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Growth, Income Distribution, and Poverty

A Review

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Abstract

This paper reviews recent research dealing with the relationships between economic growth, income distribution, and poverty. This generally fails to find any systematic pattern of change in income distribution during recent decades. Neither does it find any systematic link from fast growth to increasing inequality. The level of initial income inequality is not a robust explanatory factor of growth, but some recent empirical studies have found a negative impact of asset inequality on growth. Possible channels are credit rationing, reduced possibilities for participation in the political process, and social conflicts. Among the strategic elements that have contributed to reduced poverty are: an outward-oriented strategy of export-led growth, based on labour-intensive manufacturing; agricultural and rural development, with encouragement of new technologies; investment in physical infrastructure and human capital; efficient institutions that provide the right set of incentives to farmers and entrepreneurs; and social policies to promote health, education, and social capital, as well as safety nets to protect the poor. Countries that have been successful in terms of economic growth are also very likely to have been successful in reducing poverty. Growth can be substantial if the policy and institutional environment is right.

Keywords: pro-poor growth, income distribution, poverty, survey

JEL classification: D31, O11, O12, I3

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1. Introduction

The most important goal for development efforts is to reduce poverty, which can be accomplished by economic growth and/or by income redistribution. This paper provides a selective review of recent literature dealing with the relationships between economic growth, income distribution, and poverty. It also discusses the effect of economic policies on these three factors.

The concept of development has been debated for a long time, and has major philosophical implications, which we will not discuss here (for a discussion, see Sen, 1989). What we are concerned with is changes in the economic welfare of people, and also this has many dimensions. We will concentrate on three dimensions of economic welfare, namely per capita income, income distribution, and poverty.¹ Income or consumption is bound to be an important part of any discussion of the consequences of economic policies and reforms on the poor. Economic reforms will be judged *inter alia* on their effect on gross domestic product, and since both GDP and household income (consumption) are measured in monetary terms, income (consumption) poverty-measures will provide a useful starting point.

2. Aggregate trends in poverty and inequality

Both the global share of population (Table 1) and the absolute number of people living on less than one (or two) dollar a day (Table 2) declined substantially in the mid 1990s, after increasing earlier in the decade. The declines in the numbers are almost exclusively due to a reduction in the number of poor people in East Asia, most notably in China. But progress was partly reversed by the Asian financial crisis, or was at least stalled, as in China. In South Asia, the incidence of poverty (the share of the population living in poverty) also declined moderately through the 1990s, but not sufficiently to reduce the absolute number of poor, which was rising steadily between 1987 and 1996. Also in Africa the share declined (at least after 1993), while the numbers increased. The estimates indicate that Africa is the region with the largest share of people living below \$1/day. In Latin America, the share of poor people remained roughly constant over the period, while the numbers generally increased. In the countries of the former Soviet bloc, poverty rose markedly, both as a share, and in numbers. One must note, however, the income distribution data are often fragile and one must be cautious when interpreting them.²

Trends in inequality within countries show no overall pattern. Data up to the mid 1990s shows increases in inequality in Eastern Europe and Central Asia, and possibly in Africa, but declines in South Asia, and not much change elsewhere.

¹ To measure poverty one may use income or consumption data or various non-monetary measures (see Dercon, 2000, or White, 1999).

² The problems of interpreting Indian survey data are discussed in Srinivasan (2000), who also points out the difficulties of making valid cross-country comparisons.

Table 1
Headcount index, selected years, 1987-98

| Regions | Percentage of population living on less than \$1 a day | | | | |
|---------------------------------|--|------|------|------|------------|
| | 1987 | 1990 | 1993 | 1996 | 1998(est.) |
| East Asia and the Pacific | 26.6 | 27.6 | 25.2 | 14.9 | 15.3 |
| (excluding China) | 23.9 | 18.5 | 15.9 | 10.0 | 11.3 |
| Eastern Europe and Central Asia | 0.2 | 1.6 | 4.0 | 5.1 | 5.1 |
| Latin America and the Caribbean | 15.3 | 16.8 | 15.3 | 15.6 | 15.6 |
| Middle East and North Africa | 4.3 | 2.4 | 1.9 | 1.8 | 1.9 |
| South Asia | 44.9 | 44.0 | 42.4 | 42.3 | 40.0 |
| Sub-Saharan Africa | 46.6 | 47.7 | 49.7 | 48.5 | 46.3 |
| Total | 28.3 | 29.0 | 28.1 | 24.5 | 24.0 |
| (excluding China) | 28.5 | 28.1 | 27.7 | 27.0 | 26.2 |

Source: Chen and Ravallion (forthcoming).

Table 2
Population (millions) living on less than \$1 per day, selected years 1987-98

| Region | 1987 | 1990 | 1993 | 1996 | 1998(est.) |
|---------------------------------|--------|--------|--------|--------|------------|
| East Asia and the Pacific | 417.5 | 452.4 | 431.9 | 265.1 | 278.3 |
| (excluding China) | 114.1 | 92.0 | 83.5 | 55.1 | 65.1 |
| Eastern Europe and Central Asia | 1.1 | 7.1 | 18.3 | 23.8 | 24.0 |
| Latin America and the Caribbean | 63.7 | 73.8 | 70.8 | 76.0 | 78.2 |
| Middle East and North Africa | 9.3 | 5.7 | 5.0 | 5.0 | 5.5 |
| South Asia | 474.4 | 495.1 | 505.1 | 531.7 | 522.0 |
| Sub-Saharan Africa | 217.2 | 242.3 | 273.3 | 289.0 | 290.9 |
| Total | 1183.2 | 1276.4 | 1304.4 | 1190.6 | 1198.9 |
| (excluding China) | 879.8 | 916.0 | 956.0 | 980.6 | 985.7 |

Source: Chen and Ravallion (forthcoming).

