[15] However, targeting of expenditures in developing countries is fraught with difficulty. Sen (1995) argued against targeting public spending for several reasons: 1) information asymmetries reduce the effectiveness of targeting in the presence of 'cheating'; 2) the prospect of losing targeted subsidies may reduce beneficiaries' economic activities; 3) targeting may negatively effect the self-respect of the poor; and 4) the sustainability of targeted programs is doubtful, as the potential beneficiaries are politically weak. To the list can be added the formidable measurement problem, which is serious in industrial countries, and virtually intractable in most developing countries.

---

[14] See, for instance, Chu, et al. (1999), Hammer, et al (1995), Harberger (1998), van de Walle (1995).

[15] For example, Milanovic (1995) introduces a concentration coefficient that measures the cumulative rate of social transfers when recipients are ranked by income. The method of estimation is similar to that of Gini coefficient.

Of great practical importance is that targeting involves administrative costs, the burden of which is a matter of considerable dispute (for example, Kanbur 1998). In a study of thirty social service programs in Latin America, Grosh (1995) found a trade-off between administrative costs and the incidence of targeting programs. That is to say, the more effective the targeting, the greater the cost, implying less expenditure for poverty reduction as such. Hidden administrative costs can arise from problems of project selection and execution in the presence of imperfect information (Cornia and Reddy 1999), with a major difficulty being the identification of the poor. Identification of the poor gives rise to what might be called the 'borderline problem'. If one assumes that the poor are identified accurately and programmes are delivered with equal accuracy, it follows by definition that the poor just below the borderline will be raised above the non-poor just above it. Recognition of this possibility by 'borderline' households can have a negative incentive effect.

Targeting public spending is more likely to be effective if the poor are a small proportion of population; i.e., if poverty is not a major problem. For countries in which poverty is widespread, the administrative cost, identification, monitoring, and delivery of programmes may outweigh benefits. This is particularly the case if a country is or recently has experienced conflict such as civil war. In such countries targeting may serve to accentuate the tensions that generate conflict, since, by its nature, targeting seeks to discriminate among segments of the population (Cramer and Weeks 1997).[16] This problem was a major one in the sub-Sahara in the 1990s, where poverty was both widespread and created or intensified by conflict.

A further strand of theoretical arguments involves so-called political economy arguments against inequality and, by implication, poverty. This analysis predicts a negative relationship between income inequality and growth on the grounds that higher initial inequality would: a) lead to increased public expenditure, because it prompts a demand for redistributive policies, and b) incite political instability that undermines growth (Alesina and Rodrik 1994). This excursion into political science is somewhat dubious. For example, it is not at all clear how a society with the power relationships to generate inequality would, at the same time, produce an underclass with the political power to force redistributive policies upon a government (see Cramer 2000). On somewhat firmer analytical ground, Aghion, et al. (1999) argue that inequality has a negative impact on growth through imperfect capital markets, to which the poor have limited access. In other words, if capital markets discriminate against the poor, potentially profitable activities by the poor are constrained by lack of credit. This position harks back to Chenery, et al. (1974), in which it was argued that growth would be enhanced if wealth were redistributed from the rich to the poor, because the marginal productivity of capital is higher for the poor. The Aghion et al. version adds arguments of 'moral hazard' and macroeconomic stability to the Chenery et al. advocacy of redistribution, to reach much the same conclusion.

Overall, the pro-redistribution literature of the 1990s was relatively limited in its theoretical contribution, and most striking in that it demonstrated, yet again, the

---

[16] To take but one example, attempts at identification of the poor by the authorities may be perceived as having a sinister agenda, identifying the political allegiances of households.

ambivalence of economists towards the issues of inequality and poverty. On the one hand, the mainstream literature, with its emphasis upon the efficiency of markets, had a predilection to view inequality and poverty as accidental or occasional outcomes of a deregulated growth process. On the other hand, the persistence and severity of poverty in many, if not most, developing countries brought forth periodic arguments for their alleviation. The shifts in emphasis in the literature reflect the difficulty of reconciling these two.

From our review of the literature emerge several important points relevant to the empirical presentation below. Perhaps the most important is the growing consensus in the literature that countries with an 'initial condition' of relatively egalitarian distribution of assets and income tend to grow faster than countries with high initial inequality. For our purposes this is an extremely important conclusion because it means that reducing inequality 'cuts both ways'. On the one hand, a growth path characterised by greater equality at the margin directly benefits the poor in the short run. On the other, the resulting decrease in equality creates in each period an 'initial condition' for the future which is growth enhancing. Thus, any growth path that reduces inequality deals poverty a double blow: through redistribution, and through 'trickle down'.

3   Analytical framework

Income and asset redistribution are not necessary conditions for poverty reduction. Aggregate growth can also reduce poverty; and, equally, redistribution can achieve poverty reduction without growth (assuming that a portion of the population has incomes above the poverty line). To develop a poverty reduction strategy, the central issues are the relative effectiveness of growth and redistribution, and whether the one enhances each other. It would seem clear, even on the most superficial analysis, that growth combined with redistribution would be more effective that either on its own. This truism gives no insight into the appropriate balance between the two for a concrete poverty target. In order to determine an appropriate balance, 'growth' and 'redistribution' must be specified rigorously. To do this, we begin with a definition. Aggregate GDP in period t is equal to

(1) $Y_t = Y_0(1 + y)^t$, where y is the growth rate.

We consider the case of t = 1. If we treat each income percentile as a household (implying zero population growth), and note percentiles by i, distribution-neutral growth of per capita income for one time period is equal to

(2) $Y_1 = \Sigma Y_{0i}(1 + y)$, for i = 1 to 100, and y is the growth rate.

We proceed with the fiction that each household is self-employed, and that growth is ruled by a simple Harrod-Domar equation, so the growth rate is $y_{1i} = \upsilon_{1i}s_{1i}$, where υ is the capital-output ratio and s is the saving and investment rate of the percentile. On the assumption that the rich have a higher saving and investment propensity than the poor, *ceteris paribus*, greater inequality increases the growth rate. This might be called the 'saving-inequality' effect. On the other hand, if one assumes that the capital-output ratio is a negative function of the level of income, *ceteris paribus*, lower inequality increases the growth rate. Which outweighs the other is an empirical question, governed by the elasticities of the saving rate and output-capital ratio with respect to inequality. Formally, one can write, for any time period, the aggregate growth rate is the product of the aggregate output capital ratio and the aggregate saving rate.

(3) $y = \upsilon s$

The aggregate output-capital ratio and the aggregate saving rate are functions of the distribution of income (G), and other factors that do not concern us here (A_υ and A_s, respectively),

(3a) $\upsilon = \upsilon(G, A_\upsilon), \upsilon' < 0,$

(3b) $s = s(G, A_s), s' > 0,$

Let ε_υ be the elasticity of the output-capital ratio with respect to inequality ($[G/\upsilon]\upsilon'$), ε_s the elasticity of the saving rate with respect to inequality ($[G/s]s'$), and ε_g the overall elasticity of growth with respect to inequality. The effect of a change in inequality on growth are summarized below. Figure 1 demonstrates the relationships, for the examples of $\varepsilon_g = 0$, 0.5, and -0.5.

$\varepsilon_\upsilon < \varepsilon_s$, then $\varepsilon_g > 0$, redistribution decreases growth rate ('trade-off between equity and growth')

$\varepsilon_\upsilon > \varepsilon_s$, then $\varepsilon_g < 0$, redistribution increases growth rate

$\varepsilon_\upsilon = \varepsilon_s$, then $\varepsilon_g = 0$, distribution neutral growth

Figure 1
Alternative growth outcomes when the savings rate and output-capital ration are functions of degree of inequality
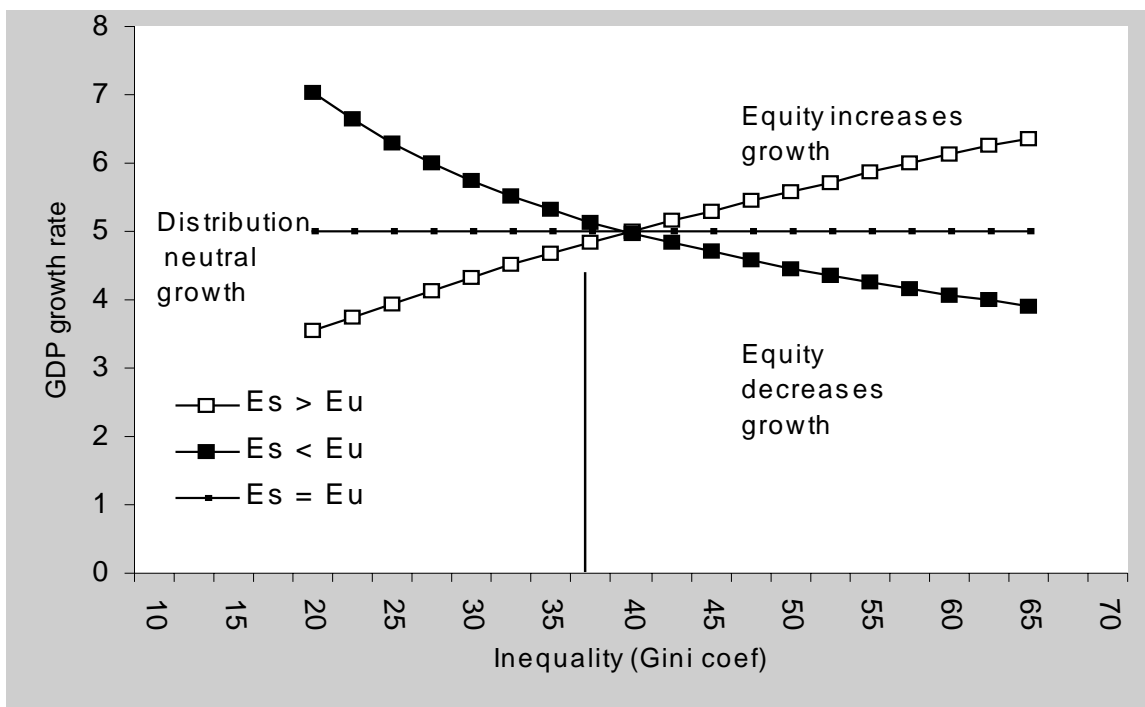
The outcome that characterises a particular country at a particular time is an empirical question. For example, the impact of redistribution on the output-capital ratio is likely to be

9

substantially growth-increasing in a predominantly agrarian society with agricultural production concentrated in large, mechanized estates.

Empirical evidence, to which we refer below, consistently indicates that size distributions of income are quite stable, in the absence of radical changes in institutions and political power. If it is the case that a country's size distribution were stable over some time period when aggregate GDP grew at a given rate of y_a, it must be the case, defining distributional stability over percentiles, that,

(4) $\upsilon_i s_i = y_a$,   for all i.

The output capital ratio falls (rises) to exactly compensate for the rise (fall) in the saving rate as one moves up (down) the size distribution. Thus, we can ignore variations in υ and s, replace their product with y_a, and write, for the *primary distribution of income*:

(5) $Y_1 = (1 + y_a)\Sigma Y_{0i}$

At different points in the discussion we call this outcome this 'distribution-neutral', 'trickle down', or 'status quo' growth. As an alternative, fiscal policy and other measures discussed below could be used to make growth biased toward a more equal distribution. Specifically, we consider the case in which the growth generated is equally distributed absolutely across percentiles. In simple algebra, each percentile receives an income increment of $(Y_1 - Y_0)/100$. This post-transfer or *secondary distribution of income* is noted as Y_i^* for each percentile· After substitution, we can write,

(6) $Y_1 = (1 + y_a)Y_0 = \Sigma[Y_i^*]$

$Y_i^* = Y_{0i} + \{[(y_a)Y_0]/100\}$

This formulation provides a simple, but rigorous definition of growth and redistribution in the spirit of the Chenery *et al.*, *Redistribution with Growth* volume of the mid-1970s (Chenery et al. 1974). The proposed redistribution, equal absolute increments across percentiles, could be viewed as relatively minimalist. Alternative redistribution rules could be used, in which the allocation of the growth increment across percentiles were progressive.

Any change in the primary distribution of income implies a tax. For each percentile ('household'), the implicit redistribution tax rate is the following ratio:

(7) $T_i = (Y_{1i} - Y_i^*)/(Y_{1i} - Y_{0i})$

The redistribution tax is negative up to the point of average per capita income (positive income transfer), then positive above (negative income transfer). If income were normally distributed, the tax is negative through the fiftieth percentile. It is obvious that the more unequal the distribution, the lower is the percentile associated with average per capita income (the fiftieth percentile being the lower bound). Calculated by percentiles, the redistribution tax is not out of line with rates that have applied in many developed countries. For example, the extremely unequal Brazilian distribution for the 1990s, with a Gini coefficient of 60,[17] implies a *marginal* tax rate on the hundredth percentile of slightly more than eighty percent, well below the maximum ninety-one percent marginal rate in the United States from World War II until the early 1960s.

---

[17] In this paper Gini coefficients will be reported on a scale of zero to one hundred.

The proposed marginal redistribution has characteristics that derive automatically from the nature of income distributions. First, and most obvious, the benefits of the equal absolute additions to percentile income increase as one moves down the income distribution. Second, as a result of the first, the lower the poverty line, the greater will be the poverty reduction. If, as is common, a policy distinction is made between degrees of poverty, with different poverty lines, the marginal redistribution will reduce 'severe' poverty more than less 'severe' poverty. Third, the more unequal the distribution of income below the poverty line, the less is the reduction in poverty for any increase in per capita income, or redistribution of that increase.

Before moving to our empirical investigation of alternative growth paths, it is appropriate briefly to comment on our 'benchmark' path, distribution neutral growth. In a recent paper, Dollar and Kraay (2000) reach the conclusion, based on cross-country regressions, that the typical outcome of the growth process in developing countries is to leave the income share of the lowest quintile unchanged; i.e. , distribution-neutral growth. For some reason that is not clear, the authors characterise this with the phrase, 'growth *is* good for the poor' (italics in the original).[18] This is a rather strange phrase, for it challenges the imagination to produce any growth pattern that would provoke the converse phrase, 'growth is *bad* for the poor'; i.e., a growth pattern in which the poor become worse off. Strictly speaking, if the elasticity of the income share of the poor with respect to growth is positive, 'growth is good for the poor'. Why an elasticity of unity should be the borderline between growth being 'good' or 'bad' for the poor is not clear; indeed, it would seem arbitrary. The policy issue is not whether growth is or it is not good for the poor (it is except in extraordinary circumstances), but what policy measures can make it *better* for the poor.

4.   Redistribution with growth: empirical evidence

In this section we inspect the impact on poverty in fifty countries of three simulation exercises, corresponding to different distributional outcomes: 1) a one percent distribution-neutral increase in per capita GDP; 2) a one percent increase in per capita GDP, distributed equally across income percentiles; and 3) a one percent redistribution of income from the richest twenty percent to the poorest twenty percent. The effectiveness of the outcomes in reducing poverty is judged by the time period required to achieve a given target.

The necessary condition for a country to be included in the simulations is that there were statistics on the income share for quintiles,[19] and that the country was included in the World Bank's estimate of absolute poverty. The World Bank estimates were generated by converting each country's per capita income to constant US dollars for a base year, then setting a poverty line of US$1 a day.[20] The specified poverty percentile for one dollar a day is implied by the assumptions made about the distribution of income within each quintile. To estimate the impact of a change in income on the percentage of households in

---

[18] The same point, that distribution neutral growth appears to be the norm, is demonstrated empirically in a much simpler way and with less fanfare in Ferreira (1999).

[19] The major source was the WIDER income distribution database. See appendix for details by country.

[20] The World Bank also provides estimates of the population below two dollars day, but this measure is not used here.

poverty, it is necessary to make explicit the implicit intraquintile distribution of income. It was not necessary to know the intraquintile distribution for all quintiles, only for the quintile in which the poverty line fell, before and after the three simulations. The method of estimating intraquintile distribution is explained in the data appendix. Our assumption is that in the relevant quintiles mean and median income are equal.

Table 1
Poverty levels by Gini coefficient and poverty line, estimated (underlined) and from functional form, fifty countries

Gini coef:	20 to 29	30 to 39	40 to 49	50 to 59	60 and above
Pov. line, % of PCY:					
10 to 19		<u>.7</u>	<u>.7</u>	<u>5.6</u>	
		.5	.8	4.8	
20 to 29	<u>.7</u>	<u>2.7</u>	<u>7.7</u>	<u>18.6</u>	<u>23.2</u>
	.7	2.6	7.1	18.8	25.4
30 to 39		<u>9.0</u>	<u>27.8</u>	<u>33.0</u>	<u>41.0</u>
		9.7	27.5	33.9	41.5
40 to 49	<u>3.6</u>	<u>15.5</u>	<u>28.6</u>	<u>50.5</u>	
		15.1	29.1	48.9	
50 to 59	<u>12.8</u>		<u>31.7</u>	<u>48.0</u>	<u>48.7</u>
			32.0	48.3	51.0
60 to 69	<u>17.9</u>			<u>54.5</u>	
	17.0			54.6	
70 and		<u>47.2</u>	<u>50.7</u>	<u>77.9</u>	
above		47.0	50.4	75.0	

Source: authors' estimates based on the World Bank poverty estimates and World Income Inequality Database (WIID).