World inequality is mainly driven by differences between countries. When measuring inequality in terms of per capita GDP converted to dollars at official exchange rates, inequality has risen over the long haul. According to UNDP (1999) the ratio of income per capita in the richest country over that in the poorest country has increased from eleven in 1913, to thirty-five in 1950, then to forty-four by 1973; and seventy-two by 1992. It is thus obvious that some countries were left behind, as the now developed countries took off. However, is this the most appropriate way to measure the gaps. Melchior, Telle, and Wiig (2000) have attempted to check more thoroughly what has happened to international inequality since 1960. In contrast to the UNDP they use PPP weighted estimates of per capita incomes of 115 countries, and they also weight the countries by population size. This means that development in China weighs heavily in the results. Their estimates of the Gini-coefficients for differences in average per capita incomes suggest that international inequality has actually been falling more or less continuously since 1968. Their results are consistent with those of Sprout and Weaver (1992), Schultz (1998), Firebaugh (1999), and Boltho and Toniolo (1999) up to 1990. Also the study by Melchior, Telle and Wiig show

increasing international inequality until 1994, when official exchange rates are used, but for the period 1994-7 even that measure shows a declining trend. They then use the Lorenz curve to investigate what has happened to various percentiles. It is then shown that the share of the bottom ten per cent did decline, but for the bottom twenty per cent or any higher share, it increased. The increasing gap between 1982 and 1997 between the top and the bottom deciles mainly reflects the decline in poor countries in Africa. These estimates neglect intra-country inequality, and Milanovic (1999) has incorporated this effect as well for the limited period of 1988-93. For this period he then found that world inequality did increase. We have noted, however, that it has been hard to find any systematic pattern in within-country inequality over longer periods of time, so his results may not be typical.

Even if income differences are not generally increasing, inter-country gaps in per capita incomes are enormous, and a major explanation of world inequality. It is also serious that that the very poorest countries are falling further and further behind.

3. Determinants of growth

While linkages between growth, income distribution, and poverty will be discussed later, we will elaborate a bit on the determinants of growth. We should keep in mind, though, that there are many factors that influence economic growth, not all easily quantifiable. Early analyses of economic growth were usually done within the framework of the neoclassical growth model, as developed by Solow (1956) and others. Driven by diminishing returns to capital, this model implies convergence, meaning that the lower the starting level of per capita income, the higher the rate of growth, with the economy converging to a steady state level. This presupposes that countries are alike except for the initial capital-labour ratio, but in reality they may of course differ in many other dimensions.

In the neoclassical model, the steady-state per capita income level attained depends on the propensity to save and the position of the production function, and these factors may vary across countries. If there is technical progress, the steady state income level will gradually increase. Barro (1997) notes that the steady state also depends on government policies, for example with regard to public consumption, protection of property rights, and distortions of domestic and international markets. The concept of capital in the standard model may be extended to include human capital in the form of education, experience, and health. The endogenous growth literature, starting with Romer (1986) and Lucas (1988), suggests that growth may go on indefinitely, since returns to investment in human capital, for example, need not be diminishing: External effects of human capital and spillovers between producers help economies avoid diminishing returns to capital. However, the expensive in-house research and development that manufacturing firms undertake in advanced industrial economies is usually not possible in countries in the early stages of industrialization. Then less developed economies will have to grow a by accumulating physical and human capital, and increasing specialization by industry (Peretto, 1999).

There is a well-known result in the empirical literature, that there is no direct correlation between the initial level of per capita income and the rate of growth, which means that there is no unconditional convergence. However, when other relevant variables are added to the model, there is an effect. There is convergence, but conditional on these other variables, which vary across countries. Barro's (1997) cross-country study shows that variables that matter for growth are, for example, the initial level of per capita income, the

initial level of human capital, the fertility rate, government consumption, the rule of law,³ terms of trade, and the investment ratio. Thus, it is far from self-evident that a country will grow fast just because it starts out poor. It could be that, because of poor policies or other conditions, it grows only slowly, or even converges to a low-level steady state. Sub-Saharan Africa might be a case in point.

It is clear that per capita incomes in the long term are determined by the levels of human capital and physical capital, and the underlying level of productivity as shown in a standard aggregate production function. But this type of formulation leads on to further questions: What determines the levels of investment in human and physical capital, and what determines productivity growth? A recent attempt to discuss these issues is due to Hall and Jones (1999), who present a cross-country analysis of per capita income levels with the very simple basic hypothesis, that per capita income levels are indirectly determined by the amount of 'social infrastructure'. By social infrastructure they mean the institutions and government policies that determine the economic environment, within which individuals accumulate skills and firms accumulate capital and produce output. The environment should thus support productive activities and encourage capital accumulation, skill acquisition, and technology transfer. Such an infrastructure must limit diversion and get prices right, so that individuals can capture the returns to their actions as private economic agents. Social control of diversion, which is a major component of 'social infrastructure', has two benefits: Producers are allowed to reap the full rewards of their production, and they do not need to invest resources in avoiding diversion. The government should therefore try to prevent private diversion, and should refrain from diverting itself. Rentseeking can have a very negative effect on growth (Bigsten and Moene, 1996).

This analysis thus says that social infrastructure determines the underlying level of productivity, which then influences output per worker, and suggests that one should distinguish between the proximate causes of growth, such as human and physical capital accumulation, and the more fundamental determinants of productivity. Hall and Jones note that social infrastructure is an endogenous variable, and they therefore use instrumental variables to control for this, geographic and linguistic variables that show how much the countries have been influenced by Western Europe. Even controlling for this, they find that social infrastructure explains most of the differences in per capita incomes. They conclude that differences in physical capital and educational attainment explain only a modest amount of the difference in output per worker across countries. Further, it is rather differences in the underlying production function that explain the vast differences in per capita incomes.

As proxies for social infrastructure, Hall and Jones used an index of government anti-diversion policies, plus an index of the extent to which a country is open to international trade. Openness gives scope for specialization, but it also facilitates the adoption of new ideas and technologies. Growth problems have been most pronounced in countries that have pursued an inward-oriented policy. Opening up to international markets is therefore essential.

³ Barro uses an indicator from the International Country Risk Guide reflecting the quality of the bureaucracy, political corruption, likelihood of government repudiation of contracts, risk of government expropriation, and overall maintenance of the rule of law.

Countries with a good social infrastructure, then, have high capital intensities, high human capital per worker, and high productivity. These differences, interpreted through an aggregate production function, are able to account for the variation in output per worker. Thus, the results of Hall and Jones suggest that success in investment and productivity growth is driven by social infrastructure, as reflected in institutions and government policies. However, it should be noted that the results are not based on properly estimated production functions. The capital coefficient, for example is just assumed to be one third, which is too low for Africa. The returns to education in Africa taken from Psacharopoulos (1994) are much too high. Recent empirical estimates suggests that returns to primary education in Africa are very close to zero rather than the 13 percent which are used. The empirical estimates in the paper are thus debatable, but the general drift of their arguments seems very relevant.

One may conclude that the accumulation of physical and human capital, efficiency in resource allocation, and acquisition and application of modern technology are necessary for growth. The key question is how the policy environment should be organised in order for it to facilitate the accumulation of production factors and their efficient allocation, as well as the introduction of enhanced technologies. Economic policies at the micro level should clearly aim to develop and sustain efficient markets, while macro policy should be geared towards guaranteeing macroeconomic stability, and towards openness. It has also become increasingly clear that a supportive environment of efficient institutions is crucial for the functioning of the economy. Such institutions can lower transaction costs, while raising the supply of information and services to economic actors. In the African economies, for example, uncertainty is high, thus hindering the expansion of economic transactions, and reducing the scope for specialization. The general uncertainty of property rights dissuades economic actors from entering into long term contracts, and thus constrains large investments in fixed capital: Given incomplete markets for capital goods, fixed investments might be irreversible, and actors want to guard themselves against this eventuality.

What then is required for growth-supporting institutions to develop? It is not enough to instil the relevant skills in civil servants, only to put them into institutions where outsiders determine outcomes. A government primarily concerned with its own survival will not necessarily set up the institutions and establish codes of conduct necessary for economic growth. With special interest politics at centre stage, there is bound to be inefficiency, which will make investors cautious, while elsewhere in the economy resources are wasted on rentseeking activities.

The debate on the determinants of growth has increasingly come to focus on the political economy of policy making. To be able to systematise the experiences of different countries, one needs to have a classification scheme. In their large cross-country project, Lal and Myint (1996) used a five-fold classification of countries by political environments and a three-fold classification by economic structure, the latter based on their factor proportions: Countries are classified as labour abundant, land abundant, or intermediate, relative to the world endowments of labour, land, and capital. This classification makes it possible to use the three-factor trade model developed by Krueger (1977) and Leamer (1987) to discuss a whole range of different development paths. The paths depend on the accumulation of capital and labour, and imply different patterns of change in functional income distribution.

The five-fold political classification distinguishes between the objectives of the government and the constraints it faces. With regard to constraints, Lal and Myint distinguished between the autonomous and the factional state. In the former, the state works for its own ends. One might have a Platonic Guardian State, benevolently trying to maximize some social welfare function, but alternatively, one might have a predatory state, which either seeks to maximize the net revenue for the ruler's use or the bureaucratic state maximizing public employment. The factional state, on the other hand, has no objectives of its own, but tries to realize those of anyone who is able to capture the state. Here, Lal and Myint distinguish between the oligarchic state and the majoritarian democracy.

Lal and Myint found that initial resource endowment was more important in determining the policy outcome than the type of political system. Labour abundant countries, such as Korea and Taiwan, had an easy policy making task and could follow the prescriptions from the standard Heckscher-Ohlin model, initially concentrating on labour-intensive production and then moving up the ladder of comparative advantage as capital was accumulated. A major reason why this development path is relatively smooth is that it leads to politically desirable factor price changes, that is, increasing real wages as more capital is accumulated. The bulk of the population will gain, and will thus not resist the policy in a factional state. Also, the various types of autonomous states will find it in their interest to pursue a development strategy that uses its abundant resource intensively.

The comparative advantage of natural resource abundant countries is also relatively straightforward, but may be more difficult to realize. Lal (2000) gives several reasons: First, with a higher supply-price of labour than in the labour abundant countries, comparative advantage lies in more capital intensive types of production. Public intervention may be required to realize bulky investments, develop specific skills, and absorb advanced technology. This opens up the field for bureaucratic failures, which may then undermine growth potential. The second point is that, if capital accumulation is not fast enough, and with a rapidly growing labour force, the optimal development path may imply falling real wages. In the case of factional government, this may lead to political pressure to avoid this by turning inward; there may be swings between populist periods and liberalization phases. Thirdly, to avoid the falling wages, many countries have attempted to undertake big push development programmes, which have often been financed by foreign borrowing leading to high indebtedness. Fourthly, given the rents available from the natural resources, there has been extensive politicization of the distribution of these rents, which has a severe effect on the rent generating sector, particularly when terms of trade decline. It may be that the wealth of natural resources leads to a policy that destroys the sector that generated the rents. See discussion of the case of Zambia in Bigsten and Kayizzi-Mugerwa, 2000.

The intermediate resource endowment countries face a more complex task. It is not as clear what their incremental comparative advantage is; mistakes are not as easily observed. The political system may also be at odds with the pursuit of their comparative advantage (see Lal, 1995, on India and China).

Generally, Lal and Myint (1996) did not find any relationship between the form of government and economic performance. Instead they found that it was the availability, or lack, of natural resources, that was the major determinant of policies, which affected the efficiency and volume of investment, and thus the rate of growth.

4. Economic growth, income distribution and poverty

A pro-poor growth strategy does not have to only focus on economic growth, but could also be combined with an active policy of income redistribution. However, there may be a trade-off: If more rapid reduction in poverty can be achieved through reductions in inequalities, then distributional policy takes on a greater priority; but on the other hand, if greater levels of inequality appear to secure rapid growth leading to faster poverty reduction, then there may well be greater tolerance of inequalities. Thus, the relationship between growth and inequality are important from a policy perspective.

In his famous 1955 article, Simon Kuznets investigated the relationship between per capita incomes and inequality in a cross-section of countries. He found that there was an inverted-U pattern, that is, inequality first increased, and then decreased, as per capita income increased. The driving force was assumed to be structural change in a dual economy setting, in which labour was shifted from a poor and relatively undifferentiated traditional sector, to a more productive and more differentiated, modern sector. Kuznets' inverted-U has been exposed to a large number of tests over the years. Deininger and Squire (1998) provide the most comprehensive attempt so far to test the Kuznets hypothesis. They used a data set of better quality than previous researchers had, and for individual countries they had fairly comparable data for several points in time. They were also able to examine the income changes in the bottom quintiles, that is, among the poor. The result for their sample, was that there was no evidence of an inverted-U pattern for individual countries. In the majority of cases, in fact, it was impossible to find any significant change in income distribution during recent decades. They then went on to investigate whether there was a link from fast growth to increasing inequality, and again they did not find any systematic evidence in favour of such a relationship. Rapid growth was associated with growing inequality as often as it was associated with falling inequality, or with no changes at all. The results are consistent with those of an earlier study by Ravallion and Chen (1997), who did not find any systematic relationship between the rate of growth and inequality either. This suggests that economic policy aimed at rapid growth is a vital ingredient in a strategy to reduce poverty.