Note: the underlined numbers are the estimated one dollar poverty percentages from Table 2. The number below these is the poverty level generated from the functional relationship, $P_i = P(G_i, p_i)$ where P is the poverty percentage, G the Gini coefficient, p the poverty line as a percentage of per capita income, and i the country. The functional form is found in van der Hoeven (2000: 15-17), with a numerical example. The two measures are not the same due to differences across countries in the intraquintile distribution of income. Empty cells indicate no observations among the fifty countries.

For an absolute poverty line, one US dollar per day in this case, the percentage of households in poverty is strictly determined by per capita income and the degree of inequality. This is demonstrated in Table 1. Moving vertically down the table, the poverty line rises as a percentage of GDP; and moving across, the Gini coefficient rises. On the assumption of a continuous distribution function, such as a lognormal function with a given variance and a poverty line expressed as a fraction or multiple of the mean (van der Hoeven 2000), one can generate the implied percentage of households in poverty. In the table these are the lower numbers in each cell, calculated by substituting the country's Gini coefficient and per capita income into the lognormal distribution. Since these numbers are generated from a continuous distribution function the intraquintile distribution of income for the poverty quintiles is given by the overall distribution function. The upper numbers in each cell, underlined, are the poverty percentages of the World Bank. For cells with more than one country, the simple average of poverty percentages is used. The table shows

that in most cases the poverty figures generated by the lognormal distribution, with the appropriate Gini coefficient and per capita income figures, compare reasonably well with the 'actual' estimates of the World Bank.

Prior to presenting the simulation results, brief commentary is necessary on the particular definition we use for poverty reduction. Throughout the discussion, different growth and distribution scenarios will be assessment by their effectiveness in moving households out of poverty; that is, moving households from below to above the poverty line. This definition has two advantages. First, it corresponds to the poverty reduction targets of multilateral and bilateral donors. Second, and no doubt related to the first, it is easily calculated and compared across countries. However, it has a serious drawback, in that it excludes the improvement for all households whose incomes do not rise above the poverty line. This drawback of the approach becomes especially serious for comparing different growth scenarios when considering low-income countries.

Table 2 provides the basic statistics for the simulation exercises for the fifty countries: per capita income,[21] the Gini coefficient, and the percentage of the population with income per head below one US dollar (the poverty line), as estimated by the World Bank. In Table 3, the results of the simulations are given, for the two growth exercises, distribution-neutral growth (DNG in the table) and equal distribution growth (EDG). Columns one and two report the estimates of the percentile of households lifted out of US one dollar poverty as the result of one percent growth, distribution-neutral and equal-distribution, respectively. Column three reports the 'efficiency of redistribution' ratio. This is defined as the ratio of poverty reduction for equal distribution growth to distribution-neutral growth (column 1 divided by column 2). This ratio is greater than unity for forty-seven of the fifty countries. That is, for ninety-four percent of the countries, the equal distribution grow strategy reduces poverty more in a given time period than a distribution-neutral growth strategy. This in itself is not surprising, for distribution-neutral growth is only more effective in reducing poverty for countries with 50 percent or more of the population below the poverty line. Given our criterion of one dollar a day these countries belong to the group with a very low per capita income. It is surprising how much more effective equally distributed growth proves to be in reducing poverty for most countries. For a large proportion of the countries, the ratio is in excess of three; i.e. , equal distribution growth raises three times as many households from poverty than distribution neutral growth over any time period.

Inspection of the efficiency ratios reveals the obvious point that the benefits of equal distribution growth are greater the higher is a country's per capita income, and the higher its Gini coefficient. The two together account for about sixty percent of the variation in the efficiency ratio, with most of the remainder explained by the distribution of income within the quintile in which the poverty level falls. The results imply that growth with redistribution would be particularly appropriate for the Latin American countries and those of North Africa and the Middle East. Its poverty reducing advantage would be less for the sub-Saharan countries (except South Africa), because of their low per capita incomes. It would also be less effective for the former centrally planned countries, despite their middle-income status, because of their relatively low inequality.

---

[21] Given the distribution of income by quintiles and the intra-quintile distribution for the quintile in which the poverty level falls, a unique per capita income is implied. If the World Bank source gave a per capita other than this, the implied value was used in the table.

Table 2
Distribution and poverty statistics for fifty countries, 1980s and 1990s

Country by Region	PCY	Gini coeff	Poverty: % of pop US$1
Latin America (12)	**1391**	**53.5**	**26.0**
Brazil 1995	1870	60.1	23.2
Chile 1992	1585	50.7	15.0
Colombia 1991	2400	57.2	7.8
Costa Rica 1989	1350	42.0	19.0
Dom. Rep 1989	1390	50.5	19.9
Ecuador 1994	860	43.0	30.6
Guatemala 1989	658	59.1	53.5
Honduras 1992	660	52.6	46.7
Mexico 1992	1620	50.3	14.9
Nicaragua 1993	685	50.3	43.8
Panama 1989	1560	56.5	26.0
Venezuela 1990	2050	53.8	11.9
N Africa and ME (5)	**1563**	**44.0**	**3.0**
Algeria 1995	1757	35.3	0.8
Egypt 1991	905	32.0	7.6
Jordan 1992	1700	40.7	2.4
Morocco 1991	1845	39.2	0.8
Tunisia 1990	1610	40.2	3.6
Sub-Sahara (13)	**746**	**51.1**	**46.5**
Botswana 1986	1062	54.2	33.0
Guinea 1991	1073	46.8	27.0
Kenya 1992	750	57.5	50.5
Lesotho 1987	675	56.0	48.7
Madagascar 1993	300	46.0	73.8
Mauritania 1988	690	42.4	31.7
Niger 1992	390	36.1	61.2
Nigeria 1993	840	45.0	31.1
Rwanda 1984	445	28.9	46.5
Senegal 1991	545	53.8	54.5
South Africa 1993	1740	62.3	23.2
Zambia 1993	210	46.2	82.0
Zimbabwe 1990	977	56.8	41.0
Asia, not FSU (8)	**1000**	**40.3**	**21.7**
China 1995	972	41.5	22.7
India 1992	460	32.0	47.9
Indonesia 1996	890	36.5	7.9
Nepal 1996	437	36.7	50.7

table continues…

Country by Region	PCY	Gini coeff.	Poverty: % of pop US$1
Pakistan 1991	850	31.2	11.8
Philippines 1994	862	42.9	26.6
Sri Lanka 1990	962	30.1	4.0
Thailand 1992	2570	51.5	1.8
Former CP (12)	**1249**	**33.1**	**5.9**
Belarus 1993	1415	21.6	0.5
Bulgaria 1992	1050	30.8	2.7
Czech Rep 1993	780	26.6	3.6
Hungary 1993	1520	27.9	0.6
Kazakhstan 1993	1900	32.7	0.7
Kyrgyzstan Rep 1993	881	35.3	18.9
Lithuania 1993	1558	33.6	0.7
Moldova 1992	1233	34.4	6.7
Romania 1992	680	25.5	17.8
Russian Fed 1993	1965	31.0	0.7
Slovak Rep 1992	531	27.7	12.8
Turkmenistan 1993	1480	35.8	4.6

Source: see Table 1.

Notes: PCY, per capita income in indicated year; poverty measured as percent of population.

As the poverty line rises up a country's income distribution, the efficiency of redistribution ratio becomes less and less sensitive to measures of inequality. However, it is always the case, no matter what a country's per capita income or degree of inequality,[22] that redistribution with growth is more efficient than distribution neutral growth in reducing the intensity poverty. This is because the relative benefit of equal distribution growth increases as one moves down the income distribution, independently of a country's per capita income or degree of inequality.