The impact of growth on the poor obviously depends on how the benefits are distributed across the population. By looking at the growth and income shares of different groups, Deininger and Squire (1998) investigated how initial inequality and contemporaneous changes in inequality influence poverty. The poor (bottom 20 percent) were found to suffer from growth reducing effects of inequality, and also to benefit from measures that stimulate growth. Also Ravallion and Chen (1997) found a very strong relation from growth to reduced poverty. They distributed their observations into four quadrants, according to the direction of changes in mean consumption and in the poverty rate. Virtually all observations fell either in the quadrants with rising poverty and falling mean income or in the quadrant with falling poverty and rising mean incomes. Empirically, there is thus a very strong relationship from per capita income growth to poverty reduction.⁴

Even if there is a strong relationship from GDP growth to poverty reduction it might be the case that countries with initially severe inequality may be less successful at reducing

⁴ Other studies supporting positive effects of growth on poverty are Ravallion (1993), Ravallion and Datt (1994), Bell and Rich (1994), and Dollar and Kraay (2000).

poverty. While earlier models, such as the Harrod-Domar model, predicted that greater inequality would lead to higher growth rates, there was, during the 1990s, a shift in focus towards the opposite effect: Can greater inequality lead to a lower level of overall growth? Some empirical evidence from both industrialized and less-developed countries has tended to confirm the negative impact of inequality on growth. Such a relationship was found in (admittedly somewhat shaky) cross-country data by Persson and Tabellini (1994), and also by Alesina and Rodrik (1994). These authors interpreted the results in a political economy context, their argument being that when inequality is high, the median voter will push for high (distortionary) taxes on the better-off, which will have disincentive effects on efforts and savings, which would then reduce growth. Further tests of this proposition have cast some doubt on its validity, however, and the evidence for disincentive effects of taxation is so far fairly weak. Another possible channel from inequality to growth is via social conflicts. Alesina and Perotti (1996) argued that inequality leads to increased political instability, which tends to reduce efficiency and investment levels, and then growth. It has also been argued that instability reduces the ability of governments to respond to external shocks (Rodrik, 1997).

Deininger and Squire tested the link from inequality to growth, but found no stable relationship between the level of initial income inequality and growth. They found, though, that high inequality in the distribution of land, proxying for asset distribution, had a significantly negative effect on future growth.⁵ The main factor identified as a possible explanation was credit rationing, in situations where investments are indivisible. It might be impossible for the poor to finance schooling or other investments, even if they would be profitable, since they lack collateral for loans. Lack of assets might also reduce possibilities for participation in the political process, and thus also reduce access to resources. Once countries become sufficiently rich, this link between high inequality and low growth seems to disappear. Low initial inequality is thus doubly beneficial for the poor, since it not only increases overall growth, but it also specifically increases their own income generating opportunities. Other policy variables, however, affect poverty mainly through their effect on investment, and investment in new assets seems more effective than redistribution of existing ones. There may be problems with the use of a land reform policy to fight poverty if it leads to reduced investments. Birdsall, Ross, Sabot (1995) found that the low inequality of income in East Asia contributed to its fast growth. In addition, policies that reduced poverty and income inequality, such as basic education and measures augmenting labour demand, also stimulated growth.

The debate about how the empirical link between growth and inequality looks is not at all finished, though. Forbes (2000) uses a method that makes it possible to allow for fixed country effects to estimate how inequality in a given country affects its growth. She then finds, contrary to earlier studies, a robust and significant positive relation between income inequality and growth. Obviously there is need for further research on this issue before we are too certain as to how the relationship looks.

One should not view the poor as a homogenous group, since one may then miss important within-group changes in well-being. For example, the responsiveness of various measures of poverty, to growth and to changes in distribution, differs between urban and rural areas.

⁵ Birdsall and Londono (1997) also found a strong relationship between growth and initial distribution of assets.

Using household survey data from 16 Sub-Saharan African countries, Ali and Thorbecke (1998) provide evidence that rural poverty is more responsive to growth than is urban poverty. Urban poverty seems to be more responsive to changes in income distribution than rural poverty. While the incomes of the poorest are responsive to growth, this may hide important dynamics among the poor.⁶ For example, in a rural household panel data study from Sichuan covering the period 1991-5 McCulloch and Calandrino (2001) found that most households that fall into poverty only stay there for one or two years. Although a third of the poor exit poverty each year, those households that are poor for more than one year have a lower probability to exit.

Thus, there are indications that there may be a negative effect from high inequality to low growth, particularly if we consider unequal asset distribution. Countries with initially severe inequality of consumption and land, may then be less successful at reducing poverty, because a given growth rate leads to slower poverty reduction, at the same time as the uneven distribution of land leads to slower growth. However, it is not easy to generalize about the impact of a change in the pattern of distribution upon growth. The impact will depend on the political and social context, and the method by which the distribution of assets is adjusted.

5. Economic policies and pro-poor growth strategies

So far, we have looked at the interlinkages between growth, income distribution, and poverty. An important question that follows is whether there are any particular development strategies, or specific policies, that would simultaneously lead to high and sustained growth rates, equitable distribution, and a rapid reduction of poverty. While at least some of the evidence suggests that countries with more equal distribution grow more quickly, it is also true that economic policy can compensate for inferior initial income distribution. Lal and Myint (1996), studying growth, inequality, and poverty, found that experiences vary a lot across countries, and that differences in performance are largely due to different policy choices.⁷

Understanding the policies and development strategies of those countries that have succeeded in reducing poverty substantially can provide some guidance for other countries. Among the strategic elements that contributed to reduced poverty are: an outward-oriented strategy of export-led growth, based on labour-intensive manufacturing; agricultural and rural development at an early stage, with encouragement of new technologies; investment in physical infrastructure and human capital; efficient institutions that provide the right set of incentives to farmers and entrepreneurs; and social policies to promote health,

⁶ For a review on studies using panel data sets see Baulch and Hoddinott (2000). See Bigsten, Kronlid, and Makkonen (2000) for evidence on income mobility in urban Ethiopia.

⁷ There has been extensive debates about the impact of structural adjustment programmes on poverty. Demery and Squire (1996) argue that countries where policy reforms were implemented saw a decline in poverty, while those where adjustment was delayed or reversed, the situation improved only marginally or deteriorated without adjustment. Dorosh and Sahn (1998) argue that availability of donor funds has been crucial for good results. Ali (1996, 1998) argues that the results of adjustment efforts on poverty are very mixed. For a synthesis of country case studies evaluating adjustment policies and the impact on income distribution, see Bourguignon and Morrison (1992), See also Kayizzi-Mugerwa and Levin (1996) and Levin (1998) for a review of the experience of Sub-Saharan Africa.

education, and social capital, as well as safety nets to protect the poor; improved access to capital through better functioning credit markets, and a more equal distribution of assets (Stewart, 2000, Thorbecke, 1999; Asian Development Bank, 1999; World Bank, 1999, Goudie and Ladd, 1999).

A major challenge is to find combinations of instruments that will deliver both growth and equity. While there are few studies analysing these issues, Lundberg and Squire (1999) argue that financial depth, openness, and land distribution emerge as policies that consistently spur growth. With the possible exception of openness, these policies also benefit equality.

5.1. The choice of growth sectors

Even if economic growth is necessary to reduce poverty, the orientation of the growth process is also important. A central question is what sectors should be given priority in a poverty oriented growth strategy. The dual economy models of Lewis (1954) and Fei and Ranis (1964) provided a first attempt to understand the role of inter-sectoral linkages, which have been considered important when formulating development strategies.⁸ In the 1960s and 1970s, those strategies were focused on the expansion of industrial activities, in order to increase demand for agricultural products. Most developing countries increased trade barriers to protect the development of the domestic industry. Some countries, primarily in Asia, managed to develop a competitive industry and were able to reduce protection. One important explanation to this success was that they had undertaken land reforms and that the agricultural sector was relatively well developed. The results in Africa were poor. The import substitution policy did not lead to the creation of an internationally competitive industry and it turned out to have a devastating effect on agricultural production. Through high trade barriers the agricultural production was taxed and the farmers were forced to sell their goods at artificially low prices and agricultural production stagnated. This did not only affect export revenues but also employment and poverty, both in urban and rural areas. Since incomes in agriculture deteriorated, people moved to town in search of jobs, but the majority ended up in the informal sector or in open unemployment. This development meant that poverty increased both in town and in the countryside.

However, a shift in emphasis took place in the 1980s, when economic reform programmes were introduced. It was now argued that incentives supporting the agricultural sector were necessary to increase agricultural production and reduce poverty in the rural areas. It was necessary to increase producer prices, but further reforms of the rural environment have turned out to be necessary to increase growth in agriculture in a sustainable way. Increased agricultural production would in turn support domestic industry. Thus, while earlier periods focused on backward linkages, the focus today is as much on forward linkages (Bigsten and Collier, 1996).

⁸ Traditionally, intersectoral linkages are thought of as being synonymous with increased demand for intermediate goods when production of the basic good increases (backward linkages), or with cheapening of production when events in the sector in question cheapen another's input (forward linkages) (Delgado et al., 1999)

Although those earlier models took a too simplistic view of various aspects of dualism, renewed interest in the area has provided some interesting developments.⁹ For example, Thorbecke and Stiefel (1999) expand the standard dualistic framework into a dual-dual framework, which distinguishes modern (formal) and informal sector activities in both urban and rural areas. With this framework, they show that population shifts between socio-economic groups are an important factor in explaining changes in poverty.

In an extended dualistic framework, Bourguignon and Morrison (1998) found that the extent of economic dualism is a major factor explaining differences in income distribution across developing countries: Increased agricultural growth is the most efficient way of reducing inequality and poverty. Results from India, obtained by following the evolution of poverty through 35 household surveys undertaken between 1951 and 1991, also show that agricultural growth mattered more than manufacturing growth for poverty reduction (Ravallion and Datt, 1996). Mellor (1999) also argues that, even if manufacturing growth is more important for overall growth, agricultural growth is more important for employment growth and poverty reduction.

Analyses of linkages have generally focused on the production side of the economy. However, some recent studies have of rural economies suggest that the primary intersectoral linkages are to be found on the consumption side. They will thus depend on how poor rural people spend increments in income (Delgado et al., 1998). Still, more attention needs to be paid to inter-sectoral dynamics, especially in Sub-Saharan African economies (Blunch and Verner, 1999).

5.2. The role of the public sector

A policy of redistribution is politically complicated. Asset redistribution may have costs in terms of lost growth, so that there is an equity/growth trade-off. This could arise from efficiency and output losses from one-off redistribution, or through the impact on investment incentives. Redistribution therefore inevitably raises complex questions of political, social and economic importance. As a result, governments may prefer a less *dirigiste* approach and instead use changes in tax policies and public expenditures. They must then try to achieve a balance between measures having immediate effects on poverty and measures supporting processes that bring continuing and sustainable poverty alleviation in the longer term.

Although many countries have had the intention of allocating expenditures towards activities, which would reduce inequalities and poverty, they have often failed. One reason for the disappointing results is the failure to link policy, planning, and budgeting. In many countries, policy making, planning, and budgeting take place independently of each other. Planning is often confined to investment activities, which in many less developed countries refers to a series of donor-funded projects. Capital expenditures are thus already largely accounted for through the planning process, and large portions of recurrent expenditures are simply recommitted to the wage bill. For this reason, annual budgeting is reduced to allocating resources thinly across donor- and domestically-funded 'investment' projects, and to the non-wage portion of the recurrent budget.

⁹ The traditional models of dualism focused on the difference between modern (formal) industry and traditional (informal) agriculture.

In the absence of effective decision making processes, policy making and planning are also disconnected from each other as well as from budgeting, and they are not constrained by resource availability or by strategic priorities. Overall, this may lead to a massive mismatch, between what is promised through government policies, and what is affordable. The annual budgeting process, therefore, becomes more about scrambling to keep things afloat, rather than allocating resources on the basis of clear policy choices to achieve strategic objectives. It is therefore vital to reform the public sector as well as the forms of foreign aid.