As discussed above, the redistribution with growth outcome implies a tax on all households whose income is above the mean. In which percentile the mean falls depends on the skewedness of the overall income distribution. The final two columns (columns 4 and 5) of Table 3 report the implied tax rate for the highest percentile, and the average rate across all percentiles whose income is redistributed towards the poorer percentiles. This is a *marginal* rate, referring to the increase or growth increment in per capita income. Inspection of the table shows, as expected, the maximum and average rates are positively correlated with the Gini coefficient. Whether the implicit tax rates should be judged as high depends on the mechanism to bring about the outcome. If distribution-neutral growth represents the primary (pre-tax) outcome, and equal-distribution growth the secondary (post-tax) outcome, then there is a straight-forward disincentive effect for those taxed, to be weighted against the incentive effect of the beneficiaries. We make the reasonable assumption that if positive tax rates create a disincentive to earn further income, then negative tax rates create an incentive to earn income and contribute to higher national

---

[22] That is, for any distribution that is not equal.

growth. If the income distribution is skewed, then the number of households enjoying and incentive to earn will out number those suffering a disincentive, and the impact on growth should be positive.

Table 3
Impact of two growth patterns on poverty, fifty countries

	Percentile raised from poverty		Efficiency of RedisY	Redistribution Tax Rates	
Country by region	DNG 1%	EDG 1%	ratio	100th pctl	Average
Latin America (12)	**.32**	**1.11**	**3.86**	**77.7**	**45.0**
Brazil 1995	.24	1.28	5.33	82.0	38.6
Chile 1992	.28	1.20	4.29	77.6	38.6
Colombia 1991	.20	1.36	6.80	76.4	40.3
Costa Rica 1989	.27	.98	3.63	71.8	44.3
Dom. Rep 1989	.35	1.34	3.83	76.7	41.6
Ecuador 1994	.51	1.08	2.12	75.2	39.2
Guatemala 1989	.46	.83	1.80	81.7	38.0
Honduras 1992	.41	.75	1.83	79.3	50.1
Mexico 1992	.31	1.41	4.55	76.5	52.1
Nicaragua 1993	.38	.70	1.84	77.3	50.5
Panama 1989	.17	.77	4.53	79.1	54.1
Venezuela 1990	.29	1.67	5.76	78.9	52.1
N Africa and ME (5)	**.23**	**.82**	**3.52**	**67.6**	**43.0**
Algeria 1995	.01	.03	3.00	64.7	38.2
Egypt 1991	.55	1.37	2.49	63.7	35.2
Jordan 1992	.30	1.39	4.63	72.6	47.9
Morocco 1991	.01	.03	3.00	69.3	47.3
Tunisia 1990	.28	1.26	4.50	67.5	46.5
Sub-Sahara (13)	**.46**	**.87**	**2.05**	**74.3**	**46.8**
Botswana 1986	.40	1.13	2.83	79.1	40.2
Guinea 1991	.20	.59	2.95	72.9	43.6
Kenya 1992	.50	.94	1.88	82.4	50.5
Lesotho 1987	.37	.69	1.86	79.2	52.3
Madagascar 1993	.24	.20	.83	72.6	43.6
Mauritania 1988	.44	.84	1.91	69.1	48.4
Niger 1992	.87	.93	1.07	64.9	43.6
Nigeria 1993	.40	.95	2.38	71.0	50.8
Rwanda 1984	.90	1.10	1.22	59.0	38.8
Senegal 1991	.75	1.13	1.51	78.8	50.4
South Africa 1993	.30	1.48	4.93	82.1	52.7
Zambia 1993	.24	.14	.58	73.0	42.0

	Percentile raised from poverty		Efficiency of RedisY	Redistribution Tax Rates	
Country by region	DNG 1%	EDG 1%	ratio	100th pctl	Average
China 1995	.37	.99	2.68	69.7	44.4
India 1992	.78	.99	1.27	62.3	41.7
Indonesia 1996	.52	1.27	2.44	62.3	41.7
Nepal 1996	1.00	.94	.94	66.1	39.2
Pakistan 1991	.47	1.11	2.36	61.8	42.3
Philippines 1994	.40	.96	2.40	73.0	48.9
Sri Lanka 1990	.51	1.35	2.65	61.8	40.8
Thailand 1992	.31	.79	2.55	79.0	51.5
Former CP (12)	**.29**	**.67**	**2.19**	**57.2**	**37.1**
Belarus 1993	.01	.01	1.00	49.3	28.8
Bulgaria 1992	.30	.86	2.87	48.8	27.2
Czech Rep 1993	.70	1.50	2.14	56.6	30.3
Hungary 1993	.01	.01	1.00	59.6	39.8
Kazakhstan 1993	.01	.02	2.00	61.7	34.0
Kyrgyzstan Rep 1993	.37	.90	2.43	64.1	45.5
Lithuania 1993	.01	.02	2.00	65.0	43.6
Moldova 1992	.34	1.18	3.47	63.1	44.5
Romania 1992	.45	.84	1.87	56.2	37.5
Russian Fed 1993	.01	.02	2.00	57.5	41.9
Slovak Rep 1992	1.00	1.46	1.46	39.3	27.0
Turkmenistan 1993	.30	1.22	4.07	64.9	45.5

Source: see Table 1.

Notes: Efficiency of RedisY (efficiency of redistributive growth) is the ratio of EDG to NDG. The average redistribution tax rate is the rate across percentiles with positive tax rates.

These growth simulations can be compared to the more conventional exercise, a direct redistribution from the rich to the poor. This redistribution is simulated in Table 4, where it is assumed that one percentage point of total national income is shifted from the top quintile to the bottom quintile, and distributed equally among those households.[23] The table shows for each country the reduction in the poverty measure for the one percent redistribution in column two, and can be compared to column three in Table 2, where preredistribution poverty is given. The outcome is summarized in column three of Table 4, which reports the percentage reduction in poverty as the result of the redistribution. For example, preredistribution poverty in Brazil was measured as 23.2 percent of the population, and is simulated to be 18.4 percent after redistribution, for a fall of 20.7 percent (4.8 percentage points). The final column of the table gives the implicit taxes rate on the highest twenty percentile resulting from the redistribution. These prove to be quite low, varying from less than two percent to a high of three percent, inversely related to inequality (i.e. , the share of preredistribution income accruing to the top quintile).

---

[23] At the poverty boundary, this redistribution shifts some households above the ones with slightly higher pre-redistribution incomes, but this does not affect the conclusions reached in the text.

Table 4
Impact of income redistribution on poverty by country

Country by Region	Poverty after RY % pop	Pov. Red (% initial level)	Tax rate, top quintile, %
Latin America (12)	**21.9**	**29.1**	**1.8**
Brazil 1995	18.4	20.7	1.6
Chile 1992	8.7	41.9	1.8
Colombia 1991	1.0	87.3	1.8
Costa Rica 1989	14.4	24.0	2.0
Dom. Rep 1989	14.0	29.7	1.8
Ecuador 1994	30.6	0.2	1.9
Guatemala 1989	53.4	0.1	1.6
Honduras 1992	46.6	0.2	1.8
Mexico 1992	7.1	52.3	1.8
Nicaragua 1993	43.4	0.8	1.8
Panama 1989	23.9	8.1	1.7
Venezuela 1990	1.9	84.1	1.7
N Africa and ME (5)	**0.8**	**55.0**	**2.2**
Algeria 1995	0.6	25.0	2.3
Egypt 1991	1.0	87.4	2.4
Jordan 1992	0.8	65.1	2.1
Morocco 1991	0.6	22.1	2.2
Tunisia 1990	0.9	75.2	2.2
Sub-Sahara (13)	**45.8**	**2.5**	**1.9**
Botswana 1986	32.9	0.3	1.7
Guinea 1991	25.8	4.3	2.0
Kenya 1992	50.4	0.1	1.6
Lesotho 1987	48.7	0.0	1.7
Madagascar 1993	73.8	-0.1	1.9
Mauritania 1988	31.1	2.0	2.2
Niger 1992	61.1	0.2	2.3
Nigeria 1993	31.1	0.1	2.0
Rwanda 1984	46.4	0.3	2.6
Senegal 1991	53.4	1.9	1.7
South Africa 1993	17.8	23.1	1.5
Zambia 1993	82.3	-0.3	2.0
Zimbabwe 1990	41.0	0.1	1.6
Asia, not FSU (8)	**18.8**	**37.4**	**2.2**
China 1995	19.4	14.5	2.1
India 1992	47.8	0.1	2.4
Indonesia 1996	1.0	87.7	2.2

table continues…

18

Country by Region	Poverty after RY % pop	Pov. Red (% initial level)	Tax rate, top quintile, %
Nepal 1996	50.3	0.8	2.2
Pakistan 1991	5.3	55.0	2.5
Philippines 1994	25.0	6.1	2.0
Sri Lanka 1990	0.9	77.3	2.5
Thailand 1992	0.7	57.7	1.7
Former CP (12)	**3.2**	**41.8**	**2.6**
Belarus 1993	0.5	0.0	3.0
Bulgaria 1992	0.9	66.3	2.6
Czech Rep 1993	0.9	74.9	2.7
Hungary 1993	0.5	16.7	2.6
Kazakhstan 1993	0.6	21.4	2.5
Kyrgyzstan Rep 1993	15.1	20.2	2.4
Lithuania 1993	0.6	16.7	2.4
Moldova 1992	1.0	85.7	2.4
Romania 1992	14.1	20.7	2.9
Russian Fed 1993	0.5	23.1	2.6
Slovak Rep 1992	3.1	75.8	2.8
Turkmenistan 1993	0.9	80.4	2.3

Source: see Table 1.