A tool that is now widely used in less developed countries, and also in some industrialized countries, is the medium term expenditure framework (MTEF) within which ministers and line ministries are provided with greater responsibility for resource allocation decisions and resource use. The MTEF consists of a top-down resource envelope, a bottom-up estimation of the current and medium term costs of existing policy, and, ultimately, the matching of these costs with available resources. The matching of costs should normally occur in the context of the annual budget process, which should focus on the need for policy change to reflect changing macroeconomic conditions, as well as on changes in strategic priorities of the government. The MTEF provides an efficient tool for achieving a more efficient use of public resources.

The efficiency and composition of public expenditures are critical determinants of growth and poverty. When undertaking fiscal reforms one may distinguish three types of impact from reallocation of public expenditures. First, when relative prices and factor-incomes change, income distribution and poverty will change. Second, the composition of government expenditures affects sectoral productivity, and hence labour demand and household income. Third, changes in the supply of public services, such as health care and education have an impact on household's possibilities to acquire human capital.

With regard to changes in relative prices and factor incomes following reduced government recurrent expenditures, it is mainly urban households that are hurt, due to the urban bias of government employment. Quite often rural households benefited from the resulting changes in relative prices (Dorosh et al., 1996, Dorosh, 1996, and Levin, 1998). However, in a number of countries, particularly in Sub-Saharan Africa, political constraints induced governments to reduce capital expenditures, rather than laying off public employees. While protecting urban households from a short term income loss, this had a long term negative impact on the rural poor. For example, in the case of Ghana, when government investment in agriculture and rural infrastructure declined, there were negative long term effects on production. Thus, even if the rural population benefits from a real depreciation of the exchange rate in the short run, these gains are eroded in the longer term if public investment is not kept at a reasonable level (Dorosh and Lundberg, 1996).

Investment is one of the major determinants of economic growth in developing countries. However, government interventions which are normally considered productive could become unproductive, if there is an excessive amount of them. In particular, capital expenditures, often thought to be the key component of development, have been excessive in some developing countries, rendering them unproductive at the margin (Devarajan et. al., 1996). This seems to have been the case in Tanzania. The evidence points to a negative relationship between public investment expenditure and economic growth for the period 1965-96 (Kweka and Morrissey, 2000). Thus, a shake out of unproductive government investments could raise the average productivity of investment. It is also true, however,

that an excessive shake-out could have the effect of lowering the productivity of private investment (Toye, 2000). For example, poor infrastructure and deficient public services in Uganda significantly reduced investments of private firms (Reinikka and Svensson, 2000). In Cameroon, as public investment was squeezed, and in particular infrastructural and agricultural services, there was a negative impact on agricultural activities and the rural poor. The policy implications is that if a substantial share of the private sector's costs are due to the poorly functioning public sector, private sector response to economic reform is likely to remain limited.

A reallocation of government expenditures may also impact on the supply of health and education services, though this does not necessarily hurt the poor. Lloyd-Sherlock (2000) argues that the scale, and general allocation patterns, of public social spending in Latin America are not benefiting the poor. Despite the high level of spending, large sections of low-income groups are excluded from many areas of public welfare. The effects of entitlement restrictions are reinforced by severe problems of access and quality for supposedly universal services. Empirical results from a number of African countries also show that spending on social services, such as health care and education, is not well targeted to the poorest households (Castro-Leal et. al, 1999, Sahn and Younger, 1999). Subsidies to primary education are an exception, but they still appear inequitable, when judged against the numbers of school-age children in the poorest groups. Thus, reallocation of public expenditures is not sufficient; policies must be based on a sound understanding of the factors that govern household decisions about health care and schooling, and of the means by which subsidised services can lead to better outcomes for the poor.

There are many studies showing that health improves with higher per capita incomes. For example, Kakwani (1993) investigated the relationship between income levels and welfare indicators such as life expectancy at birth, literacy and the infant mortality rate. He found a strong relationship, particularly in the poorer countries. Higher incomes improved the indicators at a declining rate. Anand and Ravallion (1993) also found a significant relationship between national income and life expectancy and mortality indicators. Pritchett and Summers (1996) and Filmer and Pritchett (1997) also found a highly significant effect from income to a range of health indicators.

However, there have been cases where structural adjustment loans led to growth without having any significant positive effect on health indicators. The relationship is thus complicated. But it seems that economic growth tends to improve the health of the population, though the extent of the improvement depends on the character of the growth process. A process that leads to reduced poverty, and improvements in the provision of health services, will have a positive effect on health indicators. In addition, especially when considering the irreversible effects of failing to make such investments (Appleton and Teal, 1999), long term intergenerational effects of health care and education are an important reason for promoting social sector investments, despite tight current fiscal constraints.

Provision of public services in many countries is constrained by low levels of public revenue, which could, in principle, be solved by higher levels of taxation. However, in some countries, rapidly increased taxation might pose a severe constraint on private investment, and thus might impact negatively on future growth, and hence on revenue collection as well. In the case of Uganda, Chen and Reinikka (1999) suggest two reasons why increased taxes reduced investment and future growth. First, the formal-enterprise

sector typically represents a small share of output, but a high proportion of the effective tax-base. Second, limited access to bank-financing and high interest rates, imply that investment is largely financed by retained earnings.

Moreover, when governments resort to distortionary taxes, the manner in which the government intervenes makes a big difference as to whether the intervention is beneficial or not (Devarajan et al, 1998): Governments should always consider the option of subsidisation before public provision, when intervening to correct an externality. Even under the extreme assumption that the public sector is as efficient as the private sector, the costs of financing public programmes through distortionary taxes may outweigh the benefits of internalizing the positive externality. Further, government spending which in one country might be growth-enhancing, could be growth-impeding in another, due to the varying relative importance of both distortionary taxation and the externality being internalized.

While the allocation of expenditure matter in terms of equity and poverty, a pro-poor strategy would also entail measures targeted directly at the poor. When attempting to alleviate poverty, much of the outcome depends on the type of targeting-mechanism used.¹⁰ The objective in targeting is to ensure that a poor household's income is increased up to the assumed poverty line. If the income of the poor was perfectly measurable and the poor could be identified it would in principle be possible to design a perfectly targeted policy. However, such perfect information is never available, and the costs of obtaining it would, in any case, be high. An alternative is universal targeting, where information costs are reduced to a minimum. The drawback with this type of targeting, however, is that it would also benefit those who are not considered poor. Moreover, universal subsidies, designed to benefit the whole population, have proven inefficient, distortionary, and fiscally unsustainable. However, some leakage might be crucial for the political sustainability of the programme (Gelbach and Prichett, 1997; de Donder and Hindricks, 1998).