Notes: RY - redistribution of income of one percentage point from highest to lowest quintile. Pov Red - poverty reduction from initial (preredistribution) level of poverty. One percent of national income redistributed from the top 20 percent to the bottom 20 percent.

Inspection of Table 4 shows that the poverty reductions associated with redistribution *without growth* vary dramatically across countries. In general, the lower the per capita income of a country, the less is the poverty reduction, demonstrated most obviously for the twelve Latin American countries, among which the reduction for the Central American states and Ecuador is virtually nil. The other obvious influence is inequality. The lower the inequality, holding per capita income constant, the greater the poverty reduction from a redistribution, because those below the poverty line are 'packed' close together. Comparing the middle-income Latin American countries to the former centrally planned countries reveals this.

These results suggest a typology of countries differentiated by the general strategy that is most conducive to poverty reduction, and this is done in Table 5. In this table, we calculate in columns two and three the number of years required for distribution-neutral growth and equal distribution growth to achieve the same poverty reduction as a transfer of one percent of national income from the highest to the lowest quintile. To take the first country, Venezuela, as an example, neutral distribution growth would require over thirty-four years to reduce poverty by the same amount as the one percentage point redistribution, and equal distribution growth would require six years. On the basis of these calculations, the fifty countries fall into three categories. In category 1, the 'income redistribution countries', both growth strategies require more than one year to reduce poverty as much as a straight redistribution. The countries are listed in descending order of the number of years required

for distribution-neutral growth to match the impact of the one percent redistribution on poverty. For thirty-four of the fifty countries (sixty-eight percent), straight redistribution is the most effective method of poverty reduction.

Table 5
Growth equivalents of one percent redistribution from highest to lowest quintile

Country by Most Effective Policy	Years to reduce poverty as much as 1% redistribution	
	DNG 1%	EDG 1%
A. Income Redistribution Countries (30)		
1 Venezuela 1990	34.4	6.0
2 Colombia 1991	34.1	5.0
3 Mexico 1992	25.1	5.5
4 Algeria 1995	20.0	6.7
5 Brazil 1995	20.0	3.8
6 South Africa 1993	17.9	3.6
7 Morocco 1991	17.0	5.7
8 Dom. Rep 1989	16.9	4.4
9 Russian Fed 1993	15.0	7.5
10 Kazakhstan 1993	15.0	7.5
11 Panama 1989	12.4	2.7
12 Turkmenistan 1993	12.3	3.0
13 Egypt 1991	12.1	4.8
14 Lithuania 1993	12.0	6.0
15 Hungary 1993	10.0	10.0
16 Tunisia 1990	9.8	2.2
17 Bulgaria 1992	6.0	2.1
18 Jordan 1992	5.2	1.1
19 Philippines 1994	4.1	1.7
20 Czech Rep 1993	3.9	1.8
21 Thailand 1992	3.3	1.3
22 Mauritania 1988	1.4	0.7
23 Chile 1992	22.5	5.2
24 Costa Rica 1989	16.9	4.6
25 Moldova 1992	16.9	4.9
26 Kyrgyzstan Rep 1993	10.4	4.3
27 Romania 1992	8.2	4.4
28 China 1995	8.9	3.3
29 Sri Lanka 1990	6.1	2.3
30 Guinea 1991	5.8	2.0
31 Pakistan 1991	13.8	5.8

32	Indonesia 1996	13.4	5.5	
33	Slovak Rep 1992	9.7	6.6	
34	Senegal 1991	1.4	0.9	
B. Equal Distribution Growth Countries (13)				Efficiency Ratio
35	Botswana 1986	0.3	0.1	2.83
36	Zimbabwe 1990	0.1	0.0	2.69
37	Nigeria 1993	0.1	0.0	2.38
38	Ecuador 1994	0.1	0.1	2.12
39	Lesotho 1987	0.0	0.0	1.86
40	Kenya 1992	0.1	0.1	1.88
41	Nicaragua 1993	0.9	0.5	1.84
42	Honduras 1992	0.2	0.1	1.83
43	Guatemala 1989	0.2	0.1	1.80
44	India 1992	0.1	0.1	1.27
45	Rwanda 1984	0.1	0.1	1.22
46	Niger 1992	0.1	0.1	1.07
47	Belarus 1993	0.0	0.0	1.00
C. Distribution-Neutral Growth Countries (3)				
48	Nepal 1996	0.4	0.4	.94
49	Madagascar 1993	neg.	neg.	.83
50	Zambia 1993	neg.	neg.	.58

Source: see Table 1.

Notes: Criteria for policy categories:
1.) Income redistribution: The poverty reduction achieved by a one percent redistribution requires more than one year of distribution-neutral and equal-distribution growth.
2.) Equal distribution growth: EDG in one year reduces poverty more than either redistribution or distribution-neutral growth.
3.) Distribution-neutral growth: DNG reduces poverty in one year more than redistribution or EDG.

In category 2 are thirteen 'redistribution with growth' countries, for which redistribution is not the most effective poverty reduction strategy, and equal distribution growth is more effective than distribution-neutral growth. For these countries one or both of the growth strategies at least matches the redistribution poverty reduction in less than a year, and the time period for equal distribution growth is the shorter. The latter point is emphasised by inclusion of the 'efficiency ratio' a final column, taken from Table 3. These countries are characterised either by low per capita income or relatively equal distribution (or some combination of the two). Finally, there is category 3, the three 'trickle down' countries, for which growth as such is the most effective vehicle for poverty reduction. The defining characteristic of the trickle down countries is that they have more than fifty percent of their population in poverty as a result of their low per capita income. However, it does not follow that all low income countries would fall into this category. If low income is combined with a relatively equal distribution, as for Niger, equal distribution growth may be more effective in reducing poverty, if only marginally so.

Thus, the simulation exercises demonstrate that for the overwhelming majority of middle-income countries, poverty reduction is most effectively achieved by a redistribution of current income. For these same countries, redistribution with growth would be the second-

best option, and distribution-neutral, or *status quo* growth, a poor third. Low-income countries require a growth strategy, and for most redistribution with growth would be more effective than *status quo* growth. With these generalizations in mind, we consider poverty reduction policies in the following section.

5. Conditions for policies for redistribution with growth

The major element required to introduce and effectively implement a redistributive strategy in any country is the construction of a broad political coalition for poverty reduction. The task of this coalition would be the formidable one of pressuring governments for redistribution policies, on the one hand, while neutralising opposition to those policies from groups whose self-interest rests with the *status quo*. How such a political coalition might come about is beyond the scope of this paper. We focus on a less fundamental, but crucially practical issue: the policies that could bring about a redistribution strategy. To be policy relevant, our consideration of redistribution mechanisms must move beyond a listing of possibilities to an analysis of the likely effectiveness of these.

Perhaps the most important determinant of the effectiveness of the various measures and specifics of each redistribution strategy is the structure of an economy. This structure will depend on the level of development, which will to a great extend condition the country's production mix, the endowments of socio-economic groups, the remuneration to factors, direct and indirect taxes on income and assets, prices paid for goods and services, and transfer payments. These elements of the distribution system are initial conditions that delineate the scope for redistributive policies. In this analytical context, the implementation requirements of redistributive policies summarized in a simple theoretical framework (see Hamner et al. 1997). First, define the following terms: Y denotes the income of a household, V is transfer payments, T is taxes, k is a vector of assets (including human capital), w is a vector of rates of return (including wages), p is the price vector of those goods and services, q is the vector of goods and services purchased by the household, and S is household saving. Then, by definition it follows:

$Y =$	$(V - T)$	$+ wk$	$=$	pq	$+ S$
	Transfer payments (unemployment compensation, pensions, child benefits, aid to disabled) and progressive taxes (on income and wealth)	Minimum wages, low-wage subsidies, other labour market regulations, public employment schemes (w); credit programmes for the poor; land reform, education (k);		Subsidies for basic needs goods, public sector infra-structure investment (p); child nutrition programmes (q)	Facilitate future asset acquisition: 'village banks' and other financial services for the poor
				Effective in most countries	
	Effective in middle-income countries	Some effective in low-income countries			Effective in most countries

The effectiveness of tax and expenditure policies (V and T) to generate secondary and tertiary distributions more equitable than the primary distribution depends upon the relative importance of the formal sector. All empirical evidence shows that the formal sector wage bill and profit share increase with the level of development. It is wage employment and corporate profits to which governments can most effectively apply progressive taxation.

Along with the importance of the formal sector goes a high degree of urbanization, and working-poor urban households are more easily targeted than either the rural poor or urban informal sector households. The experience of a number of middle-income countries has demonstrated the effectiveness of basic income payments for poverty reduction, with an effective example being the basic pension paid to the elderly in South Africa.[24]

As shown in the previous section, the redistribution strategy is most appropriate for middle-income countries, because their per capita incomes are high relatively to the absolute poverty line. These are also the countries whose economic structures make taxation and expenditure instruments effective for redistribution. Thus, the thirty-seven 'income redistribution' countries, and others at similar levels of development, qualify for the redistributive strategy both in terms of its intrinsic effectiveness and the institutional capacity to implement it. Such countries would include the larger ones in Latin America (Argentina, Brazil, Chile, Mexico and Venezuela), several Asian countries (the Republic of Korea, Thailand, and Malaysia), and virtually all of the former socialist countries of Central and Eastern Europe.

To a certain extent, specific economic structures allow for effective use of taxation for redistribution in a low-income country that would typically be relevant only for middle-income countries. If the economic of a low-income country is dominated by petroleum or mineral production, then a large portion of national income may be generated by modern sector corporations. This allows for effective taxation even though administrative capacity of the public sector may be limited. The tax revenue can be redistributed through poverty-reduction programmes, though not through transfer payments if the labour force is predominantly rural. Examples of mineral-rich low-income countries with the potential to have done this, albeit unrealised, were Nigeria (oil), Liberia (bauxite), and Zambia (copper).

Interventions to change the distribution of earned income (wk in the equation above), which in effect alter market outcomes, will also tend to be more effective in middle-income countries. The most common intervention is a minimum wage, though there are many other policies to improve earnings from work (see Rogers 1995). Other mechanisms include public employment schemes and tax subsidies to enterprises to hire low-wage labour. It is unlikely that any of these would be effective in low-income countries, because of enforcement problems (minimum wage), targeting difficulties (employment schemes), and narrowness of impact (wage subsidies).

Land reform might achieve poverty reduction for rural households, but the relationship between land redistribution and level of development is a complex one. On the one hand, low-income countries are predominantly rural, so if land ownership is concentrated, its redistribution could have a substantial impact on poverty. Further, the more underdeveloped a country, the less commercialized tend to be poor rural households. Therefore, the benefits to the poor from land redistribution in low-income countries are less likely to be contingent on support services. On the other hand, lack of administrative capacity and so-called traditional tenure systems represent substantial constraints to land redistribution in many low-income countries, and especially in the sub-Saharan countries.

---

[24] While relatively low, the pension in the 1990s was an important income source for the rural poor, especially for female-headed households (see Standing, Sender and Weeks 1996, Chapter 6).

The usual approach to land redistribution presupposes private ownership, such that it is clear from whom the land will be taken and to whom it will be given. There are few sub-Saharan countries in which private ownership is widespread, making redistribution difficult or impossible without prior clarification of ownership claims (Platteau 1992, 1995). While land redistribution is probably not an effective poverty reducing measure for most low-income countries, a few notable exceptions in Asia (e.g., India and Vietnam), suggest that it should not be ruled out in all cases.

For middle-income countries, experience in Latin America has shown that governments can effectively implement a land redistribution. However, the high degree of commercialization of agriculture in middle-income countries requires that redistribution be complemented by a range of rural support services, including agricultural extension, marketing facilities, and other measures. Perhaps more serious, the relevance of land reform for poverty reduction tends to decline as countries develop and the rural population shrinks relatively and absolutely. For example, at the end of the twentieth century in the five most populous Latin American countries, barely twenty percent or less of the labour force was in agriculture. Further, when seeking to reduce poverty among the landless and near-landless in such countries, minimum wages may be more relevant than land redistribution. These considerations suggest that while land redistribution may be an effective and feasible mechanism for some countries, other mechanisms may be more effective in both low- and middle-income countries.

Interventions that directly affect the prices and access to goods and services (pq) could potentially be quite powerful instruments for poverty reduction. Public subsidies to selected basic consumer products have the administrative advantage of not requiring targeting, only identification of those items that carry a large weight in the expenditure of the poor. Multilateral adjustment programmes typically require an end to such subsidies on grounds of allocative efficiency or excessive budgetary cost. However, among multilateral agencies there is no consensus on subsidies. The rules of the World Trade Organization do not prohibit consumer subsidies, as long as they do not discriminate between domestic production and imported substitutes (FAO 1998). Whether subsidies would generate excessive fiscal strain would depend on their extent and how they were financed. Again, the level of development of a country is of central importance for the effectiveness of subsidies. In low-income countries with the majority of the poor in the countryside, consumer subsidies are unlikely to have a significant impact on the poor outside urban areas. Basic goods provision in kind can be an effective instrument for poverty reduction even in very low-income countries, by delivering such items as milk to school children. To do so with a non-targeted programme would require a progressive tax system, which would be more likely in a middle-income country, as discussed above.

The poor in all countries suffer from poor health and inadequate education relatively to the non-poor. Education and health have two great practical advantages for poverty reduction: 1) the programmes that would help the poor are easily identified (though the specifics would vary by country); and 2) unlike for asset or income redistribution, their provision to the poor is not controversial at the rhetorical level. Provision of health care and education that would improve the lives of the poor requires skilled workers. Since these workers would be in short supply in the public sector, effective provision might necessitate either their reallocation from delivering those services to the non-poor, or substantially increased expenditure to increase total provision. In practice delivering health and education services to the poor might prove as difficult politically as implementing direct redistribution of

24

income and assets. The same point applies to infrastructure programmes directed to poverty reduction. To the extent that these would reduce public investment in projects favoured by the non-poor, especially the wealthy, they may be no easier to implement that measures that appear superficially to be more radical.

Table 6 provides a summary of the discussion, with poverty reducing measures listed by rows, and the three categories of countries across columns. The table indicates that for the 'redistribution' countries, a redistribution of current income and assets is the most effective means of poverty reduction, and the methods to achieve this are feasible. For the 'redistribution with growth' countries, the measures for redistribution of current income and assets are less feasible, but instruments to achieve the more modest goal of redistribution of the growth increment would be feasible. Finally, most redistribution instruments would not be feasible, or only to a limited degree, for very low-income countries; but for these countries, a growth strategy with no redistributive mechanisms may be the most poverty reducing path.

Table 6
Summary of feasibility of redistribution instruments by category of country

Country Category: Redistributive Instrument:	Redistribution of current income + assets (middle-income countries)	Growth with redistribution policies (middle + most low-income countries)	Growth without redistribution policies (very low-income countries)
Progressive taxation	Yes	Yes, for some countries	No
Transfer payments	Yes	Yes, for some countries	No
Consumer subsidies	Yes	Yes	Yes, for some countries
Public employment schemes	Yes	Yes	No
Land reform	Yes, but not always relevant	Yes	Not for most countries
Education + health	Yes	Yes	Yes
Infrastructure + public works	Yes	Yes	Yes

Source: authors' classification.

While moving from the principle of redistribution to successful implementation involves major problems, these problems should not be exaggerated. In many countries they might prove no more intractable than the problems associated with implementation of other economic policies. For example, an effective orthodox monetary policy is difficult to implement if a country is too small or underdeveloped to have a bond market. The absence of a bond market leaves the monetary authorities unable to 'sterilise' foreign exchange flows. Similarly, replacing tariffs by a value added tax would be a daunting task in a country whose commerce was primarily through small traders. Lack of public sector capacity would also limit the ability to carry out a range of so-called supply side policies: privatization, 'transparency' mechanisms', and decentralization of central government service delivery (van der Hoeven and van der Geest (1999). The multilateral agencies have recognised these constraints to adjustment programmes, and typically made the decision

that constrained implemented represented action preferable to non-implementation. The same argument can be made for a redistributive growth strategy: for poverty reduction and sustainable growth, it might preferable to implement redistributive growth imperfectly than to implement the status quo imperfectly.