Both perfect and universal targeting have high costs. In order to reduce information costs, indicator targeting has been suggested as an approximation to perfect targeting. Indicator targeting relies on making the transfer contingent, not on income or consumption, but on some easily observable characteristic, such as sex, age, size of land holding, region of residence, etc. For example, transfers can be targeted to specific socio-economic groups containing large proportions of poor households (Thorbecke and Berrian, 1992).

Another approach is self-targeting, which is designed in such a way that only members of the target group find it worthwhile to participate. For example, public employment schemes use work requirements to help screen out the non-poor; subsidy programmes support items that the poor consume, but not the rich; and other controls rely on waiting time, stigma, and lower packaging-quality of goods and services, to dissuade usage by the non-poor (de Walle, 1998). Self-targeted schemes also have the additional benefit of reducing incentives towards corruption and favouritism. Ferreira et al. (1999) argue that a key to the success of a self-targeted incentive scheme is the wage rate. A relatively low wage rate can be an effective targeting devices.

¹⁰ On the principles of targeting, see Besley and Kanbur (1988), Hoddinott (1999), Thorbecke and Berrian (1988) and van de Walle (1997).

Other costs also need to be considered when a targeting scheme is implemented. Chia et al. (1997) argue that two effects have been largely ignored in the traditional analysis: the first related to leakages associated with the financing scheme, and the second related to the impact of indirect effects, through changes in relative prices. For example, in the case of Côte d'Ivoire, the amount of transfers in a universal targeting that would be thought to eliminate poverty in a partial context, would in fact reduce total poverty by only 7 percentage points, when indirect effects are considered. Thus, neglecting indirect effects can lead to the misallocation of resources directed at poverty alleviation (Thorbecke, 1992).

Summing up the above discussion, there are at least two important issues that need to be considered: First, improved public service delivery is crucial in promoting economic growth and reducing poverty. Second, tax policies need to be re-designed, in order to satisfy an increasing demand for public services, while at the same time providing an enabling environment for private sector development.

5.3 Pro-poor growth and human capital

Human-capital accumulation has been an important factor in accounting for differences in growth rates and distribution across countries. Investing in education has been emphasised in the development literature since the early 1970s. Although an extensive literature has developed on the effects of the expansion of education on growth, relatively little is known on its effects on the distribution on income. It might be the case that a sudden large increase in the supply of medium-skilled workers, say with lower secondary education, reduces the relative wage rate of that class of workers. This has, for example, happened in slow growing Kenya (Appleton, Bigsten and Manda, 1999). To avoid such an outcome, the increase in the supply of educated workers must be matched by an increase in labour demand, which in turn will depend on economic growth.

A change in the educational structure of a population necessarily induces changes in many dimensions of economic and social behaviour, each of which might have powerful secondary effects on growth, distribution and poverty. Labour force participation, household formation, migration, and fertility are all domains where education plays a major role, and where changes are likely to affect the development path of the economy. Thus, there is a dynamic, and intergenerational, dimension in the effects of education that must be taken into account.

Bourguignon et al. (1998) provide an innovative methodological framework that links observed changes in the distribution of individual income and earnings attributes to changes in the socio-demographic structure of the population, in particular with respect to education, to changes in Labour force participation and occupational choice behaviour, and finally to changes in the structure of individual earnings as a result of changes in the labour market.

Analysis of the Taiwanese experience (Bourguignon, Fourier and Gurgand, 1998) provides several important insights. Several factors affected the distribution of income, but they tended to offset each other. First, increased returns to schooling occurred despite a dramatic growth in the supply of educated workers, and this contributed to increased inequality. This effect, however, was more than offset by other tendencies, such as a change in participation behaviour and the expansion of education, which equalized the

distribution of schooling, and therefore of earnings. Altogether, this produced a significant drop in inequality of individual earnings.

Brazil, which has gone through substantial structural changes,¹¹ is another interesting case, the population grew by 47 percent between 1976 and 1996, and became more urban. Average education rose from 3.2 to 5.3 years of schooling. The sectoral composition of the labour force changed, away from agriculture and manufacturing, towards services. The degree of formalisation of the labour force declined substantially: the proportion of formal workers was almost halved, from just under 60 percent to just over 30 percent of all workers. And yet, despite the macroeconomic turmoil and continuing structural changes, little changed in Brazilian income distribution between 1976 and 1996.

The Brazilian experience resembles the Taiwanese case study, with distributional stability again belying a number of powerful, and often countervailing, changes: returns to education in the labour markets; the distribution of educational endowments in the population; the pattern of occupational choices; and the demographic structure resulting from household fertility choices.

Two particular puzzles in the evolution of Brazil's urban income distribution are: (1) the combination of growth in mean incomes and stable or slightly declining inequality, on the one hand, and rising extreme poverty on the other; and (2) what explains the stability in inequality and poverty, in the face of declining rates of return to schooling and experience? Results from micro-modelling analysis show that the first puzzle seems to have been caused by outcomes related to participation decisions and occupational choices, in combination with declines in the labour market returns to education and experience. The second puzzle seems to be a result of hard climbs along a slippery slope. Individuals had to gain an average of two years of schooling, and substantially reduce fertility, in order to counteract falling returns in both the formal labour market and self-employment. The results of these studies demonstrates clearly that the distributional outcome is a result of a complex of often countervailing forces.

5.4 Policy measures to reduce risk and income volatility

The recent World Development Report (World Bank, 2000) extends the concept of poverty beyond income and consumption plus education and health, to include risk and vulnerability, as well as voicelessness and powerlessness. It is not necessarily the case that shocks affect the poor disproportionately, but it is clearly the case that they are more vulnerable, since their economic margin is slim. Vulnerability and insecurity are dynamic concepts. The poor are often exposed to highly fluctuating incomes, and, particularly, in rural areas, it is common for households to move in and out of poverty (Dercon, 2000 and World Bank, 2000). Poor households are susceptible to a wide range of risks, some which are idiosyncratic, such as illness, while others are common, such as natural disasters. As a result, poor households may adopt production plans or employment strategies to reduce their exposure to the risk, even if this entails lower average income.¹² Poor households

¹¹ This discussion draws on Ferreira and de Barros (1999).

¹² For example, it has been found that households which are more vulnerable to income shocks devote a smaller share of their land to risky high-yielding varieties, compared to households with better access to coping mechanisms (Morduch, 1990).

may also try to smooth consumption by creating buffer stocks, withdrawing children from school, and developing credit and insurance arrangements. Social networks also help provide informal insurance.

The policy approach that is outlined in WDR 2000 goes somewhat beyond the approach outlined in the 1990 WDR, putting increased emphasis on empowerment and security. The concept of social capital is used to describe the ability of individuals to secure benefits as a result of membership in social networks or other social structures. The general concern is that the poor have considerable local bonding social capital and some bridging social capital, while they have little of what is called linking social capital, that is, linkages to society outside the local community. This makes them very vulnerable to natural disasters and economic shocks, since geographically confined networks provide little protection against this type of shocks. Informal institutions are very important in helping households to manage risk and vulnerability, but the poor often lack access to the broader range of formal networks, which are needed to sustain a more complex interchange with society at large.

Given the high vulnerability of a large part of the population, Collier and Gunning (1999) argue that this provides some explanation for low growth in both rural and urban areas in Africa. Moreover, economic reforms, which in the long-run may provide more sustainable livelihoods with higher returns, may in the short-run cause households serious problems of adjustment, especially if entry into new activities is costly and is perceived as risky (Dercon, 1999). Consequently, actions that reduce risk and income-volatility, or that provide insurance against risk would help the poor to take advantage of poverty-reducing strategies. Experience suggests that a combination of public-works programmes, group-lending schemes, subsidised where necessary, and simple deposit schemes, offers some support in dealing with these issues (Kanbur and Squire, 1999). Additional measures in reducing risk and vulnerability are for example; creating opportunities for wage employment both by raising agricultural productivity among small and marginal farmers; and by increasing opportunities for self-employment. Microfinance is particularly relevant for increasing the productivity of self-employment in the informal sector of the economy. It is well documented that, for many micro-entrepreneurs, lack of access to financial services is a critical constraint to the establishment or expansion of viable micro enterprises. Microfinance may also enable small and marginal farmers to purchase the inputs they need to increase their productivity, as well as financing a range of activities adding value to agricultural output and in the rural off-farm economy. Access to savings facilities also plays a key part in enabling the poor to smooth their consumption expenditures, and in financing investments, which improve productivity in agriculture and other economic activities.

Rapid and sustainable poverty reduction depends upon the interaction of a wide range of policy measures. The potential for financial development as an instrument of economic management and of poverty reduction, will be unfulfilled so long as conventional financial institutions are reluctant to expand their activities beyond their traditional borrowers. Microfinance institutions can play an important role in filling this gap, and possibly also, in the longer term help to reduce imperfections in the market, improving access to credit for poor households in both urban and rural areas. However, many programmes that have been successful in reaching the poor are still not financially sustainable. Whether subsidies used for administrative costs of programmes with significant poverty-focused outreach are

better than subsidies in other areas is an empirical issue, which needs a careful case-by-case evaluation.

6. Conclusion

We noted initially that global poverty is still extensive, but that the proportion living in poverty as well as the absolute number declined substantially over a period up to the recent Asia crisis, which again increased poverty in many countries. We also noted that the gap in incomes between the richest and the poorest countries has increased in recent decades. We then reviewed the literature on the determinants of economic growth. This depends on the accumulation of physical and human capital, efficiency in resource allocation, and the acquisition and application of modern technology. There is, however, evidence showing that it is the social infrastructure that determines the underlying levels of productivity.

The evidence reviewed in this study show that countries that have been successful in terms of economic growth are also very likely to have been successful in reducing poverty. How strong a poverty-reducing effect growth has, depends on what happens to income distribution; there is no constant relationship between growth and changes in inequality. There are differences between countries with different development strategies, and one would certainly prefer strategies with more favourable distributional outcomes, if they produced the same growth. Countries that have combined rapid growth with improved income distribution, have reduced poverty the fastest. However, when policies aimed at equity have had a negative side-effect on growth, the poverty reduction impact has been limited or even negative. Thus, there may be a conflict between short term distributional measures and immediate poverty reduction on the one hand, and long term growth-supporting measures and long term poverty reduction, on the other. But there may also be win-win situations, where a policy for equity has a beneficial effect on growth. Typically, those policies have built up the assets of the poor, and helped increase the demand for those assets. This has meant, for example, expansion of education (building up assets), and measures that increase the relative prices of agricultural commodities and the wages of unskilled labour (increasing demand). Along with measures to secure long term growth of the incomes of the poor, there should also be transfer schemes that help households to cope with risk, which is high for many poor groups. One should try to create schemes that can reduce risk without having high costs in terms of reduced growth.

The main point must still be that, without growth in per capita incomes, poverty will persist in poor countries. Governments intent on poverty reduction must therefore create an environment that is conducive to growth. This means microeconomic policy aimed at creating well-functioning markets, macroeconomic policy aimed at stability, and openness towards the rest of the world. Government has to take responsibility for building up human capital via education, and for the creation of a growth enhancing social infrastructure. For all these efforts to be effective, the government must develop good institutions, and provide good governance. The way in which the interaction between civil society and the government is played out will have major implications for the growth outcome. Understanding the nature of domestic politics is thus a key to successful economic reform. Something that frequently appears in analyses of the Asian success stories is the notion of 'shared growth', which suggests that, in order to participate actively, the mass of the population must see the benefits of growth. However, it is not only the average person who must be included, but the ruling elite must also allow competing groups to progress, as well

as allowing new competitors to enter the political arena. For shared growth to come about, there is need for a bureaucracy of high quality, which is sufficiently insulated from the various pressure groups. This has not as yet appeared in most of Africa.

Poverty can be reduced if there is sufficient economic growth. Growth can be substantial if the policy and institutional environment is right. The low growth rates that characterise Africa are not inevitable. But some aspects of the environment are hard to change, and some politicians may be unwilling to change them. It is therefore largely in the social and political arenas that poverty reduction results will be determined.

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