Conclusion

Poverty reduction has always been a priority of development policy, albeit sometimes only at the rhetorical level. The end of the 1990s brought increased emphasis on bringing the benefits of growth to the poor. However, growth alone is a rather blunt instrument for poverty reduction, since the consensus of empirical work suggests that it is distribution neutral. Along with emphasis on poverty reduction, a shift occurred in the policy literature towards a more favourable view of policies to redistribution income and assets. An integration of distributional concerns and a priority on poverty reduction could be the basis for a new policy agenda to foster both growth and equity.

This new agenda would be based on three analytical generalizations:

i)   that greater distributional equality provides a favourable 'initial condition' for rapid and sustainable growth;

ii)   that redistribution of current income and assets, or redistribution of an economy's growth increment are the most effective forms of poverty reduction for most countries; and

iii)   the mechanisms to achieve the redistributions are feasible for most countries. These generalizations imply that the new agenda could focus upon specific policies and instruments of redistribution, with the goal of substantial reductions in urban and rural poverty in the medium term.

Annexe: method and sources

As shown in the text (see Table 1 and accompanying discussion), the percentage of households in poverty, with an absolute poverty line, can be estimated using two parameters, the poverty line as a percentage of per capita income, and the Gini coefficient. This estimate of poverty is not sufficient for carrying out the simulations. For the simulations, one must have an estimate of the distribution of income in the immediate range below the poverty line. This requires an estimate of the intraquintile distribution of income. For the vast majority of the countries, the poverty line fell in the first or second quintile. The procedure for estimation was the following:

1) average income was calculated for the poverty quintile, and the quintile above and below (in the case in which the poverty quintile was the first, see below);

2) within each quintile it was assumed that mean income equalled the median;[25] this assumption locates within each quintile the percentile for mean income; and

3) between each mean income, income was assumed to rise at a constant rate.

For example, the rate of increase of income between mean income in quintile one (P_{m1}) and quintile two (P_{m2}) would be:

$$P_{m2} = (1+r)^{20}(P_{m1})$$

If P_{m1} were at the fourteenth percentile, the income of the twentieth percentile would be $P_{20} = (1+r)^{6}(P_{m1})$. If the poverty line lies within the first quintile, the value of r between the first and second quintile means is used to calculate downwards to the first percentile. On the basis of this method, the percentile for the absolute poverty line for each country can be found by generating the income for each percentile until P_i = US$365 is reached.

Annexe Table

Country	Gini	Definition	Reference Unit	Coverage
Latin America (12)	**52.2**			
Brazil 1995	60.1	Income	Household per capita	
Chile 1992	50.7	Income	Person	
Colombia 1991	57.2	Income	Person	
Costa Rica 1989	42.0	Income	Person	
Dom. Rep 1989	50.5	Income	Person	
Ecuador 1994	43.0	Expenditure	Person	
Guatemala 1989	59.1	Income	Person	
Honduras 1992	52.6	Income	Person	
Mexico 1992	50.3	Expenditure	Household per capita	
Nicaragua 1993	50.3	Expenditure	Household per capita	

---

[25] The authors wish to thank Malte Lubker for pointing out the empirical validity of this assumption for the lowest tow quintiles.

Country	Gini	Definition	Reference Unit	Coverage
Panama 1989	56.5	Income	Person	
Venezuela 1990	53.8	Income	Person	
N Africa and ME (5)	**37.5**			
Algeria 1995	35.3	Expenditure	Household per capita	
Egypt 1991	32.0	Expenditure	Household per capita	
Jordan 1992	40.7	Expenditure	Person	
Morocco 1991	39.2	Expenditure	Household per capita	
Tunisia 1990	40.2	Expenditure	Household per capita	
Sub-Sahara (13)	**48.6**			
Botswana 1986	54.2	Expenditure	Household	
Guinea 1991	46.8	Expenditure	Household per capita	
Kenya 1992	57.5	Expenditure	Household per capita	
Lesotho 1987	56.0	Expenditure	Household per capita	
Madagascar 1993	46.0	Expenditure	Household per capita	
Mauritania 1988	42.4	Expenditure	Household per capita	
Niger 1992	36.1	Expenditure	Household per capita	
Nigeria 1993	45.0	Expenditure	Household per capita	
Rwanda 1984	28.9	Expenditure	Household per capita	
Senegal 1991	53.8	Expenditure	Household per capita	
South Africa 1993	62.3	Income	Person	
Zambia 1993	46.2	Expenditure	Household per capita	
Zimbabwe 1990	56.8	Expenditure	Household per capita	
Asia, not FSU (8)	**32.6**			
China 1995	41.5	Income	Household per capita	All
India 1992	32.0	Expenditure	Person	All
Indonesia 1996	36.5	Income	Household per capita	All
Nepal 1996	36.7	Expenditure	Household per capita	All
Pakistan 1991	31.2	Expenditure	Household per capita	All
Philippines 1994	42.9	Expenditure	Household per capita	All
Sri Lanka 1990	30.1	Expenditure	Household per capita	All
Thailand 1992	51.5	Income	Household	All
Former CP (12)	**30.2**			
Belarus 1993	21.6	Income	Household per capita	All
Bulgaria 1992	30.8	Income	Person	All
Czech Rep 1993	26.6	Income	Household per capita	All
Hungary 1993	27.9	Income	Household per capita	All
Kazakhstan 1993	32.7	Income	Household per capita	All
Kyrgyzstan Rep 1993	35.3	Income	Household per capita	All
Lithuania 1993	33.6	Income	Household per capita	All
Moldova 1992	34.4	Income	Household per capita	All
Romania 1992	25.5	Income	Household per capita	All
Russian Fed 1993	31.0	Income	Household per capita	All
Slovak Rep 1992	27.7	Income	Household	All
Turkmenistan 1993	35.8	Income	Household per capita	All

Source: World Income Inequality Database (WIID).

References

Aghion, P., E. Caroli, C. Garcia-Penalosa (1999) 'Inequality and Economic Growth: The Perspective of the New Growth Theories', *Journal of Economic Literature*, Vol. XXXVII, December: 1615-60.

Ahluwalia, M.S. (1974a) 'Income Inequality: Some Dimensions of the Problem', in H. Chenery, M.S. Ahluwalia, C.L.G. Bell, J.H. Duloy and R. Jolly, *Redistribution with Growth,* Oxford University Press: Oxford.

____ (1974b) 'The Scope For Policy Intervention', in H. Chenery, M.S. Ahluwalia, C.L.G. Bell, J.H. Duloy and R. Jolly, *Redistribution with Growth,* Oxford University Press: Oxford.

Alesina, A. (1998) 'The Political Economy of Macroeconomic Stabilizations and Income Inequality: Myths and Reality', in V. Tanzi and K. Chu (eds), *Income Distribution and High-Quality Growth*, MIT Press: Cambridge MA.

Alesina, A., and D. Rodrik (1994) 'Distributive Politics and Economic Growth', *Quarterly Journal of Economics*, Vol. 109, No.2: 465-90

Bell, C.L.G. (1974) 'The Political Framework', in H. Chenery, M.S. Ahluwalia, C.L.G. Bell, J.H. Duloy and R. Jolly, *Redistribution with Growth,* Oxford University Press: Oxford.

Bell, C.L.G., and J.H. Duloy (1974) 'Formulating a Strategy', in H. Chenery, M.S. Ahluwalia, C.L.G. Bell, J.H. Duloy and R. Jolly, *Redistribution with Growth,* Oxford University Press: Oxford.

Bruno, M.; M. Ravallion, and L. Squire (1998) 'Equity and Growth in Developing Countries: Old and New Perspectives on the Policy Issues', in V. Tanzi and K. Chu (eds), *Income Distribution and High-Quality Growth*, MIT Press: Cambridge, MA.

Camdessus, M. (1998) 'Income Distribution and Sustainable Growth: The Perspective From the IMF at Fifty', in V. Tanzi and K. Chu (eds), *Income Distribution and High-Quality Growth,* MIT Press: Cambridge MA.

Chenery, H., M. S. Ahluwalia, C.L.G. Bell, J.H. Duloy and R. Jolly (1974) *Redistribution with Growth,* Oxford University Press: Oxford.

Chu, K., H. Davoodi, and S. Gupta (1999) 'Income Distribution and Tax and Government Spending Policies in Developing Countries', draft paper prepared for WIDER Project Meeting on Rising Income Inequality and Poverty Reduction, 16-18 July 1999, Helsinki.

Cornia, G.A. (1999) 'Liberalization, Globalization and Income Distribution', *WIDER Working Paper* No. 157., UNU/WIDER: Helsinki.

Cornia, G. A.; S. Reddy (1999) 'The Impact of Adjustment Related Social Funds on Distribution and Poverty', WIDER Project Meeting on Rising Income Inequality and Poverty Reduction, 16-18 July 1999, Helsinki

Cramer, C. (forthcoming) 'Inequality, Development and Economic Correctness,' *The Cambridge Journal of Economics*.

Cramer, C., and J. Weeks (1997) 'Analytical Foundations of Employment and Training Programmes in Conflict-affected Countries', *ILO Action Programme on Skills and Entrepreneurship Training for Countries Emerging from Armed Conflict,* ILO: Geneva.

De Janvry, A., and E. Saoulet (1995) 'Poverty, Equity and Social Welfare in Latin America: Determinants of Change Over Growth Spells', *Issues in Development Discussion Paper,* Development and Technical Co-operation Department, ILO: Geneva.

Deininger, K. (1999) 'Asset Distribution, Inequality and Growth', draft paper prepared for WIDER Project Meeting on Rising Income Inequality and Poverty Reduction, 16-18 July 1999, Helsinki.

Demery, L., and L. Squire (1996) 'Macroeconomic Adjustment and Poverty in Africa: An Emerging Picture', *World Bank Research Observer* 11, 1: 39-59.

_____ (1997) 'Adjustment and Poverty Evidence: A Reply to Weeks,' *Journal of International Development* 9: 837-841.

Department for Overseas Development (1997) *Eliminating World Poverty: A Challenge for the 21st Century*, The Stationery Office: London.

Dollar, D., and A. Kraay (2000) 'Growth *is* Good for the Poor,' www.worldbank.org/ research: World Bank.

Dyer, Graham (1997) *Class, State and Agricultural Productivity in Egypt. A Study of the Inverse Relationship between Farm Size and Land Productivity*, Frank Cass: London.

Fields, Gary (1980) *Poverty, Inequality and Development*, Cambridge University Press: Cambridge.

Ferreira, F.H.G. (1999) 'Inequality and Economic Performance', www.worldbank.org/ poverty/inequal/index.htm: World Bank.

Flemming, J. (1998) 'Equitable Economic Transformation' in V. Tanzi and K. Chu (eds), *Income Distribution and High-Quality Growth*, MIT Press: Cambridge MA.

Food and Agricultural Organization, Statistics Division (1998) 'The Implications of the Uruguay Round Agreement on Agriculture for Developing Countries', *Training Materials for Agricultural Planning* No. 41, FAO: Rome.

Grosh, M.E. (1995) 'Towards Quantifying the Trade-off: Administrative Costs and Incidence in Targeted Programs in Latin America', in D. van de Walle and K. Neat (eds), *Public Spending and the Poor*, Johns Hopkins University Press for the World Bank: Baltimore.

Guitian, M. (1998) 'Monetary Policy: Equity Issues in IMF Policy Advice' in V. Tanzi and K. Chu (eds), *Income Distribution and High-Quality Growth*, MIT Press: Cambridge MA.

Hammer, J.S., I. Nabi, and J.A. Cercone (1995) 'Distributional Effects of Social Sector Expenditures in Malaysia: 1974-1989' in D. van de Walle and K. Neat (eds), *Public Spending and the Poor*, Johns Hopkins University Press for the World Bank: Baltimore.

Hamner, L., G. Pyatt, and H. White (1997) *Poverty in Sub-Saharan Africa. What can be Learnt from the World Bank's Poverty Assessments?,* ISS: The Hague.

Harberger, A. (1998) 'Monetary and Fiscal Policy for Equitable Economic Growth', in V. Tanzi and K. Chu (eds), *Income Distribution and High-Quality Growth*, MIT Press: Cambridge MA.

IFAD (1999) 'Rural Poverty: A Regional Assessment', International Fund for Agricultural Development, Latin America and Caribbean Division: Rome.

ILO (1992) *Incomes Policies in the Wider Context: Wage, Price and Fiscal Initiatives in Developing Countries*, F. Paukert and D. Robinson (eds.) ILO: Geneva.

IMF and The World Bank (1999) *Poverty Reduction Strategy Papers: Operational Issues*, IMF and World Bank: Washington DC.

Jao, C.C. (2000) 'The Impact of the Tax Revenue and Social Welfare Expenditure on Income Distribution in Taiwan', in *Journal of the Asia Pacific Economy*, Vol. 5, No. 1 and 2: 73-90.

Kanbur, R. (1999) 'Income Distribution and Growth', *World Bank Working Papers* No. 98-13, World Bank: Washington DC.

Kanbur, R., and L. Squire (1999) 'The Evolution of Thinking about Poverty: Exploring the Interactions' (mimeo), World Development Report Office, World Bank: Washington DC.

Kuznets, S. (1955) 'Economic Growth and Income Inequality', *American Economic Review*, 45: 1-28.

Lewis, W.A. (1954) 'Economic Development with Unlimited Supplies of Labour', *Manchester School of Economics and Social Studies*, 22: 139-81

Li, H., L. Squire, and H. Zou (1998 'Explaining the International and Intertemporal Variations in Income Inequality', *The Economic Journal*, 108: 26-43.

McDonald, C.; Schiller, C.; Ueda, K. 1999 'Income Distribution, Informal Safety Nets, and Social Expenditures in Uganda', *IMF Working Paper*, No. 163.

Milanovic, B. (1999) 'Explaining the Increase in Inequality During the Transition', *The World Bank Policy Research Department Paper* No 1935, World Bank: Washington DC.

Platteau, J.-P. (1992) 'Land Reform and Structural Adjustment in sub-Saharan Africa: Controversies and Guidelines', *FAO Economic and Social Development Paper* No. 107, FAO: Rome.

_____ (1995) 'Reforming Land Rights in Sub-Saharan Africa: Issues of Efficiency and Equity', *Research Institute for Social Development Discussion Paper* No. 60, UNRISD: Geneva.

Polak, J.J. (1957) 'Monetary Analysis of Income Formation and Payments Problem', *IMF Staff Papers*: 1-50, IMF: Washington DC.

Psacharopoulis, G., S. Morley, A. Fiszbein, and B. Wood (1996) 'Poverty and Income Distribution in Latin America: The Story of the 1980s', *World Bank Technical Paper* No. 351, World Bank: Washington DC.

Ravallion, M., and Chen, S. (1997) 'What Can New Survey Data Tell Us About Recent Changes in Distribution and Poverty', *The World Bank Review*, Vol. 11, No.2: 357-82.

Ravallion, M., and Sen, B. (1994) 'Impacts on Rural Poverty of Land-based Targeting: Further Results for Bangladesh', *World Development*, Vol. 22, No. 6: 823-38.

Rodgers, G. (ed.) (1995) *The Poverty Agenda and the ILO: Issues for Research and Action'*, IILS: Geneva.

Sen, A. (1995) 'The Political Economy of Targeting', in D. van de Walle and K. Neat (eds) *Public Spending and the Poor*, John Hopkins University Press for the World Bank: Baltimore.

Stewart, F. (1995) *Adjustment and Poverty, Options and Choices*, Routledge: London.

Tanzi, V. (1998) 'Macroeconomic Adjustment with Major Structural Reforms' in V. Tanzi and K. Chu (eds), *Income Distribution and High-Quality Growth*, MIT Press: Cambridge MA.

Thiesenhusen, W.H. (1989) *Searching for Agrarian Reform in Latin America,* Unwin Hyman: Winchester MA.

van de Walle, D. (1995) 'Incidence and Targeting: An Overview of Implications for Research and Policy' in D. van de Walle and K. Neat (eds.) *Public Spending and the Poor*, John Hopkins University Press for the World Bank: Baltimore.

van der Hoeven, R. (2000) 'Poverty and Structural Adjustment. Some Remarks on the Trade-off between Equity and Growth', in P. Mosley and A. Booth (eds) '*New Poverty Strategies, What Have They Achieved, What Have We Learned?,* Macmillan: London.

van der Hoeven, R and W. van der Geest, (1999) 'Africa's Adjusted Labour Markets. Can Institutions Perform?', in W. van der Geest and R. van der Hoeven, *Adjustment, Employment and Missing Institutions in Africa*, James Currey: London.

Weeks, John (1971) 'The Political Economy of Labour Transfer,' *Science and Society* XXXV, 4.

_____ (1997) 'Analysis of the Demery and Squire "Adjustment and Poverty" Evidence', *Journal of International Development* 9: 827-36.

World Bank (1993) *The East Asian Miracle*, Oxford University Press: Oxford.